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The Trade Liberalization Effects of Regional Trade Agreements*

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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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I. Introduction

How should countries manage their international trade relations? Multilaterally, where a country's trade concessions vis-à-vis one partner automatically extend to all other partners in the world? Plurilaterally, where a country liberalizes trade with a group of partners (e.g., regional neighbors), but denies these concessions to others? Or unilaterally, where a country applies separate trading rules for individual partners (e.g., by entering into mutual, reciprocal agreements)?

For most of the post-war period, economists (and also policymakers) agreed that the multilateral approach is the most effective way to liberalize trade. The process of non-discriminatory tariff reductions based on the General Agreement on Tariffs and Trade (GATT) was widely considered a success story. Trade barriers were lowered dramatically, with the average ad valorem tariff falling from over 40 percent to less than 4 percent (Kyle Bagwell and Robert Staiger, 1999); the number of contracting parties to GATT rose from 23 to more than 100; and growth in world trade consistently out-paced the expansion in merchandise output.

In the 1980s, however, interest gradually shifted away from multilateralism. Although multilateral trade negotiations continued and later regained momentum in the 1990s with the completion of the Uruguay Round and the creation of the World Trade Organization (WTO) as the successor to GATT, regionalism and unilateralism were increasingly viewed as useful supplements to the multilateral trading system. The United States, for instance, imposed unilateral trade policies on specified countries. European countries revitalised their regional integration process and eliminated all barriers to internal trade to form a single European market; a move that was followed by a surge of preferential trade arrangements in other regions.

Recent research by Andrew Rose (2004b) then has apparently further weakened the case for multilateralism. Puzzled by his finding (Rose, 2004a) that the volume of trade between GATT/WTO members is not significantly different from trade between non-members, he examines the empirical association between GATT/WTO membership and trade liberalization. Applying a large number of different trade policy measures, he surprisingly finds no effect: GATT/WTO members are neither more open to trade nor do they have more liberal trade policies than countries outside the GATT/WTO. While this does not necessarily imply that the process of multilateral trade liberalization has been ineffective, the benefits of WTO membership certainly become less obvious.

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. Moreover, GATT article XXIV, under which many arrangements are notified, requires that duties and other trade barriers are removed on substantially all sectors of trade inside the group (so that RTAs typically go beyond what would have been possible to achieve multilaterally), while external trade barriers are (on the whole) not more restrictive than before. Taken together, it is ultimately an empirical question whether RTAs have been more successful in liberalizing trade than the multilateral approach.[1]

[1] 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.

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. We conclude that, on average, RTAs do not appear to be a more effective instrument in achieving global free trade than the GATT/WTO.

The remainder of the paper is organized as follows. In the next section, we discuss the latest move towards regionalism in more detail. Section 3 describes the empirical strategy and the data set. The empirical results are presented in section 4. Section 5 discusses the implications of our findings for the literature on RTAs and section 6 contains a brief conclusion.

II. Regionalism

Regional trade agreements are not in short supply. Since 1995, more than 100 new arrangements have been notified to the WTO, compared with 124 notifications in the period 1948-94.[2] According to a recent WTO study (WTO 2000), 172 RTAs were in force as of July 2000; another 68 RTAs were either signed or under discussion and negotiation. Moreover, the move towards regionalism has been geographically broadly dispersed. Jeffrey Frankel (1997, p. 249) notes that "[o]f the 122 WTO signatories [at that time; today there are 147 WTO members], only Macau and Myanmar (Burma) are not members of an existing regional agreement or one of the potential ones."

[2] See http://www.wto.org/english/tratop_e/region_e/regfac_e.htm.

However, RTAs 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). Other agreements, such as ASEAN (the Association of Southeast Asian Nations), may have more ambitious goals but seem to have made little progress towards these goals. On the other end of the spectrum is the European Union which, established in 1957, has moved from a six-nations customs union to a twenty-five-members economic union, with free exchange of goods, services, capital, and labor, supranational bodies that seek to harmonize national economic policies, and also (for some members) a common currency.

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. More specifically, we argue that if RTAs have an identifiable effect on countries' overall trade policy stance, then this should be particularly visible for members of one of these trade agreements for two reasons. First, in contrast to unilateral trade agreements, 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.

Second, the two key provisions of article XXIV are that members of a regional trade agreement 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.[3] While these conditions are clearly less than perfectly enforceable, they should exercise at least some pressure on regional trade agreements notified under this article to undertake serious trade

liberalization among the members of the agreement and not to abuse the market power of the trading bloc to raise trade barriers against non-members.

Based on our criteria, we include in our list of RTAs: BAFTA, CACM, CARICOM, CEFTA, EAEC, EFTA, EU, and NAFTA.[4] As a robustness test, we have also experimented with additionally including Mercosur, the Canada-US Free Trade Agreement (CUSFTA) and the Closer Economic Relations (CER) Agreement between Australia and New Zealand. While Mercosur is notified to the GATT/WTO under the enabling clause, which places much less stringent conditions on members of an RTA than GATT article XXIV, it is widely believed to have been successful in reducing trade barriers. Similarly, the CER and the CUSFTA, as the predecessor to NAFTA, could have been effective in reducing overall trade barriers of their member countries, despite being bilateral agreements, since they cover a large fraction of trade in the region.[5] However, we find that our results are robust to such changes in the set of RTAs considered.

III. Methodology and Data

In order to see whether regional trade integration has a measurable effect on national trade policies, we basically follow the empirical approach in 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

[3] The quotes are taken from http://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm#articleXXIV.
[4] The information is obtained from the WTO at http://www.wto.org/english/tratop_e/region_e/type_300602_e.xls. Member countries are listed in appendix 1.

dummy variable for membership in a regional trading arrangement. In particular, we estimate equations of the form:

$$(1) \qquad TP_i = \alpha + \beta\, RTA_{it} + \Sigma_j \gamma_j X_{jt} + \varepsilon_{it}$$

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 one of our eight RTAs at time *t* and zero otherwise, X is a set of conditioning variables, and ε is the normally-distributed residual. The main coefficient of interest to us is β, which captures the extent to which the trade policies of RTA members differ from those of countries outside an RTA.

In the actual implementation of this framework, we experiment (similar to Rose) with two sorts of modifications. First, we estimate both a simple bivariate specification (i.e., γ'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[6]) as additional controls. Second, while for most trade policy measures only cross-country information is available, some indicators also have time-series dimension. For these panel variables, we also add fixed effects, experimenting with year-specific effects, country-specific effects, and a combination of the two.

The data are mainly taken from Rose (2004b).[7] 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

[5] In a WTO review, the CER was "recognized as the world's most comprehensive, effective and multilaterally compatible free trade agreement"; see http://www.dfat.gov.au/trade/negotiations/anzcer.html.

[6] That is, $remoteness_{it} = 1/[\Sigma_j \log(GDP_{jt})/\log(distance_{ij})]$.

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); a detailed description of the variables is provided in appendix 2.[8] The data set covers 168 countries for the period from 1950 through 1998. All countries in our sample are listed in appendix 3.

In the interpretation of our results, and again following Rose, we do not emphasize estimates for a single trade policy measure. Given the controversial discussion about appropriate measures of a country's trade policy, we do not prefer one indicator over another, but focus on the overall findings for the majority of the measures.

IV. Results

We begin with bivariate regressions for measures of trade policy for which only cross-sectional information is available. The two left columns in table 1 contain the results. In the first column, we replicate (for comparison) Rose's results for GATT/WTO membership, followed by our estimates of β for membership in a RTA. Interestingly, the estimated trade policy effects differ considerably. While multilateral trade liberalization (i.e., entry in GATT/WTO) has obviously little effect on trade policy, regional trade integration appears to be much more powerful. Almost all coefficients on RTA membership take the expected sign, and many of them are significantly different from zero. RTA members tend to be more open; they have lower tariff barriers and less NTB coverage.

[7] The data set has been graciously made available by Andrew Rose at http://faculty.haas.berkeley.edu/arose.

The results change dramatically, however, as soon as we control for some country characteristics. In the two right columns in table 1, we tabulate the estimates of β for the augmented specification. Compared with the results of the bivariate estimation, the coefficients on RTA membership generally lose statistical significance and often even change sign. For instance, 12 of the 16 point estimates on our openness measures turn negative (though none is significant at conventional levels), indicating that, if anything, RTA members tend to have disproportionately low trade-to-GDP ratios. In total, only four of the 51 estimated coefficients (≅ 8%) suggest that RTA members have a more liberal trade policy than countries outside an RTA and are significant at the 5% level (these are: the ratio of trade taxes to trade, the effective rate of protection and their standard deviation, and the NTB coverage for resources), while the majority of the estimates (28 coefficients) is now perversely signed (of which one, the variability of David Dollar's price distortion measure, is significantly different from zero at the 5% level).

In table 2, we report comparable estimates for the panel measures. While the results appear to be somewhat stronger (with 40 of the 88 recorded coefficients [≅ 45%] on RTA membership being significant at least at the 10% level), none of them is particularly robust. For 9 of the 12 measures, we find that the signs of the estimated coefficients vary across the different perturbations. In the augmented specification, no point estimate is significantly different from zero (at the 5% level) when year and country fixed effects are included. Measures with relatively consistent results across the different perturbations are import duties as a proportion of total imports where seven of the eight coefficients are negative (and four of them are highly significant) and Harrison's index on exchange rates and commercial policy which (consistently) indicates that RTA members have less protectionist exchange rate

[8] The NBER trade liberalization measure is dropped since only for non-RTA members data

regimes (though significance levels tend to fall in the augmented specification); these estimates are discussed in more detail below.

