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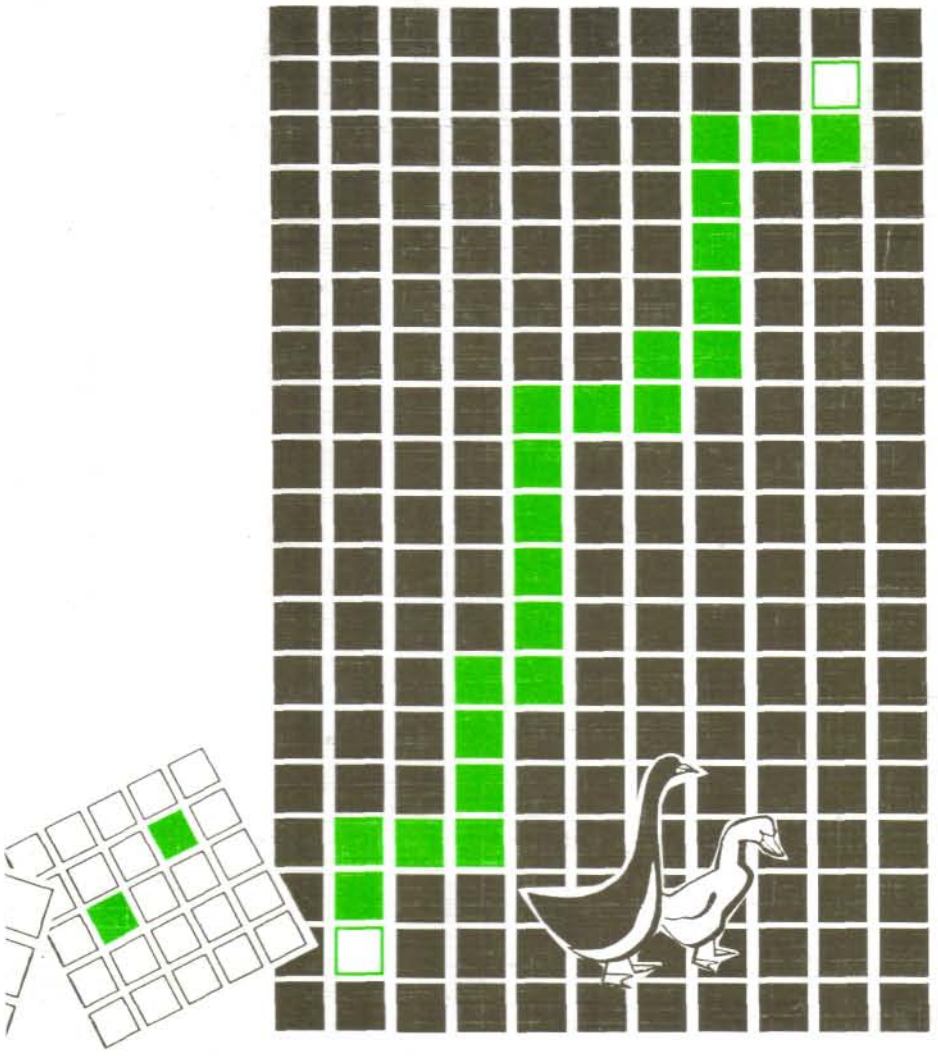

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Contribution of Regional Trading Arrangements to Economic Convergence

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Abstract

A model is proposed to examine the degree to which regional trading arrangements (RTAs) contribute to the process of economic convergence in Latin America and the Caribbean. In addition to RTAs, the analysis considers the importance of gross investment, gross national savings, outstanding debt, service, industry, and agriculture as a percent of GDP, and debt service as a percentage of exports. The findings provide strong evidence of absolute and conditional convergence and point to the importance of RTAs in the regional economic growth. The results suggest that the Caribbean Community, the Andean Community, ALADI, and the Central American Common Market influence the direction of economic growth in the Latin American and Caribbean region.

INTRODUCTION

Regional trading arrangements (RTAs) have been an important mechanism by which countries provide trade preferences to facilitate the exchange of goods and services among members. While the degree of economic integration determines the particular trade preference, the formation of RTAs is likely to have differential impacts on regional economic growth. This differential is to be expected because of variation among countries and regions in output and productivity and the public policies affecting the environment within which economic agents produce and transact. The importance of these variations among RTAs and the implications that they hold for economic growth has not been addressed in the literature. The failure to address such an important issue provides little guidance to policymakers on the convergence implications of bilateral or multilateral trading arrangements or RTAs in regional development.

