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**EFFECTS OF FREE TRADE AREAS IN TRADE PROMOTION:
GRAVITY MODEL APPROACH**

LIM JIT MUI, MONA

SINGAPORE MANAGEMENT UNIVERSITY 2011

**EFFECTS OF FREE TRADE AREAS IN TRADE PROMOTION:
GRAVITY MODEL APPROACH**

BY

LIM JIT MUI, MONA

**SUBMITTED TO THE SCHOOL OF ECONOMICS IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN ECONOMICS**

SUPERVISOR : PROFESSOR HOON HIAN TECK

SINGAPORE MANAGEMENT UNIVERSITY 2011

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ABSTRACT

Since the early 1990s, the world has seen a proliferation of Free Trade Agreements (FTAs). One of the key objectives of FTAs is to expand trade between or amongst its signatories. This study explores the intra-FTA and extra-FTA trade expansion capability of 3 types of FTAs : North-North FTA (European Union (EU)-15 as a representative), North-South FTA (North America Free Trade Agreement (NAFTA) as a representative) and South-South FTA (Association of Southeast Asia Nations (ASEAN) Free Trade Agreement (AFTA) as a representative). The study made an attempt to address the spread of such FTA-led trade expansion amongst the members and non-members. Gravity model is employed to run the bilateral trade data against the variables of relative sizes of the pair of countries/economies involved in trade (using GDP), distance, common border and language, and dummies for each of the FTAs.

Our findings reveal that all 3 FTAs lead to trade expansion, both within members and with non-members. However, such expansion is biased favorably towards intra-FTA trade. Of the three FTAs studied, NAFTA is the most expansionary in terms of trade creation for intra- and extra-FTA trade, followed by EU-15. EU-27 and AFTA are close in their trade expansion capability for both intra- and extra-FTA trade. As each FTA is unique on its own in terms of other factors such

as location, institution thickness and pre-FTA linkages not factored in the model used, the study could not conclude unambiguously which type of FTA is the most effective in the creation of trade.

The spread of trade expansion is asymmetric : some benefit more than others. It seems that members with more established external linkages (and are economically advanced) tend to benefit more than those without. Non-members which are key global traders tend to benefit more from FTAs' trade expansion than smaller global traders.

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DEDICATION

The thesis is dedicated to my late father, Mr. Lim Boh Kow, who passed away suddenly while I was working on this study in December 2010.

CHAPTER 1 : INTRODUCTION

The proliferation of free trade agreements (FTAs) is has been a key trend in the global trade community since the early 1990s. As of 31 July 2010, 474 Regional Trade Agreements (RTAs)¹ have been notified to the World Trade Organization (WTO) and 283 agreements were in force. FTA is the single most important form of RTA. (WTO, RTA Gateway, 2011)

The definition of FTA is :

A free trade agreement is signed amongst two or more countries or economies to form a free trade area. A free trade area is a grouping of countries within which tariffs and non-tariff trade barriers between the members are generally abolished but with no common trade policy toward non-members. (OECD, Glossary, 2011)

There are many reasons why countries or economies ink FTAs. In China-Pakistan Free Trade Agreement, article 2, it is stated :

Article 2 Objectives

1. The objectives of this Agreement are to:
 - (a) strengthen the mutual friendship between the Parties;
 - (b) encourage expansion and diversification of trade between the Parties;
 - (c) eliminate barriers to trade in, and facilitate the cross-border movement of, goods between the Parties;
 - (d) provide fair conditions of competition for trade between the Parties
 - (e) establish a framework for further bilateral economic cooperation to expand and enhance the benefits of this Agreement.

¹ Counting goods and services notifications separately

In Singapore-Australia Free Trade Agreement, Article 1, it is stated that :

ARTICLE 1

Objectives

The objectives of the Parties in concluding this Agreement are:

- (a) to strengthen the relationship between them;
- (b) to liberalise trade in goods and services between them and to establish a framework conducive for bilateral investments;
- (c) to support the wider liberalisation process in the Asia-Pacific Economic Cooperation consistent with its goals of free and open trade and investment;
- (d) to build upon their commitments at the World Trade Organization, and to support its efforts to create a predictable, and more free and open global trading environment;
- (e) to improve the efficiency and competitiveness of their goods and services sectors and expand trade and investment between them;
- (f) to establish a framework of transparent rules to govern trade and investment between them; and
- (g) to explore newer areas of economic cooperation.

Amongst the many reasons cited, one of the most common is to expand bilateral trade between or amongst the signatories. For example, Article 1(e) under Singapore-Australia Free Trade Agreement cites “to improve the efficiency and competitiveness of their goods and services sectors and expand trade and investment between them” and Article 2.1.b under China-Pakistan Free Trade Agreement cites “encourage expansion and diversification of trade between parties”. Hence, it would be interesting, first of all, to explore whether FTAs REALLY create trade between or amongst their signatories.

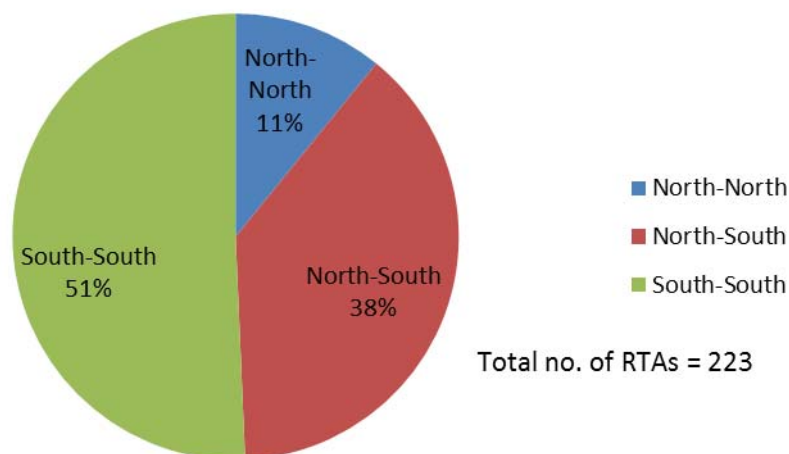
There are three major types of FTAs, namely, North-North, North-South and South-South. North-North FTAs involve only the developed countries or

economies. The European Union-15 (EU-15) before its enlargement in 2005 is a good example of North-North FTAs. North-South FTAs, on the other hand, involve both developed and developing countries/economies. The North America Free Trade Agreement (NAFTA) is one of the most important North-South FTAs, comprises the United States, Canada and Mexico. Last but not least, South-South FTAs involve only the developing countries. The Association of Southeast Asian Nations (ASEAN) Free Trade Agreement (AFTA) is one of the more important South-South FTAs in the world.

Chart 1 depicts the composition of North-North, North-South and South-South regional trade agreements (RTAs) notified to the WTO up to 15 September 2008. Amongst the 223 RTAs, about half of them are South-South, two-fifth of them North-South and one-tenth of them North-North. The reason for the low number of North-North FTAs is simply because there are only 24 countries classified as ‘North’² according to our grouping. The predominance of South-South FTAs illustrates the presence of “South countries” in absolute number. Also, increasingly, these countries are embracing trade as a development tool, hence, resulting in a higher awareness in using FTAs to enhance their global competitiveness. The number of North-South FTAs is also significant, reflecting some form of consensus between the North and the South to work hand-in-hand in the face of the force of globalization.

² There are many classifications of ‘North’ and ‘South’ countries by various international institutes as well as government organization. For the purpose of this study, the author has classified ‘North’ as US, Canada, EU-15 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom), Switzerland, Liechtenstein, Monaco, Norway, Japan, Australia and New Zealand

Chart 1 : Composition of RTAs by North-North, North-South and South-South



Source : WTO RTA database grouped by North-South. US, Canada, EU-15 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain,, Sweden, United Kingdom), Switzerland, Liechtenstein, Monaco, Norway, Japan, Australia and New Zealand

This gives rise to another question : which type of FTAs is the most effective in expanding trade? Other than the economic status of their members, North-North, North-South and South-South FTAs vary in terms of the nature of intra-member trade. Under North-North FTAs, horizontal intra-industry trade dominates whereby similar goods are exchanged. (WTO, 2008) Under North-South FTAs, a trade pattern based on Ricardian's comparative advantage model is expected. Members of North-South FTAs are expected to have a higher share of inter-industry and/or vertical intra-industry trade. In fact, one key reason for the formation of North-South FTAs is for the developing member(s) to gain further access to the market(s) of the developed member(s) and for the developed member(s) to take advantage of the lower production cost in the developing member(s). Under South-South FTAs, we expect to see a trade pattern dominated

by vertical intra-industry trade driven by transnational corporations (TNCs). One of the key objectives of such FTAs is to enhance the attractiveness of the FTA for TNC investors. If successful, such FTAs will become part of the global production networks of TNCs. The TNCs will organize their production activities spatially across the South-South FTA members. The FTA members will then trade amongst themselves as production nodes of TNCs.

The proliferation of the FTAs has drawn many critics, one of them being the fear of trade diversion from more efficient non-member producers to less efficient member producers. As FTAs lower trade barriers between/among their signatories, the expansion of bilateral trade between its members could take place at the expense of other non-members. For example, a member economy may displace a non-member's exports to another member economy simply because its good could enter at a lower tariff instead of it being a more efficient producer. If this happens, it violates the principles of free market mechanism to ensure allocative efficiency under perfect competition conditions and result in deadweight loss.

Last but not least, we are interested to explore the spread of trade expansion of FTAs (if exists), amongst the members as well as non-members. Who tends to benefit more? Who tends to benefit less? The "new" trade theory of "new economic geography" has developed a "core-periphery" model to explain the concentration of trade in the hands of a few. The agglomeration effects offer both cost and non-cost advantages to locations with a larger scale of activities ("core"). As a result of this self-enforcing agglomeration effects, activities tend to be

concentrated at “core”, often at the expense of “periphery”. Hence, it is of our interest to examine if there is any “core-periphery” pattern developed amongst the FTA members.

In short, this study aims to address the following issues :

- a) Are FTAs effective in expanding trade amongst their members?
- b) Do FTAs help to promote trade between their members and non-members?
- c) Which type of FTA (North-North, North-South or South-South) expands trade more?
- d) Amongst the FTA members and non-members, who gain more? Who gain less?

The report will be organized into 3 parts. The ensuing section will explain the model and the data used. A presentation on the key findings of the study will follow. The report will part with a few suggestions for future studies.

CHAPTER 2 : THE MODEL

Gravity Model

Gravity models have been used extensively for the empirical analysis of a wide range of international economics topics, including FTAs. In this study, we will use a gravity model in the general form of :

$$\ln(T_{i,j}) = A + B \ln(\text{GDP}_i) + C \ln(\text{GDP}_j) + D \ln(\text{Distance}_{i,j}) + E(\text{FTA-both}_{i,j}) + F(\text{FTA-one}_{i,j}) + G(\text{Border}) + H(\text{Language}) + \varepsilon$$

... (1)

where :

$T_{i,j}$ = Trade between economy i and j (as reported by economy i)

GDP_i = GDP of economy i, as a proxy for the size of the reporting economy

GDP_j = GDP of economy j, as a proxy for the size of the partner economy

$\text{Distance}_{i,j}$ = Distance between i and j, as a proxy of travel cost of trade

$\text{FTA-both}_{i,j}$ = Dummy variable takes the value of '1' if both economies i and j belong to the said FTA, or else the dummy variable takes the value of '0'

$\text{FTA-one}_{i,j}$ = Dummy variable takes the value of '1' if either economy i or economy j but NOT when BOTH are members of the said FTA, or else the dummy variable takes the value of '0'

Border = Dummy variable takes the value of '1' if both economies i and j have connecting border or else the dummy variable takes the value of '0'

Language = Dummy variable takes the value of '1' if both economies i and j have common official language or else the dummy variable takes the value of '0'

ε = residual of the regression; the term captures movements in the bilateral trade not explained by the factors listed earlier

A, B, C, D, E, F, G, H : Coefficients

Ln : Natural logarithm

The coefficients, B, C, D, E, F, G and H will be of interest. Firstly, the sign and the statistical significance of these coefficients will indicate how these factors affect bilateral trade between a pair of countries/economies. If a coefficient is statistically significant and it is positive, the factor it represents has a strong direct relationship with bilateral trade, i.e., the factor is deemed to promote bilateral trade. If a statistically significant coefficient is negative, the factor it represents has a strong inverse relationship with the bilateral trade, i.e., the factor is deemed to impede trade. If a coefficient is statistically insignificant, it indicates that the factor it represents has a minimal impact on the bilateral trade.