To summarize, there is little evidence that RTA membership is associated with more liberal trade policies. Similar to Rose's (2004b) findings for the GATT/WTO, only few of the 63 different trade policy measures appear to be significantly linked to RTA membership.[9] This result is particularly striking since a number of recent papers find that the trade-enhancing effects of both integration schemes differ substantially. Applying an augmented gravity model, Rose (2003) finds, for example, that membership in a regional trade association has a much stronger positive effect on (bilateral) trade than GATT/WTO membership. We discuss possible explanations for the difference between the estimates from gravity models and our findings in detail in section 5.

Robustness

To examine the sensitivity of our results, we apply a number of robustness checks. In a first extension, we deal with potential heterogeneity across the different RTAs. Up to this point, we have assumed that the trade liberalization effects of regional integration are identical across the different RTAs in our sample. In reality, however, the degree of trade integration varies considerably. In tables 3 and 4, we test for this hypothesis. In particular, we estimate separate β's for membership in the most advanced regional integration scheme, the European Union (EC/EU), and for membership in one of the other RTAs; both dummies enter our

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are available.

[9] Literally, Rose finds a significant relationship between GATT/WTO membership and trade policy for only one measure (the Heritage Foundation's index of economic freedom), while we identify a connection between RTA membership and trade policy for about six measures. In contrast to Rose's results for GATT/WTO, however, a much larger fraction of the insignificant effects for RTA membership takes the wrong sign, indicating that, at least for some aspects of trade policy, RTA members may have less liberal policies than non-members.

specification jointly. We also report the p-value of a Wald test on the equality of the point estimates.

The results strongly confirm our intuition. Of the 50 trade policy measures for which data are available, member countries of the European Union have in 39 cases more liberal trade policies than members of other RTAs (in our preferred [augmented] specification). In the majority of these cases, the difference is statistically large, with p-values of equality (often sizably) below 0.1. For the remaining 11 measures, we find that the liberalization effects are often both insignificant and indistinguishable from each other. 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.

It should also be noted, however, that separating the effect of EU membership does not change our previous results. The finding that RTA membership appears to be associated with lower trade taxes (in relation to trade), lower tariff revenues (in relation to imports) and a lower rate and smaller standard deviation of effective protection also holds for RTAs other than the EU. At the same time, our finding that many coefficients on trade policy measures take the wrong sign is reinforced. For instance, the positive coefficient on the price distortion variability measure remains statistically highly significant (at the 1% level); one of the negative point estimates on the openness measures becomes significant at the 10% level.

A second extension examines the correlation for measures for which we find a connection between RTA membership and trade policy in more detail. Our empirical strategy is dictated by the availability of data. For one variable, import duties as a percentage of total imports, there is enough variation in our sample to analyze the effect of RTA entry in the form of a graphical event study. Figure 1 plots the average value of this measure for RTA accession countries, beginning five years before entry, continuing through the actual event

(marked with a vertical line) and ending five years after RTA accession. For comparison, also the mean level of tariffs for non-members is provided (marked with a horizontal line). As shown, a typical RTA accession country has a disproportionately low revenues-to-imports ratio already five years before entry; with tariff revenues of about 5.2% of total imports, the ratio is less than one-half of that of a typical non-member (15.3%). Moreover, the ratio remains basically unaffected by RTA entry. Taken together, while the average RTA member may enjoy lower tariff levels, there is no evidence that regional trade integration itself has liberalized trade.

The remaining three measures for which only cross-sectional information is available (trade taxes/trade, the effective rate of protection and its standard variation) confirm this result.[10] Figure 2 presents for each of these measures histograms, split by countries outside an RTA, countries which later join an RTA and countries which are already in an RTA. Again, there are large differences in both means and variances between non-members and members (with RTA members having clearly more liberal trade policies). In contrast to this result, the differences between joining and existing RTA members are often negligible. Again, there is no measurable RTA effect on trade policy.

In a final specification, we explore whether RTAs are a useful complement to multilateral trade liberalization. For this to be the case, we would expect that RTA members have more liberal trade policies than the average GATT/WTO member. Tables 5 and 6 report the results of a joint estimation of GATT/WTO and RTA membership on cross-country and panel trade policy measures, respectively. As before, most of the point estimates are statistically insignificant. Two results, however, appear to be particularly noteworthy. First,

[10] We dropped the index from FX and commercial policy, since there is too little variation in our sample; we have data on only two joining or existing RTA members (Greece and Portugal).

RTA members tend to be less open. For many openness measures, the point estimates of RTA membership are negative (but none is significantly different from zero). Second, RTA members seem to have lower tariff barriers. Of the 14 measures on tariff and non-tariff barriers, 9 coefficients are negative (of which five coefficients are statistically significant).

Generally, there seems to be mixed evidence that regional trade integration contributes towards trade liberalization. Some trade policy measures indicate that RTA members have more liberal trade policies; others suggest that RTA members tend to have less liberal trade policies; while the vast majority of the policy measures is not significantly linked with RTA membership.

In summary, we replicate Rose's (2004b) finding of an at best subtle or weak effect of GATT/WTO membership on trade policy for regional trade arrangements; with the possible exception of the EU there is little evidence that membership in a RTA is associated with lower barriers to international trade.

V. Discussion

Our finding that RTAs do not appear to significantly liberalize their trade policy seems to be in conflict with a number of recent papers that find a significant effect of RTAs on trade flows in gravity-based estimates.[11] One possible explanation for this apparent inconsistency could be that trade liberalization on a regional level does not sufficiently affect a country's aggregate trade policy stance for this change to be picked up by our regressions. The partial removal of trade barriers vis-à-vis a few selected trading partners may increase bilateral trade, but is perhaps not large enough to systematically reduce a country's overall trade restrictions.

[11] Following Tinbergen (1962) there has, however, also been a long list of papers that do not find any significant (or even a significantly negative) effect of RTAs on trade flows. See Baier and Bergstrand (2004) for a recent survey.

However, another possible (and perhaps more plausible) explanation for this divergence in findings could be that high levels of trade between members of RTAs are mainly due to factors such as close business links, cultural and political ties or similar institutional settings rather than any change in trade policy. Suggestive evidence for this explanation is provided by the disaggregated estimates on RTA membership in Frankel (1997, tables 4.2 and 4.3). He provides a comprehensive list of gravity estimates for a large number of existing and prospective trade blocs covering the period from 1965 to 1992. Surprisingly, he finds the strongest trade bloc effects for the Association of South East Asian Nations (ASEAN). 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. Finally, the estimated bloc effect is generally weak for the European Union (and also for EFTA), a regional grouping that is apparently furthest advanced in terms of formal trade integration. Although EC/EU members abolished all internal tariffs by 1968, a moderate trade bias becomes rarely visible before 1980.

While most gravity estimates of the effect of RTAs explore only cross-sectional variation, in a recent paper Baier and Bergstrand (2004) estimate the gravity equation on panel data for 96 countries from 1960 until 2000. Adding country fixed effects to the

regression, they find a positive and robust estimate of the effect of RTAs on trade flows. While this finding is interesting, country fixed effects will only control for unobserved determinants of bilateral trade flows, such as cultural and political ties, to the extent that these determinants do not change over time. However, it is likely that these factors changed significantly over the period from 1960 to 2000 and these changes are also plausibly correlated with membership in the same RTA.

Our finding that there is little evidence that RTAs have liberalised their trade policy is therefore perfectly compatible with the existing evidence that increased levels of trade between members of regional trade agreements are largely driven by factors other than the formal creation of a RTA.

VI. Conclusion

In this paper, we examine the trade liberalization effects of regional integration. 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 our trade policy measures members of the European Union are significantly more open and less protectionist than members in 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.

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Appendix 1: Regional trade agreements in sample

Baltic Free Trade Area (BAFTA)
Estonia (1994)
Latvia (1994)
Lithuania (1994)

Central American Common Market (CACM)
Costa Rica (1962)
El Salvador (1961)
Guatemala (1961)
Honduras (1961)
Nicaragua (1961)

Caribbean Community and Common Market (CARICOM)
Antigua & Barbuda (1973)
Bahamas (1983)
Barbados (1973)
Belize (1973)
Dominica (1973)
Grenada (1973)
Guyana (1973)
Haiti (1997)
Jamaica (1973)
Montserrat (1973)
St.Kitts & Nevis (1973)
St.Lucia (1973)
St.Vincent & Grenadines (1973)
Suriname (1995)
Trinidad & Tobago (1973)

Central European Free Trade Agreement (CEFTA)
Bulgaria (1999)
Czech Republic (1993)
Hungary (1993)
Poland (1993)
Romania (1997)
Slovakia (1993)
Slovenia (1996)

Eurasian Economic Community (EAEC)
Belarus (1997)
Kazakhstan (1997)
Kyrgz Republic (1997)
Russia (1997)
Tajikistan (1997)

European Union (EEC/EC/EU)
Austria (1995)
Belgium (1958)
Denmark (1973)
Finland (1995)
France (1958)
Germany (1958)
Greece (1981)
Ireland (1973)
Italy (1958)
Luxembourg (1958)
Netherlands (1958)
Portugal (1986)
Spain (1986)
Sweden (1995)
U.K. (1973)

European Free Trade Association (EFTA)
Austria (1960-94)
Denmark (1960-72)
Finland (1961-94)
Iceland (1970)
Liechtenstein (1960)
Norway (1960)
Portugal (1960-85)
Sweden (1960-94)
Switzerland (1960)
U.K. (1960-72)

North American Free Trade Agreement (NAFTA)
Canada (1988)
Mexico (1994)
U.S.A. (1988)

