Free Trade Areas in East Asia: Discriminatory or Non-discriminatory?

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1. INTRODUCTION

OVER the past decade, we have witnessed the worldwide proliferation of regional trade arrangements (RTAs). Even after the launch of the WTO multilateral trading system, RTAs have continued to spread. However, there have been marked variances across regions in terms of the degree to which regional trade integration has been carried out. The East Asian region is characterised by the dearth of RTAs. Regional integration moves have involved merely partial or loosely institutionalised groupings, i.e., AFTA (ASEAN Free Trade Area) and APEC (Asia-Pacific Economic Cooperation). In particular, the major three East Asian countries – China, Japan and Korea – have tended to bypass the prevalent trend of regionalism and instead have generally preferred multilateral trade liberalisation approaches under the GATT and WTO regulations regarding RTAs. Their stance against regionalism has mainly been for the following reasons: (i) relative predominance of interregional trade and investment relations over intraregional transactions; (ii) historical animosities stemming from the legacies of Japanese colonialism; (iii) lack of central leadership; and (iv) diversities in culture, race, language, and level of economic development within the region.

In recent years, however, the region's support has shifted from multilateral trade arrangements to RTAs. A turning point was the outbreak of the East Asian financial crisis in 1997. Besides triggering massive economic unrest in East Asia, the crisis revitalised the demand for regional economic cooperation, which called for more cooperation and policy coordination among neighbouring economies

The authors would like to thank Prema-Chandra Athukorala, David Greenaway, Warwick McKibbin, Kwanho Shin, and two anonymous referees for helpful comments and suggestions, and Hyung Joo Kim for able research assistance. This work has been supported by a Korca University grant.

in the region. The interdependence among the East Asian economies through regional trade and financial linkages has increased.[1] In addition, slow progress of multilateral negotiations under WTO and APEC has emphasised their shifting preference to regionalism.[2] Recent developments in individual economies such as China's miraculous export-driven growth performance and entry into WTO, Japan's prolonged recession and desire to regain its leadership role in the region, Korea's regime change toward a more liberalised economic system, and Singapore's active intention to become a hub of regionalism can also be counted as factors behind the strategic change in the East Asian commercial policy for regionalism.

This paper explores the effects of possible RTAs in East Asia such as the China-Korea free trade area (FTA), the Japan-Korea FTA, the China-Japan-Korea FTA, and ASEAN plus 3 (China, Japan and Korea) FTA. Despite recent official talks and significant public interest on this issue, there has been no consensus about the economic impacts of the closer regional trade integration on either the intra-region countries or the countries outside the region. One of the key concerns is whether an East Asian FTA will raise trade and welfare among the trade bloc members, without damaging the welfare of non-members. This paper attempts to answer this question by assessing the economic effects of the existing RTAs, and then by examining this assessment for the implications and effects of the proposed East Asian FTAs.

Another important concern is whether RTAs in East Asia can help to achieve global free trade. The East Asian FTA may trigger a 'Domino Effect'[3] of regionalism, whereby this regional effort to build freer trade blocs supports the development of global free trade. At the same time, however, the existence of many overlapping RTAs in the region could lead to the problem of discriminatory freer trade blocs generating a 'Spaghetti Bowls Phenomenon',[4] thereby stalling multilateral liberalisation efforts. We discuss to what extent the East Asian effort to form freer trading blocs through RTAs will contribute to a global free trade system. We propose strategic policy measures that will enable East Asian RTAs to further promote free trade and economic integration at the global level.

The paper is organised as follows. Section 2 provides a brief discussion of the recent trends of RTAs in East Asia. Section 3 introduces the bilateral gravity model for evaluating the trade-creating and trade-diverting effects of RTAs, and

[1] The intra-East Asian trade share in 2000 was 48.5 per cent, compared to 46.5 per cent for intra-NAFTA and 53.2 per cent for intra-EU.
[2] WTO's failure to launch the New Round in 1999 and APEC's failure to implement EVSL in 1998 are examples of the ineffectiveness of the multilateral liberalisation approach.
[3] See Baldwin (1993).
[4] See Bhagwati, Greenaway and Panagariya (1998).

explores the effects of the proposed East Asian FTAs. Section 4 discusses how the East Asian RTAs can contribute to a global free trade system. Concluding remarks follow in Section 5.

2. RECENT TRENDS OF RTAS IN EAST ASIA

As JETRO (2003) indicates, lack of institutionalisation has been a specific feature of regionalism observed in East Asia. Most East Asian countries have preferred loose and voluntary cooperation schemes without treaties or institutionalised arrangements. The currently working ASEAN (Association of South East Asian Nations), APEC and ASEM (Asia-Europe Meeting) are rather ineffective institutional cooperation schemes. However, this passive approach to regional economic cooperation has faced great challenges. Questions have been raised on the viability of existing regional and multilateral cooperation strategies under APEC and WTO.

Table 1 briefly surveys major existing RTAs, including countries in East Asia and ongoing proposals for East Asian RTAs. From Table 1, we can identify several common characteristics shared by East Asian RTAs.

First, with the exception of AFTA, they were mostly established immediately after the financial crisis in 1997. Most of recent East Asian RTAs are purely market-driven, which means that the main objective of forming RTAs in the region is to stabilise the regional economy, thereby avoiding the recurrence of a similar crisis and revitalising the region's economic dynamism by boosting international trade and investment. It is also a rather passive reaction to the global trends toward regionalism such as NAFTA (North American Free Trade Agreement) and EU (European Union). The proliferation of RTAs has led to the fear of being left out and driven them to having their own RTAs causing 'Bandwagon' or 'Domino Effect'.[5]

Second, with the exception of Singapore, participating countries in the RTAs, including China, Japan and Korea, are newcomers to RTAs in their history of implementing commercial policy. This shows that the three major East Asian countries have undergone a strategic policy change from favouring the multilateral approach for global free trade to actively participating in regional grouping in order to regain their growth momentum after the crisis. Singapore, on the other hand, seeks to forge as many bilateral trade arrangements as possible in an effort to maximise gains from freer trade by becoming a 'hub' country regardless of criticisms from other ASEAN member nations for violating its unanimous and

[5] Munakata (2004) lists three market-driven forces of regionalism in East Asia – defensive reaction to extra-regional pressures, deepening regional economic interdependence, and competition for foreign direct investment and export markets.

TABLE 1
Major RTAs Including Countries in East Asia

	Status	*Intra-regional*	*Inter-regional*	*Year Started*
Bilateral RTAs				
Singapore-Australia	Implemented		O	2000
Singapore-New Zealand	Implemented		O	2001
Singapore-Japan	Implemented	O		2002
Singapore-EFTA	Implemented		O	2003
Singapore-US	Implemented		O	2003
Korea-Chile	Implemented		O	2002
Japan-Mexico	Signed		O	1999
Singapore-Mexico	Under Negotiation		O	1999
Singapore-Chile	Under Negotiation		O	2000
Singapore-Canada	Under Negotiation		O	2001
Singapore-Korea	Under Negotiation	O		2002
Korea-Japan	Under Negotiation	O		1998
Korea-New Zealand	Joint Study		O	2000
Korea-Thailand	Joint Study	O		2001
Japan-Chile	Joint Study		O	2000
Korea-Mexico	Discussion (halted)		O	2000
Korea-Australia	Discussion		O	2000
Korea-US	Discussion		O	2001
Japan-Canada	Discussion		O	2000
Japan-Thailand	Discussion	O		2002
Plurilateral RTAs				
AFTA	Implemented	O		1992
ASEAN-China	Signed FA	O		2001
ASEAN-CER	Under Negotiation		O	1999
China-Japan-Korea	Joint Study	O		2001
ASEAN-Korea	Joint Study	O		2002
ASEAN-Japan	Joint Study	O		2002
ASEAN+3	Discussion	O		2000

Notes:
AFTA – ASEAN Free Trade Area
ASEAN – Association of South East Asian Nations
ASEAN+3 – ASEAN + China, Japan, Korea
CER – Closer Economic Relations between Australia and New Zealand
EFTA – European Free Trade Association
FA – Framework Agreement

Sources: Compiled mainly based on Austria (2003), Cheong (2002) and JETRO (2003).

collective approach to non-members. Other ASEAN members do not seem to be satisfied with the limited gains from freer trade as a 'spoke' country. They appear not to want to open their markets unilaterally to non-members who are indirectly coming through the hub country.[6]

[6] For a full description of the 'hub and spokes' argument, see Lloyd (2002) and Lloyd and MacLaren (2003).

