REGIONAL INTEGRATION. WHAT IS IN IT FOR CARICOM?

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Abstract

Economic and political integration have been a perennial and neuralgic issue in the Caribbean agenda. This paper draws on the literature on trade, growth and regional agreements to discuss the motivation behind the Caribbean drive for integration, the results obtained so far and what is in stock for the future. It argues, with the help of descriptive statistics, an empirical growth model and a gravity model, that the traditional, trade related gains from regional integration have been and are bound to be limited because of (i) the countries' high openness; (ii) the limited size of the "common", enlarged market; and (iii) the countries' relatively similar factor endowments. It also argues, though, that gains in the area of "non-tradables", due to economies of scale which cannot be mitigated by trade and openness, can be substantial.

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Introduction

Economic and political integration have been a perennial and neuralgic issue in the Caribbean agenda. As an analyst has put it "*the recognition of the seminal truth that only a unified Caribbean, politically and economically, can save the region from its fatal particularism is at least a century old*" (Lewis 1968, p. 363). Despite this early awareness, the first ambitious and wide-reaching policy initiative would only come in 1958, in the last throes of colonial rule, with the ephemeral West Indian Federation. The collapse of this initiative in 1962 did not mean, however, the end of integrationist ideal, which would flare up again six years later in the form of the less ambitious Caribbean Free Trade Zone (CARIFTA). Since then, despite the difficulties, countries in the region have been constantly raising the stakes and aiming at deeper, broader and more complex forms of integration. In 1973, they established the Caribbean Community and Common Market (CARICOM), which aimed at a custom union and at policy and functional cooperation. In the 1990s, new (culturally and economically diverse) members were brought into the agreement and ambitious targets were set to create a single market and economy (CARICOM Single Market and Economy-CSME) with full factor mobility and harmonization of economic policies.

All this integrationist zeal begs the question: What are the main forces driving this push for integration? Is it politics, economics or both? What do these underlying forces tell us about the rationality of the process and, therefore, its chances of success? What lessons can be learned from more than three decades of integration? It is not, for sure, the first time these questions are being asked. Politicians and economists alike have already made numerous efforts to clarify those issues and yet some gaps of understanding remain about motivation, rationality and results. Given that politicians in the region are on their way to build what may arguably be the most deep and comprehensive process of integration in the western hemisphere, the time could not be more opportune for a concerted effort to fill these gaps. This paper makes an attempt in this direction and it is divided into four sections including this introduction.

Section I draws on the literature on trade, growth and regional agreements to discuss the motivation behind the Caribbean drive for integration. It seeks to understand what are the political and economic arguments, what sort of gains can be realistically expected from this integration and what sort of policies should be pursued to maximize those gains. It argues, with the help of an empirical growth model, that the traditional gains from regional integration, be that the enlarged market effect--which seems to be the countries' main motivation—the competition or the allocational gains, are bound to be limited because (i) the Caribbean economies display a high degree of openness; (ii) the "common", enlarged market is bound to be relatively small and (iii) countries have relatively similar factor endowments. It also argues, though, that, unlike the traditional effects, the gains of integration in the area of "non-tradables", i. e. services related to the countries' social and physical infrastructure, can be substantial.

Section II takes a look at the rear mirror and discusses integration results in the last three decades in the light of the issues raised in Section I. Using descriptive data and a gravity model, it tries to shed some light (i) on the impact of the regional agreement on trade

and (ii) on the possible determinants of those impacts, i.e. design, implementation and the intrinsic south-south nature of the agreement. The analysis of descriptive data points to a positive, though modest, impact of regional preferences on intraregional trade, with most of the gains happening before CARICOM was signed. The gravity model confirms the trade creating nature of the preferences, but does not offer plausible results in terms of the magnitude of the impacts. The model suggests, though, that, whatever the magnitude of the gains, they have been declining since the 1970s despite the trade creating reforms of the 1990s.

Section III summarizes the main findings and conclusions with a focus on what is arguably the main message of this paper: that integration gains in non-tradables, resulting from regional cooperation in the countries' social and physical infrastructure, are likely to dwarf the traditional grains from trade.