In general, RTAs are formed to foster economic integration through trade liberalization by replacing quantitative restrictions with tariffs, reductions of tariffs to lower protection, variance in protection across industries and increasing the transparency of trade policymaking (Rajapatirna, 1994a). These elements are often implemented selectively (Schott, 1989) and whether they

lead to broader trade liberalization is open to question (Bhagwati, 1992; Levy, 1997). Indeed, the departure from the most-favored-nation principle to accommodate RTAs under Article XXIV of GATT is allowed under the belief that such an approach would lead to global trade liberalization. Josling (1998) argues that most RTAs help promote efficiency rather than shelter inefficiency because they are formed in conjunction with the liberalization of external trade. Levy (1997) argues that it is politically impossible for bilateral trade agreements to supplant multilateral free trade. In this case, the impact of RTAs on regional economic growth would depend on the degree to which trade is either created or diverted.

Trade creation occurs when a member of an RTA buys from a lower-cost source instead of a high-cost domestic source, and/or when lower internal prices induce an expansion in total consumption that is met by imports (Houck, 1986). The efficiency gains that result from such trade suggest that resources move into industries to capture a country's comparative. Gould (1998) argues that RTAs must create a credible commitment to free trade so that new investment flows into export industries to take advantage of reduced trade barriers. These investment flows reflect a shift of resources to industries that capture a country's comparative advantage and away from industries that do not. However, an increase in trade among the members of an RTA is not a sufficient measure of its success. Such measure requires knowledge of the domestic resource costs of increased trade within the RTA and the reduction in trade with the rest of the world.

While trade creation can occur within an RTA, the selective liberalization policies of RTAs make trade diversion more likely. Such trade occurs when a member of an RTA buys within an RTA but at a higher cost than from rest of the world. This action generally leads to an inefficient use of resources. Lipsey (1960) and Meade (1957) argue that some trade diversion can increase efficiency if there exists economies of scale due to increased production within the RTA. Caves and Jones (1981) show that the welfare effects of trade diversion are quite modest in the absence of domestic price reductions. Gould (1980) suggests that although trade diversion was a possibility under NAFTA, it was unlikely to be a major problem because of the different comparative advantages between Mexico, Canada and the US. These advantages allow resources to shift to areas of their most efficient use within those countries. However, the similarity of the countries in Latin America and the Caribbean in terms of resource endowments, geography and economic policy, makes forecasts about trade diversion more difficult. Moreover, the increased use of non-price trade barriers complicates the delineation of the adverse effects of trade diversion.

Given the above discussion on the importance of trade and RTAs to the Latin American and Caribbean region, the evidence that may allow us distinguish empirically whether RTAs contribute to economic convergence in the region is presented below. The next section examines growth and trade patterns in Latin America and the Caribbean.

Section 3 conceptualizes the convergence models to be estimated. Section 4 discusses the data source and the variables used in the study. Section 5 presents the empirical results. Section 6 discusses the results and their implications for policy.

LATIN AMERICA AND THE CARIBBEAN REGION

The proliferation of RTAs in Latin America and the Caribbean and the importance of the region in global trade provide an important motivation for examining the relationship between regional economic growth and RTAs. The region is home to MERCOSUR, the Southern Common Market; the Andean Community; the Latin American Integration Association (ALADI); the Group of Three (G-3); the Central American Common Market (CACM); the Organization of Eastern Caribbean States (OECS); and the Caribbean Community (CARICOM). These trading blocs have created an environment that is supportive of savings, investment and growth through macroeconomic stability by removing trade barriers, providing liberalized investment and services policies, and privatizing state enterprises (USTR, 1997). These polices have stimulated private investment, encouraged a boom in equity markets, and continue to attract significant inflows of capital. As a result gross domestic private investment grew at an annual rate of 8% between 1985 and 1995, providing a major stimulus to economic growth. During that decade, the structural reform policies increased per capita income by 12%, and regional growth by 2.3% per year (Lora and Barrera, 1997).

Between 1970 and 1980, the annual growth rate in Latin America and the Caribbean was 3.3%. However, for the decade ending 1990, and the period between 1990 and 1997, the annual growth rate was –0.5% and 1.7%, respectively (IDB, 1997). The region grew at 0.1% in 1999 (World Bank, 1998/99). The low growth rate in 1999 might have been a reflection of the effects of the Asian financial crisis in 1997 and 1998.

