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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. 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 postwar period, economists (and also policymakers) agreed that the multilateral approach is the most effective way to liberalize trade. The process of nondiscriminatory 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 an alternative to multilateral trade liberalization, has measurable effects on trade policy. Since in plurilateral arrangements trade barriers are lowered (by definition) 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 these arrangements are usually 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.

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. A possible exception is the European Union whose member countries tend to have more liberal trade policies. We conclude that generally RTAs have not been 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, and section 5 contains a brief conclusion.

II. Regionalism

Regional trade integration has again become highly fashionable. Since 1995, more than 100 additional arrangements have been notified to the WTO, compared with 124 notifications in the period 1948-94.[1] 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."

Despite this widespread popularity, however, the trade liberalization effects of regionalism are largely ambiguous. For one thing, RTAs differ widely, both in timeframe and in scope; while countries may generally share the desire for deeper regional integration, tariffs are, in practice, often cut reluctantly. As a result, the range of effective liberalization is extremely broad. 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 are way behind their time schedule. 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 a common currency.

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

But even if RTAs successfully liberalize trade among members, the overall effect on a country's trade policy stance remains unclear. Inside the bloc, trade may suffer from new administrative procedures, such as complicated rules of origin; the WTO, for instance, notes that some countries are member to more than ten different RTAs.[2] Also, important sectors of the economy are often exempted from barrier reductions since RTAs can be easily manipulated by special interest groups. Outside the bloc, discrimination against nonmembers may rise. Apart from the often-raised concern that regional trade liberalization may lower interest in further multilateral liberalization (e.g., by using scarce resources for trade negotiations), RTAs may even provide incentives for more protection against outsiders (e.g., by increasing the bargaining power of countries in trading blocs). More generally, skeptics of regionalism feared that regional trade integration might undermine support for more generalized liberalization.[3]

In view of these large uncertainties, it is perhaps surprising that there seems to be a growing consensus that regional trade integration helps to liberalize trade. The WTO (2001, p. 45), for example, concludes: "[…] To a much greater extent than is often acknowledged, regional and multilateral integration initiatives are complements rather than alternatives in the pursuit of more open trade." However, while there may be some indirect evidence supporting this view (such as continued progress in multilateral negotiations suggesting that initial fears were overdone), whether regionalism liberalizes trade is ultimately an empirical issue. Since there is, to our knowledge, no compelling empirical analysis of the trade liberalization effect of regional integration, we now turn to that task.

[2] See http://www.wto.org/english/tratop_e/region_e/regfac_e.htm. For these overlapping RTAs, Jagdish Bhagwati has coined the term „spaghetti bowl".
[3] See, for instance, Bhagwati (1991). The literature is surveyed in Frankel (1997) and Alan Winters (1999), among others.

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 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 is a binary dummy variable which takes the value of one for membership in a regional trade agreement 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[4]) 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.

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

The data are mainly taken from Rose (2004b).[5] 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); a detailed description of the variables is provided in appendix 1.[6] In combination with the data for the control variables (taken from the Penn World Table 6.0), the data set covers 168 countries for the period from 1950 through 1998. All countries in our sample are listed in appendix 2.

To this data set, we add a dummy variable for membership in a regional trade agreement. To make our case as persuasive as possible, we focus (almost exclusively) on membership in plurilateral trade agreements (i.e., with more than two members); if preferential trade liberalization has measurable effects on a country's overall trade policy stance, these liberalization effects should be particularly visible in plurilateral arrangements rather than bilateral trade concessions. In particular, we include all plurilateral RTAs that are currently in force and notified to the GATT/WTO under GATT article XXIV; these are: BAFTA, CACM, CARICOM, CEFTA, EAEC, EFTA, EU, and NAFTA (including its predecessor, the Canada-U.S. FTA).[7] More details on membership in these RTAs (including entry dates) are provided in appendix 3.[8]

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

[6] The NBER trade liberalization measure is dropped since only for non-RTA members data are available.

[7] The information is obtained from the WTO at http://www.wto.org/english/tratop_e/region_e/type_300602_e.xls.

[8] We also experimented with two other FTAs which are widely considered to have liberalized trade, the bilateral Closer Economic Relations (CER) Agreement between Australia and New

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.

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%) still suggest that RTA members have a more liberal trade policy than countries outside an RTA (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 (27 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).

Zealand since most trade in the region is covered by this arrangement, and Mercosur which is (technically) notified under the enabling clause. When we additionally include these FTAs, our results remain basically unchanged.

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. Possible exceptions 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 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 the trade-enhancing effects of both integration schemes seem to differ substantially. Applying an augmented gravity model, Rose (2003) finds that membership in a regional trade association has a much stronger positive effect on (bilateral) trade than GATT/WTO membership; a difference that is rarely observable in aggregate trade policy measures. Again, we will return to this point below.

