

Bilateral Free Trade Agreements – How do Countries Choose Partners?

Suresh Singh*

Abstract

While the debate on whether countries should or should not sign trade agreements with selected partners continues, governments have significantly stepped up the rate at which they enter into such agreements. A number of such agreements have been signed lately and many more are under negotiation. Multinational firms get impacted by these agreements irrespective of whether these are beneficial to the participating economies in particular or to the world economy in general. Bilateral free trade agreements constitute a very large proportion of the trade agreements between countries. Knowing which two countries are more likely to sign a free trade agreement can help multinational firms minimize risks or maximize opportunities arising from the recent proliferation of such agreements. This paper finds that geographical distance and relative strength of industry pressure groups are two factors that govern which two countries are more likely to enter into a bilateral free trade agreement with each other.

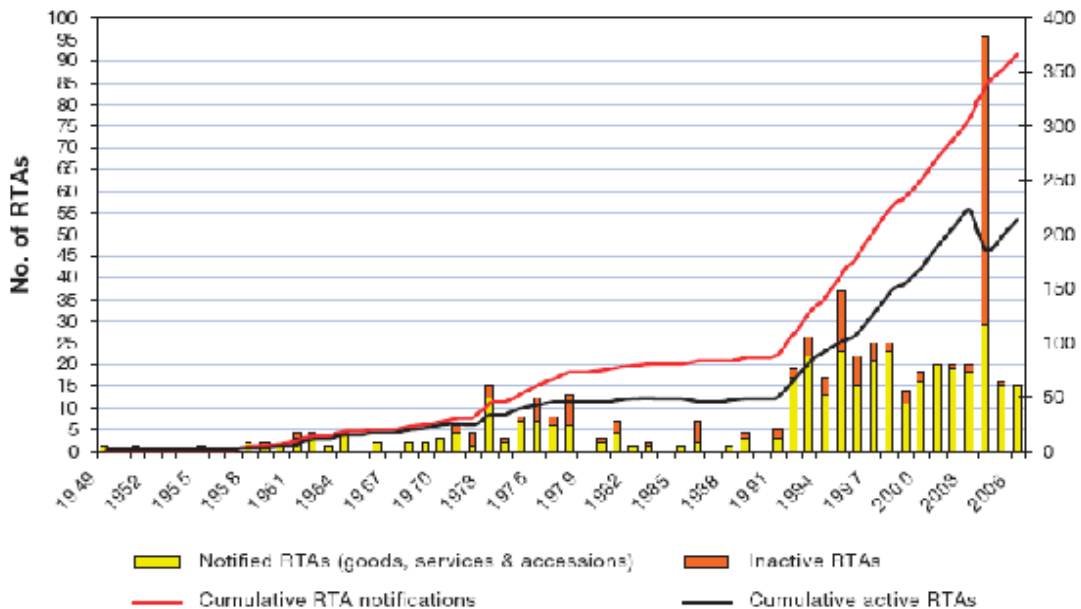
* 242 Fisher Hall, 2100 Neil Avenue, Columbus, OH, 43210

Introduction

“Regional Trade Agreements (RTAs) have become in recent years a very prominent feature of the Multilateral Trading System (MTS). Between January 2005 and December 2006 a further 55 RTAs have been notified to the WTO raising the total number of RTAs notified and in force to 214. In addition to these, many more agreements are currently being negotiated and being considered. The impasse in the Doha Development Agenda (DDA) negotiations is further strengthening Members' resolve to conclude such agreements and indeed a flurry of new RTA initiatives has emerged in recent months whose effects will be felt in the years to come.”

- World Trade Organization (WTO) Report, The Changing Landscape of RTAs; 2006 Update

Figure 1. All Regional Trade Agreements notified to the GATT/WTO (1948-2006), by year of entry into force



Source: WTO Report, The Changing Landscape of RTAs: 2006 Update

The fact that the wisdom of governments signing RTAs has been vigorously debated by scholars (Bhagwati & Panagariya 1996) is little consolation for multinational firms who get impacted by such agreements whether or not these are economically beneficial to the signatories in particular or to the world in general. For these firms, what governments actually do is equally important if not more than what governments should do (Krugman 1991). The risks or opportunities arising from the recent proliferation of RTAs can be proactively managed if it is possible to anticipate such agreements in advance. Bilateral free trade agreements (FTAs) constitute a very large portion of RTAs and are therefore the focus of attention in this paper. The objective is to find the main factors that determine which two countries are more likely to sign a bilateral FTA.

