

## Regional Trade Agreements or Broad Liberalization: Which Path Leads to Faster Growth?

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*Should a closed economy open its trade to all countries or limit itself to participation in regional trade agreements (RTAs)? Based on time-series evidence for a data set for 1950–92, this paper estimates and compares the growth performance of countries that liberalized broadly and that of those that joined an RTA. The comparisons show that economies grew faster after broad liberalization, in both the short and the long run, but slower after participation in an RTA. Economies also had higher investment shares after broad liberalization, but lower ones after joining an RTA. The policy implications support broad liberalization. [JEL F43]*

**G**lobalization has become one of the most popular topics of the 1990s. Articles on the formation of the new open world economy abound. Do countries benefit from free trade? What is the impact of a large open economy on welfare, growth, investment, technology, and income equality? What policies can maximize the benefits from globalization while minimizing the costs? These are some of the questions often asked by both international economists and policy makers.

Alongside the globalization process, countries have been increasing their regional economic links through regional trade agreements (RTAs). Global versus regional integration has become an important policy dilemma that needs to be addressed by both economists and politicians.

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Do open economies prosper more than closed economies? Based on cross-country regressions for the 1970s and 1980s, studies<sup>1</sup> have found that economies with low trade barriers grow faster. However, this is not a robust result. Other studies have found that openness variables are not significant in growth regressions that include investment over GDP as an independent variable.<sup>2</sup> Nonetheless, openness is significant in regressions that have the investment share as the dependent variable.

Do member countries of an RTA prosper more than nonmembers? Even though there is a considerable theoretical literature on trade creation versus trade diversion in RTAs, there are very few empirical growth studies, and no theoretical ones, that address the issue of opening to the world economy versus opening to an RTA. Participation in an RTA does not explain cross-country growth differences.<sup>3</sup> Open economies grow faster while closed economies grow slower regardless of their participation in an RTA.<sup>4</sup>

What are the policy implications of the cross-country evidence? Can we infer that if an economy liberalizes it will grow faster? The answers in the existing literature to these questions are not satisfying and have often been criticized. One reason is that faster growth may be causing more trade and not the other way around. Another reason is that openness variables may be proxies for other country characteristics that have very little to do with trade. For example, most of the developing countries that have reduced trade barriers in recent decades have also implemented a variety of other policy reforms in fiscal and monetary policy, capital flows, financial regulation, and labor markets. Furthermore, most of the economies with high trade barriers are often also characterized by government intervention in internal competition and the financial sector, subsidy and tax programs favoring specific sectors in the economy, inefficient bureaucracy, inconsistent macroeconomic policies, and high inflation. Therefore, policy implications for the impact of openness on growth based on cross-country regressions should be treated with caution. Variables that attempt to measure trade distortions may be capturing other distortions instead.

These problems can be tackled to a satisfactory extent by using time-series evidence. With this approach, many of the characteristics that differ across countries and are correlated with trade intervention do not influence the estimates.<sup>5</sup> Comparing the growth performance of countries before and after trade liberalization can suggest what will happen when other countries follow similar policies in the future. Estimates of the impact of discriminatory, versus nondiscriminatory, liberalization on growth can lead to similar policy implications. This methodology can resolve the issue of whether a closed economy should liberalize to all countries or opt for a discriminatory approach via RTA. It also allows us to disentangle both the short- and the long-run effects of changes in trade policy.

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<sup>1</sup>For example, see Dollar (1992), Edwards (1992), Barro and Sala-i-Martin (1995), Sachs and Warner (1995), Wacziarg (1998), and Vamvakidis (1997 and 1998).

<sup>2</sup>See Levine and Renelt (1992) and Baldwin and Seghezza (1996a).

<sup>3</sup>See Vamvakidis (1997 and 1998).

<sup>4</sup>Ben-David (1993) has shown that European Union (EU) members have experienced convergence. This is possible even though an EU dummy is not significant in cross-country regressions.

<sup>5</sup>Given that changes in trade policies may coexist with other reforms, we consider only liberalization episodes that feature trade openness as their main element.

Based on a data set for the period 1950–92, this paper estimates the growth performance of countries that liberalized to world trade or joined an RTA. The paper considers 109 cases of participation in an RTA and 51 cases of broad liberalization, between 1960 and 1989.

The results suggest that closed economies that want to open their markets to free trade and face the dilemma of global versus regional integration should choose the first path. According to the estimates in the paper, economies have grown faster on average after liberalization, in both the short and the long run, but not after joining an RTA. The impact of RTAs on growth is actually negative and statistically significant in most empirical specifications. The results also suggest that broad liberalization leads to higher investment shares, while RTAs lead to lower ones.

International economists have long been saying that openness fosters growth, but evidence in this paper shows that this advice must be qualified. Empirical findings show that only nondiscriminatory openness fosters growth. Thus, a closed economy seeking to open its markets will be better off with world integration, as opposed to regional integration, in terms of benefits for short- and long-run growth.

This time-series evidence is robust, in contrast to cross-country regressions that have found mixed evidence on whether the impact of openness on growth is direct or indirect (through investment). To test the robustness of the estimates, this paper uses two measures of openness—an openness index constructed by Sachs and Warner (1995) and the trade share (total trade/GDP). Both are positive and statistically significant in fixed-effects regressions, when either growth or the investment share is the dependent variable.

Even though RTAs and broad liberalization are not mutually exclusive in theory, evidence in this paper shows that countries rarely follow them simultaneously. In most cases, RTAs and broad liberalization have been two alternative paths of liberalization, and indeed this paper treats them as two alternatives. However, in more recent liberalization episodes, which are not considered in this paper, the two types of liberalization have to some extent been followed simultaneously.

This paper assumes that RTAs have regional trade liberalization as one of their main purposes, but this has not always been the case. Indeed, even though most RTAs seem to have led to more trade among their members, there are some cases where this effect is not very large. However, our main conclusions remain valid when we consider each RTA separately.

This paper does not address the issue of whether an already open economy should introduce RTAs. Most of the countries in our sample that participated in RTAs had high trade barriers. This is not always the case for more recent RTAs, but it would be useful for future research to measure their impact on growth.