Section I - Motivation, expected benefits and optimal design.

Where does the motivation for regional agreements come from? The literature on regional agreements suggests that they are inspired by the interplay of political and economic arguments whose dominance is often difficult to establish (World Bank 2000 and IDB 2002). The political arguments range from regional security to bargaining power. That is, countries have been signing regional agreements because they believe integration would (i) reduce political and military rivalry among member countries (e.g. European Union and MERCOSUR), (ii) reduce the political and military threat of countries outside the agreement (e.g. Association of Southeast Asian Nations-ASEAN) and (iii) increase their bargaining power in international negotiations (an argument behind most agreements).

In the case of the Caribbean, or to be more precise, of the Anglo-Saxon Caribbean, none of these political arguments seems to have carried much weight, with perhaps the exception of the bargaining argument in later stages of CARICOM integration. That does not mean, however, that politics did not play a part. In fact, the goal of regional integration appears to have emerged as a tool for political independence. Both the colonizer (Britain) and the colonies (West Indies) at some point shared the belief that, given the small size of the "administrative units", political independence was only viable under the form of a federation, or to be more precise, the West Indian Federation established in 1958 (Lewis 2002).

The size appeal

Behind this political motivation lay an economic understanding that there was a minimal size below which countries or governments could not be economically viable. It did not take long, however, for the larger units of the federation, i.e., Jamaica and Trinidad and Tobago, to realize that the size constraints on political emancipation were not that binding and this realization, compounded by a skeptical view of the benefits of regional integration, eventually led to the collapse of the federation in 1962. Yet, the underlying idea that size was an important constraint appears to have lingered on in the politicians' minds—not as impediment for statehood, but as a limitation on economic

development—and this perception appears to have been the main driver behind the renewed attempts at regional integration that followed, first with CARIFTA in 1968, a free trade zone, later on with CARICOM in 1973, basically a custom union and finally with the CSME in the late 1990s, which aims at a common market and harmonization of economic policies.

Some knowledgeable Caribbean analysts, while acknowledging that economic motivation has played a leading role in the process of integration, argue that this approach is misplaced and that "the real basis and impetus for our integration is cultural"(Farrell 1981).[1] That may well be the case, but the emphasis on size constraints is not something that sets the Caribbean apart from other regions around the world. In fact, on purely economic grounds, the overriding motivation for regional agreements has been, as a well-known theorist has put it, to reduce some of the disadvantages of small size (Venables 2003). That is, countries get together to enjoy economies of scale, which would allow them to increase productivity, diversify their output and ultimately boost growth.

This prominence of size seems to be well grounded on economic theory, where, since the writings of Adam Smith, one can find arguments to support the notion that size matters for welfare and growth. Smith, for instance, explains that the division of labor, and therefore the benefits it brings in terms of productivity and output diversification, is limited by the extent of the market. In his words: "*As it is the power of exchanging that gives occasion to the division of labor, so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market*." (Smith 1902, p.20).

The issue of size is also discussed by the more recent theories of trade and growth. The former argue that economies of scale play a key role in shaping patterns of trade, particularly between countries with similar factor endowment, and also have a bearing on the gains of trade. For instance, they draw attention to the fact that these gains cannot be guaranteed if trade leads to a reallocation of resources away from increasing returns to diminishing returns to scale industries, an event more likely to affect smaller countries (Helpman and Krugman 1986). [2] Likewise, the endogenous growth theories suggest that large countries are more likely to grow faster because growth is seen as depending on innovation that, in turn, is believed to be an activity intensive in "scale effects". That is, *ceteris paribus*, the larger the country, the more likely it will innovate because of its bigger pool of researchers (which are more likely to learn from each other), higher incentives (larger market) and lower costs (less duplication and larger production runs) (e.g. Grossman and Helpman 1991 and Rivera-Batiz and Romer 1991).

There are also arguments that go beyond the impact on trade and growth. Alesina and Spalaore (2003), for instance, speak of size advantages that are perhaps more closely related to the concerns that led to the West Indian Federation. They argue that larger

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[1] Ross-Brewster (2000) makes a similar point.