Appendix 2: Description of Trade Policy Measures

Measure	Source	Observations Total	WTO	RTA	R'ship
Openness					
(Exports+Imports)/GDP, 1950-1998	PWT 6	5541	62%	21%	+
Import Penetration: overall, 1985	Pritchett	97	71%	27%	+
Import Penetration: manufacturing, 1985	Pritchett	97	71%	27%	+
Import Penetration: agriculture, 1985	Pritchett	97	71%	27%	+
Import Penetration: resources, 1985	Pritchett	97	71%	27%	+
Import Penetration: overall, 1982	Pritchett	97	70%	24%	+
Import Penetration: manufacturing, 1982	Pritchett	97	70%	24%	+
Import Penetration: agriculture, 1982	Pritchett	97	70%	24%	+
Import Penetration: resources, 1982	Pritchett	97	70%	24%	+
TARS Trade Penetration: overall, 1985	Pritchett	97	71%	27%	+
TARS Trade Penetration: manufacturing, 1985	Pritchett	97	71%	27%	+
TARS Trade Penetration: agriculture, 1985	Pritchett	97	71%	27%	+
TARS Trade Penetration: resources, 1985	Pritchett	97	71%	27%	+
TARS Trade Penetration: overall, 1982	Pritchett	95	72%	24%	+
TARS Trade Penetration: manufacturing, 1982	Pritchett	95	72%	24%	+
TARS Trade Penetration: agriculture, 1982	Pritchett	95	72%	24%	+
TARS Trade Penetration: resources, 1982	Pritchett	95	72%	24%	+
Tariffs					
Import Duties as % imports, 1970-1998	WDI	2292	73%	31%	–
Tariffs on int. inputs and capital goods, 1980s	Barro-Lee	104	67%	30%	–
Trade Taxes/Trade, early 1980s	Edwards	55	79%	32%	–
Wght. Avg. Tot. Import Charges: overall, late 1980s	Pritchett	81	63%	17%	–
Wght. Avg. Tot. Import Charges: manufacturing, late 1980s	Pritchett	81	63%	17%	–
Wght. Avg. Tot. Import Charges: agriculture, late 1980s	Pritchett	81	63%	17%	–
Wght. Avg. Tot. Import Charges: resources, late 1980s	Pritchett	81	63%	17%	–
Effective Rate of Protection, various	Heitger	47	66%	28%	–
Std. Dev. of Effective Rate of Protection, various	Heitger	47	66%	28%	–
Non-Tariff Barriers					
NTB frequency on int. inputs, K. goods, mid-late 1980s	Barro-Lee	104	67%	29%	–
NTB Coverage: overall, 1987	Pritchett	81	63%	17%	–
NTB Coverage: manufacturing, 1987	Pritchett	81	63%	17%	–
NTB Coverage: agriculture, 1987	Pritchett	81	63%	17%	–
NTB Coverage: resources, 1987	Pritchett	81	63%	17%	–
Informal Measures					
Trade Orientation 1963-73	World Bank	40	58%	13%	–
Trade Orientation 1973-85	World Bank	40	69%	13%	–
Trade Orientation Ranking 1975	Edwards	62	74%	24%	–
Trade Orientation Ranking 1985	Edwards	62	81%	29%	–
Heritage Foundation Index	Edwards	98	75%	28%	–
NBER Trade Liberalization Phase, late 1980s	Krueger	229	57%	0%	+
Index Economic Freedom, 1995-98	Heritage	523	78%	34%	–
Trade Policy Measure from IEF, 1995-98	Heritage	523	78%	34%	–
Composite Measures					
Sachs-Warner 1970s	Edwards	63	70%	26%	+
Sachs-Warner 1980s	Edwards	63	75%	29%	+
Index from FX and commercial policy, 1961-84	Harrison	356	82%	7%	+
Index from Tariffs and NTBs, 1978-88	Harrison	255	85%	7%	+
Indirect counter-agricultural bias, 1961-86	Harrison	396	69%	6%	+

Measures based on Residuals

Leamer's measure, 1982	Edwards	49	88%	41%	+
Leamer's openness: overall, 1982	Pritchett	44	86%	39%	+
Leamer's openness: manufacturing, 1982	Pritchett	44	86%	39%	+
Leamer's openness: agriculture, 1982	Pritchett	44	86%	39%	+
Leamer's openness: resources, 1982	Pritchett	44	86%	39%	+
Leamer's intervention measure: overall, 1982	Pritchett	44	86%	39%	–
Leamer's intervention measure: manufacturing, 1982	Pritchett	44	86%	39%	–
Leamer's intervention measure: agriculture, 1982	Pritchett	44	86%	39%	–
Leamer's intervention measure: resources, 1982	Pritchett	44	86%	39%	–
Leamer's measure: overall, 1982	Pritchett	44	86%	39%	–
Leamer's measure: manufacturing, 1982	Pritchett	44	86%	39%	–
Leamer's measure: agriculture, 1982	Pritchett	44	86%	39%	–
Leamer's measure: resources, 1982	Pritchett	44	86%	39%	–
Gravity-Residuals, basic model, 1960-92	Hiscox-Kastner	2574	69%	26%	–
Gravity-Residuals, augmented model, 1960-92	Hiscox-Kastner	2574	69%	26%	–

Price-Based Measures

Distortion Index, 1990	Pritchett	93	81%	25%	–
Variability Index, 1990	Pritchett	93	81%	25%	–
Movement to International Prices, 1961-87	Harrison	539	61%	14%	+
Modified Price Distortion Index, 1961-87	Harrison	729	54%	13%	–
Black Market Premium, 1961-89	Harrison	1463	65%	11%	–

Notes:

The data are taken from Andrew Rose "Do WTO Members have a More Liberal Trade Policy?" NBER Working Paper #9347, November 2002, available at: http://faculty.haas.berkeley.edu/arose.

WTO and RTA give the percentage of observations from GATT/WTO members and RTA members, respectively. R'ship gives the empirical association between the trade policy measure and trade openness, with a "+" ("–") indicating that larger (smaller) index values represent an open or more liberal trade regime.

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Appendix 3: Countries in sample

Albania
Algeria
Angola
Antigua & Barbuda
Argentina
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bermuda
Bhutan
Bolivia
Botswana
Brazil
Bulgaria
Burkina Faso
Burundi
Cambodia
Cameroon
Canada
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Comoros
Congo
Costa Rica
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Fiji
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Iran
Ireland
Israel
Italy
Ivory Coast
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Korea, Republic
Kuwait
Kyrgz Republic
Laos
Latvia
Lebanon
Lesotho
Lithuania
Luxembourg
Macao
Macedonia
Madagascar
Malawi
Malaysia
Mali
Malta
Mauritania
Mauritius
Mexico
Moldova
Mongolia
Morocco
Mozambique
Namibia
Nepal
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Norway
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Qatar
Romania
Russia
Rwanda
Sao Tome & Principe
Saudi Arabia
Senegal
Seychelles
Sierra Leone
Singapore
Slovakia
Slovenia
South Africa
Spain
Sri Lanka
St.Kitts & Nevis
St.Lucia
St.Vincent & Grenadines
Sudan
Swaziland
Sweden
Switzerland
Syria
Taiwan
Tajikistan
Tanzania
Thailand
Togo
Trinidad & Tobago
Tunisia
Turkey
Turkmenistan
U.K.
U.S.A.
Uganda
Ukraine
Uruguay
Uzbekistan
Venezuela
Vietnam
Yemen
Zaire
Zambia
Zimbabwe

Table 1: Trade Policy and Membership in Trading Arrangements

	Bivariate		Augmented	
	GATT	**RTA**	**GATT**	**RTA**
Openness				
Import Penetration: overall, 1985	-2.4	11.2*	1.3	-3.8
	(0.5)	(2.5)	(0.3)	(0.5)
Import Penetration: manufacturing, 1985	-2.6	5.1*	-0.5	-3.7
	(0.8)	(2.1)	(0.2)	(0.9)
Import Penetration: agriculture, 1985	-0.6	0.7	-0.2	-1.9
	(0.8)	(0.9)	(0.2)	(1.5)
Import Penetration: resources, 1985	1.1	4.9**	2.0	1.7
	(0.7)	(2.7)	(1.5)	(0.6)
Import Penetration: overall, 1982	-5.9	7.2	2.2	-5.9
	(1.1)	(1.6)	(0.4)	(0.7)
Import Penetration: manufacturing, 1982	-3.9	3.5	-0.4	-5.3
	(1.3)	(1.4)	(0.1)	(1.2)
Import Penetration: agriculture, 1982	-1.1	1.1	-0.4	-1.3
	(1.4)	(1.4)	(0.5)	(1.0)
Import Penetration: resources, 1982	-0.9	2.3	2.9	0.5
	(0.4)	(1.4)	(1.5)	(0.2)
TARS Trade Penetration: overall, 1985	-1.5	23.2**	6.1	-1.6
	(0.2)	(2.9)	(0.9)	(0.1)
TARS Trade Penetration: manufacturing, 1985	1.9	14.9**	3.0	-2.4
	(0.4)	(3.3)	(0.6)	(0.3)
TARS Trade Penetration: agriculture, 1985	0.4	4.4#	1.1	3.1
	(0.2)	(1.8)	(0.7)	(1.4)
TARS Trade Penetration: resources, 1985	-3.7	3.3	1.8	-2.5
	(0.9)	(0.9)	(0.7)	(0.5)
TARS Trade Penetration: overall, 1982	-32.0	8.4	5.1	-3.8
	(1.2)	(0.7)	(0.6)	(0.3)
TARS Trade Penetration: manufacturing, 1982	-6.7	8.9*	2.1	-5.2
	(0.9)	(2.0)	(0.4)	(0.7)
TARS Trade Penetration: agriculture, 1982	-3.9	5.1#	0.02	4.5#
	(1.4)	(1.8)	(0.0)	(1.8)
TARS Trade Penetration: resources, 1982	-20.9	-5.8	2.5	-3.0
	(1.1)	(0.7)	(0.7)	(0.5)
Tariffs				
Tariffs on int. inputs and capital goods, 1980s	0.01	-0.1**	0.01	-0.02
	(0.1)	(4.7)	(0.4)	(0.4)
Trade Taxes/Trade, early 1980s	-0.02	-0.03**	-0.01	-0.02**
	(1.3)	(4.2)	(0.8)	(3.5)
Wght. Avg. Tot. Import Charges: overall, late 1980s	7.2	-9.2*	2.7	8.5
	(1.5)	(2.4)	(0.6)	(1.0)
Wght. Avg. Tot. Import Charges: manufacturing, late 1980s	7.7	-9.4*	3.0	9.7
	(1.5)	(2.4)	(0.6)	(1.0)
Wght. Avg. Tot. Import Charges: agriculture, late 1980s	6.1	-11.9**	1.4	6.6
	(1.2)	(2.7)	(0.3)	(0.8)
Wght. Avg. Tot. Import Charges: resources, late 1980s	6.0	-6.1	3.3	2.3
	(1.4)	(1.6)	(0.7)	(0.3)
Effective Rate of Protection, various	31.8	-73.2**	68.8*	-67.7*
	(1.3)	(3.8)	(2.2)	(2.3)
Std. Dev. of Effective Rate of Protection, various	29.2	-87.7**	75.0#	-79.6*
	(0.9)	(3.4)	(1.7)	(2.5)
Non-Tariff Barriers				
NTB frequency on int. inputs, K. goods, mid-late 1980s	0.01	-0.05	-0.03	0.04
	(0.2)	(1.1)	(0.5)	(0.4)
NTB Coverage: overall, 1987	10.0	-31.8**	0.9	-12.9
	(1.1)	(3.8)	(0.1)	(1.2)