Limitations of Prior Research

The impact of the RTAs on the economies of the participating (and non-participating) countries has been extensively studied since Viner (1950). Very little attention has been paid however, across disciplines, to the factors that determine which countries are more likely to enter into such agreements with each other. The author could find only two empirical studies that looked at this question. Rooted in international relations, Mansfield, Milner & Rosendorff (2002) claimed to conduct “one of the first direct examinations of the effects of regime type on the establishment of trade agreements” and found that democratic states are more likely to conclude trade agreements. Baier and Bergstrand (2004) claimed to be “the first systematic empirical analysis of the economic determinants of the formation of FTAs”. While both these studies recognized the role of special interest groups on the trade policy of the governments, none of them incorporated the relative strength of these groups in their model. This paper makes it the main construct of

interest, inspired by the theoretical model of the politics of free trade agreements developed by Grossman & Helpman (1995) that emphasized the interaction between industry special-interest groups and the government.

This paper also addresses some of the methodological limitations of the two studies mentioned above. While Mansfield et al. (2002) included different types of RTAs in the same sample, both the studies treated bilateral and multilateral agreements at par. As a result, an agreement between a given country with the European Union (EU), which is a customs union among many different countries, was assumed equivalent to a number of bilateral agreements between that country and all the members of EU. This can potentially confound the results and make interpretation difficult. This paper therefore focuses only on bilateral FTAs. 84 percent of the total RTAs in force as of December 2006 were FTAs and bilateral agreements accounted for 80 per cent of all RTAs notified and in force; 94 per cent of those signed and under negotiation; and 100 per cent of those at a proposal stage (WTO Report, The changing landscape of RTAs: 2006 Update). It follows that bilateral FTAs constitute a major portion of the total RTAs in force and their share is expected to increase considerably in future. It is therefore worthwhile to study bilateral FTAs only.

Baier & Bergstrand (2004) adopted a static approach assuming that “each country pair makes a decision in 1996 to form or not form an FTA, or to enforce or not enforce an FTA formed prior to 1996” (page 34). This paper, in contrast, has taken a dynamic approach by taking into consideration the year a FTA came into force and using it as the benchmark for the calculation of other independent variables.

Finally, these two previous studies used data prior to 1997. As is evident from Figure 1, a large number of RTAs have been signed after this period. Specifically, data before 1997 is heavily biased towards multilateral agreements since bilateral FTAs are relatively recent. As a result, the latest story of bilateral FTAs remain largely untold e. g. all the bilateral FTAs signed by Japan and all but one signed by USA are not included in the analysis. There are other problems as regards to bilateral FTAs before 1997 which shall be discussed in the following sections.

Hypotheses

Following the standard practice of international economists, Baier and Bergstrand (2004) has adopted a general equilibrium model assuming that governments maximize the welfare of its citizens. It implies that while signing a FTA with a partner, governments consider not only the impact on the trade between the two countries but also the impact on the trade with the rest of the world and try to maximize their total trade and not just the trade with the FTA partner. These assumptions make the governments pure economic agents who have all the information, incentives and capability to calculate the general equilibrium outcomes and to pursue the welfare maximization path. While this approach is suited for understanding whether governments should or should not do RTAs, it may not be appropriate to explain how governments act in actual practice. As Krugman (1991: 6) noted, “The motives of governments as they engage in trade negotiations are by no means adequately described by the idea that they maximize national welfare”. This paper therefore uses a partial equilibrium model instead where the governments try to maximize trade with the FTA partner even if it may not lead to net increase in its overall trade. Governments may be interested in bilateral FTAs with certain partners for strategic or

political reasons and therefore may prefer more trade with them even if it comes at the cost of trade with others.

Bilateral FTAs reduce only the tariff cost between countries but there are other costs of trade – transportation costs, non-tariff costs like quotas, transaction costs, currency risk etc. (Anderson and Wincoop 2004). A FTA is worthwhile only if tariff costs are a major portion of the total costs of trade between the negotiating countries. If other costs of trade remain very high, no significant increase in bilateral trade shall be achieved by removing the tariffs.

The overwhelming success of the gravity model in explaining international trade, shows that the total cost of trade increases dramatically with increasing distance due to an increase in both transportation costs as well as other costs which include costs of communication and costs of non-familiarity of remote countries and their institutions (Frankel, Stein & Wei 1995). It follows therefore that tariff costs shall dramatically reduce as a proportion of total costs of trade with increasing distance between countries. It would make sense therefore for countries to do FTAs with neighbors than with remote countries because for remote countries the total costs of trade shall remain high even after the tariff costs are removed i. e. a FTA shall not result in any significant increase in bilateral trade.