From the equation (1), we would expect both B and C to be positive since the size of reporting economy and partner economy will directly affect the size of bilateral trade between the two economies. Generally, we expect economies/countries with bigger economic sizes (as proxy by GDP) to have a larger capacity to trade. D is likely to be negatively since distance presents a hindrance to trade. As two economies are further apart, the transport cost involved will be higher and that

may wipe off any advantage in trade. This coefficient is often used to test the ‘death of distance’ as claimed by some researcher. If D is statistically insignificant, then the hypothesis of a ‘borderless world’ where location plays a minimal role in the global commercial transactions could be supported. However, if D is statistically significant negative, then it implies that distance is still a barrier to trade, i.e. economies that are further apart tend to trade less, *ceteris paribus*.

Coefficients E and F are main subjects of interest. The construction of such coefficients is inspired by the model employed by Rose AK (2003) to explore the role of the WTO membership in trade expansion. If E is positive and it is statistically significant, this implies that the FTA is instrumental in creating intra-FTA trade. If not, the FTA does not contribute to additional intra-FTA trade significantly, after adjusting for factors such as economic sizes, distance, common border and language. This addresses our first question on whether FTA contributes to further expansion of bilateral trade amongst its members. Similarly, if F is positive and it is statistically significant, this implies that the FTA is instrumental in generating extra-FTA trade. If F is significantly negative, this points to trade diversion as the FTA reduces trade between its member and non-member. This will help us to answer the second question on whether the FTA promotes trade between its members and non-members.

Putting the pair of coefficients E and F for the same FTA would throw lights on the relative effectiveness of the FTA in expanding intra-FTA and extra-FTA trade. If “ E ” is larger than “ F ”, the FTA promotes trade within members MORE than

trade between members and non-members. If “F” is larger than “E”, the FTA promotes trade between members and non-members MORE than trade within members.

Across FTAs, we could compare the values of corresponding coefficients “E” and “F” to rank the effectiveness in generating intra-FTA and extra-FTA trade. A FTA with a higher coefficient of “E” will be more effective in promoting intra-FTA trade than another FTA with a lower coefficient of “E”. Likewise, a FTA with a higher coefficient of “F” will be more effective in promoting extra-FTA trade than another FTA with a lower coefficient of “F”. This will help to address our third question on which type of FTA (North-North, North-South or South-South) is more effective in promoting bilateral trade.

Coefficients G and H will account for the contributions of a common border and official language to bilateral trade. It is expected that both G and H take on positive values. Sharing a common border could reduce documentation and probably time cost, holding other things constant, as there could be less customs to clear. Having a common official language would encourage trade as it facilitates communication amongst traders. In addition, language could be taken as a proxy for culture affinity between the trading economies. In general, culture affinity promotes trade.

Last but not least, we will make use of the raw residual, \mathcal{E} to address the fourth issue on the spread of benefit of the 3 FTAs amongst their members and non-members. A positive raw residual ($\mathcal{E} > 0$) of a pair of trading partners implies that

the actual bilateral trade is more than the expected value after taking into consideration factors such as economic sizes, distance, FTA effects, common border and language. In a way, the bilateral trade between the two economies/countries ‘outperforms’ the average value adjusted for factors considered in the model. The reverse is true. A negative raw residual ($\varepsilon < 0$) implies that the actual trade value is below the expected value adjusted for the relevant factors in the model and this points to ‘underperformance’.

To answer our fourth question, we will construct several sums of raw residuals. The raw residual, ε , is summed up across trading partners for each reporting economy i , i.e., $\sum \varepsilon_{i,j}$, $i \neq j$ by intra-FTA and extra-FTA trade.

For each FTA member, two sums of raw residuals will be computed :

- Intra-FTA trade sum of residuals : $I_SE_{i,FTA,member} = \sum \varepsilon_{i,j}$, $i, j =$ FTA members; FTA = EU-15, EU-27, NAFTA or AFTA
- Extra-FTA trade sum of residuals : $E_SE_{i,FTA,member} = \sum \varepsilon_{i,j}$, $j =$ non-FTA members; FTA = EU-15, EU-27, NAFTA or AFTA

For each non-member, we construct an extra-FTA sum of residuals similar to the extra-FTA sum of residuals for members :

- $SE_{i,FTA,non-member} = \sum \varepsilon_{i,j}$, $i =$ non-FTA members, $j =$ FTA members; FTA = EU-15, EU-27, NAFTA or AFTA

If an economy, be it member or non-member, has a positive sum of raw residuals, i.e., $I_SE_{i,FTA,member} > 0$, $E_SE_{i,FTA,member} > 0$, or $SE_{i,FTA,non-member} > 0$, it is taken

that this economy benefits more than average from the FTA. We name this group of economies the “Over-performer”. If an economy has a negative sum of raw residual, i.e., $\sum \varepsilon_{ij} < 0$, it is taken that this economy benefits less than average from the FTA. We name this group of economies the “Under-performer”. At this point, we must take note that even under-performers COULD have benefited from the said FTA. The negative sum only suggests that the economy benefits LESS than AVERAGE from the said FTA.

Another thing to note is that the approach used in the study is a crude one compared to the conventional approach. Firstly, in this study, sum of raw residual is used. No attempt has been made to standardize the error terms and test for its statistical significance. Hence, the sum of raw residual is strictly used for ranking purpose and comparison between any two pair of sums does not yield any meaningful result. Secondly, the gravity model used in this study have omitted variables such as multilateral resistance which measures the barrier to trade faced by economy i with other economies except j . A higher multilateral resistance will push economy i to trade more with economy j . Multilateral resistance is a relevant factor since the creation of FTA alters the *relative* trade barriers between members and non-members. Anderson J E, Winco v E (AER, 2003) illustrated that the element of ‘multilateral resistance’, if omitted from the gravity model, would exaggerate the border effect upwards, especially for smaller economies. The raw residual analysis used in this study could be swing by the omitted variables. An economy could have a large positive sum of residual because variables that explain its bilateral trade are omitted from the model.

Despite the short-comings, the approach is a simple one that helps to shape some preliminary hypothesis on which economies tend to benefit more from FTAs.

Scope

The study will focus on 3 FTAs, namely, EU-15, NAFTA and AFTA. EU-15 is the most important of the North-North FTA. While EU-15 was enlarged into EU-27 in 2005, we exclude its newer Eastern Europe member to keep it a ‘purer’ form of North-North FTA. Another set of data run based on EU-27 will be used as a reference. Any difference in findings between the models run based on EU-15 and EU-27 will be highlighted. NAFTA is as important a North-South FTA as EU-15 a North-North FTA. AFTA is one of the key South-South FTAs.

These 3 FTAs will be modeled into equation (1) :

$$\begin{aligned} \text{Ln}(T_{i,j}) = & A + B \text{Ln}(\text{GDP}_i) + C \text{Ln}(\text{GDP}_j) + D \text{Ln}(\text{Distance}_{i,j}) + E(\text{EU-15-both}_{i,j}) + \\ & F(\text{EU-15-one}_{i,j}) + G(\text{NAFTA-both}_{i,j}) + H(\text{NAFTA-one}_{i,j}) + K(\text{AFTA-both}_{i,j}) + \\ & M(\text{AFTA-one}_{i,j}) + N(\text{Border}) + P(\text{Language}) \end{aligned}$$

... (2)

where :

$T_{i,j}$ = Trade (Export or import) between economy i (reporting country) and j (partner country)

GDP_i = GDP of economy i , as a proxy for the size of the reporting economy

GDP_j = GDP of economy j, as a proxy for the size of the partner economy

Distance_{ij} = Distance between i and j, as a proxy of travel cost of trade

EU-15-both_{ij} = Dummy variable takes the value of '1' if both economies i and j belong to EU-15 or else the dummy variable takes the value of '0'

EU-15-one_{ij} = Dummy variable takes the value of '1' if either economy i or j but NOT BOTH are members of EU-15 or else the dummy variable takes the value of '0'

NAFTA-both_{ij} = Dummy variable takes the value of '1' if both economies i and j belong to NAFTA or else the dummy variable takes the value of '0'

NAFTA-one_{ij} = Dummy variable takes the value of '1' if either economy i or j but NOT BOTH are members of NAFTA or else the dummy variable takes the value of '0'

AFTA-both_{ij} = Dummy variable takes the value of '1' if both economies i and j belong to AFTA or else the dummy variable takes the value of '0'

AFTA-one_{ij} = Dummy variable takes the value of '1' if either economy i or j but NOT BOTH are members of AFTA or else the dummy variable takes the value of '0'

Border = Dummy variable takes the value of '1' if both economies have connecting border or else the dummy variable takes the value of '0'

Language = Dummy variable takes the value of '1' if both economies have common official language or else the dummy variable takes the value of '0'

A, B, C, D, E, F,G, H, K, M, N, P : Coefficients

Ln : Natural logarithm

Data used

The bilateral trade data are extracted from the United Nation ComTrade database (UN ComTrade). The data set is supplemented by Taiwan's bilateral trade data from the Bureau of Foreign Trade Taiwan and Brunei's, Cambodia's, Laos' and Myanmar's (AFTA's members) reported trade data from the International Monetary Fund (IMF) Direction of Trade (DOT) database. Taiwan is one of the top 20 traders in the world and it is too important to be left out of the study although it belongs to none of the 3 FTAs. Partner entry for UN ComTrade database representing Taiwan is masked under "Other Asia nec". For this study, we treat the partner entry "Other Asia nec" as "Taiwan".

The GDP numbers are sourced from the World Bank database. The missing numbers for the likes of Taiwan and Myanmar are complemented from other sources including the Asian Development Bank and ASEAN Secretariat.

Information on distance, border and language are drawn from CEPII database (<http://www.cepii.fr/anglaisgraph/bdd/distances.htm>).

The model runs on a single period in 2007.

CHAPTER 3 : KEY FINDINGS

Equation (2) from the previous chapter was run on Microsoft Excel Datapak Add-ons for exports and imports data separately. [Table 1](#) summarizes the regression results for both exports and imports. For both data sets, the adjusted R-squares are around 0.4 and the models are significant by F-test.

Table 1 : Regression result for both exports and imports

	Exports			Imports		
	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	7.4	22.6	0.0	9.8	29.8	0.0
Ln GDP* _i	0.4	63.8	0.0	0.2	41.7	0.0
ln GDP* _j	0.2	39.3	0.0	0.3	56.9	0.0
ln Distance	-0.9	-30.3	0.0	-0.9	-30.5	0.0
EU-15-all	4.6	20.0	0.0	5.2	21.1	0.0
EU-15-one	1.9	33.7	0.0	2.4	39.8	0.0
NAFTA-all	7.2	5.5	0.0	7.3	5.5	0.0
NAFTA-one	2.3	21.8	0.0	3.2	27.7	0.0
ASEAN-all	3.5	9.6	0.0	3.9	9.8	0.0
ASEAN-one	1.4	18.6	0.0	1.7	22.0	0.0
Border	2.7	15.8	0.0	2.5	13.9	0.0
Language	0.3	4.3	0.0	0.1	1.8	0.1

*GDP_i : GDP of the reporting economy while GDP_j : GDP of the partner economy

Adjusted R Square	0.4	0.4
Significance F	0.0	0.0

All the coefficients in both models (exports and imports) are significant, which suggests that the factors built into equation (2) have effects on bilateral trade.

Firstly, the economic sizes of the reporting economy and the partner do have a direct impact on trade, as hypothesized earlier. The coefficients of GDP_i and GDP_j are significantly positive. Secondly, the distance between two economies still plays an important role in explaining the bilateral trade between them. As

hypothesized earlier, the coefficient for distance is negative. This implies that the further away the two economies are, the lower would be the bilateral trade value, *ceteris paribus*. This finding does not support the hypothesis of ‘death of distance’. Similar results are obtained when the same model is run based on EU-27. The regression result for EU-27 could be found in Appendix A.

It is interesting to note that all the coefficients for the FTAs dummies are significantly positive. This suggests that all the 3 FTAs, namely, EU-15, NAFTA and AFTA encourage trade not only amongst their members but also with non-members. In a way, FTAs do not benefit its members at the expense of non-members in term of trade expansion in absolute value (for both exports and imports). Similar results are obtained for the same model ran for EU-27. This answers our first two questions of the thesis : FTAs are effective in expanding trade within members as well as with non-members.

While it is intuitive that FTA should help to expand trade amongst its members (or else there is no incentive for economies or countries to ink FTAs), it is less obvious why FTA should help to promote trade between its members and non-members. In fact, there are many studies which report FTA’s trade diversion effects. Bhagwati, for instance, argues that the low profit margin by traders, driven by globalization, makes it easy for trade diversion in a FTA to take place since member traders enjoy the advantage of lower trade barriers. (Bhagwati, 2008). There are also concerns over FTAs such as US-Korea FTA leading to trade diversion for non-members (Kiyota, Stern, 2007).

In what ways do FTAs help to expand trade with non-members? One possible reason is that the formation of a FTA could have enhanced the competitiveness of the members resulting in them exporting more to the rest of the world. Another possible reason is that a FTA may not be self-sufficient in its production chain, as the production capacity of the members expands, they need to import machinery and/or raw materials from the rest of the world. A third potential reason for FTA trade creation for non-member is that the 3 FTAs under this study are active in engaging in free trade negotiation with non-members. Also, the 3 FTAs have been aggressive in dismantling trade barriers to the rest of the world and this could have been instrumental in promoting extra-FTA trade. The list goes on. Based on the existing methodology and data used, we could not confirm the real reason behind the regression result which points to trade creation effects for non-members by the 3 FTAs. The reasons listed above remain as hypothesis as far as this study is concerned.