## I. Theoretical Aspects of the Impact of Liberalization on Growth

The theoretical literature on trade and growth has changed its predictions in the last two decades. As Krueger (1997, p. 1) points out:

Ideas with regard to trade policy and economic development are among those that have changed radically. Then and now, it was recognized that trade policy

was central to the overall design of policies for economic development. But in the early days, there was a broad consensus that trade policy for development should be based on “import substitution” . . . The contrast with views today is striking. It is now widely accepted that growth prospects for developing countries are greatly enhanced through an outer-oriented trade regime and fairly uniform incentives . . .

The empirical literature on the openness-growth connection has contributed significantly to this shift. Open economies have grown much faster than economies with high protection during the last three decades. In addition, some of the economies that followed import substitution policies experienced economic crisis and collapsed during the 1980s and 1990s.<sup>6</sup> These stylized facts have motivated a rich theoretical literature that attempts to explain them. Most studies have focused on two main channels through which trade fosters economic growth: technology and investment.

The first channel has been supported mainly by Grossman and Helpman (1989, 1990, and 1991), Rivera-Batiz and Romer (1991a and 1991b), Romer (1990) and Krugman (1990, ch. 11). The main conclusion from this literature is that countries open to free trade benefit for the following four reasons: (1) a large international market provides technological spillover effects; (2) there are economies of scale in the research and development sector; (3) a large international market provides higher profits to innovators; and (4) there is avoidance of replication of research and development efforts across countries. Coe and Helpman (1995) and Coe, Helpman, and Hoffmaister (1997) have provided empirical evidence for these arguments, showing that trade affects the rate of technological progress.

Other theoretical studies, however, have argued that investment is the main link between trade and growth. Baldwin and Seghezza (1996a and 1996b) have presented models whereby trade fosters investment for the following three reasons: (1) the traded sector is more capital intensive than the nontraded sector; (2) the production of investment goods uses imported intermediates; and (3) competition in the international market of machinery and capital equipment lowers the price of capital. Lee (1993 and 1994) presented neoclassical growth models in which domestic production uses imports of capital equipment as primary inputs. His models show that trade liberalization fosters growth through a rise in imports of capital goods. Empirical evidence by Levine and Renelt (1992), Baldwin and Seghezza (1996a), and Wacziarg (1998) supports the argument that trade fosters growth through its positive impact on investment. The first two studies find that this is the only channel, and some economists take this as a suggestion that the impact of openness on growth is not robust.

Both of these channels may be important, but it is very difficult to empirically disentangle the effects of investment and technology, since most investment incorporates new technology and most new technology results in more investment.

It is surprising that previous theoretical openness-growth literature does not address the issue of multilateral trade versus regional integration through RTAs. However, all of the above models would support opening up to free trade without any discrimination, versus opening only trade with a few neighboring countries, while still

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<sup>6</sup>See Sachs and Warner (1995).

intervening to distort trade with the rest of the world. Nonetheless, more research on the theoretical links of regional integration with growth would help considerably in designing trade policy.

## II. Data and Methodology

The data set includes all countries with available data for the period from 1950 to 1992. This is a quite large sample, allowing us to estimate growth performance before and after liberalization. Data for real GDP per capita, investment share, and population growth are from the Penn World Table data set described by Summers and Heston (1991). Trade shares are from the World Tables (World Bank, 1994), and school enrollment ratios are from Barro and Lee (1994).

A variety of measures have been used in the previous literature to measure openness, including trade shares, growth of exports, tariff and nontariff barriers, and black market premiums. The problem with these measures is that they cannot suggest the precise year that a country opened for free trade.

However, Sachs and Warner (1995) have constructed a measure of openness that deals successfully with this problem. Based on their definition, an economy is defined as open if all five of the following conditions are met: (1) average tariff rate is less than 40 percent; (2) average nontariff barriers are less than 40 percent; (3) black market premium is less than 20 percent of the official exchange rate; (4) it does not have a communistic government; and (5) there is no state monopoly on major exports. Using this approach, Sachs and Warner review regulations that have changed trade policy in most countries of the world since the 1950s, and they provide the dates of liberalization for countries that are considered open.

This paper uses the Sachs and Warner methodology to determine the year a country liberalized to international trade. The authors are very clear on which of the above criteria are the main elements of each of the liberalization episodes they consider. Based on this information, we consider only liberalization episodes that have trade openness as their main element (we do not consider ex-communist countries or countries for which the date of independence is defined as their liberalization date). According to this approach, there were 51 cases of broad liberalization between 1958 and 1989.<sup>7</sup>

Another way to deal with the possibility that the Sachs and Warner measure may be too broad, since policy changes in trade protection often coexist with other policy reforms, is to use the trade share  $((\text{exports} + \text{imports})/\text{GDP})$  as an alternative measure of openness. (Other openness measures have only cross-country variations and therefore are not relevant for our analysis). The use of trade shares has been criticized in the past, because these shares are negatively correlated with country size. However, this criticism applies only to cross-country regressions. The present paper is on time-series evidence and therefore the use of trade shares is justified (the results do not change when we control for country size).

Sachs and Warner also consider failed liberalization episodes, in which countries opened to free trade for a period of time and then closed again. Trying to explain why trade liberalization was reversed in these cases, the authors look at the growth performance of

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<sup>7</sup>We do not consider cases of liberalization after 1989, which are too recent.

the respective countries. What they find is that in all cases countries grew faster during these liberalization episodes than before and after liberalization (this led the authors to conclude that political economy arguments and not growth performance might be driving these policy changes). According to the authors, this contradicts the argument that the successful liberalization episodes led to faster growth by definition (since the failed episodes also led to faster growth). For this reason, and to make the analysis simpler, this paper does not consider empirical estimates for failed liberalization episodes. However, the results remain robust if such episodes are included in the regressions.

The dates of participation in an RTA are available in UNCTAD (1994). The data set includes 18 RTAs with a total of 109 member countries, with all RTAs for the period 1958–89. If a country participates in more than one RTA, the earliest entry is regarded as the date of participation. Most of the member countries have data available for the period in consideration. However, there are not enough observations yet to estimate the effect of more recent RTAs. The appendix provides a list of the RTAs this paper considers.

Most RTAs since 1950 have been south-south agreements. With very few exceptions, they include developing countries that are generally small, highly protected, and similar in their economic endowments. Such agreements have often been part of the import substitution policies their members were following and, as a result, they may have diverted trade from more efficient external sources of production. Even though some of these agreements were not fully implemented, it is important to estimate their impact on economic growth, to determine why they have or have not succeeded. Most participating countries thought that these agreements were an alternative path to broad liberalization, and therefore they are relevant for the inquiry of this paper.