The Caribbean Community has been much slower in creating an environment supportive of significant economic growth. The CARICOM common external tariff (CET) first proposed in 1973 was given serious attention only in 1988. While the less developed countries within CARICOM have been slow to implement its provisions, the more developed countries within that bloc have made some late progress towards that goal. For example, Jamaica reduced its average tariff level to 20%, the tariff range to 0-45% and maintained quantitative restrictions on 3 import items. Trinidad and Tobago also reduced its average tariff to 20%, has a tariff range of 0-45% and reduced quantitative restrictions on 40% of imported products (Rajapatirana, 1994b). In 1992, member states agreed to reform and implement the CET, including a reduction over a six-year period of maximum rates on non-agricultural tariffs to 20% and to set agricultural tariffs at 40%. Policymakers in the region continue to be occupied with issues on trade in goods, particularly in relation to the CET. In July 1996, at the 17th CARICOM Summit, members noted progress towards the implementation of CET and the gradual elimination of non-tariff barriers such as

licensing systems, quantitative restrictions, and discriminatory internal taxes between CARICOM member states (USTR, 1997). Such a move would significantly enhance the transparency of trade policymaking and increase the market potential of CARICOM.

Two-way trade between the US and trading blocs in the Latin America and Caribbean region has increased significantly overtime. For example, between 1992 and 2000, trade with MERCOSUR, the largest preferential trade agreement in Latin America increased by from $19.4 billion to $38.9 billion, a 100% increase (IMF DOTS March 2002).[1] Except 1992, the U.S. ran a merchandise trade surplus with MERCOSUR for that period. Between 1993 and 2000, the US trade surplus with MERCOSUR increased from $950 million to $2.8 billion, a 194% increase. For the period 1992 to 2000, total trade between the US and the Andean Community increased by 71%. The US ran a trade deficit with the Andean Community for that period. The deficit increased by 477%. Excluding Venezuela, the US had a trade surplus for three of the nine years examined. The Caribbean Community represents the smallest export market in the region with a population of about 6.3 million and an average GDP of approximately $2,500 per capita (USTR, 1997). CARICOM is also a subset of the 28 countries and territories that are potentially eligible for benefits under the terms of the Caribbean Basin Economic Recovery Act (CBERA) created by the US Congress in 1984. Two-way trade between the US and Caribbean Basin countries totaled $31 billion in 1996. The US had a trade surplus of $1.8 billion with those countries in that year.

Intraregional trade and interregional trade among the regional trading blocs in Latin America and the Caribbean have increased in recent years. For example, between 1992 and 2000 trade between Argentina and its ALADI partners increased 145%. Except for 1992 and 1993, Argentina ran a trade surplus with ALADI that increased from $350 to almost $3 billion. In MERCOSUR, total trade between Brazil and its partners increased over 150%. However, except for the first three years, Brazil has been running a trade deficit with its MERCOSUR partners. This situation might help alleviate the recession faced by Argentina in the long run.

Table 1 presents intraregional trade shares for trade blocs in Latin America and the Caribbean for the period 1992 to 2000. The denominator in this ratio, for a member of a particular group, is its total trade, and the numerator is the subset of that trade it undertakes with other members of the grouping (Frankel, 1997). Intraregional share increased from 8% to 13% for Andean Community, 13% to 16% for CARICOM, 5% to 7% for G-3, 27% to 36% for MERCOSUR and 14% to 15% for ALADI. However, intraregional shares decreased from 6% to 3% for CACM. Intraregional trade shares for CARICOM showed a modest increase after Suriname joined that bloc in 1995.

The CARICOM group of countries is disaggregated to examine the contributions of individual countries to intraregional trade (Table 2). The intraregional share for CARICOM increased from 13% to 16% after

[1] *Except where noted, data are from the March 2002 CD-ROM, Direction of Trade Statistics.*

Suriname joined the CARICOM bloc in 1995. However, while Suriname experienced 67% (.06 to .10) change in its share of intraregional trade, the rate of change was greater for several countries within the CARICOM bloc. Trinidad and Tobago's share of intraregional trade increased by 1300% (.01 to .14), while the shares for Jamaica and Guyana increased by 350% (.02 to .09) and 240% (.05 to .17), respectively. The trend in intraregional trade is generally up for most countries.