Hypothesis 1: Countries are more likely to do bilateral FTAs with partners that are geographically close.

It remains to be explained as to how governments choose among partners that are all geographically close. The role of political pressure groups has been widely recognized as a major influence on the FTA decisions of governments. Grossman & Helpman (1995) developed a model of the politics of FTAs that emphasizes the interaction of these special interest groups and the government. The main pressure groups are the exporters, the importers and the import competing producers. Exporters and importers should view a FTA positively because it reduces their costs of exports or imports by reducing tariffs. Import competing producers on the other hand are hurt by a FTA because it exposes them to foreign competition. Ordinary consumers do not play a significant role in shaping the outcome of a FTA negotiation (Krugman 1991, Grossman & Helpman 1995) due to the problem of collective action (Olson 1965). It follows therefore that a country will agree for a bilateral FTA only when the strength of exporters and importers combined will be greater than the strength of the import competing producers.

This paper uses the dollar value of exports and imports as proxies for the strength of the exporters and importers. Let EXPORTS be the total exports from country A to country B and IMPORTS be the total imports to country A from country B. A portion of IMPORTS, say COMPETE_IMPORTS, shall compete with the import competing producers in country A and the remaining will be non-competing imports, say NON_COMPETE_IMPORTS . For country A to agree to a bilateral FTA with country B, the sum of EXPORTS and NON_COMPETE_IMPORTS should be greater than COMPETE_IMPORT.

The following conditions therefore must hold for country A to agree to a deal with country B:-

(1) $IMPORTS = COMPETE_IMPORTS + NON_COMPETE_IMPORTS$, and

$$(2) \text{ EXPORTS} + \text{NON_COMPETE_IMPORTS} > \text{COMPETE_IMPORTS}$$

Country A can have a high trade surplus, a high trade deficit or a balanced trade with country B.

These cases can be analyzed as follows:

a. *High trade surplus*: High trade surplus implies that $\text{EXPORTS} \gg \text{IMPORTS}$ and using condition (1), $\text{EXPORTS} \gg \text{COMPETE_IMPORTS} + \text{NON_COMPETE_IMPORTS}$

Therefore condition (2) above will be satisfied for any value of $\text{NON_COMPETE_IMPORTS}$ and country A shall be highly willing to sign a bilateral FTA.

b. *High trade deficit*: High trade deficit implies that $\text{EXPORTS} \ll \text{IMPORTS}$ and using condition (1), $\text{EXPORTS} \ll \text{COMPETE_IMPORTS} + \text{NON_COMPETE_IMPORTS}$

Therefore condition (2) above will be satisfied only for large values of $\text{NON_COMPETE_IMPORTS}$. Country A shall be willing to sign a bilateral FTA only for large values for $\text{NON_COMPETE_IMPORTS}$.

c. *Balanced trade*: Balanced trade implies that $\text{EXPORTS} = \text{IMPORTS}$ and using condition(1), $\text{EXPORTS} = \text{COMPETE_IMPORTS} + \text{NON_COMPETE_IMPORTS}$

Therefore condition (2) above will be satisfied even for small values of $\text{NON_COMPETE_IMPORTS}$. Country A shall therefore be willing to sign a bilateral FTA even for small values of $\text{NON_COMPETE_IMPORTS}$.

Since a high trade surplus of country A automatically means a high trade deficit of country B, it

follows that in case of a high imbalance of trade between country A and country B, a bilateral FTA shall be signed only if NON_COMPETE_IMPORTS forms a major portion of the IMPORTS for the country in deficit but if the trade is balanced, bilateral FTA is feasible even if NON_COMPETE_IMPORTS is a small proportion of the IMPORTS.

Hypothesis 2: Countries are more likely to sign a bilateral FTA with each other if their mutual trade is balanced.