Table 1 (continued)

	Bivariate		Augmented	
	GATT	**RTA**	**GATT**	**RTA**
NTB Coverage: manufacturing, 1987	8.9	-31.1**	0.4	-10.5
	(0.9)	(3.7)	(0.0)	(0.9)
NTB Coverage: agriculture, 1987	6.3	-23.0**	-4.8	-5.1
	(0.7)	(2.7)	(0.7)	(0.5)
NTB Coverage: resources, 1987	18.8#	-45.5**	9.7	-34.4*
	(1.8)	(4.8)	(0.9)	(2.5)
Informal Measures				
Trade Orientation 1963-73	0.5	-0.5	0.4	-0.1
	(1.5)	(1.6)	(1.2)	(0.3)
Trade Orientation 1973-85	0.0	0.0	-0.1	0.3
	(0.0)	(0.0)	(0.4)	(1.3)
Trade Orientation Ranking 1975	3.6	-6.0	3.0	3.3
	(0.5)	(1.2)	(0.5)	(0.7)
Trade Orientation Ranking 1985	2.5	-2.7	-2.5	3.7
	(0.3)	(0.5)	(0.4)	(0.6)
Heritage Foundation Index	-0.7**	-1.2**	-0.3	-0.2
	(3.2)	(4.3)	(1.2)	(0.9)
Composite Measures				
Sachs-Warner 1970s	0.02	0.4**	-0.2	-0.02
	(0.1)	(2.9)	(1.2)	(0.1)
Sachs-Warner 1980s	0.06	0.4**	-0.1	-0.03
	(0.4)	(2.8)	(0.9)	(0.2)
Measures based on Residuals				
Leamer's Measure, 1982	0.7**	0.03	0.2	-0.08
	(2.7)	(0.2)	(1.0)	(0.4)
Leamer's openness: overall, 1982	-0.02	0.07	0.01	0.0
	(0.2)	(1.6)	(0.1)	(0.0)
Leamer's openness: manufacturing, 1982	-0.02	0.03	-0.02	-0.02
	(0.3)	(1.3)	(0.3)	(0.4)
Leamer's openness: agriculture, 1982	-0.01	0.03*	-0.01	0.03
	(0.8)	(2.1)	(0.3)	(1.3)
Leamer's openness: resources, 1982	0.02	0.01	0.04	-0.01
	(1.6)	(0.6)	(1.5)	(0.3)
Leamer's intervention measure: overall, 1982	-0.08	0.02	-0.01	-0.05
	(1.0)	(0.5)	(0.1)	(0.9)
Leamer's intervention measure: manufacturing, 1982	-0.04	0.02	-0.03	-0.03
	(0.8)	(1.1)	(0.6)	(1.1)
Leamer's intervention measure: agriculture, 1982	-0.03	0.0	0.0	-0.01
	(1.0)	(0.3)	(0.2)	(0.4)
Leamer's intervention measure: resources, 1982	-0.01	0.01	0.01	-0.02
	(0.5)	(0.3)	(0.5)	(0.6)
Leamer's measure: overall, 1982	-0.1	0.5**	-0.3	0.08
	(0.3)	(2.8)	(0.9)	(0.3)
Leamer's measure: manufacturing, 1982	-0.2	0.7*	-0.6	-0.03
	(0.3)	(2.1)	(0.9)	(0.1)
Leamer's measure: agriculture, 1982	-0.07	0.5	-0.2	-0.02
	(0.2)	(1.6)	(0.7)	(0.1)
Leamer's measure: resources, 1982	-0.01	0.3	-0.04	0.01
	(0.1)	(1.5)	(0.2)	(0.1)
Price-Based Measures				
Distortion Index, 1990	-2.8	-18.4**	8.1	-13.6
	(0.3)	(2.9)	(0.8)	(1.5)
Variability Index, 1990	-0.03	0.03	-0.02	0.1**
	(1.4)	(1.2)	(0.6)	(3.4)

Notes: OLS estimation. The main explanatory variable is either a dummy for membership in GATT/WTO or a dummy for membership in a RTA. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively.

Table 2: Trade Policy and Membership in Trading Arrangements (Panel Measures)

	Bivariate specification								Augmented specification							
			Year effects		Country effects		Year and country effects				Year effects		Country effects		Year and country effects	
	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA
(Exports+Imports)/GDP, 1950-1998	0.6	23.8**	-5.0	18.7*	17.0**	14.9**	5.3	3.1	2.3	-2.4	-0.1	-2.2	4.7	3.4	5.3#	1.8
	(0.1)	(3.4)	(1.1)	(2.5)	(5.3)	(4.1)	(1.5)	(0.8)	(0.6)	(0.3)	(0.0)	(0.3)	(1.6)	(0.8)	(1.7)	(0.5)
Import Duties as % imports, 1970-1998	-7.8	-10.3**	-7.5	-9.8**	-0.3	-0.07	2.1	3.0	-0.2	-5.9**	-0.2	-5.9**	1.3	-1.5	1.8#	-0.7
	(1.6)	(4.6)	(1.6)	(4.6)	(0.4)	(0.0)	(1.7)	(0.9)	(0.1)	(4.1)	(0.2)	(4.0)	(1.3)	(1.1)	(1.8)	(0.4)
Index Economic Freedom, 1995-98	-0.5**	-0.6**	-0.5**	-0.6**	-0.07	-0.06	-0.01	0.01	-0.4**	-0.2	-0.4**	-0.2	-0.01	0.0	0.0	0.01
	(3.9)	(5.7)	(3.9)	(5.7)	(1.1)	(0.4)	(0.2)	(0.0)	(3.6)	(1.7)	(3.5)	(1.7)	(0.2)	(0.0)	(0.0)	(0.1)
Trade Policy Measure from IEF, 1995-98	-0.5*	-1.0**	-0.5*	-1.0**	-0.9	0.0	-0.7	0.2	-0.3	-0.3	-0.2	-0.3	-0.2	0.1	-0.06	0.2
	(2.3)	(5.0)	(2.3)	(5.0)	(1.4)	(0.0)	(1.1)	(0.7)	(1.3)	(1.3)	(1.3)	(1.3)	(0.9)	(0.4)	(0.2)	(0.5)
Index from FX and commercial policy, 1961-84	0.0	0.03**	-0.01	0.03**	0.02#	0.06**	0.0	0.03**	-0.01	0.02#	-0.01	0.02*	0.0	0.05**	0.0	0.03
	(0.3)	(3.6)	(1.5)	(3.7)	(1.8)	(9.5)	(0.0)	(2.9)	(0.5)	(2.1)	(1.2)	(2.2)	(0.2)	(8.7)	(0.1)	(1.4)
Index from Tariffs and NTBs, 1978-88	0.2	0.06	0.08	0.1	0.9**	na	0.5#	na	0.6*	-0.4	0.5	-0.4	0.4*	na	0.4*	na
	(1.3)	(0.4)	(0.4)	(0.7)	(3.5)		(1.8)		(2.2)	(1.0)	(1.6)	(1.1)	(2.0)		(2.0)	
Indirect counter-agricultural bias, 1961-86	0.0	0.002**	0.0	0.002**	0.0	na	0.0	na	0.0	0.002**	0.0	0.002**	0.0	na	0.0	na
	(0.9)	(9.2)	(0.6)	(8.7)	(0.3)		(0.6)		(1.6)	(4.5)	(1.3)	(3.1)	(0.4)		(0.4)	
Gravity-Residuals, basic model, 1960-92	-2.9	-9.9**	-3.7#	-10.1**	1.5	3.3*	-1.8#	0.4	-1.3	-4.6*	-1.7	-3.5#	-1.8#	1.2	-1.8#	0.3
	(1.4)	(4.8)	(1.7)	(4.9)	(1.6)	(2.2)	(1.8)	(0.2)	(0.9)	(2.1)	(1.1)	(1.8)	(1.9)	(0.8)	(1.9)	(0.2)
Gravity-Residuals, augmented model, 1960-92	-2.3	-9.7**	-3.3	-10.0**	2.6**	4.2**	-1.5#	0.4	-0.8	-5.0*	-1.3	-3.6*	-1.6#	1.3	-1.6#	0.5
	(1.2)	(5.1)	(1.6)	(5.3)	(2.9)	(2.6)	(1.7)	(0.3)	(0.6)	(2.4)	(1.0)	(2.0)	(1.7)	(0.9)	(1.7)	(0.3)
Movement to International Prices, 1961-87	0.01	-0.01	0.02	-0.01	-0.01	-0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	-0.01	0.01	0.01
	(0.6)	(0.8)	(1.3)	(0.9)	(0.5)	(0.2)	(0.4)	(0.2)	(1.2)	(0.9)	(1.4)	(1.2)	(0.7)	(0.3)	(0.5)	(0.2)
Modified Price Distortion Index, 1961-87	-0.04	-0.02	-0.05	-0.03	-0.01	0.08**	-0.01	0.06*	-0.03	-0.07#	-0.02	-0.07#	-0.02	0.06#	-0.01	0.01
	(1.2)	(0.7)	(1.2)	(0.8)	(0.2)	(4.1)	(0.3)	(2.2)	(0.9)	(1.8)	(0.5)	(1.8)	(0.7)	(1.7)	(0.3)	(0.1)
Black Market Premium, 1961-89	0.01	0.08	0.01	0.08	-0.2	0.08**	-0.3#	0.04	0.03	0.2	0.02	0.2	-0.2#	0.1#	-0.1	0.2#
	(0.2)	(0.6)	(0.2)	(0.6)	(1.4)	(4.0)	(1.8)	(0.6)	(0.4)	(1.6)	(0.3)	(1.6)	(1.7)	(1.9)	(1.5)	(1.7)