[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.

Extensions

To examine the sensitivity of our results, we apply a number of robustness checks. Three of those exercises are reported here.

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 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 all but four of these cases, the difference is statistically large, with p-values of equality (often sizably) below 0.3. 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, the former observation 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 7.4% of total imports, the ratio is less than one-half of that of a typical non-member (15.7%). Moreover, the ratio remains basically unaffected by RTA entry; the average tariff rate five years after joining is 7.1%. 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 obviously more liberal trade policies). In contrast to this result, the differences between joining and existing RTA members are often negligible; the larger

[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).

variance in the two measures on the effective rate of protection for joining members is due to an outlier. 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, 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; there is no compelling evidence that membership in a RTA is associated with lower barriers to international trade. This implies, however, that regional trade integration does not seem to be a more effective or more powerful alternative to the GATT/WTO in achieving global free trade.

Plausibility

As already noted above, our results appear to be in stark contrast to gravity-based estimates. While empirical applications of the gravity model typically find that membership in a RTA has a strong positive effect on the volume of bilateral trade, there is no evidence of a significant difference in trade policies between RTA members and non-members.

A potential explanation for this apparent inconsistency is that trade liberalization on a regional level does not significantly affect a country's aggregate trade policy stance. 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. Also, some part of the increase in trade within an RTA may come at the expense of lower external trade (trade diversion). In this case, intra-RTA trade would be disproportionately large while the net effect of RTA membership on the member's *de facto* trade policy may be close to zero.

Another plausible interpretation is that findings of disproportionately large trade between RTA members mainly reflect factors such as close business links, cultural ties or similar institutional settings rather than formal trade liberalization. This point becomes most obvious if the pooled estimation results for the effect of RTA membership on trade are disaggregated. Frankel (1997, tables 4.2 and 4.3) 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) hardly liberalized trade at all; 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, gravity tests 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.

In summary, gravity estimates reflect the intensity of bilateral trade flows; a positive coefficient on an RTA dummy implies that RTA members trade a lot with each other – more than is predicted by the typical gravity determinants. This finding, however, is not necessarily an indication of more liberal trade policies. Discrepancies may (and, as our results confirm, do) arise.

V. Conclusions

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. Further, there are considerable differences across RTAs, with member countries in the European Union being significantly more open and less protectionist than members in other RTAs. Finally, regional trade integration appears to have contributed only little to the process of multilateral trade liberalization.

References

Bagwell, Kyle and Robert W. Staiger. 1999. "An Economic Theory of GATT," American Economic Review. 89 (March): 215-248.

Bhagwati, Jagdish. 1991. The World Trading System at Risk. Princeton: Princeton University Press.

Frankel, Jeffrey A. 1997. Regional Trading Blocs. Washington: Institute for International Economics.

Rose, Andrew K. 2003. "Which International Institutions Promote International Trade?" CEPR Discussion Paper #3764.

Rose, Andrew K. 2004a. "Do We Really Know that the WTO Increases Trade?" American Economic Review. 94 (March): 98-114.

Rose, Andrew K. 2004b. "Do WTO Members Have a More Liberal Trade Policy?" Journal of International Economics. (forthcoming).

Winters, L. Alan. 1999. "Regionalism vs. Multilateralism," in Richard Baldwin, Daniel Cohen, André Sapir and Anthony Venables (eds.) Market Integration, Regionalism and the Global Economy. Cambridge: Cambridge University Press.

World Trade Organization. 2000. "Mapping of Regional Trade Agreements," Document No. WT/REG/W/41. Geneva: World Trade Organization.

World Trade Organization. 2001. Trading into the Future. Geneva: World Trade Organization.