Data & Analysis

A list of all the bilateral FTAs that are notified to the World Trade Organization (WTO) and in force as of February 2008 was obtained from the web-site of the WTO. Agreements involving regimes which are not independent countries (e. g. Serbia and Montenegro, Faroe Islands and Palestine) were excluded. Moreover, agreements prior to 1997 were removed as most of them (11 out of 13) were between former Soviet Union republics which came into existence only after 1991 and therefore had governments and political-economic structures which were newly born. The trade data for these countries was either not available or not very reliable. The remaining list provided the 42 countries that have signed one or more bilateral FTAs. These 42 countries were paired two at a time to obtain 861 potential bilateral FTAs. Out of these 861 pairs, those pairs were eliminated which involved countries that are already part of a multilateral FTA and therefore have no reason to sign a bilateral FTA. Some other pairs got eliminated for lack of reliable trade data. A final sample of 746 pairs of countries was thus obtained. The great-circle-distance between these pairs of countries in nautical miles (DISTANCE) was obtained from Google maps. The exports-imports data was obtained from the United Nations Commodity Trade

Statistics Database. For any one country in each pair, the ratio of the dollar value of exports to and imports from the partner (TRADE BALANCE) was calculated. For country pairs that have actually signed an agreement, the export-import ratio was calculated for one year previous to the year the FTA came into force (or closest previous year when data was unavailable). For the rest of the pairs, the median year i. e. 2001 was used. To obtain a common scale for these ratios, reciprocal of all values greater than one was taken. This was possible because the order of countries in the pair was immaterial.

Table 1. Summary statistics

	Distance	Trade Balance
Min	70	0.00004
1Q	1772	0.06163
Median	4252	0.26158
Mean	4265	0.32910
3 Q	6439	0.54575
Max	10550	0.99624
Std Dev	2677	0.29230

The descriptive statistics is shown in Table 1. A probit regression was used to estimate the model. The results have been tabulated in Table 2. DISTANCE was highly significant and had a negative coefficient as expected. TRADE BALANCE was also found to be significant and had a positive coefficient as expected.

Table 2. Probit estimation of the likelihood of bilateral FTAs

	Coefficient	Std Error
Intercept	-1.23***	0.15110
DISTANCE	-0.00011***	0.00003
TRADE BALANCE	0.57*	0.22760
Null deviance	412.59 on 745 degrees of freedom	
Residual deviance	388.93 on 743 degrees of freedom	
AIC	394.93	

Significance *** 0.001, ** 0.01, * 0.05

The predicted probabilities are tabulated in Table 3. At a distance of 500 nautical miles, chances of a bilateral FTA increases from about one in every ten for highly imbalanced trade (TRADE BALANCE = 0.1) to about one in every four for highly balanced trade (TRADE BALANCE = 1). Increasing distance decreases the probability of a bilateral FTA rapidly. At a distance of 10500 nautical miles, the chances of an agreement reduce to about one in every twenty five even for highly balanced trade (TRADE BALANCE = 1).

Table 3. Predicted probabilities of bilateral FTA

DISTANCE	TRADE BALANCE									
	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
500	0.11	0.12	0.13	0.15	0.16	0.17	0.19	0.20	0.22	0.24
2500	0.08	0.08	0.09	0.10	0.11	0.13	0.14	0.15	0.16	0.18
4500	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
6500	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08	0.09
8500	0.02	0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05	0.06
10500	0.01	0.01	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.04

Conclusions

The purpose of this paper was to find out the factors that influence the likelihood of a bilateral FTA between two potential partners. The results show that the geographical distance between countries is a significant barrier against bilateral FTA relationships. Among the potential partners that are at a convenient distance apart, those with balanced mutual trade have a better chance to become an actual partner. It is therefore concluded that geographical proximity and relative balance of industry pressure groups explain which two countries are more likely to sign a bilateral FTA with one another.

References

- Anderson, J. E., & Wincoop, E. 2004. Trade Costs. *Journal of Economic Literature*.
- Baier, S. L. & Bergstrand, J. H. 2004. Economic determinants of free trade agreements. *Journal of International Economics*.
- Bhagwati, J. & Panagariya, A. 1996. The theory of preferential trade agreements: historical evolution and current trends. *American Economic Review*.
- Frankel, J., Stein, E., & Wei, S. 1995. Trading blocs and the Americas: The natural, the unnatural, and the super-natural. *Journal of Development Economics*.
- Grossman, G. M. & Helpman, E. 1995. The politics of free-trade agreements. *American Economic Review*.
- Krugman, P. R. 1991. The move toward free trade zones. Policy Implications of Trade and Currency Zones: A Symposium Sponsored by the Federal Reserve Bank of Kansas City, Federal Reserve Bank of Kansas City, Kansas City, pp. 7–41.
- Mansfield, D. E., Milner, H. V., & Rosendorff B. P. 2002. Why Democracies Cooperate More: Electoral Control and International Trade Agreements. *International Organization*.
- Olson, M. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*, Revised edition, Harvard University Press
- Viner, J. 1950. The Customs Union Issue. New York: Carnegie Endowment for International Peace.