While the 3 FTAs create trade between their members and non-members, the trade creation effects for members are stronger than those for non-members. The coefficients for trade expansion amongst members [EU-15-all, NAFTA-all, AFTA-all where these dummies take the value of '1' when BOTH partners belongs to the FTA] are 2 – 3 times higher than the coefficients for trade expansion between members and non-members [EU-15-one, NAFTA-one, AFTA-one where these dummies take the value of '1' when ONE of the partners (NOT BOTH) belongs to the FTA] for each FTA. This suggests that members of the agreements, as a whole, should expect to experience a larger trade expansion

with other members than with non-members. *Members have their privileges.*

EU-27 model is consistent with the above findings.

Comparing the trade creation effects of the 3 FTAs, NAFTA has the strongest expansion effects for intra-FTA and extra-FTA trade (both exports and imports), followed by EU-15 and then AFTA. It is tempting to conclude that North-South FTA (as represented by NAFTA) is the most effective in promoting trade, followed by North-North FTA (as represented by EU-15) and then South-South FTA (as represented by AFTA). However, this could be too simplistic given our focus of only 3 FTAs, with each type of FTA (North-North, North-South, South-South) represented by only 1 of its kind, i.e., sample size = 1 for each category.

NAFTA could be the most expansionary in terms of intra-FTA and extra-FTA trade creation due to the 'US factor'. The United States has strong economic linkages within and outside the block. Its membership in NAFTA could have an enormous effect on the expansion in trade within and outside the free trade area. In addition, NAFTA members have established strong trade linkages amongst themselves even before the commencement of FTAs. This could have accounted for the strong trade expansion coefficients. All these advantages are unique to NAFTA and they may not be relevant for other North-South FTAs.

EU-15 could have enjoyed a greater intra-FTA and extra-FTA trade expansion over AFTA due to its institutional thickness. Moreover, EU-15 is a more advanced form of free trade arrangement than AFTA. EU-15 is a common market whilst AFTA is a free trade area. When the new Eastern European members are

included, the intra-FTA and extra-FTA trade expansion for EU-27 is smaller and close to those of AFTA. This could be due to the fact that the new Eastern European members (joined EU in 2005, 2 years before the period of study) do not enjoy the high level of institutional infrastructure and internal/external economic linkages as their incumbents. It takes some time for these new members to integrate into the trade block and catch up. Here again, the model used has its limitation to explain and verify the reason behind why certain form of FTA could have a larger trade creation effect.

Last but not least, we would like to examine the spread of such trade expansion amongst the members and non-members of the 3 FTAs. As outlined in Chapter 2, the raw residuals of the bilateral trade pairs are summed by reporting countries and type of trade (through the controlling dummies of FTA-one and FTA-all for the 3 FTAs). Economies with positive sum of raw residuals are grouped as “over-performers”. These are considered as the group which benefited more-than-average from the trade expansion. Economies with negative sum of raw residuals are grouped as “under-performers”. They are deemed as those who have benefited less-than-average from the trade expansion although they could have experienced more trade in absolute terms. These sums are used for ranking purpose and the interpretation of the actual numbers may not yield any meaningful information. Such treatment of the residual is simplistic compared to the conventional approach as highlighted in Chapter 2 and there is potential data omission issue for the gravity model used. Hence, it is important to handle the information presented in the ensuing section with care.

Performance analysis : Exports

Extra-FTA Exports

Table 2 summarizes the performance analysis for extra-NAFTA exports. The United States outperforms the other 2 members, Canada and Mexico, in term of extra-NAFTA trade. This could be due to the fact that the United States has stronger linkages with the global economy compared to Canada and Mexico. For non-NAFTA members, China (including Hong Kong) and Japan are amongst the top over-performers. From the table, the spread of the extra-NAFTA trade is asymmetry. It favors some countries/economies more than others. (The full list of over-/under-performers for extra-NAFTA exports could be found in Appendix B1; for the model based on EU-27, the full list of over-/under-performers for extra-NAFTA exports could be found in Appendix D1)

Table 2 : Performance analysis for extra-NAFTA exports

NAFTA members		Non-NAFTA members	
<u>Over-performer</u>		<u>Over-performer*</u>	
USA	191.9	French Polynesia	22.4
		Neth. Antilles	19.6
		New Caledonia	17.7
<u>Under-performer</u>		<u>Under-performer</u>	
Mexico	-393.7	Saint Vincent and the Grenadines	-17.3
Canada	-73.6	Antigua and Barbuda	-16.6
		Saint Lucia	-16.0

*Follows by China, Japan, Hong Kong, China

Table 3 and 4 summarize the corresponding numbers for EU-15 and AFTA respectively. From Table 3, it is observed that economically more advanced EU

members such as Germany, Netherlands and Italy outperform the economically less advanced members such as Luxembourg, Greece and Portugal. Based on the model run on EU-27, the over-performers are generally the more established Western European States whilst the majority of the under-performers are the new Eastern European members. For non-EU members, we see that large global traders such as China (including Hong Kong) features prominently under the list of over-performer and smaller traders tend to be under-performer in term of extra-EU export (for both EU-15 and EU-27 models). (The full list of over-/under-performers for extra-EU export could be found in the Appendix B2; the corresponding list for the model run based on EU-27 could be found in Appendix D2)

Table 3 : Performance analysis for extra-EU export

EU members		Non-EU members	
<u>Over-performer</u>		<u>Over-performer*</u>	
Germany	232.8	New Caledonia	93.4
Netherlands	216.6	French Polynesia	75.3
Italy	155.6	China	70.6
<u>Under-performer</u>		<u>Under-performer</u>	
Luxembourg	-396.6	Bhutan	-76.6
Greece	-314.6	Rwanda	-55.3
Portugal	-247.8	Brunei Darussalam	-54.5

*Followed by Hong Kong SAR, Japan and Taiwan

From table 4 for AFTA, we observe the economically more advanced members Singapore, Thailand and Malaysia are the leading over-performers. The under-performers include Cambodia, Brunei and Philippines. Cambodia and Brunei are resource-based economies while Philippines' comparative advantage lies in its immigrant labor and services instead of merchandise trade. For non-members, we, again, see a concentration of top global traders under the list for non-member

over-performers. (The full list of over-/under-performer for extra-AFTA export could be found in Appendix B3; the corresponding list for EU-27 could be found in Appendix D3)

Table 4 : Performance analysis for extra-AFTA export

AFTA members		Non-AFTA members	
<u>Over-performer</u>		<u>Over-performer*</u>	
Singapore	327.2	New Caledonia	42.0
Thailand	277.8	French Polynesia	40.0
Malaysia	204.5	South Korea	37.2
<u>Under-performer</u>		<u>Under-performer</u>	
Cambodia	-180.0	Botswana	-35.1
Philippines	-148.8	Mongolia	-34.9
Brunei Darussalam	-115.7	Nicaragua	-34.6

*Followed by Japan, China and Taiwan

Intra-FTA exports

Is the same asymmetry observed in intra-FTA exports? [Table 5](#) summarizes the corresponding figures for the 3 FTAs in term of intra-FTA trade.

For NAFTA, Canada is a surprise candidate for the sole ‘over-performer’ under intra-NAFTA exports while the United States and Mexico are ‘under-performer’. Contrast this with the extra-NAFTA exports data in [Table 2](#), one interpretation could be that the United States’ main market is not within NAFTA, Canada and Mexico are more of its import sources rather than its market. Canada could have benefited from NAFTA with a better market access into the American and Mexican markets.

Within EU and AFTA, the more economically advanced members outperform the less economically advanced ones in terms of intra-exports expansion. For the model run on EU-27, the majority of the under-performers are the new Eastern Europe members and the marginal EU-15 members such as Greece. For AFTA, the economically more advanced members such as Singapore and Thailand are amongst the over-performers while members such as Brunei, Cambodia and Philippines are amongst the under-performers.

The corresponding table for the model run on EU-27 could be found in Appendix F

Table 5 : Performance analysis for intra-FTA export for NAFTA, EU and AFTA

NAFTA members		EU members		AFTA members	
<u>Over-performer</u>		<u>Over-performer</u>		<u>Over-performer</u>	
Canada	1.6	Netherlands	41.4	Singapore	17.2
		Italy	7.1	Thailand	8.6
		Germany	6.5	Viet Nam	6.9
		Belgium	5.9	Myanmar	4.6
		Sweden	4.6	Indonesia	2.9
		United Kingdom	2.4	Malaysia	0.2
		Spain	1.6		
		Ireland	0.3		
<u>Under-performer</u>		<u>Under-performer</u>		<u>Under-performer</u>	
Mexico	-1.4	Luxembourg	-27.1	Brunei	
USA	-0.3	Greece	-19.1	Darussalam	-19.7
		Portugal	-6.5	Cambodia	-15.1
		Austria	-6.3	Philippines	-5.6
		France	-5.3		
		Denmark	-3.9		
		Finland	-1.6		

Performance analysis : Imports

Extra-FTA imports

Table 6 summarizes the performance analysis for extra-NAFTA imports by members and non-members. The findings resemble those for extra-NAFTA exports : US gains more from extra-NAFTA imports than Canada/Mexico and larger non-NAFTA global traders tend to over perform smaller global traders. (The full list of over-/under-performers for extra-NAFTA import could be found in Appendix C1; the corresponding list for the model run on EU-27 could be found in E1)

Table 6 : Performance analysis for extra-NAFTA imports

NAFTA members		Non-NAFTA members	
<u>Over-performer</u>		<u>Over-performer</u>	
USA	278.6	China	14.7
		Japan	14.4
		New Caledonia	14.3
<u>Under-performer</u>		<u>Under-performer</u>	
Mexico	-209.8	Comoros	-14.2
Canada	-127.8	Cape Verde	-14.2
		Solomon Islands	-13.9

Table 7 summarizes the performance analysis for extra-EU imports for both members and non-members. Economically more advanced members, Netherlands, Germany and France are the top ‘over-performers’ for extra-EU imports. The smaller members such as Luxembourg, Denmark and Finland are again the ‘under-performers’’. Based on the model run for EU-27, the majority of the ‘under-performers’ are made up of the new Eastern European members. For non-

members, we again observe a concentration of larger global traders under the over-performer list. (The full list of over-/under-performers for extra-EU import could be found in Appendix C2; the corresponding list for EU-27 could be found in Appendix E2)

Table 7 : Performance analysis for extra-EU imports

EU members		Non-EU members	
<u>Over-performer</u>		<u>Over-performer*</u>	
Germany	257.9	New Caledonia	92.4
France	242.1	French Polynesia	85.8
Netherlands	203.1	China	63.1
<u>Under-performer</u>		<u>Under-performer</u>	
Luxembourg	-464.5	Saint Kitts and Nevis	-63.3
Finland	-335.8	Samoa	-56.5
Denmark	-319.3	Tonga	-51.3

*Follows by Australia, Japan and Hong Kong SAR

Table 8 summarizes the performance analysis for extra-AFTA imports for both members and non-members. Singapore and Thailand again appear as the top ‘over-performer’ for imports. Cambodia, Brunei and Philippines appear as the key AFTA under-performer. For non-members, we again observe a concentration of larger global traders under the over-performer list. (The full list of over-/under-performers for extra-AFTA import could be found in Appendix C3; the corresponding list for the model run on EU-27 could be found in Appendix E3)

Table 8 : Performance analysis for extra-AFTA imports

AFTA members		Non-AFTA members	
<u>Over-performer</u>		<u>Over-performer*</u>	
Singapore	237.5	Japan	49.0
Thailand	122.0	New Caledonia	45.6
Viet Nam	90.9	Australia	42.5
<u>Under-performer</u>		<u>Under-performer</u>	
Philippines	-198.4	Luxembourg	-31.4
Brunei Darussalam	-129.2	Greenland	-30.6
Cambodia	-125.1	Bermuda	-30.1

*Followed by South Korea and China

Intra-FTA imports

Table 9 summarizes the performance analysis for intra-FTAs imports for NAFTA, EU and AFTA. For NAFTA, the United States is the sole over-performer for intra-NAFTA imports. This is consistent with our earlier finding that the United State is an under-performer for intra-NAFTA exports.

For EU, the over-performers of the intra-FTAs imports are again dominated by the economically more advanced members while most of the under-performers are the smaller economies. If the expanded EU-27 is considered, the under-performers list consists of mainly the Eastern European members.

For AFTA, the more economically advanced members like Singapore and Thailand are amongst the over-performers and less economically advanced members are amongst the under-performers list.

A corresponding table for EU-27 could be found in Appendix G.