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

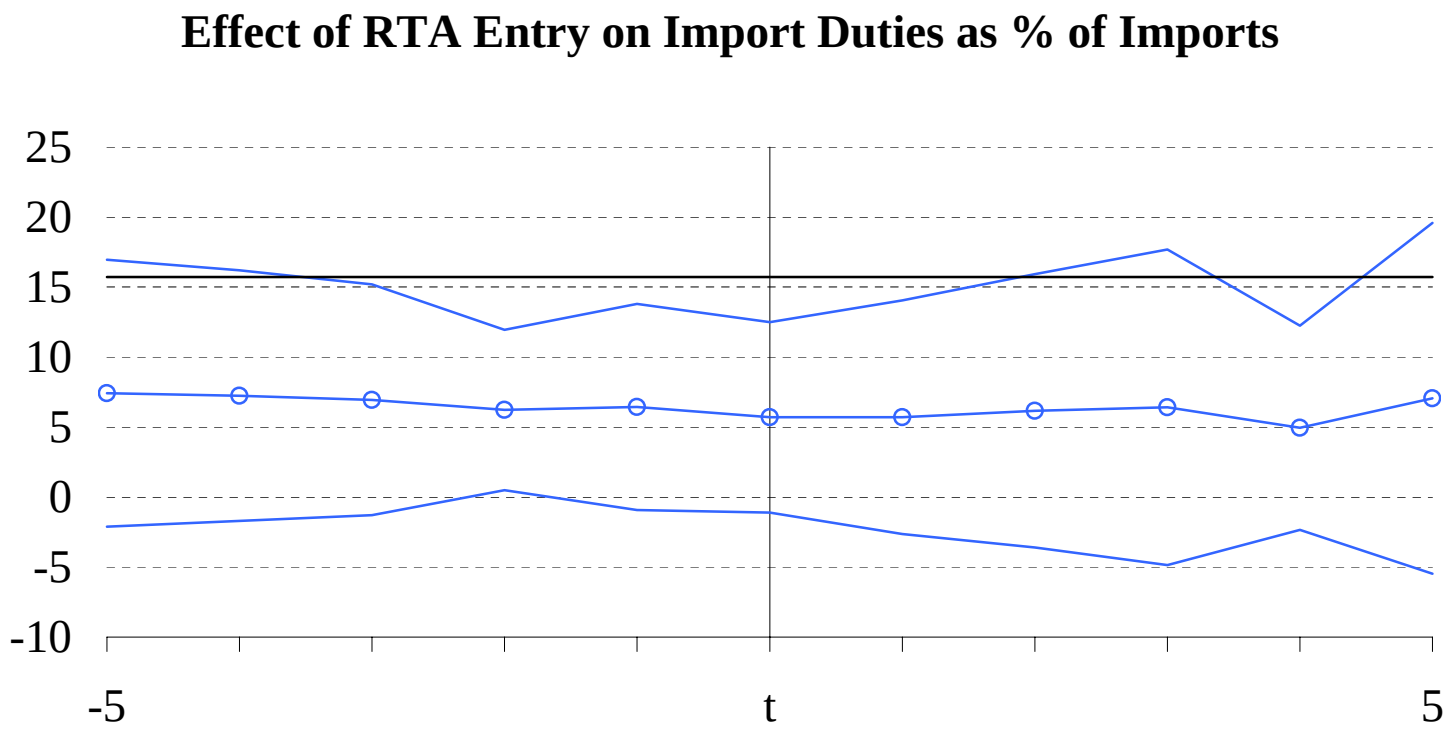
Notes: OLS estimation with augmenting variables. The main explanatory variables are a dummy for membership in GATT/WTO and a dummy for membership in a RTA (either combined for all RTAs or split into EEC/EC/EU and others); the variables enter the regression jointly. Augmenting regressors are the log of 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.

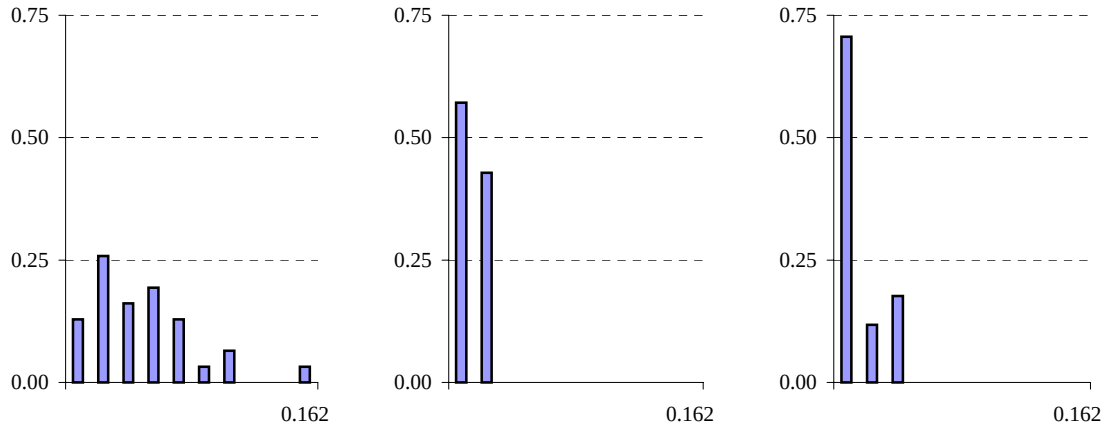
Figure 1:



