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## **The Trade Liberalization Effects of Regional Trade Agreements\***

Volker Nitsch  
Free University Berlin

Daniel M. Sturm  
University of Munich and CEPR

### Abstract

Recent research suggests that membership in the World Trade Organization (WTO) and its predecessor the General Agreement on Tariffs and Trade (GATT) is not associated with more liberal trade policies. In this paper, we ask if membership in a regional trade agreement (RTA) helps to liberalize trade. Using 63 trade policy measures, we find that RTA membership has, on average, no measurable effect on a country's trade policy. However, we also find considerable differences across RTAs, with member countries in the European Union being significantly more open and less protectionist than members in other RTAs.

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### Addresses:

Volker Nitsch  
Free University Berlin  
Department of Economics  
Boltzmannstrasse 20  
14195 Berlin  
Germany  
Tel.: (030) 838-56280  
Fax: (030) 838-54142  
E-Mail: vnitsch@wiwiss.fu-berlin.de

Daniel Sturm (correspondence)  
University of Munich  
Department of Economics  
Ludwigstrasse 28 (Vgb.)  
80539 Munich  
Germany  
Tel.: (089) 2180-1363  
Fax: (089) 2180-6227  
E-Mail: daniel.sturm@lmu.de

## **I. Introduction**

Recent research suggests that the GATT/WTO has surprisingly little effect on international trade. Andrew Rose (2004a) argues that the volume of trade between GATT/WTO members is not significantly different from trade between non-members. Rose (2004b) finds that GATT/WTO members are neither more open to trade nor do they have more liberal trade policies than countries outside the GATT/WTO.

In this paper we explore whether regional integration, as opposed to multilateral trade liberalization, has measurable effects on national trade policies. Since regional trade arrangements (by definition) lower trade barriers on only a limited set of countries, one might expect that the liberalization effect of these arrangements is even smaller than for multilateral tariff reductions. However, regional trade agreements (RTAs) often apply to a country's main trading partners so that they should cover a disproportionately large share of the country's total trade. In addition, they often go beyond what would have been possible to achieve multilaterally. Taken together, it is ultimately an empirical question whether RTAs have been more successful in liberalizing trade than multilateral trade integration under the auspices of the GATT/WTO.<sup>1</sup>

Regional trade agreements differ widely, both in their ambitions and scope. On the one end of the spectrum are initiatives which grant little or no trade preferences and essentially aim at loose regional cooperation, such as APEC (the Asia Pacific Economic Cooperation forum) or ASEAN (the Association of Southeast Asian Nations). On the other end of the spectrum is the European Union which is widely believed to have succeeded in substantial cuts in trade barriers.

To make our case as persuasive as possible, we focus in our empirical analysis exclusively on trade agreements which are plurilateral in nature (i.e., comprise more than two members) and are notified to the GATT/WTO under GATT article XXIV. Plurilateral agreements (by definition) liberalize a country's trade with a number of trading partners and therefore seem a priori more likely to have an impact on countries' aggregate trade policy stance. Furthermore, article XXIV requires that members of a RTA should eliminate trade barriers with "respect to substantially all the trade between the constituent territories of the union" and also apply "substantially the same duties and other regulations of commerce" to countries not included in the regional trade agreement.<sup>2</sup> While these conditions are less than

perfectly enforceable, they should exercise at least some pressure on regional trade agreements (notified under this article) to undertake serious trade liberalization.

To preview our main results, we find that most measures of trade policy are uncorrelated with membership in a RTA. Similar to Rose’s findings for the GATT/WTO, there is no evidence that RTA members have systematically lower trade barriers than non-members. However, there also appears to be considerable heterogeneity among RTAs. More specifically, we find that membership in the European Union is associated with substantially more liberal trade policies.

The remainder of the paper is organized as follows. In the next section, we discuss the empirical strategy and the data set. The empirical results are presented in Section III. Section IV discusses the implications of our findings for the literature on RTAs and Section V contains a brief conclusion.