Third, there has been some progress in implementing interregional RTAs such as Korea-Chile, Japan-Mexico, Singapore-US, Singapore-Australia, Singapore-EFTA and Singapore-New Zealand but no significant progress in forming intraregional RTAs with the exception of the Singapore-Japan RTA. Most of intraregional RTAs in East Asia are still under negotiation or discussion, with final agreement some time in the future. Therefore, the gains from forming RTAs may come in advance with the expectation of tariff and non-tariff reductions.

Fourth, bilateral agreements are favoured because they are less costly and more easily open to others. In particular, for beginners to RTAs in the region, e.g., Korea and Japan, bilateral arrangements with relatively experienced counterparts such as Singapore and Chile are expected to be a valuable learning process in regionalism.

Fifth, low transaction costs from shared borders, which were traditionally considered to lead countries to natural trading partnerships, are no longer a critical factor for building a regional bloc. Recent innovations in information and communication technology reinforce the remarkable efficiency gains from international transactions of goods, services and finance. In this vein, East Asian countries are very eager to make interregional trading arrangements with other countries in the Americas as they aim at the US market. Moreover, New Zealand and Australia are quite actively involved in East Asian RTAs because they do not want to be isolated from the region.

Sixth, from the plurilateral attempts for RTAs in East Asia, we find strong initiatives for East Asian countries to open their trade liberalisation efforts towards bigger blocs, especially within the region. ASEAN continues to support the extension of membership to other countries. For China, Japan and Korea, ASEAN is a very attractive partner for maximising gains from freer trade and investment and minimising the cost of making arrangements. They will benefit from ASEAN's experience, pre-existing rules and readiness of negotiation tables, in addition to the political and economic relations between ASEAN members and themselves. Moreover, ASEAN may be able to assume a mediating role for alleviating leadership competition and political tension among the three East Asian countries.

3. IMPACTS OF EAST ASIAN FTAS

This section explores how much East Asian FTAs will raise trade and welfare among the trade bloc members, and whether it can enhance the economic welfare of the members without damaging the welfare of non-members. We seek the answers to these questions, first by assessing the economic effects of the existing RTAs, and then by examining this assessment for the implications and effects of the proposed East Asian FTAs.

a. Economic Impacts of Regional Trade Arrangements

There have been numerous studies analysing the economic effects of RTAs. Empirical researches are based on two distinct methodologies. One relies on a simulation approach based on global general equilibrium models to analyse the economic effects of policy changes due to the formation of an RTA. The other method applies econometric approaches to historical trade data and assesses the impacts of the formation of an RTA on bilateral trade flows.[7]

The simulation approach uses a static computable general equilibrium (CGE) model (for example, Brown, Deardorff and Stern, 1992; Scollay and Gilbert, 2001; and Urata and Kiyota, 2003), or a dynamic intertemporal general equilibrium model (for example, McKibbin, 1998; and McKibbin, Lee and Cheong, 2004). The models specify economic structures and behaviour of agents in detail and, using the framework, simulate the economic effects of existing or proposed RTAs. Simulations based on the general equilibrium models usually find substantial potential gains from trade liberalisation between members of an RTA. For example, Brown, Deardorff and Stern (1992) estimate that NAFTA has increased intra-region trade by 8.0 per cent from the baseline, and has led to a welfare gain of 0.1 per cent of GDP for the United States and 5.0 per cent of GDP for Mexico. Scollay and Gilbert (2001) estimate that a Japan-Korea-China FTA will generate welfare gains of 0.25 per cent of GDP for Japan, 0.80 per cent of GDP for Korea, and 2.1 per cent of GDP for China. Urata and Kiyota (2003) expect that an East Asian FTA including China, Japan, Asian NIEs and ASEAN will produce welfare gains ranged from the lowest 0.19 per cent of GDP for Japan to the highest 12.5 per cent of GDP for Thailand. McKibbin, Lee and Cheong (2004) show that gains for Korea and Japan from a bilateral FTA will amount to about 0.1–0.2 per cent of GDP per year for both countries.

It is an open question whether RTAs create more trade than they divert. If an RTA has damaging economic effects on non-members, it could become a stumbling, rather than a building, block for global free trade. The simulation approaches show the reallocation of global production and welfare gains across countries. Some studies find that RTAs expand intra-bloc trade, while contracting trade and output in non-member countries. Robinson and Thierfelder (1999) review theoretical and empirical models of RTAs and summarise ‘a few robust conclusions’ from empirical surveys of CGE model analysis. They suggest that empirical evidence of proliferating RTAs strongly supports positive welfare effect of RTAs on members measured in terms of real GDP or equivalent variation and

[7] Burfisher, Robinson and Thierfelder (2004) carefully review the empirical findings on trade effect of RTAs focusing on the two methodologies adopted. They indicate that the empirical evidence found from CGE models is relatively more supportive for net trade-creation effect and positive welfare effect of RTAs on member economies compared to the studies utilising gravity models.

net trade-creation effect. On the other hand, Panagariya and Dutta-Gupta (2001) criticise that the 'few robust conclusions' in Robinson and Thierfelder (1999) are drawn by internally inconsistent assumptions and questionable values of key parameters. With carefully considering caveats about CGE models, Lloyd and MacLaren (2003) suggest that there exist positive welfare and net trade-creating effects of RTAs on members, while the effects on non-members are negative and tend to increase with the size of the RTA. More specifically for East Asian RTAs, Scollay and Gilbert (2001) argue that RTAs involving a sub-bloc of East Asian countries could have a negative impact on non-members. Urata and Kiyota (2003) also find that the East Asia FTA induces strong trade diversion effect. However, as increased trade between member countries induces the expansion of market size, RTAs can provide non-member countries with the opportunities to exploit the large market too. According to McKibbin, Lee and Cheong (2004), for instance, a Japan and Korea FTA will increase real GDP in Europe and China.

The simulation approaches are useful in specifying the mechanism by which the formation of an RTA translates into improvements of the economy. However, in these general equilibrium model-based studies, it is unclear whether the member economies ultimately realise the potential effects.

The other approach uses a gravity model of bilateral trade flows. The model is based on the idea that trade between two countries, like the gravitational force between two masses, is a function of the countries' size (population or GDP) as well as the distance between them. Thus, the model estimates 'normal' trade flows, and then assesses whether the formation of an RTA will change the trade flows. Aitken (1973), Frankel (1993) and Braga, Safadi and Yeats (1994) introduce a variable that takes the value of one if the two trading countries are both members of the RTA and zero if otherwise. A positive coefficient for the RTA variable indicates that the RTA tends to generate more trade to its members. Previous studies found that RTAs tend to foster intra-bloc trade.

Bayoumi and Eichengreen (1997), Frankel (1997) and Frankel and Wei (1998) add another dummy variable, representing extra-bloc trade, which takes the value of one for the bilateral trade between an RTA member and a non-member country. Hence, the coefficient for this 'extra-bloc trade' indicates the degree of trade-diverting effects of the RTA. Estimates of the effects of different RTAs on the extra-bloc trade flows vary across RTAs. Most studies find that RTAs tend to increase trade between members and the rest of the world, and thereby foster greater trade worldwide.[8] However, some RTAs are estimated to have negative effects on extra-bloc trade. Frankel and Wei (1998), for example, show that the European Free Trade Association (EFTA) has a significant trade-diversion effect. Furthermore, Dee and Gali (2003) argue that traditional gravity equation

[8] Frankel (1997) provides summaries of FTA coefficient estimates across studies.

analyses have not been successful to quantify the impact of 'new age' provisions of RTAs on trade and investment. They compare empirical findings from previous works with their new findings by controlling some unobservable factors for non-trade provisions of RTAs and indicate that 12 of 18 recent RTAs examined have diverted more trade from non-members than they have created among members.