Table 9 : Performance analysis for intra-FTA import for NAFTA, EU and AFTA

NAFTA members		EU members		AFTA members	
<u>Over-performer</u>		<u>Over-performer</u>		<u>Over-performer</u>	
USA	2.8	Netherlands	35.2	Viet Nam	10.6
		Italy	10.3	Singapore	9.0
		Spain	9.5	Thailand	7.1
		United Kingdom	7.9	Indonesia	3.0
		Germany	6.9	Cambodia	1.0
		Sweden	4.6	Malaysia	0.6
		Belgium	1.6		
		Greece	1.2		
<u>Under-performer</u>		<u>Under-performer</u>		<u>Under-performer</u>	
Canada	-2.4	Luxembourg	-37.7	Brunei	
Mexico	-0.4	Ireland	-16.6	Darussalam	-15.3
		Austria	-8.6	Philippines	-11.0
		Denmark	-4.3	Myanmar	-4.9
		Finland	-4.3		
		Portugal	-3.1		
		France	-2.5		

From the above analysis, the benefit of trade expansion by FTAs is asymmetry and it seems to favor the more economically advanced members and non-members. One reason for this could be that the former are in the better position to take on competition from fellow members and non-members. Hence, they are in a better position to benefit more from the FTAs. More rigorous treatments, however, must be employed to verify the findings.

CHAPTER 4 : CONCLUSION

For this study, we run a gravity model focusing on 3 FTAs, namely, NAFTA, EU and AFTA. All 3 FTAs are found to be effective in generating trade within members as well as between members and non-members. This may provide some support for FTAs as building blocks instead of stumbling blocks for multilateralism such as the WTO. The magnitude of the trade expansion for intra-FTA trade and extra-FTA differs. All 3 FTAs are poised to generate more intra-FTA trade than extra-FTA trade. This could be an interesting proposition for these FTAs to negotiate with non-members for their future enlargements.

The model suggests that NAFTA is the most trade generating (for both intra-FTA and extra-FTA trade), followed by EU-15 and then AFTA. This could be due to the presence of the United States within NAFTA and its strong economics linkage within the block and the rest of the world. Institutional thickness could be the reason behind why EU-15 is more expansionary in trade creation than AFTA. Each FTA is unique on its own and it may be too simplistic to generalize our findings that are based on 3 FTAs. Our question of which form of FTA tends to generate the most trade remains largely unanswered given the data and model limitation.

While the FTAs generate more trade as a whole, the spread of such benefit amongst members and non-members is asymmetry. It is observed that some economies tend to benefit from the agreements more than others. In general, the

more economically advanced members and larger non-member global traders tend to enjoy a higher-than-average trade expansion from the creation of the FTAs.

Limitation of the study

There are several limitations to the study :

- a) The model takes no consideration of the general equilibrium which is a feature in of more sophisticated gravity model. This poses a limit to the depth of our discussion on trade creation and diversion as well as welfare analysis. Expansion in trade may NOT equate to an increase in welfare.
- b) The model only takes into consideration 3 FTAs, namely, EU, NAFTA and AFTA leaving out other FTAs such as MERCOSUR by the South American countries and CER (Closer Economic Relations) by Australia and New Zealand. This limits our ability to generalize the findings to the rest of the FTAs.
- c) The gravity model is often being criticized for its lack of theoretical framework despite its empirical success. Our model may suffer from data omission.
- d) Time-series analysis is dropped from the model to avoid the complexity of panel data adjustments. Such analysis would be useful in evaluating whether trade expansion effects grow or deteriorate over time after the formation/joining of the FTA

While the study has managed to unveil some interesting findings, these findings, in turn, create more questions than answers. As Robert Half, Founder of Robert Half Associates, has once said, “Asking the right questions takes as much skill as

giving the right answers.” The main contribution of this thesis is probably “asking the right questions” for future research efforts.

Future research efforts could be made in :

- a) Inclusion of more FTAs in the model to further access the trade creation and/or diversion effects of various forms of FTAs
- b) Run the model on product-specific data set to uncover the trade dynamism within and outside the FTA
- c) Perform a proper residual analysis and incorporate a general equilibrium framework to access the welfare gain by FTA members and non-members

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Annex A : Regression result for EU-27, NAFTA and AFTA

	Exports			Imports		
	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>	<i>Coefficients</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	5.7	17.0	0.0	8.1	23.8	0.0
Ln GDP* _i	0.4	65.2	0.0	0.2	43.1	-
Ln GDP* _j	0.2	39.9	0.0	0.3	57.0	-
Ln Distance	(0.8)	(24.4)	0.0	(0.8)	(24.4)	0.0
EU-27-all	3.6	26.2	0.0	4.2	28.3	0.0
EU-27-one	1.0	19.9	0.0	1.5	26.7	0.0
NAFTA-all	7.2	5.4	0.0	7.4	5.5	0.0
NAFTA-one	2.3	20.8	0.0	3.2	27.0	0.0
ASEAN-all	3.7	9.8	0.0	4.1	10.2	0.0
ASEAN-one	1.3	17.8	0.0	1.7	21.5	0.0
Border	2.7	15.7	0.0	2.5	13.8	0.0
Language	0.5	7.2	0.0	0.4	5.2	0.0

*GDP_i is the GDP of the reporting economy while GDP_j is the GDP of partner economy

Adjusted R Square	0.3	0.3
Significance F	0.0	0.0

**Appendix B1 : Performance Analysis for intra- and extra-NAFTA exports
(EU-15 model)**

Intra-NAFTA export

Country	Performance (+ : Over performance; - : under performance)
Canada	1.6
United States	-0.3
Mexico	-1.4

Extra-NAFTA export

Country	Performance (+ : Over performance; - : under performance)
United States	191.9
French Polynesia	22.4
Neth. Antilles	19.6
New Caledonia	17.7
China	17.6
Japan	16.1
China, Hong Kong SAR	15.9
South Korea	15.3
Taiwan	14.2
Aruba	14.0
Chile	12.2
Switzerland	11.5
Brazil	11.5
Algeria	10.8
Israel	10.8
Australia	10.8
Singapore	10.7
India	10.3
Malaysia	10.3
New Zealand	10.3
Peru	9.6
Bangladesh	9.6
Thailand	9.5
South Africa	9.3
Argentina	9.2
Norway	9.0
Viet Nam	8.5
Sri Lanka	8.4
Trinidad and Tobago	8.3
Germany	8.3
Turks and Caicos Isds	8.2
Nigeria	7.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA export (Cont'd)</i>	
Saudi Arabia	7.8
Colombia	7.4
Pakistan	7.3
Hungary	7.0
Indonesia	6.8
Turkey	6.6
Uruguay	6.5
Russian Federation	6.5
Italy	6.4
Czech Rep.	6.3
Costa Rica	6.3
Poland	6.2
Belgium	6.1
Ecuador	6.0
Slovakia	5.7
Philippines	5.7
United Kingdom	5.6
Ukraine	5.5
China, Macao SAR	5.4
France	5.3
Bolivia (Plurinational State of)	4.9
Sweden	4.8
Nicaragua	4.5
Georgia	4.4
Ireland	4.3
Cambodia	4.0
Estonia	4.0
Netherlands	4.0
Austria	4.0
Slovenia	3.9
Guatemala	3.9
Egypt	3.6
Bulgaria	3.5
Spain	3.5
Côte d'Ivoire	3.5
Jamaica	3.3
Morocco	3.2
Finland	3.1
Lithuania	2.8
Romania	2.8
Honduras	2.7
Malta	2.6
Jordan	2.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA exports (Cont'd)</i>	
Denmark	2.3
Dominican Rep.	2.2
Madagascar	1.5
Greenland	1.4
Mongolia	1.0
United Arab Emirates	0.9
Mauritius	0.7
Qatar	0.6
Syria	0.4
Kenya	0.4
Yemen	0.3
Belarus	-0.1
Malawi	-0.3
Samoa	-0.5
Latvia	-0.6
Tunisia	-0.7
Croatia	-0.8
Bahamas	-0.8
Paraguay	-0.8
Portugal	-0.9
Faeroe Isds	-1.0
Lebanon	-1.0
Suriname	-1.2
Namibia	-1.2
Kazakhstan	-1.3
Luxembourg	-1.3
Panama	-1.8
Niger	-1.8
Iceland	-1.8
Bahrain	-1.8
Swaziland	-2.1
Greece	-2.3
Kuwait	-2.4
Ethiopia	-2.8
Central African Rep.	-2.8
Zimbabwe	-3.0
Bosnia Herzegovina	-3.2
Barbados	-3.5
Gambia	-3.5
Oman	-3.9
United Rep. of Tanzania	-3.9
Zambia	-4.1
Brunei Darussalam	-4.6
Botswana	-4.8

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA export (Cont'd)</i>	
Rwanda	-4.8
Saint Kitts and Nevis	-4.9
Fiji	-5.2
Ghana	-5.3
Armenia	-5.7
Maldives	-5.9
Belize	-6.0
Guinea	-6.0
Azerbaijan	-6.3
Mozambique	-6.5
Togo	-6.6
Tonga	-6.8
Cyprus	-6.9
Mali	-6.9
Cape Verde	-7.4
Vanuatu	-7.5
Dominica	-7.7
Kyrgyzstan	-8.5
Albania	-8.6
Senegal	-8.8
Uganda	-8.9
Grenada	-9.1
Mauritania	-9.8
Burundi	-10.4
Solomon Isds	-11.2
TFYR of Macedonia	-11.3
Bhutan	-11.9
Saint Lucia	-16.0
Antigua and Barbuda	-16.6
Saint Vincent and the Grenadines	-17.3
Canada	-73.6
Mexico	-393.7

Appendix B2 : Performance Analysis for intra- and extra-EU exports (EU-15 model)

Intra-EU export

Country	Performance (+ : Over performance; - : under performance)
Netherlands	41.4
Italy	7.1
Germany	6.5
Belgium	5.9
Sweden	4.6
United Kingdom	2.4
Spain	1.6
Ireland	0.3
Finland	-1.6
Denmark	-3.9
France	-5.3
Austria	-6.3
Portugal	-6.5
Greece	-19.1
Luxembourg	-27.1

Extra-EU export

Country	Performance (+ : Over performance; - : under performance)
Germany	232.8
Netherlands	216.6
Italy	155.6
France	155.3
Belgium	132.2
United Kingdom	95.3
New Caledonia	93.4
French Polynesia	75.3
China	70.6
China, Hong Kong SAR	63.3
Japan	56.8
Taiwan	54.4
Sweden	54.1
South Korea	53.4
Neth. Antilles	52.7
Brazil	47.8
South Africa	45.2
Russian Federation	43.7
Chile	41.6

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU export (Cont'd)</i>	
Poland	39.2
Australia	39.2
India	38.6
Hungary	38.5
Norway	37.9
Aruba	37.3
Turkey	36.3
Argentina	36.1
Czech Rep.	35.4
Singapore	34.4
New Zealand	33.1
Bangladesh	32.6
Thailand	31.8
Slovakia	31.7
Malaysia	31.6
Israel	30.7
Romania	27.6
Switzerland	27.4
Kazakhstan	26.5
Colombia	23.8
Côte d'Ivoire	23.4
Peru	22.4
Lithuania	22.2
Pakistan	21.6
Sri Lanka	21.5
United States	21.2
Myanmar	20.7
Viet Nam	20.6
Bulgaria	19.6
Slovenia	19.1
Iceland	18.3
Morocco	15.9
Estonia	15.2
Indonesia	15.1
Spain	13.7
Ukraine	13.6
Costa Rica	12.5
Mauritius	12.2
Latvia	11.4
Tunisia	10.8
Saudi Arabia	10.6
United Arab Emirates	10.5
Uruguay	9.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU export (Cont'd)</i>	
Philippines	8.7
Mauritania	8.1
Zimbabwe	3.3
Kenya	2.6
Nigeria	2.3
Panama	2.1
Egypt	2.0
Croatia	2.0
Syria	1.9
China, Macao SAR	0.6
Canada	0.2
United Rep. of Tanzania	0.2
Belarus	-0.1
Madagascar	-1.3
Dominican Rep.	-1.7
Malta	-2.1
Nicaragua	-3.4
Honduras	-3.8
Mozambique	-4.7
Namibia	-5.3
Vanuatu	-5.7
Tonga	-6.4
Ghana	-7.0
Comoros	-7.0
Mexico	-7.2
Bolivia (Plurinational State of)	-7.9
Uganda	-8.2
Bosnia Herzegovina	-8.3
Cyprus	-8.4
Cape Verde	-8.6
Solomon Isds	-8.9
Central African Rep.	-9.2
Paraguay	-10.1
Guatemala	-10.4
TFYR of Macedonia	-11.1
Dominica	-11.3
Greenland	-11.5
Senegal	-11.7
Bahrain	-12.0
Oman	-12.1
Lebanon	-12.3
Ethiopia	-12.6
Cambodia	-12.9
Faeroe Isds	-13.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU export (Cont'd)</i>	
Algeria	-13.5
Sao Tome and Principe	-14.1
Georgia	-14.7
Qatar	-16.2
Samoa	-17.0
Zambia	-18.6
Trinidad and Tobago	-19.4
Belize	-20.3
Jamaica	-21.3
Azerbaijan	-21.6
Guyana	-21.8
Botswana	-21.9
Guinea	-22.2
El Salvador	-22.4
Swaziland	-22.8
Mali	-23.1
Burundi	-23.3
Jordan	-23.4
Armenia	-23.7
Maldives	-24.4
Togo	-27.2
Saint Kitts and Nevis	-29.3
Fiji	-29.7
Yemen	-30.1
Mongolia	-32.3
Suriname	-32.7
Saint Lucia	-32.7
Saint Vincent and the Grenadines	-34.0
Bahamas	-35.5
Gambia	-38.6
Niger	-39.3
Kuwait	-42.1
Antigua and Barbuda	-45.2
Albania	-47.3
Kyrgyzstan	-49.0
Grenada	-50.4
Barbados	-54.5
Brunei Darussalam	-54.5
Rwanda	-55.3
Finland	-71.3
Bhutan	-76.6
Austria	-80.5
Denmark	-87.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU export (Cont'd)</i>	
Ireland	-146.6
Portugal	-247.8
Greece	-314.6
Luxembourg	-396.6