## **II. Methodology and Data**

Our empirical approach is similar to Rose (2004b). Rose’s empirical strategy is minimalistic but highly intuitive: measures of trade policy are regressed on a dummy variable for membership in the GATT/WTO and a number of additional controls. We modify this approach by replacing the GATT/WTO dummy (in our base specification) with a dummy variable for membership in a RTA. In particular, we estimate equations of the form:

$$(1) \quad TP_i = \alpha + \beta RTA_{it} + \sum_j \gamma_j X_{jt} + \varepsilon_{it}$$

where  $TP_{it}$  denotes the measure of trade policy of country  $i$  at time  $t$ ,  $RTA_{it}$  is a binary dummy variable which takes the value of one if country  $i$  is a member of a RTAs at time  $t$  and zero otherwise, and  $X$  is a set of conditioning variables. Based on our two criteria, we include in our list of RTAs: BAFTA, CACM, CARICOM, CEFTA, EAEC, EFTA, EU, and NAFTA.<sup>3</sup> The main coefficient of interest to us is  $\beta$ , which captures the extent to which the trade policies of RTA members differ from those of countries outside an RTA.

We estimate (1) both as a simple bivariate specification (i.e.,  $\gamma$ 's = 0) and an augmented specification with (the log of) total population, (the log of) real GDP per capita and remoteness (defined as the inverse of the average distance-weighted output of other markets) as additional regressors. While for most trade policy measures only cross-country

information is available, some indicators also have time-series variation. For these panel variables, we also add fixed effects, experimenting with year-specific effects, country-specific effects, and a combination of the two.

Our data are mainly taken from Rose (2004b). Rose has compiled a large number of trade policy measures from various sources. These measures include indicators of trade openness which capture the actual outcome of trade policies; tariffs and non-tariff barriers which focus directly on trade restrictions; informal measures based on qualitative assessments of a country's trade policy; composite measures which combine different sorts of information; residuals-based measures derived from the deviation of actual trade from trade predicted by a trade model; and measures based on the price effects of trade interventions. In total, Rose has compiled 64 measures of trade policy and trade liberalization (of which we use 63); see Rose (2004b) for a detailed description of data and sources. The data set covers 168 countries for the period from 1950 through 1998.

### **III. Results**

Given the controversial discussion about appropriate measures of a country's trade policy, we do not emphasize estimates for any single trade policy measure, but focus on the overall findings for the majority of the measures. Thus, instead of reporting individual coefficient estimates, we simply report the number of times coefficients take on the expected sign and are statistically significant (at the 5% level). An unpublished appendix with the estimates for each measure is available from the authors.

Table 2 presents the results. In columns (1) and (2) we replicate for comparison Rose's results for GATT/WTO membership for the bivariate and the augmented specification respectively. The overwhelming impression from these regressions is that GATT/WTO membership is not significantly correlated with more liberal trade policy. In the augmented specification none of the cross-section measures of trade policy is significant with the expected sign (the only significant result has the "wrong" sign) and also for the panel measures only one out of 12 measures is significant and has the correct sign if either year or country fixed effects are included in the regression.

Columns (3) and (4) present our (analogous) results for RTA membership. While the estimates of the bivariate specification summarized in column (3) seem to suggest a much stronger link between trade liberalization and RTA membership, this link almost entirely

disappears if we include our additional control variables. In the augmented specification summarized in column (4) only 4 of the cross-section measures of trade liberalization have a significant correlation with RTA membership and have the expected sign, while the majority of the coefficients (28 out of 51 coefficients; not shown in the table) are in fact perversely signed, one of which is significant at the 5% level. Similarly, for the panel measures no measure is significant once both country and year fixed effects are included in the regression.

To examine the sensitivity of our results to potential heterogeneity across the different RTAs, we also estimate separate  $\beta$ 's for membership in the European Union, which is arguably the most advanced regional integration scheme, and for membership in one of the other RTAs; both dummies enter our specification jointly. The results confirm our intuition. While the EU dummy is significantly correlated with more liberal trade policy for a substantial number of trade policy measures, the results for the other RTAs are now even less significant. We consider these results as particularly encouraging. They show that not all initiatives for regional integration have been ineffective; serious trade liberalization *can* have measurable effects.

#### **IV. Discussion**

While there has been little work on the trade policy stance of RTAs, a number of papers have estimated the effects of RTAs on trade flows with the help of gravity regressions (see, for example, Frankel (1997) and Baier and Bergstrand (2004) for recent surveys). The evidence that emerged from this literature is mixed. While a number of papers find significant effects of RTAs on trade volumes, the estimated coefficients are often implausible. Frankel (1997, tables 4.2 and 4.3) provides a comprehensive list of gravity estimates for a large number of existing and prospective RTAs covering the period from 1965 to 1992.