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

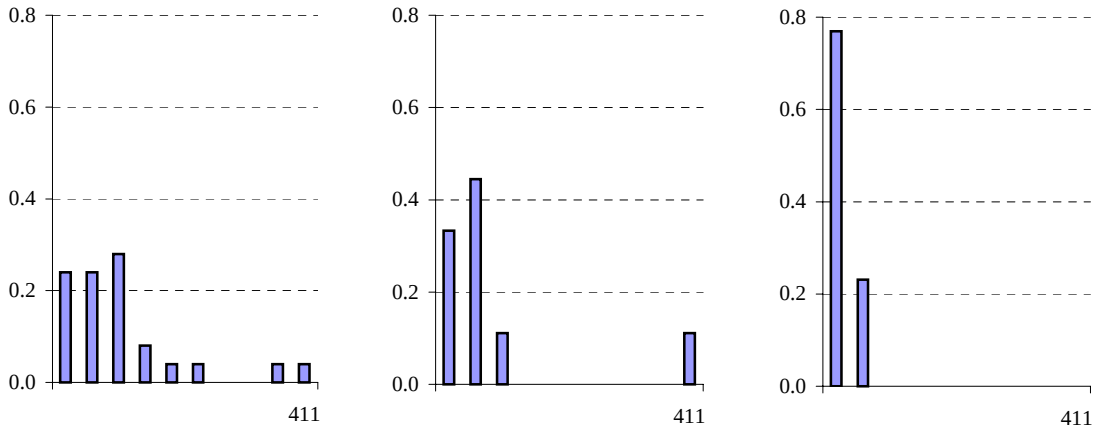
Figure 2: Measures of Trade Policy, Split by RTA Membership

Trade Taxes/Trade



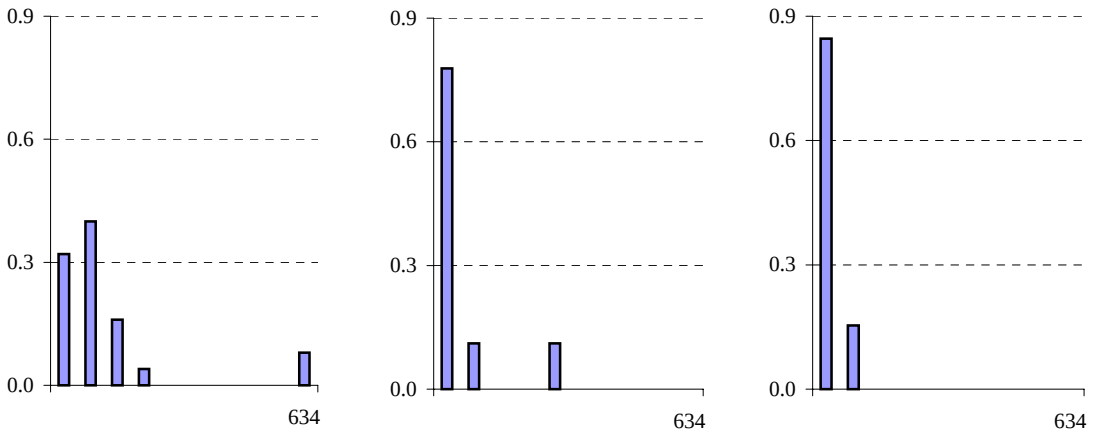
(31) non-members (7) RTA members, before entry (17) RTA members, after entry

Effective Rate of Protection



(25) non-members (9) 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

Appendix 1: 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.

The original data sources are:

Barro, Robert J. and Jong-Wha Lee. 1994 "Data Set for a Panel of 138 Countries," Harvard University.
Edwards, Sebastian. 1998. "Openness, Productivity and Growth: What Do We Really Know?" Economic Journal. 108 (March): 383-398.
Harrison, Ann. 1996. "Openness and Growth: A Time-Series, Cross-Country Analysis for Developing Countries," Journal of Development Economics. 48 (March): 419-447.
Heitger, Bernard. 1987. "Import Protection and Export Performance – Their Impact on Economic Growth," Weltwirtschaftliches Archiv. 123 (2): 249-261.
Heritage Foundation. Index of Economic Freedom. various issues.
Hiscox, Michael J. and Scott L. Kastner. 2002. "A General Measure of Trade Policy Orientations: Gravity-Model-Based Estimates for 82 Nations, 1960 to 1992," Harvard University.
Krueger, Anne O. 1978. Liberalization Attempts and Consequences. Cambridge, MA: Ballinger.
Pritchett, Lant. 1996. "Measuring Outward Orientation in LDCs: Can It Be Done?" Journal of Development Economics. 49 (May): 307-335.
Sachs, Jeffrey D. and Andrew Warner. 1995. "Economic Reform and the Process of Global Integration," Brookings Papers on Economic Activity. (1): 1-118.
World Bank. Annual Review of Development Effectiveness. various issues.

Appendix 2: 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

Appendix 3: 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)