[2] The intuition here is that countries with larger markets are likely to have lower costs in the production of goods subjected to economies of scale. For instance, in the case of trade between a large and a small country, assuming there is no difference in technology between countries and goods are homogenous, the large country, because of its larger internal market, tends to have lower costs and, therefore, tends to monopolize the production of the scale-intensive goods.

countries: (i) have lower per-capita costs in the provision of public goods (e.g. infrastructure, defense, regulation, health, police, etc.); (ii) can better internalize cross-regional externalities by centralizing the regulation of externality-prone activities (e.g. environmental regulation); (iii) can provide better insurance to region specific shocks (e.g. recessions, natural disasters, etc.); and (iv) can attenuate regional disparities with redistributive schemes. One way of summarizing all these advantages is to speak of advantages to develop the country's social and physical infrastructure, with the former being defined as "*the institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output*" (Hall and Jones 1999).

It is not surprising that arguments like these have resonated deeply in a region where all but three countries (Jamaica, Trinidad and Tobago and Haiti) are classified by the United Nation as "microstates".[3] In fact, this type of reasoning has encouraged some analysts, from the Caribbean and elsewhere, to take a step further and to talk about the specific vulnerabilities of "small island states", a category which would suffer from both economic ("smallness") and geographical disadvantages (remoteness) and that would encompass most Caribbean states (see e.g. Witter, Brigulio and Bhuglah 2002 and CARICOM 2005, chapter 7). Some of the alleged economic disadvantages of the small island states are based on the arguments just reviewed above (e.g. high export concentration and vulnerability to natural disasters), yet others are specific neither to islands nor to small countries (e.g. remoteness, energy dependence and "financial dependence") and still others cannot even be considered disadvantages at all (e.g. trade openness).[4]

Inconsistencies aside, the very existence of this type of literature confirms the strong perception among Caribbean states about the economic disadvantages of their limited size. If, on the one hand, this helps to explain why economics and not politics appears to be driving integration in the region, on the other, it suggests a paradox: If the Caribbean states are so size-conscious, why did they not move earlier and faster towards deeper and more complex forms of regional integration? Or, to put it differently, why was the CSME not proposed in the sixties or seventies rather than early this century?

A Caribbean Paradox? Preferences and openness.

Sure, part of the answer lies in the politics of sovereignty, but how does that relate to size? Alesina and Spaloare (op cit.) suggest an insightful approach to clarify this issue. As they argue, if size only had benefits, the world should be organized as a single political entity. This is even more true for the Caribbean, where, as mentioned earlier, most countries lie at the low end of the country size distribution. Size, though, also has costs and they come mainly in the form of heterogeneous preferences. That is, the larger the country, the more difficult it is to devise policies and produce public goods that satisfy everybody's preferences, particularly because larger populations and territories tend to have more heterogeneous preferences. Countries, then, that are considering