This paper adopts the gravity model to evaluate the trade effects of RTAs. As well known, over the last 40 years the gravity model has performed very well and been widely used as a 'workhorse' for empirical analyses of international trade flows. In recent years, its theoretical underpinnings have also been reinforced (see, for example, Helpman and Krugman, 1985, and Evenett and Keller, 2002). However, by extending the model to the analysis of trade effects of RTAs, it encounters a number of modelling and methodological issues. For instance, Polak (1996) demonstrates introducing a dummy variable to capture the additional trade effect of a regional bloc is problematic when a measure of absolute bilateral distance is used.[9] In addition, Dhar and Panagariya (1999) criticise that the traditional Gravity equation with total trade as a dependent variable by using pooled data across countries induces a misspecification problem. While one can legitimately say that the gravity model is subject to a number of potential specification and measurement errors, it seems that the model's empirical techniques have continued to improve and thereby enhance its credibility.

b. Empirical Estimation of the Gravity Equation

We set up a conventional gravity model of international trade. We extend the model with a number of extra variables:[10]

$$\begin{aligned}\ln(\text{Trade}_{ijt}) = {} & \beta_0 + \beta_1 \ln(\text{GDP}_i\text{GDP}_j)_t + \beta_2 \ln(\text{GDP}_i\text{GDP}_j/\text{Pop}_i\text{Pop}_j)_t \\ & + \beta_3 \ln\text{Dist}_{ij} + \beta_4 \ln(\text{Area}_i\text{Area}_j) + \beta_5 \text{Border}_{ij} + \beta_6 \text{Language}_{ijt} \\ & + \beta_7 \text{ExComColony}_{ij} + \beta_8 \text{ExColony}_{ij} + \beta_9 \text{CurColony}_{ij} \\ & + \gamma_1 \text{RTA/Insiders}_{ijt} + \gamma_2 \text{RTA/Outsiders}_{ijt} + \delta \text{YEAR}_t + \varepsilon_{ijt}\end{aligned}$$

where i and j denote countries, t denotes time, and the variables are defined as:

- Trade_{ijt} denotes the average value of real bilateral trade between i and j at time t,
- GDP is real GDP,
- Pop is population,
- Dist is the distance between i and j,

[9] See Greenaway and Milner (2002) for the detailed discussion of the modelling and methodological issues concerning gravity models.
[10] We adopt Glick and Rose (2002) for the empirical specification.

- Area is the land mass of the country,
- Border is a binary variable which is unity if *i* and *j* share a land border,
- Language is a binary variable which is unity if *i* and *j* have a common language,
- ExComColony is a binary variable which is unity if *i* and *j* were ever colonies after 1945 with the same coloniser,
- ExColony is a binary variable which is unity if *i* ever colonised *j* or *vice versa*,
- CurColony is a binary variable which is unity if *i* and *j* are colonies at time *t*,
- RTA/Insiders is a binary variable which is unity if *i* and *j* belong to the same RTA,
- RTA/Outsiders is a binary variable which is unity if *i* belongs to an RTA and *j* does not or *vice versa*, and
- Year is a set of binary variables which are unity in the specific year *t*.

The data come from Glick and Rose (2002), which covers 186 countries from 1948 to 1997. Since the data for many variables are missing for the early 1950s, we limit our sample to the period from 1955 to 1997. Although the original Glick and Rose data set has a measure for RTA membership, it covers only seven RTAs and treats all of them as being equal. We expand this data set by comprising 13 major RTAs over the sample period, based on data from the WTO. They include the ASEAN FTA (AFTA), Andean Community of Nations (CAN), Central America Common Market (CACM), Caribbean Community and Common Market (CARICOM), Closer Economic Relations Trade Agreement between Australia and New Zealand (CER), European Communities/European Union (EC/EU), European Free Trade Association (EFTA), Southern Common Market (MERCOSUR), North American Free Trade Agreement (NAFTA), Papua New Guinea-Australia Trade and Commercial Relations Agreement (PATCRA), SAARC Preferential Trading Arrangement (SAPTA), South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) and US-Israel FTA. The RTAs in our data set are shown in the Appendix, Table A1. We construct an RTA variable that represents all incidences of the RTAs by treating them as being equal, and a set of individual RTA membership variables. For each RTA variable, we construct two binary variables – one for intra-bloc country pairs ('insiders'), and the other for member-non-member country pairs ('outsiders').

The estimations use annual data consisting of 213,161 country pairs in total. The number of observations varies per year. Summary statistics for the data used in the estimation are presented in Table 2. Of all the observations, 5,458 country-pairs (about 2.6 per cent) belong to an RTA.

The data set features a panel structure consisting of 213,161 annual observations clustered by 11,178 country pair groups over time. We also control for year effects by adding year dummy variables.

TABLE 2
Summary Statistics

	Mean	*Std. Dev.*
Log of trade	10.005	3.382
Log of distance	8.167	0.806
Log of GDP in pairs	47.861	2.680
Log of per capita GDP in pairs	16.059	1.453
Log of area in pairs	24.177	3.304
Common land border dummy	0.031	0.172
Common language dummy	0.226	0.418
Ex-common coloniser dummy	0.104	0.305
Ex-colony-coloniser dummy	0.021	0.142
Current colony dummy	0.002	0.043
All RTAs/Insiders	0.026	0.158
All RTAs/Outsiders	0.443	0.497
AFTA/Insiders	0.0005	0.023
AFTA/Outsiders	0.0213	0.144
CACM/Insiders	0.0017	0.041
CACM/Outsiders	0.0536	0.225
CAN/Insiders	0.0005	0.022
CAN/Outsiders	0.0228	0.149
CARICOM/Insiders	0.0055	0.074
CARICOM/Outsiders	0.0723	0.259
CER/Insiders	0.0001	0.008
CER/Outsiders	0.0198	0.139
MERCOSUR/Insiders	0.0003	0.016
MERCOSUR/Outsiders	0.0046	0.068
NAFTA/Insiders	0.0001	0.008
NAFTA/Outsiders	0.0075	0.087
EC(EU)/Insiders	0.0140	0.118
EC(EU)/Outsiders	0.2369	0.425
EFTA/Insiders	0.0022	0.047
EFTA/Outsiders	0.0835	0.277
PATCRA/Insiders	0.0001	0.010
PATCRA/Outsiders	0.0204	0.141
SAPTA/Insiders	0.0002	0.016
SAPTA/Outsiders	0.0090	0.095
SPARTECA/Insiders	0.0018	0.043
SPARTECA/Outsiders	0.0406	0.198
US-ISRAEL/Insiders	0.0001	0.008
US-ISRAEL/Outsiders	0.0147	0.120

Notes:
$N = 213{,}161$.
See Appendix, Table A1, for the explanation of RTAs. The subscript of insiders indicates a binary variable which is unity if i and j belong to the same RTA. The subscript of outsiders indicates a binary variable which is unity if i belongs to an RTA and j does not or *vice versa*.

We apply two different estimation techniques: random effects and fixed effects. The random effects estimation assumes that individual country-pair effect is a random variable. In contrast, the fixed-effects method assumes the presence of unobserved country-specific factors. The fixed-effects estimates can help to alleviate potential specification errors from omitted important variables. For instance, Feenstra (2002) shows that the fixed-effects method can provide consistent-estimates when the specification does not incorporate the 'relative distance effect', i.e. the likelihood that more distant a country pair is located from the world market, they trade more than otherwise. This fixed-effects estimate from time-series variation is also useful in answering the question, 'what would happen to a country's intra-bloc and extra-bloc trade after it joins an RTA?'. One drawback of this fixed-effects approach is that since the fixed-effects estimator exploits variation over time, we cannot obtain the estimates for time-invariant factors such as distance, area, land border and ex-colonial relationship.[11]

The estimation results are given in Tables 3 and 4. Table 3 adds the dummy variables – intra-bloc and extra-bloc – for all RTAs as one group. Table 4 adds individual RTA dummy variables.

Column 1 of Table 3 presents the results from the random-effects estimation. The gravity model fits the data well, explaining a major part of the variation in bilateral trade flows. The conventional variables behave very much as the model predicts, and the estimated coefficients are statistically significant. To summarise briefly, the estimated coefficients on bilateral distance and log of area in pairs are significantly negative. The estimated coefficient on the log of bilateral distance (−1.33, s.e. = 0.03) in column 1, from the random-effects estimation, implies that an increase in the log of bilateral distance by 0.81 (its standard deviation) leads to a 1.08 per cent decline of bilateral trade. The estimated coefficients on log of GDP in pairs, log of per capita GDP in pairs, common land border dummy, common language dummy, ex-common coloniser dummy, ex-colony-coloniser dummy, and current colony dummy are all significantly positive. Thus, larger GDP and per capita GDP increase countries' trade. In our estimates in column 1, when a country has an increase in GDP by 10 per cent, trade increases by 8.8 per cent, whereas an increase in per capita GDP by 10 per cent raises trade by 2.8 per cent. A common land border or common language connection increases trade by about 62 per cent or 46 per cent, respectively.[12]

[11] Another estimation technique, the 'Between-Effects' model, uses only cross-country variation (in essence, using data averaged by country-pair). Hence, this estimate explains how much an RTA affects a country's intra-bloc and extra-bloc trade compared to others which do not join the RTA. Since this method relies on less variation, particularly for a regional bloc with a small number of members, it causes the estimation of the intra-bloc dummy variable to be very imprecise (due to a large standard error).