Despite the usefulness of the intraregional trade shares presented in Table 1, the ratios are likely to be larger for groups with countries in dominant trade positions and smaller for groups of few countries in a trading bloc. MERCOSUR has trade shares between .27 and .36 and the G-3 countries have shares between .05 and .07. Brazil and Argentina are major actors in MERCOSUR, while only three countries form the G-3 group. Frankel argues that a more useful measure of intraregional trade pattern can be obtained by accounting for the group's importance in world trade. This measure can be found by dividing the shares in Table 1 by the region's share of world trade. If bilateral trade takes place in geographic patterns that are simply proportionate to the distribution of total trade, then the ratio should be close to one. However, if trade is concentrated within a given group of countries, that group should show a ratio in excess of one.

Table 3 presents concentration ratios for the trading blocs in Latin America and the Caribbean. All the ratios are greater than one and suggest that the members of each group trade more with each other than would random pairs of countries. Put another way, the evidence suggests that trade is geographically concentrated. While there exists a clear trend upward trend in concentration ratios for the Andean Community, the concentration ratios are trending downwards for the other trading blocs in Latin America and the Caribbean.

The above discussion suggests that intraregional and interregional trade has increased in recent years. This increase may be the result of geographic proximity (Krugman, 1991) or existing discriminatory arrangements (Bhagwati, 1992). However, such an increase is likely to promote efficiency gains as resources move into industries to capture a country's comparative advantage and in so doing enhance economic growth.

CONCEPTUAL FRAMEWORK

The conceptual framework to examine the role of RTAs on economic convergence builds from the old question in international trade theory that examines the question of the impact of cross-country economic integration on factor returns. The factor proportions theory conjectures that, in a fully integrated economy, factor mobility and technology transfer would mitigate differences in factor rewards and that convergence of factor returns would be achieved at all times (Dixit and Norman, 1980). Thus trade integration is expected to lead to convergence of factor returns between countries or regions because regional disparities are unlikely to persist since their presence would set in motion self-correcting movements in prices, wages, capital, and labor, which impart a strong tendency toward

regional convergence (Martin and Sunley, 1998).[2] In this context, countries export the products intensively using the abundant factors of production that raises the demand for the products and for the factors used in the production process. As a result, increases in exports are expected to raise factor rewards to the level of the main trading partners.

Evidence regarding the validity of convergence has been presented in models with imperfect competition and multinational corporations (Helpman and Krugman, 1985), and endogenous growth models (Grossman and Helpman, 1991). The research shows that direct investment by multinational corporations strengthens international trade linkages and fosters convergence. In so doing, the investment and trade linkages accelerate technology transfer and the adoption of new organizational models toward the periphery. However, regional trade agreements and non-tariff trade barriers yields slower rate of convergence than would occur in the absence of trade barriers. Therefore, if convergence is observed at all, it is surely to be true for the countries within a region where factor mobility and technology transfer are relatively easy. By showing evidence on sectoral convergence of productivity, Bernard and Jones (1995), Mallick and Carayannis (1994), and Barro and Sala-i-Martin (1991) indirectly predict the existence of a steady-state level to which factor returns converge.

The conventional test for convergence is generally performed using the model,

$$\frac{1}{T}\ell n\left(\frac{y_{ij}^{t}}{y_{ij}^{t-T}}\right)=\beta_0+\beta_1\ell n\left(y_{ij}^{t-T}\right)+\varepsilon_{ij} \quad (1)$$

where y_{ij}^{t} and y_{ij}^{t-T} denote the real per capita growth rate in country *i* of RTA *j* at time *t*, the final year (1997), and *t-T*, the initial year (1980), respectively; β_1 is a parameter to be estimated (*j's* are dropped for convenience). A finding of $\beta_1 < 0$, where β_1 is the speed of convergence, (see Bernard and Durlauf (1996) for a detailed discussion of this measure) would indicate convergence of output; and *ln* is the natural logarithm.

To examine the differential impact of RTAs on regional economic growth, an RTA dummy variable, D, is included in Model 1. The dummy variable captures differences in regional agricultural policies, technologies, and public policies affecting output and productivity among regional trading blocs. To account for those differences, Model 1 is rewritten as,

$$\frac{1}{T}\ell n\left(\frac{y_{ij}^{t}}{y_{ij}^{t-T}}\right)=\beta_0+\beta_1\ell n\left(y_{ij}^{t-T}\right)+\beta_2 D+\varepsilon_{ij} \quad (2)$$

Model 2 is further modified to account for observed differences among countries in Latin America and the Caribbean. The vector of variables used to account for those differences have been shown to be important in the literature on economic growth. More specifically, Model 3 is written as,

[2]For a different view see Myrdal (1957), and Kaldor (1970, 1981).

$$\frac{1}{T}\ell n(\frac{y_{ij}^{t}}{y_{ij}^{t-T}}) = \beta_0 + \beta_1 \ell n(y_{ij}^{t-T}) + \beta_2 D + \beta_i's\ \ell n(Z_{ij}^{t-T}) + \varepsilon_{ij} \quad (3)$$

where Z is a vector of explanatory variables and β_i 's are parameters to be estimated; $\sum^{7}_{i=1}Z$. Convergence is absolute only if $\beta_i's = 0$ and conditional if $\beta_i's \neq 0$. Conditional convergence considers the fact that each economy has different structural characteristics and that different countries will have a different steady-state relative to per capita growth.