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[3] Countries with a population of one million or less.
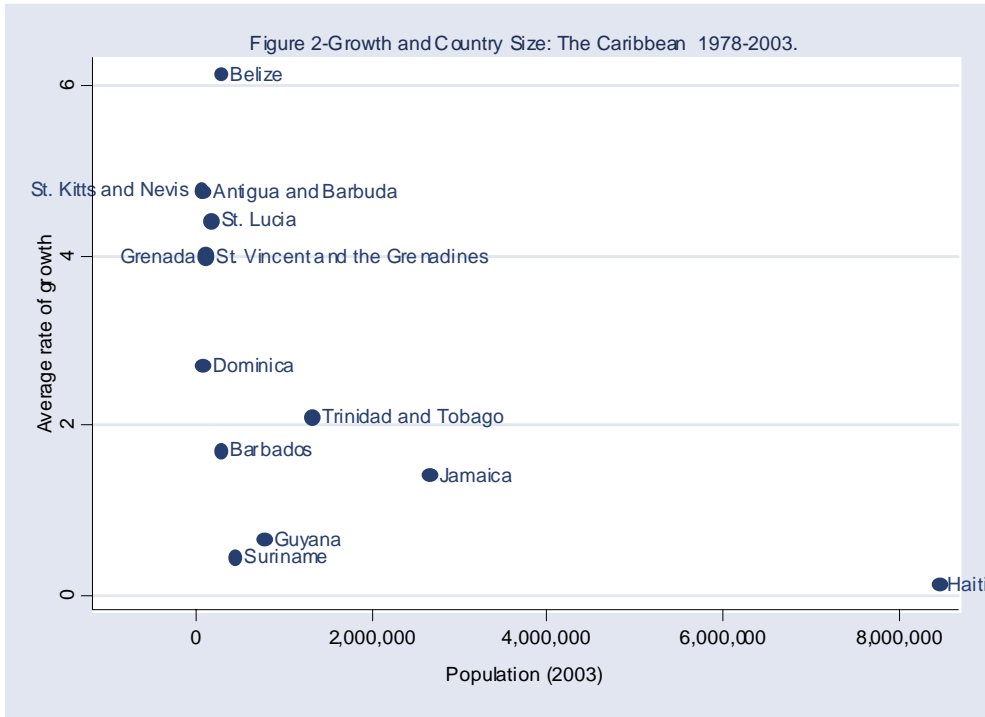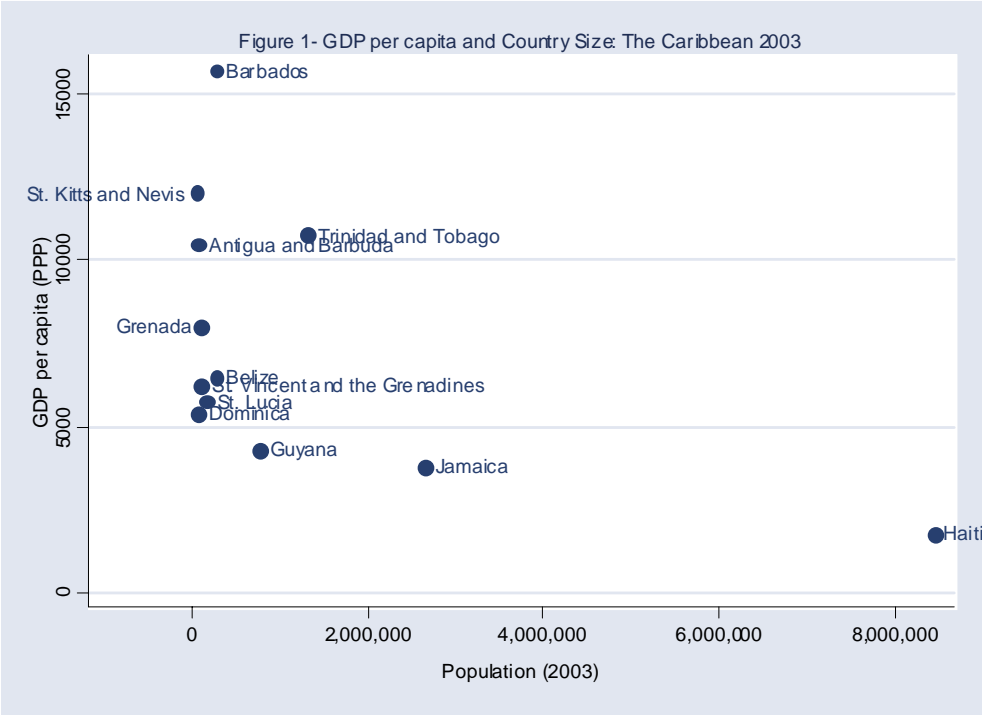[4] See Srinivasan (1986) for a critical review of these arguments.

joining some sort of political union or even a common market face a trade-off between the benefits size and the costs of heterogeneous preferences.

What is so striking about the Caribbean experience is that the equilibrium between these costs and benefits has been translated so far into very small country sizes and limited forms of integration. Either the Caribbean countries have been valuing their distinct preferences very highly (despite the "shared cultural identity") or--size-awareness aside--they see the size benefits of integration as being small. The answer is likely to be both.