[12] Since $e^{0.48} = 1.62$, an increase from zero (no common border) to one (common border) in the common border dummy variable raises bilateral trade by 62 per cent.

TABLE 3
Effects of RTAs on Trade Flows

	(1) Random Effects	*(2) Fixed Effects*
Log of distance	−1.329	–
	(0.028)	
Log of GDP in pairs	0.882	0.494
	(0.100)	(0.019)
Log of per capita GDP in pairs	0.276	0.478
	(0.012)	(0.019)
Log of area in pairs	−0.072	–
	(0.008)	
Common land border dummy	0.484	–
	(0.149)	
Common language dummy	0.376	–
	(0.056)	
Ex-common coloniser dummy	0.207	–
	(0.072)	
Ex-colony-coloniser dummy	2.169	–
	(0.185)	
Current colony dummy	0.345	0.402
	(0.093)	(0.093)
All RTAs/Insiders	0.558	0.431
	(0.030)	(0.031)
All RTAs/Outsiders	0.034	0.0004
	(0.011)	(0.0111)
R-squared	0.62	0.52

Notes:
The dependent variable is the log of real bilateral trade. The panel data estimation techniques are applied to 213,161 observations in 11,178 country-pair groups over the period from 1955 to 1997. The summary statistics for all variables are shown in Table 2. Robust standard errors of the estimated coefficients are reported in parentheses. Intercept and year dummy variables are included (not reported).

Our primary interest is in the impact of RTAs on intra-bloc and extra-bloc trade. In column 1 of Table 3, the estimated coefficients on the RTA membership dummy variable are positive and statistically significant. The estimate on the intra-bloc membership (0.56, s.e. = 0.03) implies that a pair of countries that joins an RTA experiences an increase in trade of 75 per cent, with other variables constant.[13] The estimate on the extra-bloc dummy variable is also positive and statistically significant. Hence, RTAs do not divert trade with other countries that do not belong to the bloc. The estimate (0.03, s.e. = 0.01) implies that RTA

[13] We ignore any time-pattern in trade-creating effects. We assume that joining an RTA membership would have the same effect over time since its entry. In addition, we treat RTAs as exogenous. If countries join RTAs when they expect that the membership is more likely to increase trade, the large effect of RTAs may reflect reverse causality. However, Baier and Bergstrand (2003) estimate the gravity equation allowing for the RTAs' potential endogeneity and find a much larger trade-creation effect.

members' trade with non-members is estimated to rise by 3.5 per cent on average.

Column 2 of Table 3 presents the fixed-effects 'within' estimates. The estimate on intra-bloc trade (0.43, s.e. = 0.03) shows that joining an RTA raises intra-bloc trade by 54 per cent, which is less than the random-effects estimate (75 per cent). The estimated coefficient on extra-bloc trade (0.0004, s.e. = 0.011) is positive but it is statistically insignificant. Hence, after a country joins an RTA, its intra-bloc trade increases considerably, without having any significant impact on its extra-bloc trade. The overall results from Table 2 show that RTAs typically have a strong positive effect on intra-bloc trade without damaging trade with non-members.

Table 4 goes further to see if there are any discernible differences among RTAs. Column 1 of Table 4 presents the results from the random-effects estimation. We find that after controlling for other factors, most RTAs have a positive effect on intra-bloc trade. The estimated coefficients on intra-bloc membership of CACM, CAN, MERCOSUR, NAFTA, EC and SPARTECA are positive and statistically significant at the 5 per cent level. The estimates range from 1.87 for CACM to 0.30 for SPARTECA. The estimated coefficients on intra-bloc membership of CARICOM, CER, PATCRA and US-Israel are also positive but statistically insignificantly different from zero. On the other hand, AFTA and EFTA have negative effects on intra-bloc trade, but the estimated coefficients are not statistically significant. Notice that for a regional bloc with a small number of members, the intra-bloc variable is estimated imprecisely (with a large standard error).

The effects of RTAs on extra-bloc trade are diverse, being significantly positive for RTAs such as AFTA, CER, MERCOSUR, NAFTA, EC, PATCRA and US-Israel FTA. The estimates range from 0.34 for MERCOSUR to 0.08 for EFTA. Hence, these regional trade blocs contributed to an increase in their trade with non-member countries. This may have come from the increased trade between member countries, which induced the expansion of market size. In addition, when countries choose to liberalise their trade when joining an RTA, it may have also facilitated multilateral liberalisation. In contrast, other RTAs such as CARICOM and SPARTECA have significantly negative effects on extra-bloc trade; the estimated coefficients are −0.44 (s.e. = 0.03) and −0.32 (s.e. = 0.04), respectively. CACM has negative effects on extra-bloc trade too, but the estimated coefficients are statistically insignificant. On the other hand, the effect from CAN is positive and statistically insignificant.

In column 2, the estimation technique switches to the fixed effects. The results in column 2 are similar overall to those in column 1. The RTAs in most cases are estimated to have statistically significant, positive effects on intra-bloc trade. Only two RTAs, CARICOM and EFTA, show negative effects on intra-bloc trade. The estimated coefficient on CARICOM (−0.353, s.e = 0.104) is significantly negative, changing from 0.07 (s.e. = 0.10) in the random-effects model. The

TABLE 4
Effects of Individual RTA Membership on Trade Flows

	(1) Random Effects	*(2) Fixed Effects*
AFTA/Insiders	−0.017	0.237
	(0.141)	(0.141)
AFTA/Outsiders	0.327	0.437
	(0.026)	(0.026)
CACM/Insiders	1.873	1.972
	(0.182)	(0.187)
CACM/Outsiders	−0.051	0.035
	(0.045)	(0.053)
CAN/Insiders	1.188	1.193
	(0.152)	(0.151)
CAN/Outsiders	0.006	0.035
	(0.026)	(0.026)
CARICOM/Insiders	0.072	−0.353
	(0.099)	(0.104)
CARICOM/Outsiders	−0.443	−0.520
	(0.025)	(0.026)
CER/Insiders	0.544	0.537
	(0.437)	(0.437)
CER/Outsiders	0.294	0.244
	(0.041)	(0.042)
MERCOSUR/Insiders	1.129	1.059
	(0.192)	(0.191)
MERCOSUR/Outsiders	0.338	0.316
	(0.028)	(0.028)
NAFTA/Insiders	0.922	0.871
	(0.401)	(0.399)
NAFTA/Outsiders	0.128	0.086
	(0.039)	(0.039)
EC(EU)/Insiders	0.754	0.506
	(0.040)	(0.041)
EC(EU)/Outsiders	0.199	0.063
	(0.014)	(0.015)
EFTA/Insiders	−0.174	−0.188
	(0.095)	(0.098)
EFTA/Outsiders	0.082	0.083
	(0.023)	(0.024)
PATCRA/Insiders	0.359	0.431
	(0.447)	(0.448)
PATCRA/Outsiders	0.103	0.088
	(0.041)	(0.042)
SAPTA/Insiders	0.083	0.159
	(0.204)	(0.204)
SAPTA/Outsiders	−0.018	0.053
	(0.035)	(0.036)
SPARTECA/Insiders	0.303	0.092
	(0.123)	(0.125)
SPARTECA/Outsiders	−0.322	−0.361
	(0.036)	(0.037)
US-ISRAEL/Insiders	0.648	0.611
	(0.438)	(0.437)
US-ISRAEL/Outsiders	0.204	0.156
	(0.032)	(0.032)
R-squared	0.62	0.52

Notes:
Each equation takes the form of those in Table 3, except that the variable for all RTA membership are replaced by a set of 13 individual RTA variables. The other explanatory variables included in the equations of Table 3 are also controlled (not reported). See also notes to Table 3.

estimated coefficients on extra-bloc membership are also positive and significant for most RTAs, except for CARICOM and SPARTECA, which are −0.52 (s.e. = 0.03) and −0.36 (s.e. = 0.04), respectively.