The calculations use a dummy variable for participation in an RTA and therefore treat all RTAs equally. This may be a problem since, as mentioned above, some RTAs were implemented more fully than others, and also not all RTAs had regional trade as their main purpose (political cooperation was sometimes the main reason for an RTA). However, the conclusions of this paper do not change if we treat each RTA separately, with a dummy variable for each of them.

The methodology in this paper is very straightforward. One very simple test compares the average real GDP per capita growth rate 10 years before and 10 years after both discriminatory and nondiscriminatory liberalization. In this test the estimations do not include liberalization cases and RTAs of the 1980s.

Another simple approach would have been to estimate the change in the trend of GDP per capita after liberalization, or an RTA, for each country in the sample. However, the GDP series follow a unit root for almost all countries in the sample and therefore use of this methodology is not appropriate.<sup>8</sup> A solution is to use the growth rate as the dependent variable, and then estimate its change after the date of opening for free trade or for an RTA.

Following this methodology, this paper estimates a fixed-effects growth model.<sup>9</sup> The observations are five-year averages for the period 1950–92.<sup>10</sup> The model controls

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<sup>8</sup>See Campbell and Perron (1991).

<sup>9</sup>The fixed-effects model allows for the constant to vary across countries.

<sup>10</sup>The openness and RTA dummies take the value of one if the change in trade policy occurred in the first two years of the five-year period.

for the initial GDP per capita, population growth, the share of investment, secondary school enrollment, growth of world GDP per capita, a dummy for participation in an RTA, the Sachs and Warner (1995) openness dummy, the trade share, and the growth of world GDP per capita. The choice of variables follows Levine and Renelt (1992), with the addition of the growth of world GDP per capita. The inclusion of this variable in the regression controls for the effect of world output fluctuations on domestic output. We may need to control for such an impact because the period after liberalization or participation in an RTA in most cases includes the 1970s, a decade characterized by worldwide productivity slowdown. However, the results are not sensitive to the inclusion of this variable in the regression.

Most studies have estimated this model using cross-country regressions. However, a fixed-effects model will be more useful for policy implications. As pointed out in the introduction of this paper, time-series evidence is more relevant than cross-country regressions in determining the impact of trade policy changes on growth performance. The time-series approach also has interesting implications for convergence, as in this case convergence occurs in terms of country-specific long-term values.

Finally, the paper estimates an empirical specification of the fixed-effects model with the investment share as the depended variable. It then investigates the impact of RTAs and broad liberalization, measured by the openness dummy or the trade share.

### III. Growth Before and After Broad Liberalization and RTAs

This section compares growth performance 10 years before and 10 years after discriminatory and nondiscriminatory liberalization. Table 1 includes countries that liberalized during 1960–80, and indicates the year of their liberalization and their growth rates 10 years before and 10 years after this date. Table 2 shows similar information for countries that joined an RTA. Based on the Sachs and Warner definition of openness, most countries that conducted RTAs during the 1960s and 1970s had high protection. The European Union (EU) was the only RTA that included only open economies. Therefore, it seems that most RTAs during this period represented efforts to increase the market size available to closed economies, and may have delayed broader liberalization. Table 2 also lists countries that opened at the same time (three years before or after) that they joined an RTA. For the EU, only three countries (the United Kingdom, Ireland, and Denmark) liberalized before joining (in addition, these three countries had already been members of earlier RTAs). Furthermore, the productivity slowdown during the 1970s may influence the results, since these countries joined the EU in 1973. The tables report the results for the EU, but any conclusions from them may be misleading.

According to the evidence in both Tables 1 and 2, economies grew faster 10 years after broad liberalization or participation in an RTA, compared with 10 years before, but this effect seems to be larger, though not significantly, for the first case. (The impact of openness on growth is even higher if we exclude Germany and Japan from the sample, since during the decade before their liberalization they were recovering from World War II.)

Most of the countries grew faster after opening their markets to international trade, although they did not experience economic “miracles.” This result does not change if

Table 1. Growth 10 Years Before and 10 Years After Liberalization

Countries	Year of Openness	Growth 10 Years Before Liberalization	Growth 10 Years After Liberalization
Australia	1964	2.09	2.55
Austria	1960	5.68	4.22
Belgium	1960	2.46	4.08
Botswana	1979	9.17	2.02
Chile	1976	-0.46	1.83
Denmark	1960	3.59	3.29
France	1959	3.61	4.78
Finland	1960	4.04	4.36
Germany	1959	6.74	3.92
Greece	1959	4.59	6.62
Indonesia	1970	1.08	6.97
Ireland	1966	3.46	3.97
Italy	1959	4.75	5.51
Japan	1962	7.85	6.77
Jordan	1965	6.92	5.78
Korea	1968	4.77	6.43
Luxembourg	1959	2.29	1.78
Netherlands	1959	2.23	4.62
Norway	1960	2.95	3.72
Portugal	1960	4.24	6.85
Spain	1960	4.81	5.46
Sweden	1960	3.10	2.92
Taiwan	1963	3.58	6.29
United Kingdom	1960	2.26	2.55
Average		3.99	4.47

we exclude countries that joined an RTA at the same time they liberalized (three years before or after joining an RTA). However, these comparisons can be misleading, since it is not clear what is driving the results. To understand the full impact of these two different forms of liberalization on growth, we need to control for changes in other variables, as the following sections show.

#### IV. Estimation of a Fixed Effects Growth Model

Estimation of a fixed-effects model shows that economies grow faster after broad liberalization. Table 3 presents these results. Regressions (1)–(5) include the Sachs and Warner openness dummy, while regressions (6)–(10) include the trade share. Both variables have positive and statistically significant coefficients, at least at the 5 percent level.<sup>11</sup> These results are not sensitive to the inclusion of other independent variables.

<sup>11</sup>Levine and Renelt (1992) have found based on cross-country regressions that trade fosters growth only indirectly, through higher investment. We find that this is not true for a fixed-effects model.