Notes: OLS estimation. The main explanatory variable is either a dummy for membership in GATT/WTO or a dummy for membership in a RTA. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. Coefficients not identified due to perfect multicollinearity with the country dummies are marked "na". Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively.

Table 3: Is the European Union Different?

	Basic			Augmented		
	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.
Openness						
Import Penetration: overall, 1985	11.8#	11.0*	0.92	9.4	-7.9	0.01
	(1.7)	(2.1)		(1.2)	(1.0)	
Import Penetration: manufacturing, 1985	6.1	4.7#	0.76	4.1	-6.2	0.02
	(1.4)	(1.9)		(0.8)	(1.5)	
Import Penetration: agriculture, 1985	1.2	0.5	0.58	0.5	-2.6#	0.02
	(1.1)	(0.5)		(0.4)	(1.9)	
Import Penetration: resources, 1985	4.0**	5.4*	0.64	4.2	0.9	0.15
	(2.7)	(2.1)		(1.6)	(0.3)	
Import Penetration: overall, 1982	3.6	9.1#	0.42	2.2	-8.5	0.08
	(0.6)	(1.7)		(0.3)	(0.9)	
Import Penetration: manufacturing, 1982	0.8	5.0	0.32	-1.4	-6.6	0.15
	(0.2)	(1.7)		(0.3)	(1.4)	
Import Penetration: agriculture, 1982	0.7	1.4	0.54	0.1	-1.7	0.12
	(0.8)	(1.3)		(0.1)	(1.3)	
Import Penetration: resources, 1982	1.7	2.7	0.67	2.8	-0.2	0.17
	(1.0)	(1.3)		(1.0)	(0.0)	
TARS Trade Penetration: overall, 1985	27.6*	21.0*	0.66	24.2	-9.6	0.02
	(2.1)	(2.4)		(1.6)	(0.7)	
TARS Trade Penetration: manufacturing, 1985	24.6**	10.0*	0.09	14.1	-7.5	0.03
	(2.9)	(2.5)		(1.4)	(1.0)	
TARS Trade Penetration: agriculture, 1985	1.9	5.6#	0.36	9.5**	1.1	0.00
	(0.7)	(1.8)		(3.6)	(0.5)	
TARS Trade Penetration: resources, 1985	0.3	5.0	0.36	-1.4	-2.8	0.73
	(0.0)	(1.0)		(0.3)	(0.5)	
TARS Trade Penetration: overall, 1982	4.7	10.4	0.63	11.9	-8.6	0.07
	(0.3)	(0.8)		(0.9)	(0.6)	
TARS Trade Penetration: manufacturing, 1982	12.3#	7.2	0.43	4.2	-8.1	0.07
	(1.8)	(1.6)		(0.5)	(1.1)	
TARS Trade Penetration: agriculture, 1982	0.3	7.7#	0.09	8.8**	3.2	0.03
	(0.1)	(2.0)		(3.5)	(1.2)	
TARS Trade Penetration: resources, 1982	-8.4	-4.4	0.38	-2.6	-3.1	0.91
	(1.1)	(0.5)		(0.4)	(0.4)	
Tariffs						
Tariffs on int. inputs and capital goods, 1980s	-0.2**	-0.09**	0.00	-0.08*	0.0	0.06
	(8.1)	(3.0)		(2.1)	(0.0)	
Trade Taxes/Trade, early 1980s	-0.03**	-0.02**	0.09	-0.02*	-0.02**	0.36
	(4.6)	(3.0)		(2.3)	(3.3)	
Effective Rate of Protection, various	-83.3**	-64.6**	0.01	-65.1*	-68.9*	0.89
	(4.4)	(3.2)		(2.2)	(2.0)	
Std. Dev. of Effective Rate of Protection, various	-100.5**	-76.8**	0.01	-65.6#	-86.3*	0.64
	(4.0)	(2.9)		(1.9)	(2.2)	
Non-Tariff Barriers						
NTB frequency on int. inputs, K. goods, mid-late 1980s	-0.1**	-0.02	0.20	-0.1	0.1	0.03
	(3.2)	(0.4)		(1.1)	(0.9)	
Informal Measures						
Trade Orientation Ranking 1975	-3.7	-7.6	0.63	-6.0	7.3	0.04
	(0.5)	(1.4)		(1.0)	(1.3)	
Trade Orientation Ranking 1985	-1.4	-3.7	0.76	-3.2	7.0	0.24
	(0.2)	(0.6)		(0.4)	(1.1)	

Table 3 (continued)

	Basic			Augmented		
	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.
Heritage Foundation Index	-2.0**	-0.5	0.00	-1.0**	0.08	0.00
	(14.7)	(1.3)		(3.1)	(0.3)	
Composite Measures						
Sachs-Warner 1970s	0.7**	0.2	0.01	0.3	-0.1	0.13
	(6.6)	(1.0)		(1.2)	(0.6)	
Sachs-Warner 1980s	0.7**	0.1	0.00	0.3	-0.1	0.09
	(6.6)	(0.8)		(1.3)	(0.7)	
Measures based on Residuals						
Leamer's Measure, 1982	0.4**	-0.3	0.02	0.04	-0.1	0.38
	(3.9)	(0.9)		(0.2)	(0.6)	
Leamer's openness: overall, 1982	0.1*	0.04	0.20	0.09	-0.03	0.02
	(2.1)	(0.7)		(1.2)	(0.5)	
Leamer's openness: manufacturing, 1982	0.05#	0.02	0.27	0.01	-0.03	0.16
	(1.9)	(0.5)		(0.3)	(0.7)	
Leamer's openness: agriculture, 1982	0.04#	0.02	0.49	0.06*	0.02	0.06
	(2.0)	(1.4)		(2.2)	(0.8)	
Leamer's openness: resources, 1982	0.02	0.0	0.37	0.02	-0.02	0.15
	(1.3)	(0.0)		(0.7)	(0.6)	
Leamer's intervention measure: overall, 1982	-0.01	0.05	0.25	-0.05	-0.05	0.97
	(0.3)	(1.0)		(0.7)	(0.8)	
Leamer's intervention measure: manufacturing, 1982	0.01	0.03	0.57	-0.03	-0.03	0.96
	(0.7)	(1.3)		(0.9)	(1.0)	
Leamer's intervention measure: agriculture, 1982	-0.02	0.01	0.23	-0.01	-0.01	0.84
	(1.1)	(0.5)		(0.2)	(0.4)	
Leamer's intervention measure: resources, 1982	-0.01	0.02	0.39	-0.02	-0.02	0.87
	(0.4)	(0.6)		(0.7)	(0.5)	
Leamer's measure: overall, 1982	0.8**	0.2	0.01	0.4	-0.08	0.04
	(4.2)	(1.1)		(1.5)	(0.3)	
Leamer's measure: manufacturing, 1982	1.1**	0.4	0.19	0.3	-0.2	0.49
	(2.8)	(0.9)		(0.4)	(0.3)	
Leamer's measure: agriculture, 1982	0.6#	0.3	0.62	0.1	-0.09	0.74
	(1.7)	(0.8)		(0.2)	(0.3)	
Leamer's measure: resources, 1982	0.4	0.1	0.37	0.2	-0.06	0.49
	(1.5)	(0.6)		(0.5)	(0.3)	
Price-Based Measures						
Distortion Index, 1990	-26.2**	-12.5#	0.01	-25.8*	-8.8	0.09
	(4.2)	(1.7)		(2.1)	(0.9)	
Variability Index, 1990	-0.03	0.07	0.01	0.06#	0.1**	0.06
	(1.6)	(1.4)		(1.9)	(3.7)	

Notes: OLS estimation. The main explanatory variables are a dummy for membership in the EEC/EC/EU and a dummy for membership in one of the remaining RTAs; both variables enter the regression jointly. The p-value gives the probability that the estimated coefficients are identical. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively. Some trade policy measures were dropped due to missing data for EEC/EC/EU members.