In sum, a majority of RTAs contributed to an increase in trade between members and non-members, as the trade between members increased to an even greater extent. The formation of CARICOM, in which both intra-bloc and extra-bloc trade declined significantly, is the only exception. We suspect that this exception might be the result of other unobserved factors, such as political instability or regional shocks.

c. The Effects of East Asian FTAs

With the assumption that the proposed East Asian FTAs will work like the previous RTAs, we attempt to estimate their effects based on the effects of these previous RTAs. From the 'fixed-effects' estimates of the gravity equation in Table 3, the East Asian FTA such as a China-Japan-Korea FTA is expected to increase intra-bloc trade by 54 per cent, while incurring no significant impact on extra-bloc trade. Nevertheless, this effect can vary a lot depending on the detailed features of the proposed East Asian FTA. If we assume that the East Asian FTA operates like NAFTA, it will increase intra-bloc trade by 139 per cent, while also expanding extra-bloc trade by 8.9 per cent, considering the 'fixed-effects' estimates from the gravity equation in Table 4. If the proposed East Asian FTA performs like AFTA, on the other hand, then intra-bloc trade will rise by 27 per cent and extra-bloc trade by 55 per cent.

One question is whether there has already been any tendency to promote an FTA among the East Asian economies including China, Japan, Korea and ASEAN. If the East Asian economies behave already as if they belong to an implicit trade bloc, we may not expect significant additional effects from forming an FTA formally.

In order to investigate this issue, we add new FTA dummy variables, for the country-pairs belonging to the hypothesised East Asian trade blocs for the period from 1994 to 1997, to the gravity regressions shown in Table 4. Hence, the dummy variable for the East Asian trade bloc members shows the extent to which the group of countries belonging to the hypothesised trade bloc has increased intra-bloc trade since 1994. We also add the dummy variable for the country-pairs between the proposed East Asian trade bloc members and outsiders. This extra-bloc dummy explains whether the group of countries belonging to the East Asian bloc has increased trade with outsiders since 1994.

The estimation results are presented in Table 5. We include various pairings – China-Korea, Japan-Korea, China-Japan-Korea and ASEAN plus 3 (China, Japan and Korea). We find that the estimated coefficients on the intra-bloc membership in the East Asian FTAs, such as China-Korea, Japan-Korea and

TABLE 5
Effects of the Proposed East Asian RTAs on Trade Flows

	(1) Random Effects	*(2) Fixed Effects*
Japan-Korea FTA		
Insiders	0.386	0.447
	(0.433)	(0.434)
Outsiders	0.218	0.249
	(0.038)	(0.038)
China-Korea FTA		
Insiders	0.740	0.784
	(0.698)	(0.695)
Outsiders	0.003	0.012
	(0.043)	(0.043)
China-Japan-Korea FTA		
Insiders	0.520	0.599
	(0.433)	(0.433)
Outsiders	0.219	0.251
	(0.038)	(0.038)
China-Japan-Korea-ASEAN		
Insiders	−0.260	0.037
	(0.112)	(0.113)
Outsiders	0.231	0.335
	(0.024)	(0.025)

Notes:
The new FTA dummy variables for the country-pairs belonging to the proposed East Asian trade blocs for the period from 1994 to 1997 are added, one at a time, to the regressions for bilateral trade shown in Table 4.

China-Japan-Korea FTA, are positive but not significant either in the random-effects or the fixed-effects estimation. For example, the estimated coefficients on intra-bloc membership of the hypothesised China-Japan-Korea FTA are 0.52 (s.e. = 0.43) in the random-effects and 0.60 (s.e. = 0.43) in the fixed-effects estimation. The estimates are large in magnitude but insignificantly different from zero. Therefore, intra-regional trade in the East Asian FTA is not significantly different from the 'norm' that one would predict from their GDPs and other gravity variables. No 'natural' trade bloc seems to have emerged in the East Asian region yet, which implies that trade within the East Asian region has not been promoted by implicitly preferential trading policies or by other economic or social-political factors. For a trade bloc of ASEAN plus 3, the estimated coefficients are –0.26 (s.e. = 0.11) from the random-effects estimation, and 0.04 (s.e. = 0.34) from the fixed-effects estimation. The random-effects estimate reveals a significantly negative effect from the hypothesised membership, indicating that the level of intra-regional trade in the ASEAN plus 3 bloc is lower than the 'natural' level that is predicted from the gravity model. Therefore, it is most likely that the formation of an FTA including ASEAN plus China, Japan and Korea will raise intra-bloc trade in this region.

In contrast to the insignificant or negative estimates on the intra-bloc membership, the estimated coefficients on extra-bloc are positive and significant for all cases except the hypothesised China-Korea FTA. The estimates are between 0.22 and 0.34, indicating that the extra-bloc trade between East Asian countries and outsiders has already increased by about 25–41 per cent. This positive impact from an RTA on extra-bloc trade is substantial and close to the estimated effects from existing FTAs such as CER (28 per cent) and MERCOSUR (37 per cent). Assuming that East Asian blocs behave like other trade blocs, it is less likely that the formation of an East Asian FTA can spur extra-bloc trade further.

4. REGIONALISM AND GLOBALISM IN EAST ASIA

East Asian countries are actively participating in the formation of both interregional and intraregional trade arrangements, as described in Section 2. This strategic change in their commercial policy has evoked a traditional debate on the ambiguous relationship between regionalism and globalism – that is, whether RTAs will be a stepping stone for global free trade or another barrier against the multilateral movement toward further economic integration.[14] In this section, we briefly summarise the existing literature on this debate and attempt to evaluate the case of East Asian RTAs. Moreover, we propose strategic policies that will enable East Asian RTAs to further promote free trade and economic integration at the global level.

a. Domino versus Spaghetti Bowl

Quite a few economists have tried to evaluate the impact of regional efforts for trade liberalisation on global free trade. In this section, we revisit the debate centred around Baldwin's 'Domino Theory of Regionalism' and the 'Spaghetti Bowls Phenomenon' advanced by Bhagwati, Greenaway and Panagariya.

Baldwin (1993) introduces the Domino theory to describe the rapid expansion of regional trading blocs. The regional trading blocs produce gains from freer trade for members only. Thus, exporters in non-member countries will push their governments to change their stances from anti-membership to pro-membership in order to avoid the disadvantages caused by the preferential trade liberalisation. This enlargement triggers the domino effect. Freund (2000) supports the domino effect by emphasising first-mover advantages when there are sunk costs, for example, distribution network costs of trade. Once a first-mover enters a regional market as a member, the fixed costs affect its share in the market where it

[14] See Lawrence (1996) and Krueger (1999) for an analysis of whether RTAs can be a bridge to global free trade.

competes with subsequent new entrants who have to pay the costs. For non-members, the first-mover advantages are incentives to join the membership as quickly as possible, thereby triggering the domino effect again. Bergsten (2001) also observes that the demonstration effect of significant payoffs coming from RTAs makes broader membership possible.

Ethier (1998) defines the recent trend of regionalism as 'new regionalism' in contrast to the old regionalism of the 1960s. According to him, 'new regionalism' is a product of successful multilateral liberalisation because reduced trade costs resulting from the relaxation of trade barriers add to the advantages incurred by geographical distance, which lead countries to rely more on intraregional trade. It is an important way to draw more foreign direct investment (FDI) inflows for new participants in a multilateral system. FDI is an attractive incentive for countries to attain a regional membership. By arguing that 'new regionalism' internalises the global externalities caused by its discriminatory nature and is more beneficial for free trade than multilateral liberalisation alone, Ethier (1998) also advocates the domino effect of regionalism.

Bergsten (2001) and Lamy (2002) also strongly support the positive aspect of regionalism. They argue that RTAs promote 'best practice', and thus improve multilateral outcomes. Summers (1991) and Laird (1999) also assert that the smaller number of participants and more simplified management process under regional arrangements tend to reduce negotiation costs and therefore increase efficiency gains.

On the other hand, sceptics of regionalism emphasise the significant trade diversion effect of RTAs resulting from the discriminatory nature of trade barriers between members and non-members. In this line of thinking, RTAs are considered to be a protectionist strategy impeding further multilateral liberalisation. In this vein, Winters (1996) argues that RTAs can be a false insurance distracting a country's movement toward bigger free trade blocs. Similarly, as Lawrence (1996) indicates, the theory of 'optimal tariff' also supports the development of anti-regionalism.

Bhagwati, Greenaway and Panagariya (1998) introduce the concept of 'Spaghetti Bowls Phenomenon' to account for the harmful effect caused by the multiple and complicated rules of origin in FTAs, particularly the recent trend of forming overlapping FTAs among members of different FTAs. Furthermore, they argue that the loss of tariff revenue resulting from reducing or eliminating import tariffs overwhelms the positive effect of trade and observe that where the gap in pre-FTA tariff rates across borders is wide, the redistribution of tariff revenue within member countries may result in a negative welfare effect. Severe non-tariff barriers and very high tariff barriers remaining in specific industries such as agriculture are other sources of trade diversion.