We can only speculate about preferences, but the history of political independence and integration in the region suggests that they are indeed a major issue. As Doumenge (1983), quoted in Srinivasan (1986 p.212), pointed out, small island states are known to be highly protective of their sovereignty rights. In his words: " *islanders are never happier with insularity than when asserting that they are completely different from their neighbors, particularly with regard to language, customs, laws, legal and administrative regulation, currency, system of government and all other symbols which demonstrate the small self-contained universe. Consequently, small islands tend to band together only under the influence of external forces*."

If preferences are difficult to gauge, size benefits are easier to estimate and there seems to be good reason for the region not to be so enthusiastic about it. Whereas the theory behind country size advantages seems to be robust, the empirical evidence falls well short of supporting its conclusions. As a number of authors have pointed out (e.g. Easterly and Kray 1999, Alesina, Spolaore and Wacziarg 2004 and Rose 2006), there is no systematic evidence showing that small countries, even after controlling for a number of factors including natural resources, are poorer or grow more slowly than larger countries. This seems to hold even for the Caribbean alone. As can be seen in Figure 1, there is no clear relationship between size and wealth in the region. If anything, smaller countries tend to be richer than larger countries. Figure 2, in turn, shows that size and growth do not seem to be correlated either. Again, if anything, smaller countries appear to have a better performance than larger countries.

It may well be that after controlling for all possible factors that affect growth and wealth these results are reversed. Yet, at the very least, one can argue that in the Caribbean, as well as in the rest of the world, size constraints, if they are really binding, have not been debilitating enough to prevent a significant number of very small countries from outperforming their larger counterparts. These results seems to be strong enough to keep policy-makers wondering if they are really missing something by being small, and this probably did not go unnoticed in the region.

Figure 1- GDP per capita and Country Size: The Caribbean 2003

Figure 2-Growth and Country Size: The Caribbean 1978-2003.

But if the theory looks sound, why does the data not offer any significant support? Is the theory wrong? Should Caribbean policy-makers forget about size constraints to development and therefore find other political and cultural motivations to integrate? Well, not quite. What seems clear is that the theory has induced analysts to overrate the disadvantages of size by not drawing attention to the distinction between the political

size of the country and the size of its market. This point is convincingly made by Alesina and Spolaore (op cit.), who remind us that in an open economy the two do not necessarily coincide. Even if the area and population of a country are small, by having access to world markets, the actual size of its market can be many times that of its domestic market. Trade, then, can be a powerful instrument to attenuate the restrictions of size and it can effectively shift the trade-off between its costs and benefits. As the authors put it: "*As international markets become more open the benefits of size decline relative to the cost of heterogeneity, thus the optimal size of country declines with trade openness*" (p.6).

This insight suggests that the Caribbean paradox may not be a paradox at all. As can be seen in Figure 3, all countries in the region, with the exception of Haiti, have trade-to-GDP ratios that are well above the world and Latin America's average. Greater openness, fuelled, *inter alia*, by unilateral preferences granted by the UK and later by the European Union (African, Caribbean and Pacific-European Union - ACP-EU partnership) and the US and Canada (Caribbean Basin Initiative and CARIBCAN) has probably attenuated the size handicap, reducing the appeal of regional integration without, however, making its heterogeneity costs smaller.

Openness to capital flows, which in the Caribbean case has foreign direct investment and aid among its main components, may also have played a role in relaxing size constraints and in making integration less of an imperative. As can be seen in Table 1, the Caribbean inflows of aid per capita in the last three decades have reached levels well above those of Sub-Saharan Africa or LAC as a whole, particularly among the smaller countries that form the Organization of Eastern Caribbean States (OECS).[5] Most countries in the region have also received substantial amounts of foreign direct investment as a percentage of their GDP (Table 2), often reaching levels well above LAC's and East Asia's averages.

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[5] The Organization of Eastern Caribbean States, which involves as free trade zone and a monetary union was created in 1981 and comprises Antigua and Barbuda, Dominica, Grenada, Montserrat, St Kitts and Nevis, Saint Lucia and St Vincent and the Grenadines. Anguilla and the British Virgin Islands joined in 1995 and 1984, respectively. See CARICOM 2005 for details.