Table 4: Is the European Union Different? (Panel Measures)

Basic specification

				Year effects			Country effects			Year and country effects		
	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.
(Exports+Imports)/GDP	22.4 (1.5)	24.3** (3.4)	0.90	17.5 (1.1)	19.3* (2.8)	0.91	22.7** (6.5)	11.6** (2.7)	0.01	6.7 (1.6)	1.7 (0.4)	0.31
Import Duties as % imports	-14.3** (7.0)	-7.7** (3.3)	0.00	-13.9** (7.5)	-7.2** (3.1)	0.00	-4.0# (1.8)	1.2 (0.4)	0.00	0.1 (0.0)	3.7 (1.3)	0.19
Index Economic Freedom	-1.0** (9.5)	-0.4** (3.2)	0.00	-1.0** (9.5)	-0.4** (3.2)	0.00	na	na	na	na	na	na
Trade Policy Measure (IEF)	-1.8** (15.6)	-0.5** (2.3)	0.00	-1.8** (15.6)	-0.5** (2.2)	0.00	na	na	na	na	na	na
Index from FX & commercial policy	0.08** (12.6)	0.02** (3.8)	0.00	0.06** (5.4)	0.02** (3.5)	0.00	na	na	na	na	na	na
Gravity-Residuals, basic m.	-15.9** (5.7)	-6.1** (3.6)	0.00	-16.5** (6.3)	-6.1** (3.6)	0.00	3.7# (1.9)	2.7 (1.1)	0.74	-0.01 (0.0)	1.0 (0.4)	0.74
Gravity-Residuals, augm. m.	-15.4** (6.3)	-6.1** (3.8)	0.00	-16.2** (7.3)	-6.2** (4.1)	0.00	4.7* (2.3)	3.6 (1.3)	0.71	-0.1 (0.1)	1.2 (0.5)	0.64
Movement to Int'l Prices	0.09** (15.1)	-0.01 (1.1)	0.00	0.09* (2.5)	-0.01 (1.3)	0.00	0.2** ()	-0.04** (2.8)	0.00	0.1** (3.4)	-0.02 (1.0)	0.00
Black Market Premium	-0.2** (4.4)	0.1 (0.8)	0.04	-0.3** (3.9)	0.1 (0.8)	0.04	0.08** (3.7)	0.09* (2.6)	0.82	0.04 (0.4)	0.05 (1.0)	0.89

Augmented specification

				Year effects			Country effects			Year and country effects		
	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.	EC	RTA w/o EC	p-val.
(Exports+Imports)/GDP	4.7 (0.5)	-4.7 (0.6)	0.34	12.0 (1.2)	-6.8 (0.9)	0.06	7.0# (1.7)	2.1 (0.4)	0.32	4.6 (1.1)	1.2 (0.3)	0.53
Import Duties as % imports	-7.4** (5.6)	-5.2** (3.2)	0.05	-7.8** (5.4)	-5.1** (3.1)	0.04	-3.9** (2.7)	-0.7 (0.9)	0.01	-3.2# (1.7)	0.02 (0.0)	0.04
Index Economic Freedom	-0.4** (3.4)	-0.07 (0.8)	0.00	-0.5** (3.5)	-0.07 (0.8)	0.00	na	na	na	na	na	na
Trade Policy Measure (IEF)	-0.7** (2.8)	-0.1 (0.6)	0.02	-0.7** (2.9)	-0.1 (0.6)	0.02	na	na	na	na	na	na
Index from FX & commercial policy	0.07** (6.2)	0.02# (1.8)	0.00	0.05** (3.8)	0.02# (1.9)	0.00	na	na	na	na	na	na
Gravity-Residuals, basic m.	-15.2** (3.9)	-0.6 (0.4)	0.00	-13.7** (3.6)	-0.06 (0.0)	0.00	1.3 (0.8)	1.1 (0.5)	0.93	-0.5 (0.3)	1.2 (0.5)	0.50
Gravity-Residuals, augm. m.	-15.2** (4.3)	-1.2 (0.7)	0.00	-12.9** (3.9)	-0.4 (0.3)	0.00	1.3 (0.8)	1.3 (0.6)	0.98	-0.4 (0.2)	1.4 (0.7)	0.45
Movement to Int'l Prices	0.1** (6.3)	0.01 (0.6)	0.00	0.1** (2.7)	0.01 (1.0)	0.01	0.2** (38.8)	-0.05# (1.9)	0.00	0.1** (3.4)	-0.02 (0.7)	0.00
Black Market Premium	-0.03 (0.3)	0.3 (1.6)	0.14	-0.1 (1.0)	0.3 (1.6)	0.07	0.2** (2.7)	-0.03 (0.6)	0.02	0.4** (2.7)	-0.08 (0.9)	0.01

Notes: OLS estimation. The main explanatory variables are a dummy for membership in the EEC/EC/EU and a dummy for membership in one of the remaining RTAs; both variables enter the regression jointly. The p-value gives the probability that the estimated coefficients are identical. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. Coefficients not identified due to perfect multicollinearity with the country dummies are marked "na". Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively. Some trade policy measures were dropped due to missing data for EEC/EC/EU members.

Table 5: Are RTAs a Useful Complement to GATT/WTO?

	All RTAs		RTAs split into EC & others		
	GATT	RTA	GATT	EC	RTA w/o EC
Openness					
Import Penetration: overall, 1985	1.6	-4.0	0.8	9.2	-8.0
	(0.3)	(0.5)	(0.2)	(1.1)	(1.0)
Import Penetration: manufacturing, 1985	-0.2	-3.7	-0.7	4.3	-6.1
	(0.1)	(0.9)	(0.2)	(0.9)	(1.5)
Import Penetration: agriculture, 1985	-0.09	-1.9	-0.2	0.6	-2.6#
	(0.1)	(1.5)	(0.3)	(0.4)	(1.9)
Import Penetration: resources, 1985	1.9	1.5	1.8	3.7	0.8
	(1.4)	(0.5)	(1.3)	(1.4)	(0.3)
Import Penetration: overall, 1982	2.5	-6.2	2.1	1.7	-8.6
	(0.4)	(0.7)	(0.4)	(0.2)	(0.9)
Import Penetration: manufacturing, 1982	-0.1	-5.3	-0.3	-1.4	-6.5
	(0.0)	(1.2)	(0.1)	(0.3)	(1.3)
Import Penetration: agriculture, 1982	-0.3	-1.2	-0.4	0.2	-1.7
	(0.4)	(1.0)	(0.5)	(0.2)	(1.3)
Import Penetration: resources, 1982	2.9	0.2	2.8	2.1	-0.4
	(1.4)	(0.1)	(1.4)	(0.7)	(0.1)
TARS Trade Penetration: overall, 1985	6.3	-2.3	4.8	23.0	-9.9
	(0.9)	(0.2)	(0.7)	(1.5)	(0.7)
TARS Trade Penetration: manufacturing, 1985	3.2	-2.7	2.2	13.5	-7.6
	(0.6)	(0.4)	(0.5)	(1.3)	(1.0)
TARS Trade Penetration: agriculture, 1985	1.0	3.0	0.6	9.3**	1.1
	(0.6)	(1.3)	(0.4)	(3.4)	(0.4)
TARS Trade Penetration: resources, 1985	2.0	-2.7	1.9	-1.9	-2.9
	(0.7)	(0.5)	(0.7)	(0.4)	(0.5)
TARS Trade Penetration: overall, 1982	5.3	-4.2	4.6	11.0	-8.8
	(0.6)	(0.3)	(0.5)	(0.7)	(0.6)
TARS Trade Penetration: manufacturing, 1982	2.4	-5.4	2.0	3.8	-8.2
	(0.5)	(0.7)	(0.4)	(0.5)	(1.0)
TARS Trade Penetration: agriculture, 1982	-0.2	4.5	-0.4	8.9**	3.2
	(0.1)	(1.8)	(0.2)	(3.3)	(1.1)
TARS Trade Penetration: resources, 1982	2.7	-3.2	2.7	-3.1	-3.2
	(0.7)	(0.5)	(0.7)	(0.5)	(0.5)
Tariffs					
Tariffs on int. inputs and capital goods, 1980s	0.01	-0.02	0.02	-0.09*	-0.0
	(0.5)	(0.4)	(0.6)	(2.2)	(0.1)
Trade Taxes/Trade, early 1980s	-0.006	-0.02**	-0.006	-0.02#	-0.02**
	(0.6)	(3.5)	(0.6)	(2.0)	(3.5)
Wght. Avg. Tot. Import Charges: overall, late 1980s	3.1	8.8	na	na	na
	(0.6)	(1.0)			
Wght. Avg. Tot. Import Charges: manufacturing, late 1980s	3.3	10.0	na	na	na
	(0.7)	(1.1)			
Wght. Avg. Tot. Import Charges: agriculture, late 1980s	1.6	6.7	na	na	na
	(0.3)	(0.8)			
Wght. Avg. Tot. Import Charges: resources, late 1980s	3.4	2.6	na	na	na
	(0.7)	(0.3)			
Effective Rate of Protection, various	63.6*	-59.7*	65.6*	-72.9*	-53.0#
	(2.3)	(2.4)	(2.3)	(2.5)	(2.0)
Std. Dev. of Effective Rate of Protection, various	68.8	-71.0*	69.3#	-73.9*	-69.5*
	(1.7)	(2.7)	(1.7)	(2.1)	(2.3)

Table 5 (continued)