**Appendix B3 : Performance Analysis for intra- and extra-AFTA exports
(EU-15 Model)**

Intra-AFTA export

Country	Performance (+ : Over performance; - : under performance)
Singapore	17.2
Thailand	8.6
Viet Nam	6.9
Myanmar	4.6
Indonesia	2.9
Malaysia	0.2
Philippines	-5.6
Cambodia	-15.1
Brunei	
Darussalam	-19.7

Extra-AFTA export

Country	Performance (+ : Over performance; - : under performance)
Singapore	327.2
Thailand	277.8
Malaysia	204.5
Viet Nam	120.8
Indonesia	119.6
Myanmar	110.7
New Caledonia	42.0
French Polynesia	40.0
South Korea	37.2
Japan	36.9
China	33.5
Taiwan	31.8
Australia	30.9
China, Hong Kong SAR	30.6
Switzerland	20.2
New Zealand	20.0
India	18.4
Argentina	13.0
Chile	12.6
Brazil	12.6
Germany	11.9
United States	10.0
Costa Rica	8.5
Netherlands	8.3
United Arab Emirates	7.5
South Africa	7.1

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA export (Cont'd)</i>	
France	6.7
Algeria	6.4
Neth. Antilles	6.0
Saudi Arabia	5.8
Paraguay	5.7
Russian Federation	4.7
Belarus	4.7
Bahrain	4.5
Belgium	4.4
Aruba	4.3
United Kingdom	4.1
Solomon Isds	4.1
Italy	2.2
Oman	2.0
Norway	1.9
Pakistan	1.9
Guatemala	1.8
Israel	1.2
Ukraine	0.9
Qatar	0.6
Peru	0.3
<hr/>	
Togo	-0.2
Burundi	-0.4
Central African Rep.	-0.8
Guyana	-0.8
Turkey	-1.0
Slovakia	-1.2
Ecuador	-1.2
Yemen	-1.3
Mali	-1.5
Zambia	-1.5
Jordan	-1.8
Uruguay	-2.0
Comoros	-2.1
Sweden	-2.2
Czech Rep.	-2.2
Ireland	-2.4
Faeroe Isds	-2.6
Niger	-2.8
Kuwait	-3.2
Poland	-3.5
Gambia	-3.9
Dominica	-4.3
Saint Kitts and Nevis	-4.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA export (Cont'd)</i>	
Grenada	-5.0
Antigua and Barbuda	-5.5
Cape Verde	-5.8
Sri Lanka	-5.9
Maldives	-6.2
Belize	-6.5
Austria	-6.6
Hungary	-6.8
Mozambique	-6.9
Colombia	-7.6
Syria	-7.6
Malta	-7.7
Bulgaria	-8.1
Madagascar	-8.2
Canada	-8.2
Dominican Rep.	-8.3
Mauritius	-8.4
Panama	-9.0
Slovenia	-9.3
Zimbabwe	-9.7
Denmark	-10.5
Morocco	-10.5
Tunisia	-10.7
Rwanda	-10.7
Cyprus	-10.8
Bhutan	-11.0
Spain	-11.4
Vanuatu	-11.7
Ghana	-11.9
Côte d'Ivoire	-12.3
Romania	-12.3
El Salvador	-12.6
Bangladesh	-12.7
Samoa	-13.5
Finland	-13.7
Ethiopia	-13.9
Malawi	-13.9
Saint Lucia	-14.0
Lithuania	-14.1
Egypt	-14.3
Bosnia Herzegovina	-14.7
Fiji	-14.9
Tonga	-15.1
Namibia	-15.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA export (Cont'd)</i>	
Lebanon	-16.0
Kenya	-16.2
Nigeria	-16.3
Honduras	-16.9
Suriname	-16.9
Estonia	-17.0
Georgia	-17.5
Croatia	-17.6
Albania	-17.7
Guinea	-18.4
Bahamas	-18.8
Iceland	-18.9
China, Macao SAR	-19.4
Azerbaijan	-19.5
Uganda	-19.6
Jamaica	-19.8
Greece	-20.1
Armenia	-20.2
Kyrgyzstan	-20.5
United Rep. of Tanzania	-21.5
Kazakhstan	-22.1
Trinidad and Tobago	-22.2
TFYR of Macedonia	-22.5
Latvia	-22.5
Portugal	-24.0
Mexico	-24.3
Barbados	-24.9
Luxembourg	-27.9
Bolivia (Plurinational State of)	-28.1
Senegal	-29.7
Nicaragua	-34.6
Mongolia	-34.9
Botswana	-35.1
Brunei Darussalam	-115.7
Philippines	-148.8
Cambodia	-180.0

**Appendix C1 : Performance Analysis for intra- and extra-NAFTA imports
(EU-15 model)**

Intra-NAFTA import

Country	Performance (+ : Over performance; - : under performance)
United States	2.8
Mexico	-0.4
Canada	-2.4

Extra-NAFTA import

Country	Performance (+ : Over performance; - : under performance)
United States	278.6
China	14.7
Japan	14.4
New Caledonia	14.3
Neth. Antilles	14.3
French Polynesia	14.0
Aruba	13.3
South Korea	12.6
Taiwan	12.0
Australia	11.9
China, Hong Kong SAR	11.1
India	10.9
Brazil	9.9
Chile	9.7
Saudi Arabia	9.5
United Arab Emirates	9.0
Colombia	8.6
South Africa	8.5
Russian Federation	8.0
Argentina	8.0
Turkey	7.9
New Zealand	7.4
Norway	7.2
Singapore	7.2
Venezuela	7.1
Switzerland	6.8
Kuwait	6.4
Israel	6.4
Dominican Rep.	6.3
Turks and Caicos Isds	6.3
Poland	6.0
Costa Rica	5.8

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA import (Cont'd)</i>	
Czech Rep.	5.7
Algeria	5.5
Malaysia	5.5
Qatar	5.5
Ecuador	5.4
Pakistan	5.4
Germany	5.3
Kazakhstan	5.1
United Kingdom	4.8
El Salvador	4.6
Thailand	4.5
Peru	4.5
Hungary	4.3
Trinidad and Tobago	4.0
Jamaica	3.7
Belgium	3.6
Honduras	3.4
Bangladesh	3.4
Panama	3.3
Guatemala	3.2
Romania	3.0
Nicaragua	3.0
Egypt	3.0
Lebanon	2.9
France	2.9
Indonesia	2.8
Morocco	2.7
Ukraine	2.5
Philippines	2.4
Jordan	2.3
Spain	2.3
Nigeria	2.2
Tunisia	2.2
Oman	1.9
Slovakia	1.8
Netherlands	1.7
Uruguay	1.6
Italy	1.4
Bulgaria	1.4
Sri Lanka	1.3
Viet Nam	1.2
Bolivia (Plurinational State of)	1.1
Ghana	1.0
Iceland	1.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA import (Cont'd)</i>	
Croatia	0.9
Syria	0.7
Barbados	0.6
Belarus	0.6
Bahrain	0.5
Slovenia	0.4
Estonia	0.3
<hr/>	
Finland	-0.2
Mongolia	-0.2
Paraguay	-0.3
Kenya	-0.4
Austria	-0.5
Bahamas	-0.5
China, Macao SAR	-0.5
Ireland	-0.6
Swaziland	-0.6
Guyana	-0.7
Lithuania	-0.8
Côte d'Ivoire	-1.1
Mozambique	-1.1
Yemen	-1.1
Bermuda	-1.8
Kyrgyzstan	-1.9
Denmark	-2.0
Sweden	-2.0
Latvia	-2.2
TFYR of Macedonia	-2.2
Suriname	-2.3
Cyprus	-2.3
Mauritius	-2.4
Azerbaijan	-2.6
Ethiopia	-2.7
United Rep. of Tanzania	-2.8
Malta	-2.9
Saint Lucia	-3.0
Armenia	-3.0
Antigua and Barbuda	-3.0
Bosnia Herzegovina	-3.1
Sudan	-3.4
Grenada	-3.5
Madagascar	-3.5
Fiji	-3.5
Belize	-3.6
Greece	-3.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA import (Cont'd)</i>	
Portugal	-3.7
Saint Vincent and the Grenadines	-3.9
Burundi	-4.2
Saint Kitts and Nevis	-4.3
Mauritania	-4.7
Albania	-5.0
Dominica	-5.1
Central African Rep.	-6.1
Georgia	-6.2
Luxembourg	-6.3
Sao Tome and Principe	-6.3
Uganda	-6.3
Gambia	-6.6
Zambia	-6.7
Maldives	-6.9
Senegal	-7.1
Botswana	-7.5
Mali	-7.5
Namibia	-7.6
Samoa	-8.0
Faeroe Isds	-8.1
Malawi	-8.2
Brunei Darussalam	-8.9
Niger	-9.3
Zimbabwe	-9.4
Cambodia	-9.4
Togo	-9.5
Guinea	-10.1
Vanuatu	-11.1
Myanmar	-11.4
Rwanda	-12.0
Greenland	-12.5
Tonga	-12.9
Bhutan	-13.5
Solomon Isds	-13.9
Cape Verde	-14.2
Comoros	-14.2
Canada	-127.8
Mexico	-209.8

Appendix C2 : Performance Analysis for intra- and extra-EU imports (EU-15 model)

Intra-EU import

Country	Performance (+ : Over performance; - : under performance)
Netherlands	35.2
Italy	10.3
Spain	9.5
United Kingdom	7.9
Germany	6.9
Sweden	4.6
Belgium	1.6
Greece	1.2
France	-2.5
Portugal	-3.1
Finland	-4.3
Denmark	-4.3
Austria	-8.6
Ireland	-16.6
Luxembourg	-37.7

Extra-EU import

Country	Performance (+ : Over performance; - : under performance)
Germany	257.9
France	242.1
Netherlands	203.1
United Kingdom	183.8
Italy	158.2
Spain	133.1
Belgium	132.4
New Caledonia	92.4
French Polynesia	85.8
China	63.1
Australia	61.6
Japan	56.3
China, Hong Kong SAR	54.7
South Africa	52.7
South Korea	52.4
Brazil	48.6
Taiwan	47.4
Aruba	46.2
Saudi Arabia	46.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU import (Cont'd)</i>	
United Arab Emirates	44.9
India	42.8
Russian Federation	42.2
New Zealand	41.6
Turkey	41.6
Poland	41.3
Israel	38.3
Romania	37.4
Chile	36.3
Argentina	35.1
Hungary	33.4
Singapore	33.3
Norway	31.7
Czech Rep.	31.7
Switzerland	30.3
Nigeria	28.3
Morocco	28.3
Kazakhstan	26.7
United States	26.1
Qatar	25.9
Ukraine	24.6
Bulgaria	23.8
Malaysia	23.1
Pakistan	23.0
Lithuania	22.6
Kuwait	22.5
Algeria	22.1
Colombia	21.8
Cyprus	21.3
Côte d'Ivoire	20.8
Slovakia	19.6
Tunisia	18.8
Slovenia	17.7
Oman	17.6
Estonia	17.4
Lebanon	17.2
Latvia	16.5
Croatia	15.9
Egypt	15.5
Kenya	15.4
Venezuela	15.2
Iceland	15.0
Thailand	14.9
Costa Rica	14.8