Table 2. Growth 10 Years Before and 10 Years After Participation in an RTA

RTA	Year in RTA	Open	Growth 10 Years Before RTA	Growth 10 Years After RTA
MRU			1.41	0.50
Guinea	1973	no	-0.49	2.84
Liberia	1973	no	2.72	-1.06
Sierra Leone	1973	no	2.00	-0.29
UDEAC			1.29	3.62
Cameroon	1966	no	1.04	2.85
Central Africa	1966	no	-1.15	1.14
Chad	1966	no	-0.46	-1.20
Congo	1966	no	-0.67	5.03
Gabon	1966	no	7.71	10.27
CEPGL			3.50	0.50
Burundi	1976	no	2.01	2.15
Rwanda	1976	no	6.80	1.80
Zaire	1976	no	1.70	-2.45
ASEAN			2.98	5.78
Indonesia	1967	“yes”	-0.63	5.29
Malaysia	1967	no	2.83	6.02
Philippines	1967	no	1.85	2.79
Singapore	1967	no	3.34	10.53
Thailand	1967	yes	5.58	4.27
ACM			3.00	2.33
Egypt	1964	no	2.77	1.49
Iraq	1964	no	3.28	2.49
Jordan	1964	“yes”	7.55	3.83
Mauritania	1964	no	-1.61	1.52
CACM			2.08	2.78
El Salvador	1960	no	1.84	2.48
Guatemala	1960	no	0.83	2.03
Honduras	1960	no	0.83	1.78
Nicaragua	1960	no	3.04	3.99
Costa Rica	1960	no	3.88	3.64
CARICOM			4.51	1.033
Barbados	1973	yes	5.42	1.49
Jamaica	1973	no	5.61	-1.65
Trinidad & Tobago	1973	no	2.50	3.26

Table 2. (concluded)

RTA	Year in RTA	Open	Growth 10 Years Before RTA	Growth 10 Years After RTA
LAIA/LAFTA			1.70	2.58
Mexico	1961	no	2.64	3.95
Argentina	1961	no	1.16	2.10
Bolivia	1961	no	-0.82	4.01
Brazil	1961	no	3.54	3.64
Chile	1961	no	1.81	2.59
Colombia	1961	no	1.19	2.62
Ecuador	1961	no	2.07	2.56
Paraguay	1961	no	-0.55	1.84
Peru	1961	no	3.08	2.78
Uruguay	1961	no	1.67	0.54
Venezuela	1961	no	2.95	1.78
EU			3.81	3.00
Belgium	1958	“yes”	2.37	3.80
France	1958	“yes”	3.91	4.37
Germany	1958	“yes”	7.35	3.88
Italy	1958	“yes”	4.92	5.51
Luxembourg	1958	“yes”	2.58	0.64
Netherlands	1958	“yes”	3.21	4.49
United Kingdom	1973	yes	2.55	1.04
Ireland	1973	yes	4.10	2.16
Denmark	1973	yes	3.29	1.13
Average			2.56	2.74

Notes: Acronyms are spelled out in the appendix. “yes” indicates countries that liberalized within three years before or after joining an RTA.

Based on regression (5), economies grew on average 1.5 percent faster after broad liberalization. Based on regression (10), an increase in the trade share of a country by 10 percent leads to faster growth by 0.56 percent on average.

The estimated coefficients for the other variables confirm previous findings in the literature. Keeping everything else constant, a low GDP per capita, a high investment share, and a low population growth rate lead to faster growth. The impact of secondary school enrollment is not robust, which also agrees with previous findings. Finally, the growth rate of world GDP per capita has a positive and statistically significant coefficient, justifying its inclusion in the regression. Fluctuations in world output do have an effect on domestic output. The estimations in this and the next section also confirm these results.

In contrast to broad liberalization, participation in an RTA does not foster growth. Table 4 actually shows the impact of RTAs, if any, to be negative. The coefficient of the RTA dummy is always negative, and is statistically significant in

Table 3. Openness, Trade Share, and Growth

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ln(initial GDP per capita)	-0.041 (-10.258)	-0.045 (-11.572)	-0.052 (-8.606)	-0.053 (-8.996)	-0.056 (-9.265)	-0.077 (-12.68)	-0.076 (-12.668)	-0.074 (-11.292)	-0.076 (-11.731)	-0.065 (-9.062)
Openness dummy	0.025 (5.214)	0.021 (4.527)	0.019 (2.552)	0.016 (2.291)	0.015 (2.137)					
Trade share						0.068 (6.171)	0.060 (5.403)	0.053 (4.597)	0.054 (4.791)	0.056 (5.060)
Investment share	0.193 (7.124)		0.227 (6.310)	0.238 (6.772)	0.230 (6.523)		0.129 (3.871)	0.201 (5.511)	0.217 (6.045)	0.200 (5.610)
Secondary school enrollment			0.006 (0.299)	-0.006 (-0.273)	-0.649 (-0.320)			0.034 (1.668)	0.025 (1.226)	0.037 (1.817)
Population growth				-1.082 (-4.756)	-1.049 (-4.618)				-1.136 (-4.117)	-1.090 (-4.001)
Growth of world GDP per capita					0.132 (2.084)					0.637 (3.394)
Number of countries	109	109	89	89	89	137	137	105	105	105
Number of observations	765	765	525	525	525	605	605	493	493	493
R <sup>2</sup>	0.14	0.20	0.22	0.26	0.27	0.26	0.28	0.31	0.34	0.36

Notes: Column heads in parentheses represent the regression numer. *t*-statistics are in parentheses.

Table 4. RTAs and Growth

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
ln(initial GDP per capita)	-0.028 (-7.776)	-0.032 (-9.202)	-0.042 (-7.847)	-0.045 (-8.411)	-0.048 (-8.854)	-0.064 (-8.991)	-0.055 (-8.856)
RTA dummy	-0.007 (-2.251)	-0.006 (-1.909)	-0.007 (-1.761)	-0.006 (-1.415)	-0.006 (-0.494)	-0.003 (-0.659)	-0.003 (-0.678)
Trade share						0.057 (5.087)	
Openness dummy							0.016 (2.234)
Investment share		0.167 (6.722)	0.209 (6.377)	0.219 (6.790)	0.209 (6.490)	0.198 (5.495)	0.227 (6.388)
Secondary school enrollment			0.015 (0.751)	0.005 (0.265)	0.003 (0.167)	0.037 (1.823)	-0.006 (-0.300)
Population growth				-0.927 (-4.320)	-0.893 (-4.180)	-1.077 (-3.937)	-1.033 (-4.519)
Growth of world GDP per capita					0.158 (2.634)	0.603 (3.081)	0.133 (2.093)
Number of countries	147	147	109	109	109	105	89
Number of observations	943	943	621	621	621	493	525
R <sup>2</sup>	0.11	0.16	0.20	0.23	0.24	0.36	0.27

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

regressions (1)–(3), at least at the 10 percent level. The *t*-statistic decreases as we add more independent variables in the regression. The estimates, however, are not small. For example, based on regression (5), growth decreases after participation in an RTA by 0.6 percent.