DATA SOURCE AND VARIABLE DESCRIPTION

The data for the initial year of the study were obtained from the Food and Agriculture Organization website: http://apps.fao.org/ with links to gopher://lanic.utexas.edu/11/la/region/ aid, in October, 1997, and the website of the Inter-American Development Bank, http://www.iadb.org in November 2000 for the final year. The specific data include, real per capita gdp growth (*gdp*), gross domestic investment as a percent of *gdp* (*gdpinv*), gross national savings as a percent of gdp (*gdps*), outstanding debt as a percent of *gdp* (*gdpd*), debt service as a percentage of exports (*debexp*), agriculture as a percent of *gdp* (*aggdp*), and the percentage of service (*serv*) and industry (*indus*) of *gdp*. The dependent variable (*gdp*) and independent variables are all expressed in natural logarithms. The hypothesize signs based on economic theory and studies in the literature are as follows: *gdps*>0, *gdpd*<0, *debexp*<0. The impact of *aggdp*, *serv* and *indus* on *gdp* would depend on the stage of development of the country and the economic significance of the respective sector. An agricultural sector that is concentrated in export of raw materials, for example, is less likely to have a major impact on economic growth than a sector in which the raw materials are processed and value is added to the agricultural product. In general those impacts are expected to be positive.

The RTA dummies examined in the analysis include MERCOSUR (MERC), the Andean Community (ANDY), the G-3, the Central American Common Market (CACM), the Caribbean Community (CCOM) and the Latin American Integration Association (ALADI).

EMPIRICAL RESULTS

The results for models 1 through 3 developed in the conceptual framework are reported in Table 4. To address possible cross-sectional dependence, the results are corrected for heteroskedasticity. The *gdpi* variable has a negative sign and statistically significant and suggests that countries with low *gdp's* in the initial period experienced increases in *gdp* through 1997.

The equations reported in Table 4 explain between 90% (adjusted R) to 94% of the variation in real per capita *gdp* growth. Equation 1 presents the estimates for absolute convergence without considering region-specific variables. The model explains 90 percent of the variation in real per capita *gdp* growth in Latin America and the Caribbean.

The inclusion of the RTA dummy variables in Equation 2 does not increase the explanatory power of the model. MERC and ALADI are not significant (G-3 is the omitted variable).[3]

The regional dummies capture region-specific variation in the intercept term with the G-3 group being the omitted group. With this specification, the constant of the regression equation (0.0906 in equation 2) measures the intercept term for the omitted (G-3) group. The coefficients of CCOM (-0.0341), ANDY (-0.0606) and CACM (-0.0568) in equation 2 measure differential effects for the CARICOM Community, the Andean Community and the Central American Common Market compared to the G-3 bloc, respectively. The results indicate that these regions are statistically different from the G-3 with respect to region-specific variations.

The inclusion of *gdpd*, *gdps*, *gdpinv*, *debexp*, *aggdp*, *serv*, and *indus* in equation 3, increases the explanatory power of the model from 90% to 94%. The speed at which convergence occurs decreases from 5.8% to 0.5%. The Andean Community remains significant with a negative sign, the CARICOM variable also remains significant with a change in sign. Further, ALADI becomes significant but Central American Common Market is no longer significant. The lack of statistical significance in CACM, suggests that the conditional convergence process in the Central American Common Market becomes similar to that of the G-3 bloc when regional variables are considered.

[3] *Dummy variables are included for the countries in their respective groups. For example, there is a Colombia dummy in G-3 and in the Andean Community.*

Discussion and Policy Implications

The finding of convergence is robust across all the estimated models. The results support the hypothesis that countries with low real per capita *gdp* growth in the initial period had higher growth in the final period. The models explain between 90% and 94% of the variation in real per capita *gdp*. The mixed results obtained for the trading bloc dummy variables are not unexpected because of the variation in output and productivity and the differing policy environment that exist among the countries and regions.