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU import (Cont'd)</i>	
Jordan	13.8
Mauritius	13.0
Neth. Antilles	12.3
Ghana	11.6
Senegal	11.3
Indonesia	11.3
Bangladesh	11.0
Sri Lanka	9.8
United Rep. of Tanzania	9.6
Bahrain	8.2
Ethiopia	8.2
Dominican Rep.	7.1
Peru	7.0
Malta	6.9
Belarus	6.7
China, Macao SAR	6.4
Ecuador	5.9
Uruguay	5.6
Guatemala	5.5
Zambia	5.4
Syria	4.7
El Salvador	4.3
Mexico	4.1
Georgia	4.1
Panama	3.7
Azerbaijan	3.4
Viet Nam	3.2
Philippines	2.9
Madagascar	2.9
Trinidad and Tobago	2.5
Bosnia Herzegovina	1.2
Canada	-0.2
Yemen	-0.4
Sudan	-1.1
Mozambique	-1.3
Uganda	-1.9
Armenia	-2.7
TFYR of Macedonia	-2.9
Turks and Caicos Isds	-3.7
Mauritania	-4.1
Zimbabwe	-4.2
Honduras	-4.3
Namibia	-6.9
Guinea	-7.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU import (Cont'd)</i>	
Bolivia (Plurinational State of)	-7.5
Jamaica	-7.6
Paraguay	-8.7
Albania	-9.5
Botswana	-9.5
Cape Verde	-10.2
Nicaragua	-12.2
Mali	-13.4
Barbados	-14.7
Faeroe Isds	-14.9
Maldives	-15.3
Malawi	-17.1
Kyrgyzstan	-18.0
Mongolia	-19.7
Myanmar	-22.5
Swaziland	-22.7
Gambia	-23.7
Togo	-24.0
Bhutan	-24.2
Guyana	-25.3
Niger	-26.2
Fiji	-28.6
Saint Lucia	-28.9
Solomon Isds	-29.4
Central African Rep.	-30.2
Rwanda	-30.5
Suriname	-31.1
Comoros	-31.6
Greenland	-32.5
Belize	-33.8
Grenada	-36.3
Brunei Darussalam	-36.9
Bermuda	-37.0
Dominica	-37.5
Burundi	-39.0
Antigua and Barbuda	-39.2
Sao Tome and Principe	-41.4
Saint Vincent and the Grenadines	-42.3
Bahamas	-42.4
Cambodia	-45.0
Vanuatu	-48.1
Tonga	-51.3
Samoa	-56.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU import (Cont'd)</i>	
Saint Kitts and Nevis	-63.3
Portugal	-81.3
Greece	-107.3
Austria	-212.5
Sweden	-282.4
Ireland	-301.7
Denmark	-319.3
Finland	-335.8
Luxembourg	-464.5

**Appendix C3 : Performance Analysis for intra- and extra-AFTA imports
(EU-15 Model)**

Intra-AFTA import

Country	Performance (+ : Over performance; - : under performance)
Viet Nam	10.6
Singapore	9.0
Thailand	7.1
Indonesia	3.0
Cambodia	1.0
Malaysia	0.6
Myanmar	-4.9
Philippines	-11.0
Brunei	
Darussalam	-15.3

Extra-AFTA import

Country	Performance (+ : Over performance; - : under performance)
Singapore	237.5
Thailand	122.0
Viet Nam	90.9
Japan	49.0
New Caledonia	45.6
Australia	42.5
South Korea	41.3
China	39.7
French Polynesia	37.1
Taiwan	30.0
China, Hong Kong SAR	26.7
United Arab Emirates	25.7
Neth. Antilles	25.3
United States	25.1
New Zealand	24.1
India	23.1
Poland	22.0
Argentina	21.8
Switzerland	21.6
Brazil	21.4
Aruba	20.9
South Africa	19.9
Germany	19.5
United Kingdom	19.5
Czech Rep.	19.4
Turkey	17.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA import (Cont'd)</i>	
Chile	17.1
Netherlands	16.7
Qatar	15.6
Russian Federation	13.4
France	12.6
Saudi Arabia	11.9
Norway	11.9
Nigeria	10.6
Ecuador	10.4
Hungary	10.0
Yemen	8.4
Bulgaria	8.2
Uganda	7.7
Bangladesh	7.6
Estonia	7.3
Sri Lanka	6.6
Jordan	6.5
Kuwait	6.4
Belgium	6.0
Israel	5.6
Syria	5.4
Spain	5.3
Egypt	5.0
Malta	5.0
Venezuela	4.8
Bahrain	4.8
Oman	4.7
Croatia	4.3
Lithuania	4.2
Ukraine	3.8
Guatemala	3.5
Canada	3.3
Ethiopia	3.3
Honduras	2.7
Maldives	2.6
Mauritius	2.0
Italy	1.9
Algeria	1.8
Slovakia	1.6
Colombia	1.4
Turks and Caicos Isds	1.2
Panama	1.1
Mexico	0.7
Guyana	0.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA import (Cont'd)</i>	
Mozambique	0.2
Lebanon	0.0
Gambia	-0.1
Pakistan	-0.2
Jamaica	-0.2
Mauritania	-0.3
Iceland	-0.8
Senegal	-0.9
Dominican Rep.	-1.2
Peru	-1.3
Trinidad and Tobago	-1.4
Mali	-1.6
Costa Rica	-1.9
Fiji	-2.1
Austria	-2.3
Suriname	-2.4
Bosnia Herzegovina	-2.7
Kenya	-3.0
Guinea	-3.2
Paraguay	-3.4
Belarus	-3.8
United Rep. of Tanzania	-3.8
Mongolia	-3.8
Tunisia	-3.9
Namibia	-4.6
Slovenia	-4.6
Azerbaijan	-4.6
Swaziland	-5.0
Sao Tome and Principe	-5.0
El Salvador	-5.2
Denmark	-5.6
Cyprus	-6.1
Tonga	-6.2
Latvia	-6.3
Morocco	-7.0
Solomon Isds	-7.2
Ireland	-7.2
Uruguay	-7.4
Samoa	-8.0
Romania	-8.1
Central African Rep.	-8.2
Burundi	-8.5
Comoros	-8.7
Saint Lucia	-9.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA import (Cont'd)</i>	
Nicaragua	-9.1
Ghana	-9.2
Zimbabwe	-9.3
Togo	-9.4
Greece	-9.6
Malawi	-9.8
Belize	-10.3
Grenada	-10.6
Madagascar	-10.8
Bhutan	-11.5
Barbados	-11.9
Sudan	-12.0
Sweden	-12.1
Zambia	-12.6
Kyrgyzstan	-12.6
Kazakhstan	-13.1
Vanuatu	-13.5
Finland	-13.5
TFYR of Macedonia	-13.8
Niger	-14.5
Cape Verde	-14.6
Albania	-15.0
Bolivia (Plurinational State of)	-16.3
Dominica	-17.7
Armenia	-17.7
Saint Kitts and Nevis	-18.4
Malaysia	-19.3
Georgia	-20.1
Côte d'Ivoire	-20.4
Rwanda	-21.2
Myanmar	-22.0
China, Macao SAR	-22.4
Portugal	-22.6
Faeroe Isds	-23.9
St Vincent and the Grenadines	-24.9
Botswana	-26.6
Antigua and Barbuda	-28.2
Bermuda	-30.1
Greenland	-30.6
Luxembourg	-31.4
Indonesia	-65.4
Cambodia	-124.8
Brunei Darussalam	-137.5
Philippines	-189.0

**Appendix D1 : Performance Analysis for intra- and extra-NAFTA exports
(EU-27 model)**

Intra-NAFTA Exports

Country	Performance (+ : Over performance; - : under performance)
Canada	1.6
Mexico	-1.3
United States	-0.2

Extra-NAFTA Exports

Country	Performance (+ : Over performance; - : under performance)
United States	178.9
French Polynesia	23.4
Neth. Antilles	20.7
New Caledonia	18.5
China	17.3
Japan	15.8
China, Hong Kong SAR	15.5
Aruba	15.2
Rep. of Korea	15.1
Taiwan	14.0
Chile	12.0
Switzerland	11.6
Brazil	11.3
Algeria	11.0
Germany	10.9
Israel	10.6
Singapore	10.4
Australia	10.3
Malaysia	10.2
India	9.9
New Zealand	9.9
Peru	9.6
Bangladesh	9.4
Thailand	9.4
Norway	9.0
Italy	9.0
Argentina	9.0
South Africa	9.0
Belgium	8.8
Trinidad and Tobago	8.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA exports (Cont'd)</i>	
Turks and Caicos Isds	8.5
Viet Nam	8.5
Sri Lanka	8.3
United Kingdom	8.0
France	7.9
Nigeria	7.8
Saudi Arabia	7.7
Colombia	7.5
Sweden	7.5
Pakistan	7.0
Ireland	6.8
Netherlands	6.7
Austria	6.6
Indonesia	6.6
Turkey	6.5
Costa Rica	6.5
Uruguay	6.5
Russian Federation	6.5
Ecuador	6.2
Spain	6.1
Finland	5.8
Ukraine	5.6
Philippines	5.4
China, Macao SAR	5.1
Denmark	5.0
Bolivia (Plurinational State of)	4.9
Nicaragua	4.9
Georgia	4.5
Guatemala	4.2
Cambodia	4.1
Hungary	3.9
Jamaica	3.6
Egypt	3.6
Morocco	3.4
Côte d'Ivoire	3.4
Czech Rep.	3.3
Poland	3.1
Honduras	3.0
Slovakia	2.7
El Salvador	2.7
Guyana	2.6
Myanmar	2.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA exports (cont'd)</i>	
Jordan	2.5
Dominican Rep.	2.4
Portugal	1.7
Greenland	1.5
Luxembourg	1.5
Madagascar	1.4
Estonia	1.1
Mongolia	1.0
Slovenia	0.9
United Arab Emirates	0.8
Bulgaria	0.5
Qatar	0.5
Syria	0.5
Mauritius	0.4
Greece	0.4
Yemen	0.3
Kenya	0.2
Belarus	0.0
Lithuania	-0.2
Romania	-0.3
Bahamas	-0.4
Malawi	-0.4
Tunisia	-0.5
Malta	-0.5
Croatia	-0.6
Samoa	-0.7
Faeroe Isds	-0.7
Suriname	-0.7
Paraguay	-0.8
Lebanon	-0.9
Kazakhstan	-1.4
Namibia	-1.4
Niger	-1.5
Iceland	-1.5
Panama	-1.5
Bahrain	-1.8
Swaziland	-2.3
Kuwait	-2.5
Central African Rep.	-2.8
Ethiopia	-3.0
Bosnia Herzegovina	-3.0
Zimbabwe	-3.1

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA exports (Cont'd)</i>	
Barbados	-3.2
Latvia	-3.6
Gambia	-3.6
Oman	-3.9
United Rep. of Tanzania	-4.1
Zambia	-4.3
Brunei Darussalam	-4.6
Saint Kitts and Nevis	-4.7
Rwanda	-4.9
Botswana	-5.0
Ghana	-5.3
Fiji	-5.4
Guinea	-5.6
Armenia	-5.6
Belize	-5.8
Maldives	-5.9
Azerbaijan	-6.3
Togo	-6.3
Mali	-6.6
Mozambique	-6.7
Tonga	-7.0
Cape Verde	-7.2
Dominica	-7.5
Vanuatu	-7.7
Senegal	-8.3
Kyrgyzstan	-8.5
Albania	-8.5
Grenada	-8.7
Uganda	-9.0
Mauritania	-9.7
Cyprus	-9.9
Burundi	-10.3
TFYR of Macedonia	-11.1
Solomon Isds	-11.4
Bhutan	-11.9
Saint Lucia	-15.7
Antigua and Barbuda	-16.3
Saint Vincent and the Grenadines	-17.0
Canada	-65.3
Mexico	-397.8

Appendix D2 : Performance Analysis for intra- and extra-EU exports (EU-27 Model)

Intra-EU exports

Country	Performance (+ : Over performance; - : under performance)
Netherlands	79.3
Germany	35.1
Italy	29.7
Belgium	28.1
Sweden	18.4
Spain	17.9
United Kingdom	17.6
France	16.2
Poland	11.7
Czech Rep.	11.6
Hungary	10.4
Finland	7.7
Denmark	5.8
Ireland	3.2
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Slovakia	-0.2
Austria	-1.0
Portugal	-7.1
Romania	-9.8
Slovenia	-12.7
Bulgaria	-15.0
Lithuania	-16.6
Greece	-20.9
Estonia	-26.3
Latvia	-31.4
Luxembourg	-31.7
Malta	-54.7
Cyprus	-65.4