Surprisingly, he finds the strongest trade bloc effects for the ASEAN RTA. Formally established in 1967, this group has (for decades) made very little progress in reducing trade barriers; Frankel (1997, p. 99), for instance, notes that “as recently as 1989, the fraction of goods eligible for regional preferences was only on the order of 3 percent.” Nonetheless, the estimates of the gravity model suggest that two ASEAN countries trade about six times more with each other than two otherwise-similar countries. Also timing appears to be a problem. Frankel (1997, pp. 97-98) notes that Australia and New Zealand trade about 3.9 times as much as an otherwise-similar pair of countries already before the establishment of the

bilateral CER arrangement in 1983; a test of the effect of the CER on the change in Australia-New Zealand trade yields a point estimate that is close to zero.<sup>4</sup>

One possible interpretation of our results is that observed high levels of trade between members of an RTA do not reflect a more liberal trade policy, but are instead mainly due to factors such as pre-existing business links, cultural and political ties or similar institutional settings which are all likely to be highly correlated with membership in the same RTA. An obvious caveat to this conclusion is that we only observe countries' overall trade policy stance, but not its trade policy towards other members of its RTA.

## **V. Conclusion**

In this paper, we have examined the trade liberalization effects of RTAs. We find that most measures of trade policy are uncorrelated with membership in a RTA. A possible exception to this negative conclusion is the European Union. On a number of trade policy measures members of the European Union are significantly more open and less protectionist than members of other RTAs. There is therefore little evidence that regional trade integration is a more effective alternative to the GATT/WTO in achieving global free trade.

## References

- Baier, S.L., Bergstrand, J.H., 2004. Do Free Trade Agreements Actually Increase Members' International Trade. mimeo.
- Foroutan, F., 1998. Does Membership in a Regional Preferential Trade Agreement Make a Country More or Less Protectionist? *The World Economy* 21, 305-335.
- Frankel, J.A., 1997. *Regional Trading Blocs* (Institute for International Economics, Washington, DC).
- Ghosh, S. and S. Yamarik, 2004. Are Regional Trading Arrangements Trade Creating? An Application of Extreme Bounds Analysis," *Journal of International Economics*, 63, 369-395.
- Rose, A.K., 2004a. Do We Really Know that the WTO Increases Trade? *American Economic Review* 94, 98-114.
- Rose, A.K., 2004b. Do WTO Members Have a More Liberal Trade Policy? *Journal of International Economics* 63, 209-235.

**Table 1: Empirical results**

	Specification:							
	(1)	(2)	(3)	(4)	(5)		(6)	
Key Explanatory Variable(s):	<b>GATT/WTO</b>		<b>RTA</b>		<b>EU</b>	<b>Other RTAs</b>	<b>EU</b>	<b>Other RTAs</b>
Type of regression:	Bivar.	Augm.	Bivar.	Augm.	Bivar.		Augm.	
cross-section (51 variables)	2	0(1)	22(2)	4(1)	14(2)	8	8	3(1)
panel (12 variables)								
– neither year nor country effects	2	2	8	4	8	7	7	1
– only year effects	2	1	8	4	8	7	7	1
– only country effects	3	1	2(4)	1	2(2)	2(1)	2(1)	0
– year and country effects	0	1	1(1)	0	1	0	1(1)	0

**Notes:** The table reports the number of times the estimated coefficient of the RTA dummy takes the expected sign and is statistically significant at the 5% level. Numbers in brackets indicate significant coefficients that take the “wrong” sign.

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<sup>1</sup> There is, to our knowledge, no previous work that addresses this issue. The most closely related paper to ours that we are aware of is Faezeh Foroutan (1998) who analyzes various descriptive trade policy measures for a large number of developing countries and finds no link between trade liberalization and RTA membership.

<sup>2</sup> The quotes are taken from [http://www.wto.org/english/docs\\_e/legal\\_e/gatt47\\_02\\_e.htm#articleXXIV](http://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm#articleXXIV).

<sup>3</sup> As a robustness check, we have also experimented with additionally including Mercosur, which is notified to GATT/WTO only under the enabling clause, and the bilateral agreements between Canada and the United States (CUSFTA) and Australia and New Zealand (CER). However, we find that our results are robust to such changes in the set of RTAs considered.

<sup>4</sup> In more recent research using an extreme bounds analysis Ghosh and Yamarik (2004) also find that the trade creation effect of most RTAs is fragile.