MERCOSUR, and ALADI are not significant in the absence of conditional variables, while the Caribbean and Andean Communities, and the Central American Common Market group of countries are significant. All three significant dummy variables have a negative sign. When the conditional variables are considered, the sign for Caribbean Community changes from negative to positive, the sign for the Andean Community remains negative, and the Central American Common Market dummy is no longer significant. However, ALADI becomes significant with a negative sign.

The magnitude of the coefficients for the significant dummy variables in Equation 2 suggests that holding the other constant, each bloc exerts the same negative influence on growth in the region. The analysis indicates that growth in Latin America and the Caribbean is between 0.94 and 0.97 [exp(coefficient dummy)] of what it should be in the presence of the trading blocs. This result may be due to trade diversion effects

and certain inefficiencies that such a condition creates in the economies of the particular countries. However, the significant dummy variables in Equation 3 have an overall positive effect on growth when conditional variables are considered.

According to Equation 3 there is a positive relationship between real per capita *gdp* growth and the Caribbean Community and ALADI dummy variables and a negative relationship between real per capita *gdp* growth and the Andean Community. Rajapatirana (1995) argues that the Andean Pact showed the worst performance in terms of intra-regional trade given its complex set of regulations to implement a sub-regional agreement within the Latin American Free Trade Area in 1960 and its emphasis on promoting import substitution. The analysis indicates that growth in Latin America and the Caribbean is between 0.99 and 1.01 [exp (coefficient dummy)] more than what it should be in the presence of conditional variables for the significant trading blocs. Put another way, Caribbean Community and ALADI have a 1% effect in increasing growth in the region. While it is beyond the scope of this paper to examine each country individually, and examine each country within specific regional blocs to determine possible reasons for the above findings, a glance at the literature provides some useful insights.

First, significant reforms that would contribute positively to *gdp* growth took place after the initial period examined. Lora and Barrera show that growth rates for 19 Latin American countries were only 0.8% in the three prior years to reform or stabilization, compared to 3% to 3.7% after the process was implemented. Lee (1996) argues that the evidence supporting convergence is sensitive to the sample selected. Second, even with trade liberalization many countries continued to protect certain sectors of the economy (Rajapatirana, 1995). Such action creates a misallocation of resources and has a negative impact on economic growth over time (Kruger, et al.). Moreover, according to the Sachs-Warner index for openness, Latin America waited until the first half of the 1990s to make a significant switch towards economic openness (Sachs and Warner, 1995). This development could mean that the region has been slow to benefit from policies pursuing open trade regimes. These regimes lead to greater exposure to a worldwide stock of productivity-enhancing knowledge and increased growth. Frankel tests for the impact of openness on trade in the Andean bloc towards the end of the 1980s and finds very little effect on trade volume.

Third, educational deficiencies particularly among the poorest countries provide a major obstacle to achieving significant economic growth. In 1980, for example, the primary completion rate which measures the ability of a school system to keep children enrolled until they graduate was less than 50% for ANDY, about 50% for CACM, compared to over 80% for CCOM. There exists a positive direct relationship between education and growth through human capital accumulation, and indirectly through its positive impact on productivity (Lora and Barrera).[4] Though the

[4]*It is not surprising that of the $45 billion in loans made available by international lending agencies for poverty*

education statistics may help explain some of the differences among the RTAs in Latin America and the Caribbean it cannot account for all the discrepancies among the regions.

The results on conditional convergence provide some important insights into the process of economic growth in Latin America and the Caribbean. In the case of *gdpd*, the analysis suggests that increases in *gdpd* hinder growth performance. While the point at which this phenomenon occurs is not calculated, significant debt as percentage of *gdp* clearly limits the capacity of a country to invest in local infrastructure and human resources. Thus the direction of the sign and the significance of the coefficient support the expected conclusion. However, the negative coefficient of *indus* is unexpected. Intuitively, on would expect that increases in the percentage of industry in *gdp*, would lead to increases in *gdp* growth. The results might be suggesting a misallocation of labor since capital-intensive industrial development creates little demand for labor that is often in great supply in agricultural economies (de Janvry, 1981). Easterly (2001) explains that in the absence of a supporting environment the investment in buildings and machinery as the key to long-run development in the developing world has not materialized.