Extra-EU exports

Country	Performance (+ : Over performance; - : under performance)
Germany	344.0
Netherlands	305.9
Italy	273.2
France	267.0
Belgium	247.6
United Kingdom	207.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU exports (Cont'd)</i>	
Sweden	182.6
Spain	132.2
China	129.4
China, Hong Kong SAR	109.4
Rep. of Korea	109.4
French Polynesia	107.4
New Caledonia	104.6
Taiwan	102.6
Japan	101.0
Russian Federation	92.1
Brazil	82.5
Neth. Antilles	82.2
Turkey	76.7
South Africa	68.0
Norway	67.6
India	67.2
Switzerland	66.8
Argentina	62.1
Israel	61.8
Aruba	61.5
Finland	60.5
Austria	58.8
Chile	58.5
Singapore	57.9
Malaysia	57.4
Thailand	57.1
Australia	55.4
Ukraine	47.2
Denmark	46.9
New Zealand	45.0
Kazakhstan	44.8
Bangladesh	42.6
Viet Nam	37.2
Pakistan	36.7
United States	35.6
Côte d'Ivoire	35.5
Morocco	33.8
Colombia	32.7
Sri Lanka	32.1
Indonesia	29.8
Myanmar	29.6
Peru	26.3

Country
Extra-EU exports (Cont'd)

**Performance (+ : Over performance; - :
under performance)**

Iceland	24.8
Croatia	21.8
United Arab Emirates	21.5
Belarus	20.8
Mauritania	13.0
Malawi	7.5
Egypt	6.7
Tunisia	6.3
Philippines	5.5
Ecuador	5.4
Mauritius	4.9
Panama	4.0
Uruguay	2.2
Cape Verde	0.8
Canada	0.1
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Saudi Arabia	-1.2
Syria	-1.5
Vanuatu	-1.6
Bosnia Herzegovina	-2.9
Solomon Isds	-3.4
Comoros	-4.6
TFYR of Macedonia	-4.7
Greenland	-4.9
Tonga	-5.0
Costa Rica	-5.7
Dominica	-7.8
Central African Rep.	-8.0
Sao Tome and Principe	-8.6
Nicaragua	-9.0
Faeroe Isds	-11.1
United Rep. of Tanzania	-12.3
Mozambique	-14.0
Samoa	-14.8
Azerbaijan	-15.5
Belize	-16.7
Guatemala	-16.7
Guinea	-16.9
Kenya	-17.0
Maldives	-17.1
Swaziland	-17.8
Zimbabwe	-18.0
Mexico	-18.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU exports (Cont'd)</i>	
China, Macao SAR	-19.6
Trinidad and Tobago	-20.8
Madagascar	-21.1
Honduras	-21.6
Georgia	-21.7
Lebanon	-23.5
Ireland	-23.7
Saint Kitts and Nevis	-23.8
Nigeria	-23.8
Ghana	-23.8
Oman	-23.8
Ethiopia	-25.4
Uganda	-25.5
Togo	-26.6
Bahrain	-26.6
Dominican Rep.	-26.7
Gambia	-27.2
Guyana	-28.7
Paraguay	-28.8
Bolivia (Plurinational State of)	-29.2
Burundi	-29.5
Senegal	-30.3
Qatar	-30.8
Armenia	-32.1
Niger	-34.3
Bahamas	-35.0
Saint Lucia	-35.1
Fiji	-35.4
Namibia	-35.7
Suriname	-35.9
Algeria	-36.8
Saint Vincent and the Grenadines	-38.9
Jordan	-40.1
Czech Rep.	-40.7
Mali	-41.5
Cambodia	-41.8
El Salvador	-44.3
Jamaica	-44.3
Grenada	-44.9
Rwanda	-45.2
Antigua and Barbuda	-45.8
Kyrgyzstan	-49.1

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU exports (Cont'd)</i>	
Botswana	-51.3
Poland	-54.1
Mongolia	-54.4
Hungary	-55.8
Yemen	-56.9
Zambia	-57.5
Brunei Darussalam	-58.0
Albania	-67.4
Kuwait	-68.4
Bhutan	-80.4
Barbados	-93.9
Portugal	-114.1
Slovenia	-136.8
Romania	-152.3
Slovakia	-152.6
Malta	-159.5
Bulgaria	-170.1
Greece	-176.6
Lithuania	-177.6
Estonia	-186.5
Luxembourg	-262.9
Latvia	-304.4
Cyprus	-312.6

**Appendix D3 : Performance Analysis for intra- and extra-AFTA exports
(EU-27 model)**

Intra-AFTA exports

Country	Performance (+ : Over performance; - : under performance)
Singapore	17.1
Thailand	9.3
Viet Nam	7.4
Myanmar	5.6
Indonesia	3.0
Malaysia	0.3
Philippines	-6.0
Cambodia	-17.2
Brunei	
Darussalam	-19.5

Extra-AFTA exports

Country	Performance (+ : Over performance; - : under performance)
Singapore	318.8
Thailand	277.4
Malaysia	202.1
Viet Nam	123.0
Myanmar	122.8
Indonesia	113.9
New Caledonia	44.0
French Polynesia	41.6
Rep. of Korea	37.8
Japan	37.1
China	33.7
Taiwan	32.7
China, Hong Kong SAR	31.6
Australia	30.2
Germany	20.0
Switzerland	19.7
New Zealand	19.1
India	18.5
Netherlands	15.8
France	14.7
Belgium	12.6
Argentina	12.0
Chile	11.7
United Kingdom	11.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA exports (Cont'd)</i>	
Brazil	11.4
Italy	10.5
United States	8.8
United Arab Emirates	8.0
Costa Rica	7.9
Neth. Antilles	6.6
Sweden	6.3
South Africa	6.2
Algeria	6.1
Saudi Arabia	6.0
Ireland	5.4
Paraguay	5.2
Bahrain	4.8
Belarus	4.7
Aruba	4.5
Russian Federation	4.5
Solomon Isds	4.1
Oman	2.7
Pakistan	2.1
Austria	1.9
Norway	1.6
Guatemala	1.2
Qatar	1.0
Ukraine	1.0
Israel	0.7
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Togo	-0.2
Burundi	-0.3
Peru	-0.5
Central African Rep.	-0.7
Yemen	-1.0
Turkey	-1.1
Guyana	-1.3
Jordan	-1.5
Mali	-1.6
Zambia	-1.9
Denmark	-2.0
Ecuador	-2.0
Comoros	-2.1
Faeroe Isds	-2.5
Uruguay	-2.6
Niger	-2.8
Kuwait	-3.0

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA exports (cont'd)</i>	
Spain	-3.2
Gambia	-3.9
Dominica	-4.3
Sri Lanka	-4.5
Saint Kitts and Nevis	-4.9
Finland	-5.0
Grenada	-5.1
Maldives	-5.5
Antigua and Barbuda	-5.7
Cape Verde	-6.1
Mozambique	-6.7
Belize	-6.8
Syria	-7.5
Madagascar	-8.0
Canada	-8.4
Colombia	-8.4
Mauritius	-8.4
Dominican Rep.	-9.0
Panama	-9.5
Zimbabwe	-10.0
Bhutan	-10.1
Côte d'Ivoire	-10.3
Slovakia	-10.5
Rwanda	-10.6
Tunisia	-10.8
Morocco	-10.9
Bangladesh	-11.0
Vanuatu	-11.7
Ghana	-12.5
Czech Rep.	-12.7
El Salvador	-13.2
Greece	-13.2
Samoa	-13.5
Poland	-14.1
Malawi	-14.1
Ethiopia	-14.2
Egypt	-14.2
Saint Lucia	-14.3
Bosnia Herzegovina	-14.7
Malta	-15.3
Fiji	-15.3
Tonga	-15.6

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA exports (Cont'd)</i>	
Portugal	-15.7
Namibia	-15.9
Lebanon	-16.0
Kenya	-16.5
Nigeria	-16.7
Hungary	-17.2
Suriname	-17.3
Georgia	-17.3
Honduras	-17.4
Croatia	-17.6
Albania	-17.7
China, Macao SAR	-18.0
Bulgaria	-18.2
Slovenia	-18.6
Guinea	-18.6
Iceland	-19.0
Bahamas	-19.2
Azerbaijan	-19.2
Luxembourg	-19.4
Cyprus	-19.7
Armenia	-19.8
Uganda	-19.9
Kyrgyzstan	-20.1
Romania	-20.6
Jamaica	-20.7
United Rep. of Tanzania	-21.6
Kazakhstan	-21.7
Lithuania	-22.3
TFYR of Macedonia	-22.4
Trinidad and Tobago	-23.3
Mexico	-24.7
Barbados	-25.7
Estonia	-26.1
Bolivia (Plurinational State of)	-28.8
Senegal	-30.0
Latvia	-31.7
Mongolia	-34.5
Nicaragua	-35.0
Botswana	-35.5
Brunei Darussalam	-107.0
Philippines	-160.0
Cambodia	-178.5

**Appendix E1 : Performance Analysis for intra- and extra-NAFTA imports
(EU-27 model)**

Intra-NAFTA imports

Country	Performance (+ : Over performance; - : under performance)
United States	2.6
Mexico	-0.6
Canada	-2.0

Extra-NAFTA imports

Country	Performance (+ : Over performance; - : under performance)
United States	266.2
Neth. Antilles	15.3
New Caledonia	14.9
French Polynesia	14.9
China	14.5
Aruba	14.3
Japan	14.3
Rep. of Korea	12.4
Taiwan	11.8
Australia	11.4
China, Hong Kong SAR	10.8
India	10.5
Brazil	9.8
Chile	9.6
Saudi Arabia	9.5
United Arab Emirates	9.0
Colombia	8.7
Germany	8.3
South Africa	8.2
Russian Federation	8.1
Turkey	7.9
Argentina	7.8
United Kingdom	7.6
Norway	7.3
Venezuela	7.2
Switzerland	7.0
New Zealand	7.0
Singapore	6.8
Belgium	6.7
Dominican Rep.	6.6
Turks and Caicos Isds	6.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA imports (Cont'd)</i>	
Kuwait	6.5
Israel	6.2
Costa Rica	6.1
France	5.9
Algeria	5.7
Ecuador	5.6
Qatar	5.5
Malaysia	5.3
Pakistan	5.1
Spain	5.1
Kazakhstan	5.1
El Salvador	4.9
Netherlands	4.7
Peru	4.5
Thailand	4.4
Italy	4.4
Trinidad and Tobago	4.3
Jamaica	4.0
Honduras	3.8
Guatemala	3.5
Panama	3.5
Nicaragua	3.4
Bangladesh	3.3
Egypt	3.1
Lebanon	3.1
Morocco	3.0
Finland	2.8
Indonesia	2.6
Ukraine	2.6
Austria	2.6
Tunisia	2.4
Jordan	2.4
Ireland	2.3
Nigeria	2.2
Philippines	2.1
Oman	1.9
Poland	1.7
Uruguay	1.5
Czech Rep.	1.5
Iceland	1.3
Sri Lanka	1.2

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA imports (Cont'd)</i>	
Bolivia (Plurinational State of)	1.2
Croatia	1.1
Ghana	1.1
Denmark	1.0
Barbados	1.0
Sweden	1.0
Syria	0.8
Belarus	0.8
Bahrain	0.6
Hungary	0.1
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Bahamas	-0.1
Mongolia	-0.1
Paraguay	-0.3
Guyana	-0.4
Kenya	-0.6
Greece	-0.8
China, Macao SAR	-0.8
Portugal	-0.8
Swaziland	-0.8
Yemen	-1.1
Romania	-1.2
Côte d'Ivoire	-1.2
Mozambique	-1.3
Bermuda	-1.3
Kyrgyzstan	-1.8
Suriname	-1.8
TFYR of Macedonia	-2.0
Slovakia	-2.4
Azerbaijan	-2.6
Saint Lucia	-2.6
Antigua and Barbuda	-2.6
Mauritius	-2.7
Bulgaria	-2.8
Armenia	-2.8
Bosnia Herzegovina	-2.8
Ethiopia	-2.9
United Rep. of Tanzania	-3.0
Grenada	-3.1
Luxembourg	-3.2
Sudan	-3.3
Belize	-3.4
Madagascar	-3.5

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA imports (Cont'd)</i>	
Saint Vincent and the Grenadines	-3.5
Slovenia	-3.7
Fiji	-3.8
Estonia	-3.9
Saint Kitts and Nevis	-3.9
Burundi	-4.0
Mauritania	-4.2
Dominica	-4.7
Albania	-4.8
Lithuania	-5.0
Central African Rep.	-5.9
Georgia	-6.0
Sao Tome and Principe	-6.2
Gambia	-6.3
Latvia	-6.3
Senegal	-6.5
Uganda	-6.5
Cyprus	-6.5
Zambia	-6.8
Maldives	-6.9
Mali	-7.0
Malta	-7.2
Botswana	-7.6
Faeroe Isds	-7.7
Namibia	-7.8
Samoa	-8.2
Malawi	-8.4
Niger	-8.9
Brunei Darussalam	-8.9
Togo	-9.2
Cambodia	-9.4
Zimbabwe	-9.5
Guinea	-9.5
Myanmar	-11.2
Vanuatu	-11.3
Greenland	-12.0
Rwanda	-12.1
Tonga	-13.0
Bhutan	-13.4
Cape Verde	-13.7
Comoros	-14.1
Solomon Isds	-14.1

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-NAFTA imports (Cont'd)</i>	
Canada	-118.0
Mexico	-213.7