The results do not change significantly if we use a different dummy variable for each RTA (and therefore we do not report these results). As was mentioned above, all RTAs differ, so that using a different dummy for each of them may be the appropriate methodology. However, the estimates for the RTAs are still negative for most of them, but not always statistically significant, as is also the case with the results we report.

Broad liberalization has a significant effect on growth even after controlling for participation in an RTA. As regressions (6) and (7) of Table 4 show, both the openness dummy and the trade share have positive and statistically significant coefficients.

To summarize, even controlling for changes in other economic variables, RTAs do not appear to have a robust impact on growth (if there is any impact, it seems to be negative). In contrast, countries have grown faster on average after nondiscriminatory liberalization. This result is true not only for cross-country regressions, but also for time-series regressions, as this paper has shown, and it is robust to different measures of openness and specifications of the empirical model.

## V. Short-Run Versus Long-Run and Lagged Effects of Broad Liberalization and RTAs

Did countries experience the growth effects of changes in their trade policies in the short run, the long run, or both? If trade policy has an impact on growth with a lag, the results in the previous two sections may not be accurate. In any case, this is an interesting question. Policy makers and academics often disagree on whether countries experience the effects of changes in trade policy soon enough to make them worthwhile.

To address this important issue, the empirical model includes lags for the openness and the RTA dummies. One lag measures the impact of changes in trade policy on growth after five years, while two lags measure this impact after a decade. If the estimate of the lagged liberalization (broad or RTA) is insignificant, this means that the short-run effect of the policy continues in the longer run. If it is positive (negative) and significant, it means that the impact of liberalization is greater (smaller) in the long run.

RTAs do not seem to have a statistically significant impact, positive or negative, in the long run. Results in Table 5 show that RTAs lead to slower growth in the short run (coefficients of the RTA dummy), a result statistically significant at least at the 10 percent level in regressions (1)–(3) and (6)–(8). In contrast, the long-run effect of RTAs (coefficients of the one and two lags of the RTA dummy) does not always have the same sign and is not significant in any of the regressions.

Short- and long-term effects are both positive and statistically significant only in the case of broad liberalization. Countries grow faster, in both the short and the long run, after they open their market without discrimination to international trade. The results in Table 6 show that the openness dummy has a significant coefficient, at least at the 10 percent level, implying that countries grew faster within the first 5 or 10 years after broad liberalization. The coefficient for the one lag of the openness dummy is significant in most specifications, implying that the growth effect of openness not only continues in the period following the first five years after opening for free trade, but is also stronger. The coefficient of the two lags of the openness dummy is always significant, implying that the short-run impact of liberalization on growth becomes stronger in the period 10 years after liberalization.

These results suggest that closed economies intending to open their markets to international trade will grow faster if they follow the path of broad as opposed to regional liberalization. All time-series evidence in this section show that RTAs, if anything, lead to slower growth, especially in the short run. In contrast, broad liberalization fosters growth in both the short and the long run. These results hold even after keeping constant other independent variables.

Table 5. RTAs and Growth in the Short and Long Run

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ln(initial GDP per capita)	-0.028 (-7.822)	-0.033 (-9.274)	-0.043 (-7.875)	-0.045 (-8.381)	-0.048 (-8.799)	-0.028 (-7.471)	-0.032 (-8.843)	-0.040 (-7.229)	-0.043 (-7.733)	-0.046 (-8.205)
RTA dummy	-0.009 (-2.372)	-0.009 (-2.255)	-0.009 (-1.941)	-0.007 (-1.476)	-0.006 (-1.230)	-0.008 (-2.179)	-0.006 (-1.840)	-0.007 (-1.672)	-0.005 (-1.306)	-0.006 (-1.375)
One lag of the RTA dummy	0.004 (0.946)	0.005 (1.211)	0.004 (0.820)	0.002 (0.482)	-0.001 (-0.184)					
Two lags of the RTA dummy						0.0003 (0.081)	0.000 (0.041)	0.005 (1.204)	0.006 (1.453)	-0.007 (-1.579)
Investment share		0.168 (6.763)	0.209 (6.383)	0.219 (6.787)	0.209 (6.474)		0.167 (6.718)	0.211 (6.430)	0.221 (6.863)	0.212 (6.566)
Secondary school enrollment			0.014 (0.681)	0.005 (0.230)	0.003 (0.179)			0.018 (0.895)	0.009 (0.436)	0.007 (0.351)
Population growth				-0.918 (-4.263)	-0.896 (-4.179)				-0.943 (-4.395)	-0.909 (-4.259)
Growth of world GDP per capita					0.161 (2.593)					0.163 (2.705)
Number of countries	147	147	109	109	109	147	147	109	109	109
Number of observations	943	943	621	621	621	943	943	621	621	621
R <sup>2</sup>	0.11	0.16	0.20	0.23	0.24	0.11	0.16	0.20	0.23	0.24

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

Table 6. Openness and Growth in the Short and Long Run

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ln(initial GDP per capita)	-0.045 (-10.340)	-0.049 (-11.588)	-0.057 (-8.791)	-0.057 (-8.897)	-0.059 (-9.121)	-0.045 (-10.021)	-0.050 (-11.527)	-0.060 (-8.992)	-0.061 (-9.322)	-0.065 (-9.626)
Openness dummy	0.019 (3.271)	0.015 (2.683)	0.014 (1.783)	0.013 (1.730)	0.013 (1.675)	0.023 (4.567)	0.018 (3.687)	0.018 (2.450)	0.016 (2.193)	0.014 (2.025)
One lag of the openness dummy	0.012 (2.139)	0.012 (2.180)	0.014 (2.131)	0.010 (1.518)	0.008 (1.254)					
Two lags of the openness dummy						0.009 (1.814)	0.012 (2.550)	0.017 (2.795)	0.016 (2.751)	0.017 (2.865)
Investment share	0.193 (7.132)		0.221 (6.161)	0.233 (6.631)	0.227 (6.425)		0.199 (7.356)	0.231 (6.484)	0.242 (6.942)	0.234 (6.687)
Secondary school enrollment			0.002 (0.096)	-0.008 (-0.392)	-0.008 (-0.415)			-0.005 (-0.220)	-0.016 (-0.768)	-0.017 (-0.839)
Population growth				-1.033 (-4.500)	-1.011 (-4.413)				-1.067 (-4.726)	-1.032 (-4.578)
Growth of world GDP per capita					0.121 (1.898)					0.141 (2.233)
Number of countries	109	109	89	89	89	109	109	89	89	89
Number of observations	765	765	525	525	525	765	765	525	525	525
R <sup>2</sup>	0.14	0.21	0.23	0.26	0.27	0.14	0.21	0.23	0.27	0.28