The stylized approach to agricultural development suggests that during the process of economic development increases in agricultural productivity creates an excess supply of labor that is used in other sectors of the economy. Increasingly, the service sector is assuming a major role as an engine of growth in developing countries. It is not surprising, therefore, that the coefficient of *serv* is positive and significant at the 15% level. However, the positive and significant relationship between *gdp* growth and *debexp* is surprising. One would expect that increases in debt service as a percentage of exports would have a negative effect on economic performance. On the other hand it may be that the loans received by the governments in Latin America and the Caribbean are being used productively to increase economic growth.

The *gdpinv* variable is negative and significant at the 10% level. This finding is surprising and possibly reflects the very low and decreasing investment productivity in Latin America and the Caribbean during the period examined. Since gross private domestic investment includes all final purchases of machinery, equipment and tools by business enterprises, all construction and change in inventories that give rise to jobs and incomes, the relationship between the environment created by the public sector is crucial to the provision of investment opportunities that encourage growth in the private sector. Dijkstra and Hermes (2001) conclude that decreased debt may contribute to growth by reducing uncertainty with respect to debt service payments, which in turn may increase the effectiveness of government policies and consequently provide the private sector with positive signals about future profitability of their investment. The private sector normally

reduction, health services, small business development and education at the second Summit of the Americas held in Santiago, Chile, April 17-20, 1998, $6.1 billion was dedicated to help improve education.

compares the marginal efficiency of their investment on physical capital with interest rate returns on financial capital when deciding to undertake an investment project. Thus in the absence of debt relief the capacity of earning assets such as machinery and equipment to create jobs are adversely impacted. Easterly (2001) finds that on balance that there exists no relationship between investment and growth in several developing countries.

The negative and significant coefficient of *aggdp* can be explained as follows. In general, raw or unprocessed materials constitute the bulk of agricultural products from developing countries. This factor limits the economic linkages to the rest of the economy by employing primarily backward linkage effects. These effects utilize inputs such as labor, to produce the output but does not benefit from the forward linkage effects whereby the output is used as an input in a new activity. Sachs and Warner (1997) show that there exists a negative relationship between economic growth and increases in the proportion of primary products to total exports.

The negative and significant sign on the savings variable, *gdps,* is surprising. If the stylized fact that major increases in savings precede significant economic growth is correct, the results suggest that the region has a long way to go before savings positively influences growth. On the other hand significant savings mean less consumption which produces a decline in profit expectations of business, which in turn results in less investment. Japan, for example, has one of the highest savings rate in the world but is mired in a long-running recession.

The above findings clearly hold important policy implications for debt as a percentage of *gdp* and indicate that a judicious approach to borrowing and a program of debt restructuring may be needed to increase economic growth. The results suggest that while debt as a percentage of exports may be necessary to finance infrastructure and for human capital formation, a significant debt burden as a percentage of *gdp* may be unsustainable for long-run economic growth. Clearly returns from productive assets that go towards repaying outstanding debt are not available for (i) carrying out economic reforms, (ii) investments in physical infrastructure, and (iii) human infrastructure development such as health and education programs thereby reducing growth prospects. The negative relationship between debt and growth – often referred to as the "debt overhang" hypothesis - also suggests that governments may have no incentive to initiate macroeconomic reforms and sound economic policies since the returns from such reforms may be used to repay outstanding debt (Krugman, 1988). Such a position further reduces the incentive for the private domestic investment and may lead to low or negative economic growth.

The findings also show that possible inefficiencies exist in investment and savings in the region. As businesses compare the marginal efficiency of investment when deciding which capital project to undertake, they are likely to invest in projects that can only be profitably undertaken in the long-run. This prospect for investment is enhanced by the reduction in uncertainty of debt service

payments which signals an increased likelihood of a profitable business environment. The results also show that the service sector is poised to play an important role in the region. Though often not traded, services are important sources of foreign exchange earnings and contribute to economic growth in Latin America and the Caribbean. In that regard, a prudent strategy would involve increasing the economic linkages between the service sector and the rest of the economy. However, as the 1997 Asian financial crisis illustrates in the absence of requisite institutions needed to facilitate efficient resource allocations in open economies, significant economic instability that adversely affect growth may follow. Finally, while public policies to a great extent have favored industrial development, the results point to the need to carefully examine that approach to perhaps utilize policies that may encourage more labor-intensive development strategies.

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Table 1. Intraregional Trade as a Share of Total Trade of the Region, 1992-2000.