Appendix E2 : Performance Analysis for intra- and extra-EU imports (EU-27 model)

Intra-EU imports

Country	Performance (+ : Over performance; - : under performance)
Netherlands	69.3
Germany	40.1
United Kingdom	38.4
Italy	32.4
Spain	30.5
France	25.7
Belgium	21.1
Sweden	20.3
Poland	9.0
Denmark	5.8
Romania	5.5
Finland	5.1
Greece	2.9
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Czech Rep.	-0.6
Hungary	-2.4
Portugal	-4.4
Austria	-9.1
Ireland	-13.2
Lithuania	-15.5
Bulgaria	-19.1
Latvia	-22.3
Slovakia	-22.3
Slovenia	-26.4
Estonia	-28.0
Cyprus	-29.9
Malta	-53.3
Luxembourg	-59.4

Extra-EU imports

Country	Performance (+ : Over performance; - : under performance)
Germany	387.4
France	373.2
Netherlands	318.9
United Kingdom	304.4
Italy	300.2
Belgium	270.2
Spain	268.6

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU imports (Cont'd)</i>	
New Caledonia	158.7
French Polynesia	141.6
China	110.4
Australia	99.2
Japan	99.0
Rep. of Korea	94.4
South Africa	90.3
China, Hong Kong SAR	88.2
Turkey	86.6
Taiwan	86.6
Russian Federation	84.5
Saudi Arabia	83.0
United Arab Emirates	78.9
Brazil	78.6
Aruba	77.9
Norway	74.9
India	73.0
Israel	71.1
Switzerland	66.9
Kazakhstan	65.5
Argentina	62.7
Singapore	62.4
Ukraine	59.6
Portugal	58.4
Morocco	57.6
New Zealand	57.5
Chile	54.1
Nigeria	47.5
United States	47.0
Algeria	46.9
Iceland	46.5
Croatia	45.3
Kuwait	44.9
Neth. Antilles	42.5
Pakistan	41.6
Qatar	40.7
Greece	40.3
Tunisia	40.3
Colombia	37.4
Lebanon	35.0
Malaysia	34.1
Egypt	34.0

Country
Extra-EU imports (Cont'd)

**Performance (+ : Over performance; - :
under performance)**

Syria	31.0
Belarus	29.5
Georgia	28.9
Oman	24.9
Jordan	24.2
Venezuela	21.2
Senegal	20.8
Thailand	20.0
Kenya	19.7
Ecuador	19.0
Costa Rica	18.1
Bosnia Herzegovina	16.6
Côte d'Ivoire	15.9
Azerbaijan	15.3
Peru	13.9
Sri Lanka	13.3
Ghana	13.2
Mauritius	13.0
Guatemala	10.7
Bangladesh	8.4
Viet Nam	8.0
TFYR of Macedonia	7.8
Sudan	6.0
Armenia	5.8
United Rep. of Tanzania	5.3
Indonesia	4.5
Mexico	4.1
Canada	2.4
Uruguay	2.3
Yemen	1.9
Bahrain	1.7
Ethiopia	1.0
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Turks and Caicos Isds	-2.7
Panama	-4.2
Poland	-5.0
Kyrgyzstan	-5.7
El Salvador	-6.3
China, Macao SAR	-6.3
Mongolia	-7.1
Uganda	-8.5
Albania	-8.6
Zambia	-10.4

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU imports (Cont'd)</i>	
Madagascar	-13.5
Trinidad and Tobago	-14.4
Dominican Rep.	-15.1
Swaziland	-16.2
Philippines	-17.4
Faeroe Isds	-18.2
Zimbabwe	-18.9
Bhutan	-19.1
Solomon Isds	-20.3
Paraguay	-21.0
Cape Verde	-21.4
Honduras	-21.8
Guinea	-22.0
Mali	-23.3
Myanmar	-24.0
Malawi	-24.8
Mozambique	-25.3
Botswana	-25.9
Bolivia (Plurinational State of)	-25.9
Gambia	-26.6
Namibia	-26.9
Comoros	-27.1
Jamaica	-27.2
Mauritania	-31.4
Maldives	-33.4
Nicaragua	-33.9
Sao Tome and Principe	-34.9
Togo	-37.7
Burundi	-39.0
Vanuatu	-40.1
Barbados	-40.3
Suriname	-40.8
Austria	-42.4
Dominica	-43.5
Brunei Darussalam	-44.4
Grenada	-46.1
Greenland	-46.8
Central African Rep.	-47.4
Saint Lucia	-47.7
Fiji	-48.4
Guyana	-49.5
Tonga	-51.9

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-EU imports (Cont'd)</i>	
Antigua and Barbuda	-52.1
Bahamas	-52.5
Niger	-55.5
Bermuda	-55.8
Belize	-58.5
Samoa	-58.5
Rwanda	-68.7
Cambodia	-75.3
Saint Kitts and Nevis	-77.0
Czech Rep.	-85.6
Saint Vincent and the Grenadines	-87.4
Romania	-133.1
Sweden	-139.7
Ireland	-151.9
Denmark	-160.5
Lithuania	-178.9
Hungary	-185.9
Finland	-186.1
Latvia	-245.9
Bulgaria	-252.6
Slovenia	-281.2
Malta	-281.3
Estonia	-287.5
Cyprus	-291.0
Slovakia	-295.8
Luxembourg	-337.6

**Appendix E3 : Performance Analysis for intra- and extra-AFTA imports
(EU-27 Model)**

Intra-AFTA imports

Country	Performance (+ : Over performance; - : under performance)
Viet Nam	11.0
Singapore	8.8
Thailand	8.0
Indonesia	3.0
Malaysia	1.0
<hr/>	
Cambodia	-1.1
Myanmar	-4.0
Philippines	-11.5
Brunei	
Darussalam	-15.2

Extra-AFTA imports

Country	Performance (+ : Over performance; - : under performance)
Singapore	228.4
Thailand	123.3
Viet Nam	93.6
Japan	49.7
New Caledonia	48.3
Rep. of Korea	42.4
Australia	42.0
China	40.1
French Polynesia	39.2
Taiwan	31.2
Germany	28.9
United Kingdom	28.0
Neth. Antilles	28.0
China, Hong Kong SAR	27.9
United Arab Emirates	26.4
Netherlands	25.4
United States	23.9
India	23.5
New Zealand	23.5
Aruba	21.7
France	21.7
Switzerland	21.4
Argentina	21.2
Brazil	20.6

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA imports (Cont'd)</i>	
South Africa	19.2
Turkey	18.1
Chile	16.4
Qatar	16.3
Belgium	15.3
Spain	14.6
Russian Federation	13.6
Saudi Arabia	12.5
Norway	12.0
Italy	11.4
Nigeria	10.0
Ecuador	9.9
Bangladesh	9.4
Yemen	9.0
Sri Lanka	8.2
Poland	7.6
Uganda	7.5
Austria	7.4
Kuwait	7.1
Jordan	7.1
Syria	5.8
Oman	5.7
Bahrain	5.6
Egypt	5.5
Israel	5.3
Czech Rep.	5.1
Croatia	4.7
Ukraine	4.2
Venezuela	4.2
Denmark	4.1
Maldives	4.0
Ethiopia	3.2
Canada	3.1
Guatemala	3.1
Honduras	2.3
Mauritius	2.2
Ireland	1.6
Algeria	1.6
Turks and Caicos Isds	1.5
Panama	0.7
Colombia	0.6
Mozambique	0.6

**Performance (+ : Over performance; - :
under performance)**

Country
Extra-AFTA imports (Cont'd)

Lebanon	0.4
Pakistan	0.3
Mexico	0.3
Guyana	0.0
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Mauritania	-0.1
Gambia	-0.3
Iceland	-0.6
Greece	-0.8
Senegal	-1.1
Jamaica	-1.3
Peru	-1.6
Mali	-1.7
Dominican Rep.	-1.7
Bosnia Herzegovina	-2.2
Fiji	-2.3
Sweden	-2.4
Costa Rica	-2.4
Trinidad and Tobago	-2.5
Suriname	-2.6
Mongolia	-2.9
Kenya	-3.2
Guinea	-3.3
Belarus	-3.4
Finland	-3.8
Paraguay	-3.8
Tunisia	-3.8
United Rep. of Tanzania	-3.9
Azerbaijan	-4.2
Hungary	-4.3
Bulgaria	-4.4
Namibia	-4.9
Sao Tome and Principe	-4.9
Swaziland	-5.3
Estonia	-5.3
El Salvador	-5.6
Lithuania	-5.7
Tonga	-6.3
Solomon Isds	-6.8
Malta	-6.9
Morocco	-7.2
Samoa	-7.8
Uruguay	-7.8

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA imports (Cont'd)</i>	
Central African Rep.	-8.0
Burundi	-8.1
Comoros	-8.3
Myanmar	-8.9
Togo	-9.1
Nicaragua	-9.4
Zimbabwe	-9.5
Saint Lucia	-9.7
Ghana	-9.7
Malawi	-9.9
Bhutan	-10.1
Madagascar	-10.3
Belize	-11.0
Grenada	-11.3
Sudan	-11.5
Kyrgyzstan	-11.8
Kazakhstan	-12.1
Slovakia	-12.6
Zambia	-12.9
Barbados	-12.9
Portugal	-13.1
TFYR of Macedonia	-13.2
Vanuatu	-13.6
Niger	-14.4
Albania	-14.6
Cape Verde	-15.3
Bolivia (Plurinational State of)	-16.9
Armenia	-17.0
Slovenia	-17.3
Latvia	-17.6
Côte d'Ivoire	-17.8
Dominica	-18.3
Cyprus	-18.6
Saint Kitts and Nevis	-19.1
Georgia	-19.5
Malaysia	-20.2
China, Macao SAR	-20.4
Rwanda	-21.4
Romania	-22.3
Luxembourg	-22.9
Faeroe Isds	-23.4
Saint Vincent and the Grenadines	-25.7

Country	Performance (+ : Over performance; - : under performance)
<i>Extra-AFTA imports (Cont'd)</i>	
Botswana	-26.8
Antigua and Barbuda	-28.9
Greenland	-30.3
Bermuda	-31.0
Indonesia	-69.8
Cambodia	-125.1
Brunei Darussalam	-129.2
Philippines	-198.4

Appendix F : Performance analysis for intra-FTA export for NAFTA, EU and AFTA (EU-27 model)

NAFTA		EU		AFTA	
<u>Over-performer</u>		<u>Over-performer</u>		<u>Over-performer</u>	
Canada	1.6	Netherlands	79.3	Singapore	17.1
		Germany	35.1	Thailand	9.3
		Italy	29.7	Viet Nam	7.4
		Belgium	28.1	Myanmar	5.6
		Sweden	18.4	Indonesia	3.0
		Spain	17.9	Malaysia	0.3
		United Kingdom	17.6		
		France	16.2		
		Poland	11.7		
		Czech Rep.	11.6		
		Hungary	10.4		
		Finland	7.7		
		Denmark	5.8		
		Ireland	3.2		
<u>Under-performer</u>		<u>Under-performer</u>		<u>Under-performer</u>	
Mexico	-1.3	Cyprus	-65.4	Brunei	
USA	-0.2	Malta	-54.7	Darussalam	-19.5
		Luxembourg	-31.7	Cambodia	-17.2
		Latvia	-31.4	Philippines	-6.0
		Estonia	-26.3		
		Greece	-20.9		
		Lithuania	-16.6		
		Bulgaria	-15.0		
		Slovenia	-12.7		
		Romania	-9.8		
		Portugal	-7.1		
		Austria	-1.0		
		Slovakia	-0.2		

Appendix G : Performance analysis for intra-FTA import for NAFTA, EU and AFTA (EU-27 model)

NAFTA		EU		AFTA	
<u>Over-performer</u>		<u>Over-performer</u>		<u>Over-performer</u>	
USA	2.6	Netherlands	69.3	Viet Nam	11.0
		Germany	40.1	Singapore	8.8
		United Kingdom	38.4	Thailand	8.0
		Italy	32.4	Indonesia	3.0
		Spain	30.5	Malaysia	1.0
		France	25.7		
		Belgium	21.1		
		Sweden	20.3		
		Poland	9.0		
		Denmark	5.8		
		Romania	5.5		
		Finland	5.1		
		Greece	2.9		
<u>Under-performer</u>		<u>Under-performer</u>		<u>Under-performer</u>	
Canada	-2.0	Luxembourg	-59.4	Brunei	
Mexico	-0.6	Malta	-53.3	Darussalam	-15.2
		Cyprus	-29.9	Philippines	-11.5
		Estonia	-28.0	Myanmar	-4.0
		Slovenia	-26.4	Cambodia	-1.1
		Slovakia	-22.3		
		Latvia	-22.3		
		Bulgaria	-19.1		
		Lithuania	-15.5		
		Ireland	-13.2		
		Austria	-9.1		
		Portugal	-4.4		
		Hungary	-2.4		
		Czech Rep.	-0.6		