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

## REGIONAL TRADE AGREEMENTS OR BROAD LIBERALIZATION

Another interesting question is whether the positive impact of trade on growth is increasing or decreasing as the trade share rises. The estimates show the second case to be true. Table 7 shows that the estimated coefficient of the trade share is positive and significant, but that of the trade share squared is negative and significant. The total effect of trade on growth, however, is still positive. In addition, the estimated coefficient of the trade squared, although negative, is very small. The estimates of regression (5), for example, imply that an increase of the trade share by 10 percent results in 0.8 percent faster growth. It is interesting that the inclusion of the trade share squared in the regression increases the coefficient of the trade share (compare Table 7 with Table 3).

### VI. Impact of Broad Liberalization and RTAs on Investment

As mentioned earlier, one part of the literature has found evidence, using cross-country regressions, that the impact of trade on growth is only through higher investment. In

Table 7. Openness and Growth in the Short and Long Run

Independent Variable	(1)	(2)	(3)	(4)	(5)
ln(initial GDP per capita)	-0.076 (-12.665)	-0.075 (-12.654)	-0.074 (-11.227)	-0.075 (-11.644)	-0.063 (-8.805)
Trade share	0.103 (5.760)	0.092 (5.102)	0.088 (4.745)	0.083 (4.516)	0.092 (5.050)
Trade share squared	-0.013 (-2.489)	-0.012 (-2.249)	-0.012 (-2.426)	-0.010 (-2.002)	-0.012 (-2.476)
Investment share		0.123 (3.715)	0.194 (5.341)	0.210 (5.862)	0.191 (5.350)
Secondary school enrollment			0.028 (1.374)	0.020 (1.008)	0.033 (1.612)
Population growth				-1.071 (-3.872)	-1.007 (-3.692)
Growth of world GDP per capita					0.696 (3.696)
Number of countries	137	137	105	105	105
Number of observations	605	605	493	493	493
$R^2$	0.27	0.29	0.32	0.34	0.37

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

contrast, the results of the previous sections based on time-series variation suggest that there is a direct effect of openness on growth. This section investigates whether there is also an indirect effect, through higher investment. If economies invest more after broad liberalization, then they will grow faster, all else being constant. This section also estimates the impact of RTAs on investment. For reasons of comparison and simplicity, the estimates in this section use the same models as in the previous sections, but with investment over GDP as the dependent variable.

The results of this inquiry are presented in Tables 8 to 12. The main conclusion is that broad liberalization leads to higher investment shares, while RTAs, if they have any impact, lead to lower shares. Therefore, there is also an indirect effect of liberalization on growth—positive for broad liberalization, and negative, if any, for RTAs.

Both the openness dummy and the trade share are always positive and significant at least at the 5 percent level (Tables 8 and 9). The estimates of regression (4) in Table 8 imply that the investment share of an economy increases by 2.7 percent after opening its markets to free trade. The estimates of regression (9) in the same table imply that an increase of the trade share of an economy by 10 percent increases its investment share by 0.56 percent.

In contrast, the RTA dummy is always negative and significant at least at the 10 percent level in all specifications (Table 9). The estimates of regression (6) in Table 9 imply that the investment share of an economy decreases by 1.6 percent after joining an RTA.

The negative impact of RTAs on investment is for both the short and the long run, but not always significant (Table 10). The estimates in Table 10 show that the RTA dummy is always negative, but not always significant. When it is significant, the level of significance is only 10 percent. The “one lag of the RTA dummy” variable is always negative, but the “two lags of the RTA dummy” variable is always positive. However, none of them is significant, which implies that the short-run effect of RTAs continues in the long run.

The positive impact of openness is significant in the short run, but its long-run impact seems to be slightly higher or slightly lower, depending on the specification (Table 11). The estimates in Table 11 show that the openness dummy is always positive and significant. The “one lag of the openness dummy” variable is always positive, but significant only in regression (3), and at the 10 percent level. In contrast, the “two lags of the openness dummy” variable is always negative, but significant only in regression (5). Since these lagged variables do not have robust coefficients, we could argue that the impact of broad liberalization on investment is the same in the short and the long run.

Finally, even though the trade share has a positive coefficient, the trade share squared has a negative coefficient but is not always significant (Table 12). This suggests that the positive impact of trade on investment decreases as the trade share rises. The coefficient of the trade share is once again greater in regressions that include the trade share squared.

Regarding the estimates for the other variables, the only puzzling result is the coefficient for the secondary school enrollment, which is negative and significant. Even though the inclusion of this variable in the regression does not change the other results, it is very difficult to explain its negative coefficient. Perhaps better measures of human capital are necessary to obtain a more reasonable estimate.

Table 8. Openness, Trade Share, and Investment

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(initial GDP per capita)	0.021 (3.794)	0.027 (3.337)	0.027 (3.380)	0.022 (2.644)	-0.009 (-1.038)	-0.003 (0.290)	0.004 (0.405)	0.016 (1.567)
Openness dummy	0.021 (3.050)	0.028 (2.916)	0.029 (2.996)	0.027 (2.786)				
Trade share					0.064 (4.227)	0.050 (3.145)	0.048 (3.065)	0.056 (5.060)
Secondary school enrollment		-0.104 (-3.837)	-0.099 (-3.615)	-0.099 (-3.640)		-0.112 (-3.994)	-0.104 (-3.679)	-0.089 (-3.095)
Population growth			0.438 (1.408)	0.482 (1.556)			0.849 (2.178)	0.884 (2.285)
Growth of world GDP per capita				0.201 (2.334)				0.715 (2.682)
Number of countries	109	89	89	89	137	105	105	105
Number of observations	765	525	525	525	605	493	493	493
R <sup>2</sup>	0.07	0.07	0.07	0.09	0.04	0.06	0.08	0.09