Figure 3- Trade (% of GDP): Caricon, LAC and the World. 2002

	Value
Latin America & Caribbean	44
World	48
Haiti	50
Suriname	66
Jamaica	92
Trinidad and Tobago	97
St. Lucia	99
Grenada	105
Barbados	107
St. Vincent and the Grenadines	110
Dominica	117
St. Kitts and Nevis	117
Belize	119
Antigua and Barbuda	129
Guyana	199
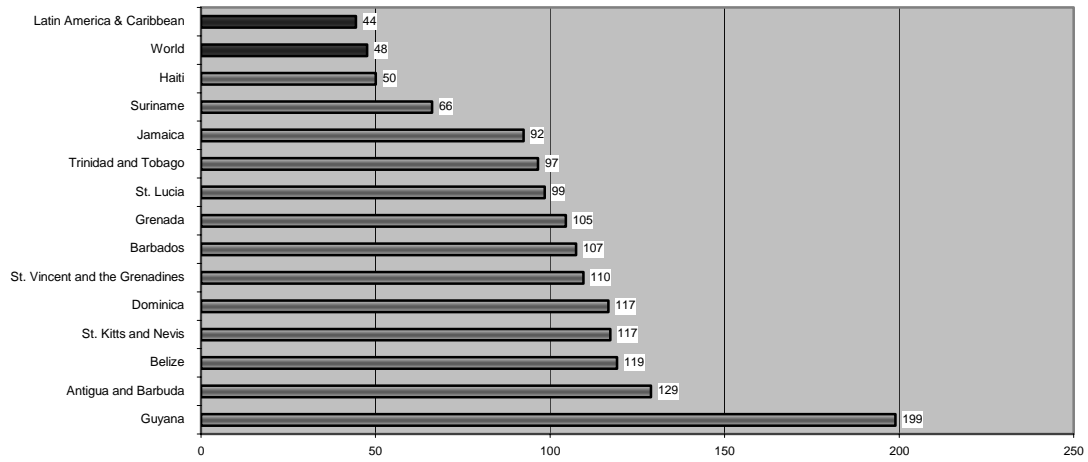
Source: WDI

Table 1- Aid per capita (constant 1982-84 US$)				
	1970s	1980s	1990s	2000-03
Barbados	48.8	38.4	7.6	11.3
Belize	140.9	108.1	80.4	38.0
Dominica	122.7	214.2	174.3	149.8
Grenada	42.5	167.0	82.7	67.7
Guyana	38.7	46.8	112.2	65.6
Haiti	19.7	24.2	30.0	12.6
Jamaica	41.6	74.7	29.0	4.9
St. Kitts and Nevis	77.9	138.8	8.3	130.0
St. Lucia	79.2	81.2	112.5	66.5
St. Vincent and the Grenadines	72.7	92.0	121.1	33.2
Suriname	322.5	114.8	114.8	26.5
Trinidad and Tobago	8.6	7.3	20.4	-1.4
Sub-Saharan Africa	18.6	22.1	111.9	14.4
Latin America & Caribbean	7.2	7.9	8.4	6.0
Source: WDI.				

Table 2 - FDI to GDP ratio(%)				
	1970s	1980s	1990s	2000-03
Barbados	3.3	4.5	1.3	1.1
Belize	2.0	1.3	3.1	3.8
Dominica	n.a.	4.1	9.3	3.3
Grenada	n.a.	3.5	8.6	9.6
Guyana	-1.8	0.2	12.1	6.8
Haiti	0.9	0.4	0.1	0.2
Jamaica	3.3	0.2	3.5	7.5
St. Kitts and Nevis	0.0	11.3	12.5	22.9
St. Lucia	n.a.	11.5	8.9	5.2
St. Vincent and the Grenadines	0.0	3.0	14.9	8.4
Trinidad and Tobago	5.8	1.7	7.8	8.1
Latin America & Caribbean	0.7	0.8	2.2	3.1
East Asia & Pacific	0.3	0.7	3.5	2.9
Source:WDI				

The specifics of a south-south Caribbean integration

Even if greater openness had not alleviate size constraints, the Caribbean states would still have good reasons to be cautious about the enlarged market effect or the benefits of integration in general. These reasons are mainly related to "structural" limitations of south-south agreements in general and CARICOM in particular. One could speak of two main limitations: size and factor endowments.