	1992	1993	1994	1995	1996	1997	1998	1999	2000
ALADI	0.14	0.15	0.16	0.17	0.16	0.17	0.16	0.13	0.15
ANDY	0.08	0.10	0.11	0.13	0.12	0.13	0.12	0.11	0.13
CACM	0.06	0.06	0.07	0.08	0.10	0.07	0.07	0.07	0.03
CARICOM	0.00	0.13	0.14	0.13	0.13	0.18	0.18	0.17	0.16
G-3	0.05	0.06	0.07	0.07	0.06	0.07	0.08	0.06	0.07
MERCOSUR	0.27	0.31	0.33	0.33	0.36	0.36	0.36	0.34	0.36

MERCOSUR = South American Common Market (Argentina, Brazil, Paraquay, Uruguay)
Andean Community = (Bolivia, Colombia, Ecuador, Peru, Venezuela)
G-3 = Group of Three (Columbia, Venezuela, Mexico)
ALADI = Latin American Integration Association (Mercosur + Andean Community + Chile and Mexico)
CACM = Central American Common Market (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua)
CARICOM = Antigua Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia, Suriname, St.Vincent, Trinidad & Tobago.
Source: Author's calculation, from Direction of Trade Statistics.

Table 2. Intraregional Trade as a Share of Total Trade for CARICOM Countries, 1992-2000.

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Antigua/Barbuda	.069546	.085667	.057355	.079647	.114996	.137983	.112434	.063535	.037557
Barbados	.220345	.240535	.224307	.211357	.201845	.174994	.21378	.229751	.251836
Belize	.043224	.038347	.040359	.043409	.036141	.039894	.043774	.044466	.038939
Dominica	.247609	.250031	.308421	.300709	.297396	.319021	.24046	.285964	.264136
Grenada	.244652	.31176	.278443	.274407	.266624	.280461	.319158	.29768	.291856
Guyana	.100162	.106231	.048678	.048805	.134636	.149756	.152085	.158506	.167978
Jamaica	.037306	.043727	.024608	.018733	.073095	.078452	.082112	.083009	.089577
St. Kitts/Nevis	.015255	.050144	.086273	.079947	.187939	.158474	.144215	.157232	.157791
St. Lucia	.1006	.101371	.123339	.111763	.244087	.274049	.248671	.276723	.273952
St. Vincent/ The Grenadines	.325233	.302842	.340281	.3528	.316977	.314282	.294934	.120908	.150993
Suriname	.092128	.095809	.05957	.057214	.095886	.089381	.084735	.088013	.103393
Trinidad/Tobago	.082947	.105569	.01281	.012383	.148746	.144525	.149487	.158149	.136777

Source: Author's calculation, from Direction of Trade Statistics.

Table 3. Simple Intraregional Trade Concentration Ratios, 1992-2000.

	1992	1993	1994	1995	1996	1997	1998	1999	2000
ALADI	3.81	3.72	3.71	4.13	3.69	3.39	3.11	2.65	3.06
ANDY	11.44	12.41	14.36	16.34	15.69	15.25	16.02	16.08	17.22
CACM	29.03	26.84	26.24	24.66	29.85	18.79	16.02	12.08	4.13
CARICOM	0.00	82.27	100.68	75.88	69.47	85.31	90.14	80.95	64.51
G-3	2.51	2.94	2.65	2.63	1.94	1.88	1.87	1.39	1.34
MERCOSUR	62.66	64.46	54.05	52.27	47.65	40.78	39.52	44.88	41.66

Source: Author's calculation, from Direction of Trade Statistics

Table 4. Coefficients for Convergence in Latin America and the Caribbean

Ind. Variables	Equation (1)	Equation (2)	Equation (3)
C	0.6064 (8.27)	0.0906 (9.25)	4.942 (2.81)**
GDPI	-0.5959 (-12.98)**	-0.0581 (-12.94)**	-0.0046 (-6.025)**
GDPD			-0.0029 (-2.06)**
GDPS			-0.0042 (-2.50)**
GDPINV			-0.0039 (-1.67)*
DEBEXP			0.0052 (3.58)**
AGGDP			-0.0051 (-2.38)**
SERV			0.0025 (1.47)
INDUS			-0.0097 (-2.33)**
CCOM		-0.0341 (-1.69)*	0.0098 (2.26)**
MERC		-0.0208 (-0.95)	0.0024 (0.66)
ANDY		-0.0606 (-5.33)**	-0.0086 (-4.00)**
ALADI		0.0092 (0.54)	0.0063 (2.03)**
CACM		-0.0568 (-3.36)**	0.0026 (0.67)
R^2	0.90	0.90	0.94
N	37	37	37

t-values are in parenthesis;
"" and "**" denote significance at the 10% level and 5% and better level, respectively.*