	All RTAs		RTAs split into EC & others		
	GATT	RTA	GATT	EC	RTA w/o EC
Non-Tariff Barriers					
NTB frequency on int. inputs, K. goods, mid-late 1980s	-0.03 (0.5)	0.04 (0.4)	-0.02 (0.3)	-0.1 (1.0)	0.1 (0.9)
NTB Coverage: overall, 1987	0.4 (0.0)	-12.9 (1.2)	na	na	na
NTB Coverage: manufacturing, 1987	-0.06 (0.0)	-10.5 (0.9)	na	na	na
NTB Coverage: agriculture, 1987	-5.0 (0.7)	-5.6 (0.5)	na	na	na
NTB Coverage: resources, 1987	8.4 (0.8)	-33.6* (2.4)	na	na	na
Informal Measures					
Trade Orientation 1963-73	0.4 (1.2)	0.02 (0.0)	na	na	na
Trade Orientation 1973-85	-0.04 (0.1)	0.3 (0.9)	na	na	na
Trade Orientation Ranking 1975	3.0 (0.5)	3.2 (0.6)	3.3 (0.5)	-6.3 (1.0)	7.3 (1.3)
Trade Orientation Ranking 1985	-2.7 (0.5)	3.9 (0.7)	-2.2 (0.4)	-2.8 (0.3)	7.0 (1.1)
Heritage Foundation Index	-0.3 (1.2)	-0.3 (1.0)	-0.3 (1.1)	-0.9** (3.2)	0.05 (0.2)
Composite Measures					
Sachs-Warner 1970s	-0.2 (1.2)	-0.0 (0.0)	-0.2 (1.3)	0.3 (1.4)	-0.1 (0.5)
Sachs-Warner 1980s	-0.1 (0.9)	-0.02 (0.1)	-0.1 (1.1)	0.3 (1.5)	-0.1 (0.7)
Measures based on Residuals					
Leamer's Measure, 1982	0.2 (0.9)	-0.06 (0.3)	0.2 (0.9)	0.05 (0.2)	-0.1 (0.5)
Leamer's openness: overall, 1982	0.01 (0.1)	0.0 (0.1)	0.01 (0.1)	0.09 (1.2)	-0.03 (0.4)
Leamer's openness: manufacturing, 1982	-0.02 (0.4)	-0.02 (0.5)	-0.02 (0.4)	0.01 (0.2)	-0.03 (0.7)
Leamer's openness: agriculture, 1982	-0.0 (0.2)	0.03 (1.3)	-0.0 (0.2)	0.06* (2.2)	0.02 (0.7)
Leamer's openness: resources, 1982	0.04 (1.6)	-0.01 (0.2)	0.04 (1.5)	0.02 (0.8)	-0.02 (0.5)
Leamer's intervention measure: overall, 1982	-0.01 (0.2)	-0.05 (0.9)	-0.01 (0.2)	-0.05 (0.7)	-0.06 (0.8)
Leamer's intervention measure: manufacturing, 1982	-0.04 (0.7)	-0.03 (1.1)	-0.04 (0.6)	-0.03 (0.9)	-0.03 (1.1)
Leamer's intervention measure: agriculture, 1982	0.0 (0.1)	-0.01 (0.4)	0.0 (0.1)	-0.01 (0.2)	-0.01 (0.4)
Leamer's intervention measure: resources, 1982	0.01 (0.5)	-0.02 (0.6)	0.01 (0.4)	-0.02 (0.6)	-0.01 (0.4)
Leamer's measure: overall, 1982	-0.3 (0.8)	0.05 (0.2)	-0.3 (0.8)	0.4 (1.3)	-0.1 (0.5)
Leamer's measure: manufacturing, 1982	-0.6 (0.9)	-0.09 (0.2)	-0.6 (0.9)	0.2 (0.3)	-0.2 (0.5)
Leamer's measure: agriculture, 1982	-0.2 (0.7)	-0.04 (0.1)	-0.2 (0.7)	0.1 (0.2)	-0.1 (0.3)
Leamer's measure: resources, 1982	-0.04 (0.2)	0.01 (0.0)	-0.04 (0.2)	0.2 (0.5)	-0.07 (0.3)

Table 5 (continued)

	All RTAs		RTAs split into EC & others		
	GATT	RTA	GATT	EC	RTA w/o EC
Price-Based Measures					
Distortion Index, 1990	8.6	-14.1	8.8	-26.5*	-9.2
	(0.8)	(1.5)	(0.8)	(2.1)	(0.9)
Variability Index, 1990	-0.02	0.1**	-0.02	0.06	0.1**
	(0.9)	(3.5)	(0.9)	(1.9)	(3.8)

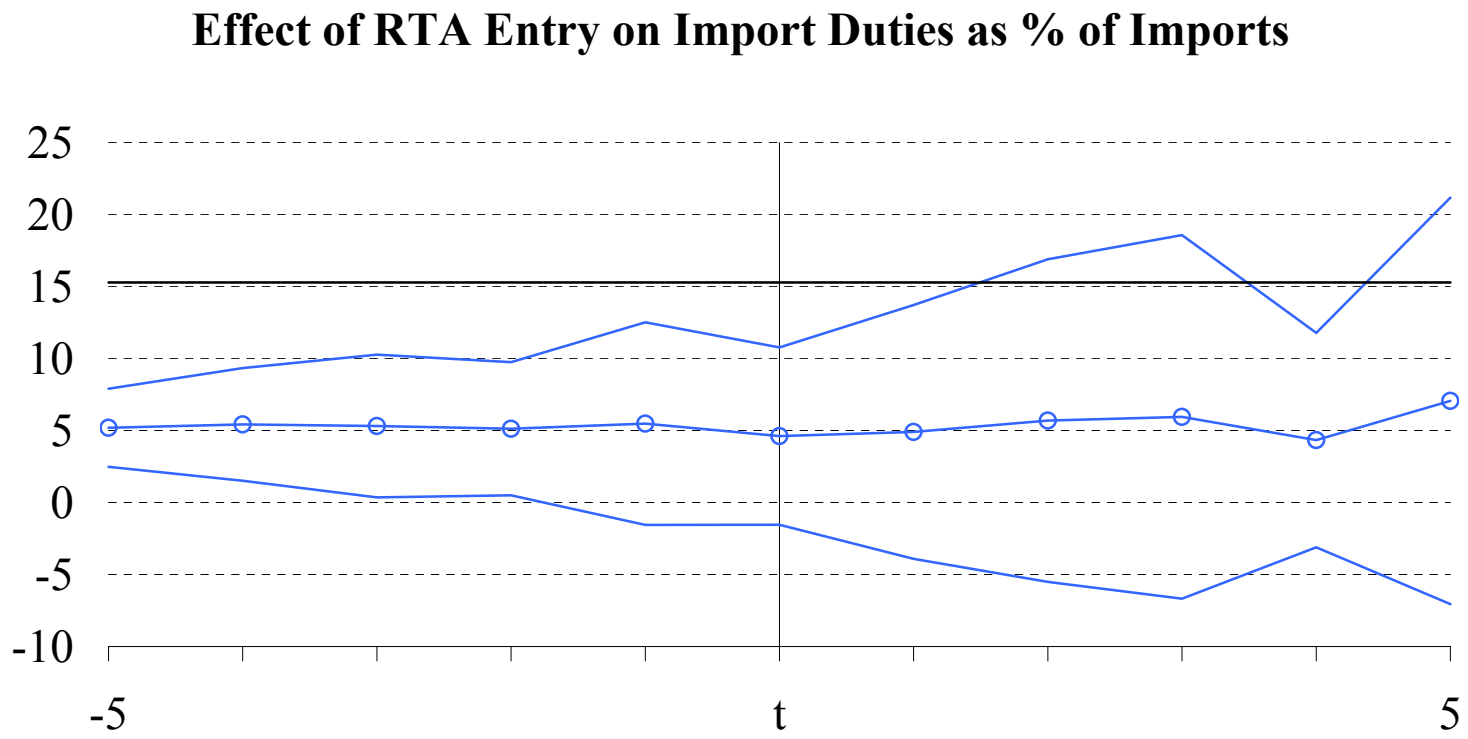
Notes: OLS estimation with augmenting variables. The main explanatory variables are a dummy for membership in GATT/WTO and a dummy for membership in a RTA (either combined for all RTAs or split into EEC/EC/EU and others); the variables enter the regression jointly. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. For some trade policy measures (marked "na"), no data for EEC/EC/EU members are available. Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively.

Table 6: Are RTAs a Useful Complement to GATT/WTO? (Panel Measures)