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

Table 9. RTAs and Investment

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)
ln(initial GDP per capita)	0.029 (5.926)	0.034 (4.762)	0.035 (4.911)	0.030 (3.998)	0.017 (1.699)	0.026 (3.147)
RTA dummy	-0.007 (-1.679)	-0.009 (-1.699)	-0.010 (-1.831)	-0.011 (-1.886)	-0.013 (-2.228)	-0.016 (-2.549)
Trade share					0.052 (3.308)	
Openness dummy						0.016 (2.234)
Secondary school enrollment		-0.108 (-4.032)	-0.102 (-3.790)	-0.104 (-3.859)	-0.087 (-3.044)	0.032 (3.281)
Population growth			0.494 (1.681)	0.533 (1.819)	0.937 (2.430)	0.557 (1.801)
Growth of world GDP per capita				0.209 (2.549)	0.537 (1.939)	0.202 (2.353)
Number of countries	147	109	109	109	105	89
Number of observations	943	621	621	621	493	525
R <sup>2</sup>	0.04	0.05	0.06	0.07	0.11	0.10

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

## VII. RTAs in the Past, Present, and Future: How Different Are They?

As mentioned earlier, some of the RTAs this paper considers were not fully implemented. However, they did result in very significant increases in trade among their members. Table 13 presents intragroup trade as a percentage of total trade for each RTA from 1960 to 1991. Even though the share of intragroup trade over total exports is very small for most RTAs, it did increase significantly during this period, in some cases by more than 100 percent. There may be a lot of driving forces for this increase, but it is reasonable to argue that the implementation of RTAs was one of them.

The fact that the share of intragroup trade was so small in most RTAs suggests that their members should have expected that their effort to create large regional markets would fail and valuable time for broader liberalization would be lost. As was emphasized above, this has been the case for the majority of RTAs, with few exceptions. As Table 13 shows, at least for the RTAs with available data, EU is the only one with high average intragroup trade shares.

Table 10. RTAs and Investment in the Short and Long Run

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(initial GDP per capita)	0.030 (6.008)	0.034 (4.736)	0.035 (4.866)	0.030 (4.045)	0.029 (5.625)	0.032 (4.257)	0.033 (4.390)	0.028 (3.596)
RTA dummy	-0.004 (-0.758)	-0.009 (-1.391)	-0.010 (-1.567)	-0.008 (-1.294)	-0.008 (-1.659)	-0.010 (-1.768)	-0.011 (-1.910)	-0.011 (-1.956)
One lag of the RTA dummy	-0.006 (-0.995)	-0.001 (-0.250)	-0.001 (-0.113)	-0.005 (-0.774)				
Two lags of the RTA dummy					0.001 (0.176)	0.006 (1.077)	0.007 (1.162)	0.006 (1.043)
Secondary school enrollment		-0.108 (-3.993)	-0.102 (-3.768)	-0.102 (-3.792)		-0.111 (-4.132)	-0.106 (-3.897)	-0.107 (-3.950)
Population growth			0.492 (1.665)	0.517 (1.758)			0.511 (1.736)	0.547 (1.865)
Growth of world GDP per capita				0.226 (2.660)				0.205 (2.494)
Number of countries	147	109	109	109	147	109	109	109
Number of observations	943	621	621	621	943	621	621	621
R <sup>2</sup>	0.04	0.05	0.06	0.07	0.04	0.05	0.06	0.07

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

Table 11. Openness and Investment in the Short and Long Run

Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(initial GDP per capita)	0.021 (3.463)	0.021 (2.448)	0.021 (2.405)	0.017 (1.952)	0.028 (4.449)	0.030 (3.417)	0.031 (3.439)	0.025 (2.733)
Openness dummy	0.020 (2.500)	0.023 (2.279)	0.024 (2.303)	0.023 (2.220)	0.025 (3.566)	0.029 (2.950)	0.029 (3.027)	0.027 (2.816)
One lag of the openness dummy	0.001 (0.140)	0.013 (1.539)	0.016 (1.750)	0.013 (1.439)				
Two lags of the openness dummy					-0.016 (-2.339)	-0.008 (-0.980)	-0.008 (-0.944)	-0.007 (-0.829)
Secondary school enrollment		-0.108 (-3.958)	-0.102 (-3.730)	-0.102 (-3.730)		-0.099 (-3.570)	-0.094 (-3.368)	-0.095 (-3.413)
Population growth			0.512 (1.636)	0.540 (1.730)			0.430 (1.382)	0.474 (1.530)
Growth of world GDP per capita				0.183 (2.108)				0.197 (2.287)
Number of countries	109	89	89	89	109	89	89	89
Number of observations	765	525	525	525	765	525	525	525
R <sup>2</sup>	0.07	0.08	0.08	0.09	0.08	0.07	0.08	0.09

Notes: Column heads in parentheses represent the regression number. *t*-statistics are in parentheses.

Table 12. Openness and Investment in the Short and Long Run

Independent Variables	(1)	(2)	(3)	(4)
ln(initial GDP per capita)	-0.008 (-0.990)	0.003 (0.366)	0.005 (0.504)	0.018 (1.773)
Trade share	0.094 (3.817)	0.081 (3.133)	0.085 (3.285)	0.093 (3.623)
Trade share squared	-0.011 (-1.556)	-0.011 (-1.528)	-0.013 (-1.780)	-0.015 (-2.105)
Secondary school enrollment		-0.117 (-4.142)	-0.109 (-3.837)	-0.093 (-3.247)
Population growth			0.923 (2.361)	0.975 (2.515)
Growth of world GDP per capita				0.776 (2.908)
Number of countries	137	105	105	105
Number of observations	605	493	493	493
$R^2$	0.04	0.07	0.08	0.10

Notes: Column heads in parentheses represent the regression number.  $t$ -statistics are in parentheses.

When a small developing economy joins an RTA, the agreement by definition (since it is regional) will mainly include small developing economies. Very few developing economies are in the same region with developed economies. In addition, very few closed economies are neighbors of open economies. As a result, intratrade shares will also be small by definition (since intra-industry trade is very high among developed economies but not among developing economies). Most RTAs have been among small developing economies with relatively high protection, and unless trade agreements stop being regional, this trend will probably persist.

The common argument that recent RTAs are different appears invalid, except in a few cases. All closed economies today are either developing or ex-socialist economies in transition. Given that most countries in the same region with them are economically homogenous, any RTA they can conduct, as an alternative path to broad liberalization, will be similar to most RTAs cited in this paper. Therefore, the empirical results of this paper not only describe the past but may also provide useful policy implications for the present and future.