Supporting anti-regionalism arguments, Panagariya (1999) clarifies the differences between preferential trade arrangements (PTAs) and FTAs by highlighting

the discriminatory nature of arrangements that may hinder the multilateral movements toward global free trade. PTAs, by way of lowering transportation costs, may generate attractive gains for free trade. Nevertheless, they can be damaging due to their trade diversion effects, in particular when supplemented by the rules of origin. In addition, Panagariya (1999) suggests that entry to existing PTAs is actually not free because of the loss of tariff revenue by new entrants. Moreover, members of existing PTAs have an incentive to block new entrants if the size of PTA reaches a certain level. These entry barriers render the 'domino effect' less likely and more ineffective.

Given the acute theoretical divergence on the issue, the impact of RTAs as a facilitating factor for reinforcing multilateral free trade is still a debatable issue at best. As we find from the foregoing arguments for and against regionalism, we cannot be assured that the domino effect will convert regional trading blocs to a global bloc. Members may not be very willing to embrace new entrants and non-members can be reluctant to pay entering costs. On the other hand, if FTAs under RTAs generate negative externalities such as the 'Spaghetti Bowls Phenomenon', one may want to explore the 'Coase Theorem'. The recent proliferation of RTAs could reduce transaction costs by limiting the number of players and providing more opportunities for learning processes than multilateral trade negotiations can do. This alternative approach may possibly lead to favourable conditions of internalising externality.

b. RTA as a Building Block to Multilateral Free Trade

While the debate on the usefulness of RTAs remains to be settled, it is nonetheless possible to outline some preliminary conditions required to facilitate global free trade. On the basis of existing literature we further elaborate the conditions under which RTAs can complement the ongoing efforts for expanding economic liberalisation.

(i) Net trade-creation effect

The trade-creation effect of RTAs must be large enough to offset the trade diversion effect if non-members are to join the current wave of regionalism. Success here depends on several considerations, the most important of which has to do with choosing the right partners. This is because the welfare gains from establishing RTAs will be higher if the RTAs are formed from the largest possible grouping of countries that have a higher share of pre-RTA trade and a non-uniform pre-RTA tariff structure.

(ii) Non-discrimination

Openness is a key factor in facilitating cooperation with existing rules for multilateral liberalisation. Article XXIV of GATT allows RTAs provided that

tariff reductions among members are completely eliminated within a definite time schedule and without raising trade barriers against non-members. Therefore, members' compliance to these rules and non-members' willingness to bear entering costs, such as the loss of tariff revenues as well as the possibility of unfair distribution of tariff revenues and welfare gains among participants, are central prerequisites.

(iii) Deeper integration

A superior form of RTA would be one that facilitates 'deeper integration' by removing non-tariff trade barriers, and trade barriers in services, investment liberalisation, etc. As Lamy (2002) argues, regionalism can be especially beneficial for developing countries under conditions of imperfect competition since they eliminate non-tariff barriers to trade. Laird (1999) establishes that deeper integration, which entails abolishing complex rules of origin, will be useful for easing the 'Spaghetti Bowl Phenomenon' problem. From the studies of Lawrence (1996) and ADB (2002), it becomes clear that deeper integration mitigates potential causes of conflict between RTAs and multilateral trade arrangements. In particular, the liberalisation of investment coupled with trade liberalisation enhances the advantages of 'new regionalism', as described by Ethier (1998) and Burfisher, Robinson and Thierfelder (2004), especially for small developing countries. Trade facilitation complements trade liberalisation by reducing trade costs for both existing members and new entrants to RTAs.

c. The Future of RTAs in East Asia

Will an East Asian RTA, such as an FTA among China, Japan and Korea, be a building block for or a stumbling block against global free trade? While the question continues to receive broad coverage in the literature on the East Asian and Asia-Pacific region,[15] it remains an open inquiry to date. Our answers below are based on the policy proposals discussed in the previous sections.

(i) Net trade-creation effect

An RTA among East Asian countries incorporates many characteristics potentially capable of generating trade-creation effects that will overwhelm trade diversion effects. Such an RTA is therefore likely to be a non-discriminatory bloc *vis-à-vis* non-members. As we mentioned earlier in Section 2, most of CGE model analysis on the trade effect of East Asian RTAs such as Urata and Kiyota (2003) and Scollay and Gilbert (2001) expect a trade diversion effect on

[15] ADB (2002), Austria (2003), Barrell and Choy (2003), Cheong (2002), Dobson (2001), Edmonds and Verbiest (2002), JETRO (2003), Lloyd (2002), Scollay (2001) and Scollay and Gilbert (2001) tried to answer the question. However, none of them clearly answered the question.

non-members. Frankel and Wei (1998) and Dee and Gali (2003) utilising the Gravity equation also support the negative trade effect on non-members. On the contrary, from the gravity regression analysis in Section 3, we found that East Asian FTAs could be a trade-creating RTA that substantially increased intra-bloc trade, without incurring any significant negative impact on extra-bloc trade. The high pre-FTA trade shares and non-uniform tariff structures among the East Asian countries figured in Tables 6 and 7 can be additional factors behind the expectation for a stronger trade-creation effect. Moreover, with their participation in many rounds of multilateral trade arrangements under GATT, they have already lowered external tariffs against non-members. This may reduce the problem of incurring a trade diversion effect. It is also expected that an FTA in the region will strongly influence ASEAN and other APEC countries to move faster towards a more integrated world economy.

(ii) Non-discrimination

Historically, the big three East Asian countries have supported the rule-based multilateral liberalisation process under GATT and WTO. They are also strong supporters of open regionalism in APEC. Recently, they have been approaching ASEAN, both independently and collectively, in order to make ASEAN plus 3 membership of free trade arrangement possible in East Asia. As mentioned earlier in Section 2, the ongoing proposals for East Asian RTAs are purely market-driven and are initiated to stabilise the regional economy. In addition, considering their high dependency on imported intermediate goods, producers in those countries, especially Korea and China, have a strong intention to lobby for reducing external tariff levels to the level of members. This is another reason to expect the East Asian FTAs to facilitate the creation of a global FTA.

(iii) Deeper integration through investment liberalisation

As we can see from the new bilateral partnership agreement between Singapore and Japan signed in 2002, as well as from studies done for a China-Japan-Korea FTA or a Korea-Japan FTA, the movement of East Asian countries toward RTAs has been motivated by the desire to enhance regional economic cooperation by facilitating investment and providing a more flexible environment for the operations of multinational firms, rather than by removing grounds for discrimination and boosting intra-bloc trade. East Asia's preference for deeper integration and the increasing emphasis on investment liberalisation support the positive aspect of 'new regionalism' underscored by Ethier (1998), and may further substantiate the 'Domino Theory of Regionalism' grounded in the East Asian experience.

(iv) Deeper integration through trade facilitation

In order to highlight the importance of deeper integration among East Asian countries and successful implementation of an FTA in the region, we propose an

TABLE 6
Trade Share in East Asian Countries (Per cent)