	All RTAs								RTAs split into EC and others											
			Year effects		Country effects		Year and country effects					Year effects			Country effects			Year and country effects		
	GATT	RTA	GATT	RTA	GATT	RTA	GATT	RTA	GATT	EC	RTA w/o EC	GATT	EC	RTA w/o EC	GATT	EC	RTA w/o EC	GATT	EC	RTA w/o EC
(Exports+Imports)/GDP	2.4	-2.6	-0.0	-2.2	4.5	2.9	5.2#	1.6	2.3	4.4	-4.9	-0.4	12.1	-6.7	4.7	6.9#	1.3	5.4#	5.1	0.7
	(0.7)	(0.4)	(0.0)	(0.3)	(1.5)	(0.7)	(1.7)	(0.4)	(0.6)	(0.4)	(0.6)	(0.1)	(1.2)	(0.9)	(1.6)	(1.8)	(0.3)	(1.8)	(1.3)	(0.2)
Import Duties as % imports	0.2	-5.9**	0.1	-5.9**	1.3	-1.5	1.8#	-0.7	0.2	-7.5**	-5.2**	0.2	-7.8**	-5.1**	1.3	-3.9**	-0.8	1.7#	-3.1#	-0.3
	(0.1)	(4.2)	(0.1)	(4.0)	(1.3)	(1.2)	(1.8)	(0.5)	(0.2)	(5.7)	(3.2)	(0.1)	(5.4)	(3.1)	(1.3)	(2.7)	(0.9)	(1.8)	(1.7)	(0.0)
Index Economic Freedom	-0.4**	-0.08	-0.3**	-0.09	-0.01	0.0	0.0	0.01	-0.3**	-0.3*	-0.03	-0.3**	-0.3*	-0.03	na	na	na	na	na	na
	(3.3)	(0.9)	(3.3)	(0.9)	(0.2)	(0.0)	(0.0)	(0.1)	(3.0)	(2.3)	(0.4)	(2.9)	(2.4)	(0.3)						
Trade Policy Measure (IEF)	-0.2	-0.2	-0.2	-0.2	-0.2	0.1	-0.05	0.2	-0.1	-0.6*	-0.1	-0.1	-0.7*	-0.1	na	na	na	na	na	na
	(1.0)	(1.0)	(1.0)	(1.0)	(0.9)	(0.4)	(0.2)	(0.5)	(0.7)	(2.3)	(0.5)	(0.6)	(2.3)	(0.5)						
Index from FX & commercial policy	-0.01	0.02#	-0.01	0.02*	0.0	0.05**	0.0	0.03	-0.01	0.07**	0.02#	-0.01	0.05**	0.02#	na	na	na	na	na	na
	(0.5)	(2.1)	(1.2)	(2.1)	(0.2)	(8.6)	(0.1)	(1.3)	(0.5)	(6.2)	(1.8)	(1.2)	(3.6)	(1.8)						
Index from Tariffs & NTBs	0.6*	-0.2	0.4	-0.3	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	(2.2)	(0.7)	(1.5)	(0.9)																
Indirect counter-agric. bias	-0.001	0.002**	-0.001	0.002**	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	(1.7)	(5.0)	(1.6)	(3.6)																
Gravity-Residuals, basic m.	-1.5	-4.7*	-1.8	-3.6#	-1.9*	1.5	-1.8#	0.6	-1.2	-15.2**	-0.8	-1.4	-13.6**	-0.2	-1.9*	1.5	1.5	-1.8*	-0.3	1.6
	(1.1)	(2.1)	(1.3)	(1.8)	(2.0)	(1.0)	(2.0)	(0.3)	(0.9)	(3.9)	(0.4)	(1.0)	(3.6)	(0.1)	(2.1)	(1.0)	(0.6)	(2.0)	(0.2)	(0.7)
Gravity-Residuals, augm. m.	-1.1	-5.1*	-1.5	-3.7*	-1.7#	1.6	-1.6#	0.7	-0.7	-15.2**	-1.3	-1.1	-12.9**	-0.5	-1.7#	1.5	1.7	-1.7#	-0.2	1.8
	(0.8)	(2.4)	(1.1)	(2.0)	(1.9)	(1.0)	(1.8)	(0.4)	(0.6)	(4.3)	(0.8)	(0.8)	(3.9)	(0.3)	(1.9)	(0.9)	(0.7)	(1.9)	(0.1)	(0.8)
Movement to Int'l Prices	0.01	0.01	0.01	0.02	0.02	-0.01	0.01	0.01	0.01	0.1**	0.01	0.01	0.1**	0.01	0.02	0.2**	-0.05#	0.02	0.1**	-0.02
	(1.3)	(1.0)	(1.6)	(1.3)	(0.7)	(0.3)	(0.5)	(0.2)	(1.2)	(6.7)	(0.7)	(1.5)	(2.7)	(1.1)	(0.8)	(40.2)	(1.9)	(0.5)	(3.4)	(0.7)
Modif'd Price Dist'n Index	-0.04	-0.08#	-0.03	-0.08#	-0.02	0.06#	-0.01	0.01	na	na	na	na	na	na	na	na	na	na	na	na
	(1.0)	(1.8)	(0.8)	(1.8)	(0.7)	(1.7)	(0.3)	(0.1)												
Black Market Premium	0.04	0.2	0.03	0.2	-0.2#	0.1	-0.1	0.2	0.04	-0.04	0.3	0.04	-0.1	0.3	-0.2#	0.2*	-0.04	-0.1	0.4*	-0.09
	(0.6)	(1.6)	(0.5)	(1.6)	(1.7)	(1.7)	(1.4)	(1.6)	(0.6)	(0.4)	(1.7)	(0.6)	(1.2)	(1.6)	(1.7)	(2.4)	(0.8)	(1.4)	(2.6)	(1.0)

Notes: OLS estimation with augmenting variables. The main explanatory variables are a dummy for membership in GATT/WTO and a dummy for membership in a RTA (either combined for all RTAs or split into EEC/EC/EU and others); the variables enter the regression jointly. Augmenting regressors are the log of population, the log of real GDP per capita and remoteness. For some trade policy measures (marked "na"), no data for EEC/EC/EU members are available or there is perfect multicollinearity with the country dummies. Absolute t-statistics (robust to clustering by countries) in parentheses. **, * and # denote significant at the 1, 5 and 10 percent level, respectively.

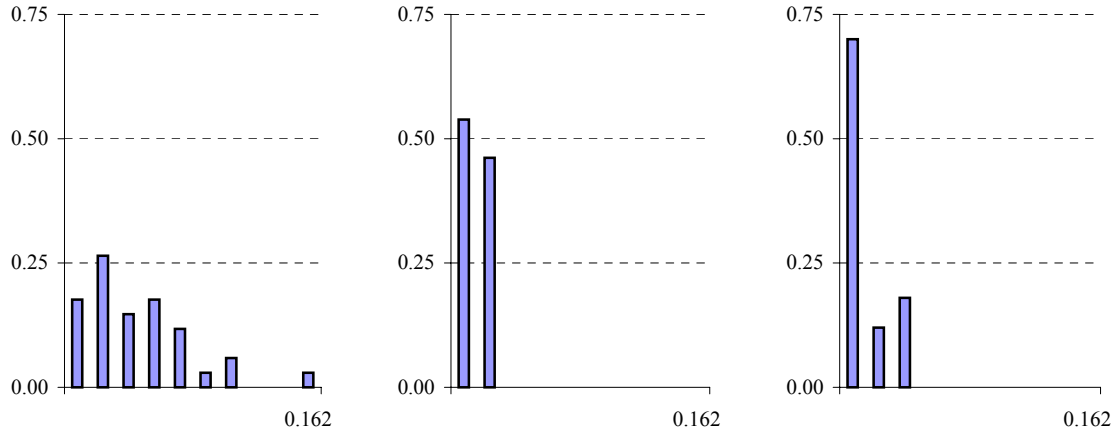
Figure 1:



Mean (marked), with +/- 2 standard deviations.

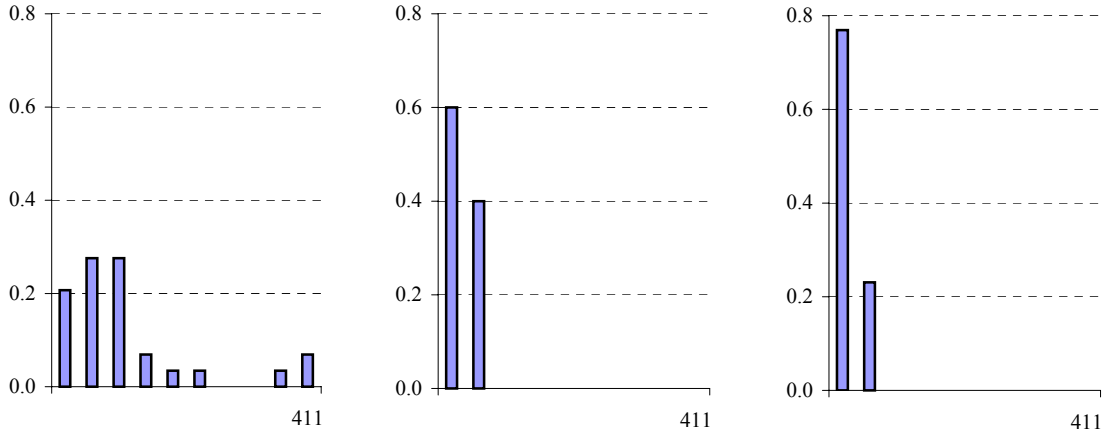
Figure 2: Measures of Trade Policy, Split by RTA Membership

Trade Taxes/Trade



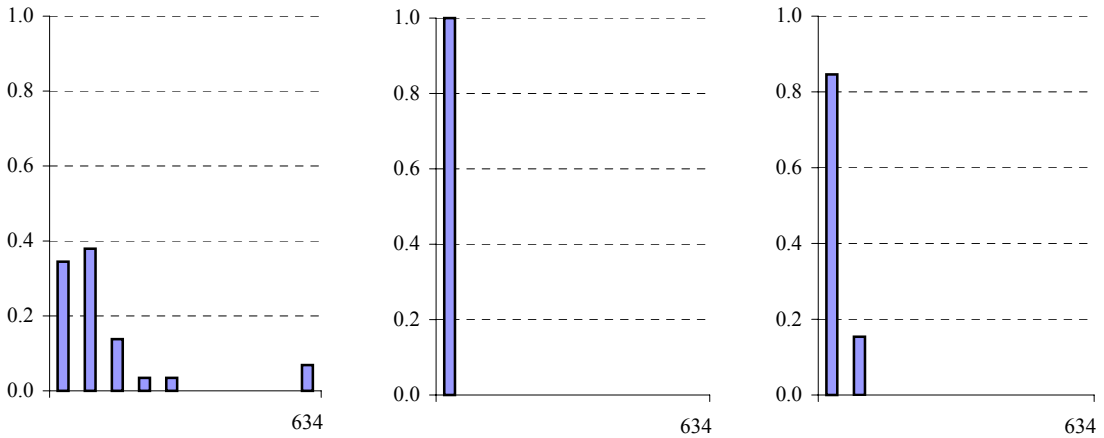
(34) non-members (5) RTA members, before entry (17) RTA members, after entry

Effective Rate of Protection



(29) non-members (5) RTA members, before entry (13) RTA members, after entry

Standard Deviation of Effective Rate of Protection



(25) non-members (9) RTA members, before entry (13) RTA members, after entry