Possible reasons for most RTAs not resulting in faster growth may be that intra-group trade, even if it increased after the agreement, remained small; trade with more

Table 13. Intra-Group Trade in RTAs as a Percent of Total Exports, and Percentage Changes

RTA	1960	1970	1975	1980	1990	1991	Change: 1960 <sup>a</sup> to 1980	Change: 1960 <sup>a</sup> to 1991
MRU	...	...	...	...	...	...	...	...
UDEAC	1.6	3.4	3.9	4.1	4.3	4.2	156.25	162.5
CEPGL	...	0.2	0.1	0.2	0.5	...	...	150
ASEAN	...	14.7	13.9	17.8	18.5	19.3	21.09	23.83
ACM	...	...	...	...	...	...	...	...
CACM	7.5	26.8	21.6	22	15.6	16.4	193.33	118.67
CARICOM	4.5	7.3	6.7	6.4	5.6	5.3	42.22	17.78
ECOWAS	1.2	2.1	3.1	3.9	5.6	6.1	225	408.33
ECO	2.2	1.1	0.7	2.7	3.7	3.5	22.73	59.09
LAIA/LAFTA	7.7	10.2	12.8	13.5	10.9	13.2	75.32	71.43
EU	34.6	48.9	52.5	.	60.7	61.4	51.73	77.46

Source: UNCTAD (1994).

Note: The acronyms are spelled out in the appendix.

<sup>a</sup>For ASEAN and CEPGL, data were not available for 1960, so the change is taken for the period beginning 1970.

efficient developed countries was diverted; technological spillover effects, if any, were very small; and high trade barriers still kept these economies closed to most of the rest of the world. In the meantime, the members of most RTAs lost the opportunity to benefit from broader liberalization. There are good theoretical reasons to believe that these results do not apply to some of the recent RTAs, which include large and developed economies. However, the results do suggest that broad liberalization will be more beneficial for growth than would most RTAs.

The main question of this paper is how a closed economy should liberalize—through an RTA or through nondiscriminatory openness—and the answer clearly supports the second path. Given the strong empirical evidence on the positive impact of nondiscriminatory liberalization on growth, it is still a puzzle why countries avoid full liberalization and target regional integration instead.

To summarize, when a closed (which implies developing) economy faces the dilemma of nondiscriminatory openness versus participation in an RTA, the actual dilemma is usually between nondiscriminatory openness and an RTA with other also small, developing, and closed economies. Note that the two strategies are not necessarily conflicting. As we have seen, some countries liberalized and joined RTAs at the same time. However, this happened mainly in EU countries. Recent history has shown that countries often joined RTAs instead of following broader liberalization.

Finally, it would be interesting to estimate trade creation and trade diversion for RTAs and then test if the growth impact of each RTA depends on these estimates. The negative estimated coefficient found in this paper for the impact of RTAs on growth may be explained by trade diversion effects. If more trade leads to faster growth, RTAs that result in more trade diversion than trade creation should lead to slower growth. Future research on this issue would be interesting.

### VIII. Conclusions and Policy Implications

This paper has presented time-series evidence that economies have grown faster on average, in both the short and the long run, after broad liberalization, but not after joining an RTA. The estimates for the RTAs are actually negative, and statistically significant in some specifications. These results are true for a variety of empirical specifications of the estimated model.

This paper has also found that time-series variation shows a robust impact of openness on growth, in contrast to some of the cross country evidence. Openness has a direct effect on growth, but also an indirect effect, through higher investment. In contrast, RTAs are found to have a negative, though not always statistically significant, impact on both growth and investment.

There are good reasons to believe that the effect of broad liberalization on growth will be higher in the decades to come than the results in this paper suggest has been the case in the past. Vamvakidis (1997) has shown that the benefits of trade liberalization depend positively on the openness of the world economy. Since the world economy is moving toward more open trade regimes—former socialist economies have joined the world market and many developing countries seem to have abandoned import-substitution policies in favor of more outward-oriented policies—one would

expect the benefits from free trade to have greater potential in the future. While this is what existing theory predicts, only future developments can confirm these predictions.

Future research should focus on establishing theoretical foundations to support this paper's empirical results. Many of the arguments in this paper need to be formalized by better theoretical models that address directly the impact of RTAs on growth, versus that of broad liberalization. Future empirical research should attempt to explain the determinants of trade policy. Better liberalization policies could be designed if it were known why countries protect trade in the first place and why they resist cutting trade barriers even though the growth benefits have been so well documented.

## APPENDIX

### Regional Trade Agreements and Their Members

- Arab Common Market (ACM): Egypt, Iraq, Jordan, Libya, Mauritania, Yemen.
- Andean Common Market (ANCON): Bolivia, Colombia, Ecuador, Peru, Venezuela.
- Association of South East Asian Nations (ASEAN): Indonesia, Malaysia, Philippines, Singapore, Thailand.
- Central American Common Market (CACM): El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica.
- Caribbean Community and Common Market (CARICOM): Antigua and Barbuda, Barbados, Jamaica, St. Kitts and Nevis, Trinidad and Tobago, Belize, Dominica, Grenada, Montserrat, St. Lucia, St. Vincent and the Grenadines.
- Economic Community of the Great Lakes Countries (CEPGL): Burundi, Rwanda, Zaïre.
- European Union (EU): Belgium, France, Germany, Italy, Luxembourg, Netherlands, United Kingdom, Ireland, Denmark.
- Latin American Integration Association / Latin American Free Trade Association (LAIA/LAFTA): Mexico, Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela.
- Mano River Union (MRU): Guinea, Liberia, Sierra Leone.
- Union Douaniere des Etats de l'Afrique Centrale (UDEAC): Cameroon, Central Africa, Chad, Congo, Gabon.
- European Free Trade Association (EFTA): Norway, Switzerland, Iceland.
- BENELUX: Belgium, Netherlands, Luxembourg.
- Indian Ocean Commission (IOC): Comoros, Madagascar, Mauritius, Seychelles.
- South Africa Development Community (SADC): Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia, Zimbabwe.
- Economic Community of West African States (ECOWAS): Cape Verde, Gambia, Ghana, Guinea-Bissau, Nigeria, Togo.
- South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA): Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Papua New Guinea, Solomon Islands, Tonga, Western Samoa.
- Economic Cooperation Organization (Eco): Iran, Pakistan, Turkey.
- Gulf Cooperation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates.

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