Export from:	*East Asia*			*China*			*Japan*			*Korea*			*Other NIEs*			*ASEAN 4*		
to:	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*
East Asia	**31.2**	**39.2**	**46.3**	**52.8**	**64.8**	**47.2**	**21.8**	**29.8**	**40.4**	**29.8**	**35.9**	**43.9**	**29.5**	**40.4**	**48.1**	**54.0**	**53.1**	**53.5**
China	2.5	4.1	8.1	–	–	–	3.9	2.1	6.3	0.1	0.9	10.7	2.5	10.5	14.2	0.8	2.1	3.5
Japan	10.2	8.6	8.7	22.2	14.7	16.7	–	–	–	17.4	19.4	11.9	7.9	8.7	8.9	34.5	24.3	16.3
Korea	2.8	4.0	4.4	0.1	0.7	4.5	4.1	6.1	6.4	–	–	–	1.3	2.1	2.6	1.7	3.9	3.7
Other NIEs	9.6	15.4	16.8	26.2	46.5	22.2	6.7	13.8	18.1	7.5	10.5	14.2	9.0	9.7	12.8	13.8	18.6	22.8
ASEAN 4	6.1	7.1	8.3	4.3	2.9	3.7	7.0	7.7	9.5	4.8	5.0	7.2	8.7	9.3	10.6	3.2	4.2	7.1
USA	22.6	26.2	23.9	5.4	8.5	20.9	24.5	31.7	30.1	26.3	29.8	21.8	26.7	26.1	21.8	18.7	19.3	20.8
EU	14.7	17.5	14.9	13.7	10.0	15.3	15.2	20.4	16.4	14.5	15.4	13.6	14.5	17.1	13.7	13.9	16.6	15.1
Others	31.5	17.1	14.9	28.1	16.7	16.6	38.5	18.1	13.1	29.4	18.9	20.7	29.3	16.4	16.4	13.4	11.0	10.6
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Import to:	*East Asia*			*China*			*Japan*			*Korea*			*Other NIEs*			*ASEAN 4*		
from:	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*	*1980*	*1990*	*2000*
East Asia	**30.7**	**42.2**	**51.0**	**32.8**	**47.4**	**53.6**	**20.7**	**26.5**	**39.2**	**34.7**	**39.7**	**42.3**	**43.8**	**58.2**	**58.4**	**42.0**	**50.8**	**59.1**
China	3.6	7.1	12.0	–	–	–	3.1	5.1	14.5	0.0	3.2	8.0	7.7	16.4	17.3	2.8	2.6	3.8
Japan	12.1	14.1	14.0	26.5	14.2	18.4	–	–	–	26.3	26.6	19.8	21.8	21.0	18.4	24.2	25.7	21.3
Korea	1.9	3.8	6.0	0.0	0.4	10.3	2.2	5.0	5.4	–	–	–	1.9	3.4	5.0	2.0	3.4	4.9
Other NIEs	3.0	9.6	8.4	3.9	28.7	17.8	1.4	6.0	6.5	2.6	4.2	6.0	3.8	9.5	8.5	9.0	15.3	20.3
ASEAN 4	10.0	7.6	10.6	2.4	4.0	7.1	14.0	10.4	12.8	5.9	5.6	8.5	8.6	8.0	12.1	4.0	3.9	8.8
USA	16.4	18.1	14.6	19.6	12.2	9.9	17.4	22.5	19.1	21.9	24.3	18.2	11.6	14.7	13.8	16.1	13.9	14.2
EU	9.6	14.3	11.2	15.8	12.2	13.7	6.5	16.1	12.3	8.6	13.0	9.8	12.0	12.6	9.8	14.9	16.5	10.9
Others	43.3	25.4	23.2	31.8	28.2	22.8	55.4	34.9	29.4	34.8	23.0	29.7	32.6	14.5	18.0	27.0	18.8	15.8
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note:
Other NIEs include Singapore, Taiwan, Hong Kong, and ASEAN 4 includes Indonesia, Malaysia, the Philippines and Thailand.

Source: International Monetary Fund, *Direction of Trade Statistics Yearbook*, various years.
Ministry of Economic Affairs ROC, Trade Statistics.

TABLE 7
Average Tariff Rates in East Asian Countries (Per cent)

	1988	*1993*	*1996*	*1998*	*2000*
China	39.5	37.5	23.0	17.0	16.4
Japan	4.3	3.4	4.0	4.2	4.4
Korea	18.1	8.9	7.9	7.9	7.9
Singapore	0.3	0.4	0.0	0.0	0.0
Malaysia	13.6	12.8	9.0	9.3	9.2
Thailand	31.2	37.8	17.0	18.4	17.0
Indonesia	18.1	17.0	13.1	11.9	8.2
Philippines	27.9	23.5	14.0	9.4	6.9

Source: The World Bank, *World Development Indicators*.

alternative way to achieve an East Asian FTA. We strongly suggest that the FTA should stress trade facilitation rather than following common guidance on tariff reduction. We believe that this method is more effective for integrating regional economies in an FTA because trade facilitation measures such as enhanced customs procedures, standardisation, free mobility of businessmen and implementing e-commerce technology can be used to promote trade among countries in the region as well as between regions by drastically reducing the transaction costs incurred in the process of international trade.[16] These trade facilitation measures could be considered as a complement to General Purpose Technology (GPT).[17] As the welfare of society necessitates the potential for pervasive use of such technologies across the complete range of industry sectors, trade facilitation will generate a broader range of efficiency gains across sectors. Innovation in information and communication technology as well as improved transaction instruments between countries could be defined as GPT, but such innovations could be inefficient because of the existence of trade barriers resulting from failures in trade facilitation.

Furthermore, compared to tariff reduction among members, trade facilitation reduces the problems caused by the 'Spaghetti Bowls Phenomenon' and eases the opening of members toward non-members, thereby satisfying APEC's commitment to open regionalism. Trade facilitation is an alternative policy instrument to tariff reduction, especially when we take into account imported intermediate goods and specific sectors such as agriculture. Relatively easier inclusion of 'substantially all trade' in the case of trade facilitation also satisfies Article XXIV of GATT.

[16] For the positive effect of trade facilitation compared to trade liberalisation, see APEC Economic Committee (2002) and Wilson, Mann and Otsuki (2003).
[17] For GPT as a source of economic growth, see Helpman (1998).

5. CONCLUDING REMARKS

Will an East Asian FTA be a discriminatory trade bloc against, or a non-discriminatory trade bloc toward, global free trade? In order to answer this question, we quantitatively estimated the impact of possible East Asian FTAs by using gravity analysis, and evaluated the major characteristics of the proposed FTAs.

Overall, we conclude that an East Asian FTA will likely be a building block for a global FTA if it takes the form of deeper integration in close consultation with existing multilateral institutional frameworks such as APEC and WTO. The trade-creation effect expected from the proposed East Asian FTAs will be significant enough to overwhelm the trade diversion effect. Furthermore, in contrast to some previous empirical studies that found significant trade diversion effects of RTAs, our results imply that East Asian FTAs would not create a trade diversion effect. Therefore, the proposed East Asian FTAs are likely to be non-discriminatory trade blocs without incurring any significant impact on interregional trade.

The purely market-driven forces for the East Asian countries to form RTAs at least up to present imply that members in an East Asian FTA have a strong intention to reduce external tariff levels to the level of members. This may lead the regional effort of building a non-discriminatory trade bloc to move faster towards a more integrated world economy. In particular, if the major three East Asian countries successfully implement their FTA and expand it into an ASEAN plus 3 arrangement leading to the East Asian FTA, we anticipate a tripolar system of international trade consisting of the American FTA, the European FTA and the East Asian FTA. Such a tripolar system, in turn, may prove to be a vital impetus for expanding free trade around the globe.

However, policy makers in the region should be cautious about the evolutionary formation of RTAs. The currently proliferating proposals for East Asian RTAs may create overlapping RTAs, which can form complicated discriminatory trade blocs against each other and thereby hinder trade among the overlapped membership countries, as well as global trade.

APPENDIX

TABLE A1
RTAs in Sample

Agreement		*Members*	*Date of Entry*
AFTA	ASEAN Free Trade Area	Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam	1992
CAN	Andean Community of Nations	Bolivia, Colombia, Ecuador, Peru, Venezuela	1988
CARICOM	Caribbean Community and Common Market	Antigua & Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Trinidad & Tobago, St. Kitts & Nevis, St. Lucia,	1973
		St. Vincent & the Grenadines	1977
		Bahamas	1983
		Suriname	1995
		Haiti	1997
CACM	Central American Common Market	El Salvador, Guatemala, Honduras, Nicaragua	1961
		Costa Rica	1962
CER	Closer Economic Relations	Australia, New Zealand	1983
EC	European Communities	Belgium, France, Germany, Italy Luxembourg, Netherlands	1958
		Denmark, Ireland, United Kingdom	1973
		Greece	1981
		Portugal, Spain	1986
		Austria, Finland, Sweden	1995
EFTA	European Free Trade Association	Liechtenstein, Norway, Switzerland	1960
		Iceland	1970
MERCOSUR	Southern Common Market	Argentina, Brazil, Paraguay, Uruguay	1991
NAFTA	North American Free Trade Agreement	Canada, Mexico, United States	1994
PATCRA	Papua New Guinea-Australia Trade and Commercial Relations Agreement	Australia, Papua New Guinea	1977
SAPTA	South Asian Preferential Trade Arrangement	Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka	1995
SPARTECA	South Pacific Regional Trade and Economic Cooperation Agreement	Australia, New Zealand, Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Western Samoa	1981
US-Israel FTA	US-Israel FTA	US, Israel	1985

REFERENCES

Aitken, N. D. (1973), 'The Effects of the EEC and EFTA on European Trade: A Temporal Cross-section Analysis', *American Economic Review*, **63**, 881–92.

APEC Economic Committee (2002), *The Benefits of Trade and Investment Liberalization and Facilitation in APEC* (APEC Secretariat, Singapore).

Asian Development Bank (ADB) (2002), 'Preferential Trade Agreements in Asia and the Pacific', *Asian Development Outlook 2002*, 157–96.

Austria, M. S. (2003), 'East Asian Regional Cooperation: Approaches and Processes', PIDS Discussion Paper Series No. 2003-02 (Philippines Institute for Development Studies).

Baier, S. and J. Bergstrand (2003), 'Endogenous Free Trade Agreements and the Gravity Equation', manuscript.

Baldwin, R. (1993), 'A Domino Theory of Regionalism', NBER Working Paper Series 4465 (National Bureau of Economic Research).

Barrell, R. and A. Choy (2003), 'Economic Integration and Openness in Europe and East Asia', Paper presented at the ASEM Symposium on Multilateral and Regional Economic Relations (Tokyo).

Bayoumi, T. and B. Eichengreen (1997), 'Is Regionalism Simply a Diversion? Evidence from the Evolution of the EC and EFTA', in T. Ito and A. Krueger (eds.), *Regionalism versus Multilateral Trade Arrangements*, NBER East Asia Seminar on Economics 6 (Chicago: Chicago University Press).

Bergsten, C. F. (2001), 'Fifty Years of Trade Policy: The Policy Lessons', *The World Economy*, **24**, 1, 1–13.

Bhagwati, J., D. Greenaway and A. Panagariya (1998), 'Trading Preferentially: Theory and Policy', *The Economic Journal*, **108**, 1128–48.

Braga, C. A. P., R. Safadi and A. Yeats (1994), 'Regional Integration in the Americas: *Déjà vu* All Over Again?', *The World Economy*, **17**, 4, 577–601.

Brown, D., A. V. Deardorff and R. M. Stern (1992), 'A North American Free Trade Agreement: Analytical Issues and Computational Assessment', *The World Economy*, **15**, 1, 11–29.

Burfisher, M. E., S. Robinson and K. Thierfelder (2004), 'Regionalism: Old and New, Theory and Practice', MTID Discussion Paper No. 65 (Markets, Trade and Institutions Division, International Food Policy Research Institute).

Cheong, I. (2002), 'East Asian Economic Integration: Recent Development of FTAs and Policy Implications', *KIEP Policy Analysis 02-02* (Korea Institute for International Economic Policy).

Dee, P. and J. Gali (2003), 'The Trade and Investment Effects of Preferential Trading Arrangements', NBER Working Paper Series 10160 (National Bureau of Economic Research).

Dhar, S. and A. Panagariya (1999), 'Is East Asia Less Open than North America and the EEC? No', in J. Piggott and A. Woodland (ed.), *International Trade Policy and the Pacific Rim* (Basingstoke Macmillan).

Dobson, W. (2001), 'Deeper Integration in East Asia: Regional Institutions and the International Economic System', *The World Economy*, **24**, 995–1018.

Edmonds, C. and J.-P. Verbiest (2002), 'The Role of Preferential Trading Arrangements in Asia', *ERD Policy Brief Series* 8 (Asian Development Bank).

Ethier, W. J. (1998), 'The New Regionalism', *The Economic Journal*, **108**, 1149–61.

Evenett, S. J. and W. Keller (2002), 'On Theories Explaining the Success of the Gravity Model', *Journal of Political Economy*, **110**, 281–316.

Feenstra, R. C. (2002), 'Border Effects and the Gravity Equation: Consistent Methods for Estimation', *Scottish Journal of Political Economy*, **49**, 5, 491–506.

Frankel, J. (1993), 'Is Japan Creating a Yen Block in East Asia and the Pacific?', in J. Frankel and M. Kahler (eds.), *Regionalism and Rivalry: Japan and the United States in Pacific Asia* (Chicago: Chicago University Press).

Frankel, J. (1997), *Regional Trading Blocs in the World Economic System* (Washington, DC: Institute for International Economics).

Frankel, J. and S. J. Wei (1998), 'Regionalization of World Trade and Currencies: Economics and Politics', in J. Frankel (ed.), *The Regionalization of the World Economy* (Chicago: University of Chicago Press).
Fruend, C. (2000), 'Different Paths to Free Trade: The Gains from Regionalism', *Quarterly Journal of Economics*, **115**, 1317–41.
Glick, R. and A. Rose (2002), 'Does a Currency Union Affect Trade? The Time Series Evidence', Draft.
Greenaway, D. and C. Milner (2002), 'Regionalism and Gravity', *Scottish Journal of Political Economy*, **49**, 5, 574–83.
Helpman, E. (1998), *General Purpose Technologies and Economic Growth* (Cambridge, MA: MIT Press).
Helpman, E. and P. Krugman (1985), *Market Structure and Foreign Trade* (Cambridge, MA: MIT Press).
International Monetary Fund, *Direction of Trade Statistics Yearbook* (various years).
JETRO (2003), 'Prospects for Free Trade Agreements in East Asia' (Overseas Research Department, Japan External Trade Organisation).
Krueger, A. O. (1999), 'Are Preferential Trading Arrangements Trade-Liberalizing or Protectionist?', *Journal of Economic Perspectives*, **13**, 105–24.
Laird, S. (1999), 'Regional Trade Agreements: Dangerous Liaisons?', *The World Economy*, **22**, 9, 1179–200.
Lamy, P. (2002), 'Stepping Stones or Stumbling Blocks? The EU's Approach Towards the Problem of Multilateralism vs. Regionalism in Trade Policy', *The World Economy*, **25**, 10, 1399–413.
Lawrence, R. Z. (1996), *Regionalism, Multilateralism, and Deeper Integration* (Washington, DC: Brookings Institution).
Lloyd, P. (2002), 'New Bilateralism in the Asia-Pacific', *The World Economy*, **25**, 9, 1279–96.
Lloyd, P. J. and D. MacLaren (2003), 'The Case for Free Trade and the Role of RTAs', Paper presented at a Seminar on Regionalism and the WTO (Geneva).
McKibbin, W. J. (1998), 'Regional and Multilateral Trade Liberalization: The Effects on Trade, Investment and Welfare', in P. Drysdale and D. Vines (eds.), *Europe, East Asia and APEC: A Shared Global Agenda?* (Cambridge: Cambridge University Press) 195–220.
McKibbin, W. J., J.-W. Lee and I. Cheong (2004), 'A Dynamic Analysis of a Korea-Japan Free Trade Area: Simulations with the G-Cubed Asia-Pacific Model', *International Economic Journal*, **18**, 3–32.
Munakata, N. (2004), 'Regionalization and Regionalism: The Process of Mutual Interaction', RIETI Discussion Paper Series 04-E-006 (Japan: Research Institute of Economy, Trade and Industry).
Panagariya, A. (1999), 'The Regionalism Debate: An Overview', *The World Economy*, **22**, 4, 477–511.
Panagariya, A. and R. Dutta-Gupta (2001), 'The "Gains" from Preferential Trade Liberalization in the CGE Models: Where Do They Come From?', Chapter 3 in S. Lahiri (ed.), *Regionalism and Globalization: Theory and Practice* (London: Routledge).
Polak, J. (1996), 'Is APEC a Natural Trading Bloc? A Critique of the Gravity Model in International Trade', *The World Economy*, **19**, 5, 533–44.
Robinson, S. and K. Thierfelder (1999), 'Trade Liberalization and Regional Integration: The Search for Large Numbers', TMD Discussion Paper No. 34, Trade and Macroeconomic Division (International Food Policy Research Institute).
Scollay, R. (2001), 'The Changing Outlook for Asia-Pacific Regionalism', *The World Economy*, **24**, 9, 1135–60.
Scollay, R. and J. Gilbert (2001), *New Subregional Trading Arrangements in the Asia-Pacific* (Washington, DC: Institute for International Economics).
Summers, L. (1991), 'Regionalism and the World Trading System' (Federal Reserve Bank of Kansas City).

Urata, S. and K. Kiyota (2003), 'The Impact of an East Asia FTA on Foreign Trade in East Asia', NBER Working Paper Series 10173 (National Bureau of Economic Research).
Wilson, J. S., C. L. Mann and T. Otsuki (2003), 'Trade Facilitation and Economic Development: Measuring the Impact', World Bank Policy Research Paper 2988 (The World Bank).
Winters, L. A. (1996), 'Regionalism versus Multilateralism', Policy Research Working Paper 1687 (The World Bank).
World Bank, *World Development Indicators* (various issues).