Size--Even though South-South agreements are signed, *inter alia*, to overcome the disadvantages of small size, one cannot lose sight of the fact that even the enlarged, post-agreement market of such arrangements (assuming there is a full customs union) tends to be limited *vis-à-vis* the minimum scale requirements of most industries. This is particularly true for CARICOM, where the combined GDP of all member countries (US$ 29.2 billion, 2003 data) ranks above the world's median country size (US$ 14.4 billion), but is not that much different from those of small Latin American countries such as Ecuador (US$ 27.2 billion). If population is used, CARICOM (15 million, 2003 data) also ranks above the world median country size (6.4 million), but falls behind small Latin American countries such as Chile (15.6 million).

One way to better gauge the magnitude of this "market-size effect" is to use Wacziarg, Spolaore and Alesina's (op cit.) empirical framework to simulate the impact of the enlarged CARICON market on the region's growth rates. The exercise is done in two stages: the first, using data for 82 countries over 1960-2000, estimates the relationship between long-term growth rates and its key determinants: investment, human capital, openness and size (population) (see Appendix for details). The second stage uses this estimated relationship to simulate "shocks" in some of the key variables to measure their impact on the growth of the four Caribbean countries where necessary data is available: Jamaica, Barbados, Guyana and Trinidad Tobago.

Figure 4 presents the effects of marginal shocks, i. e., relatively small changes, using as proxy the standard deviation for each country of the variables in the whole sample. As can be seen, marginal changes in size, which would be equivalent, for instance, to increasing the population of Jamaica (2.7 million) and Trinidad and Tobago (1.3 million) to that of Uruguay (3.4 million) and Namibia (2.0 million), respectively, would have a negligible effect on growth, particularly when compared to marginal changes in other variables such openness, investment, infrastructure (quality) and human capital (educational achievement). Higher government expenditures would have a negative impact on growth, reflecting the fact that those expenditures in these countries are well above the world average and that growth across countries is negatively correlated with government expenditures.

Figure 5 presents a similar exercise, but this time with CARICOM's size effect explicitly included. The exercise simulates an increase in the population of all countries involved to the size of all CARICOM countries combined and compares these growth effects with those of raising the countries' openness and human capital to the level of Hong Kong, arguably one the most successful small economies before being returned to mainland China. Of course, this type of comparison always involves some arbitrariness because it is not clear what sort of "shock" would be comparable to full integration. Yet it serves the purpose of illustrating the order of magnitude of the impacts. As in the previous exercise, size compares unfavorably with the other shocks, presenting a small, negative impact on growth, probably reflecting the fact that openness in these countries is already above the world average (particularly in the case of Guyana, see Figure 3) and that an increase in size would weigh heavier on costs (e.g. on costs of policy-making in the face of heterogeneous preferences) than on benefits.[6]

The exercises presented in Figure 4 and 5 were also carried out using a model that includes the quality of infrastructure among the growth determinants (see Figures A.1 and A.2). Due to data restrictions, the number of countries was reduced to 67 (two from the Caribbean) and due to the high correlation between the variables openness and infrastructure; the results of the model are less "robust" (see Appendix). Despite being less reliable, the message of the exercise remains the same, i.e., size effects tend to be dwarfed by the impact of other growth determinants.

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[6] Since the model does not measure heterogeneous preferences directly, there is not enough information to "prove" that this is the factor that is driving size costs either in the region or elsewhere. This is, however, what the theory suggests-- a theory whose more general prediction, i.e., that relationship between size and growth is mediated by openness, is confirmed by the data.

Figure 4. Effect of One Standard Deviation Change in Selected Variables on the Growth Rate of Jamaica (JAM), Guyana (GUY), Barbados (BRB) and Trinidad and Tobago (TTO).
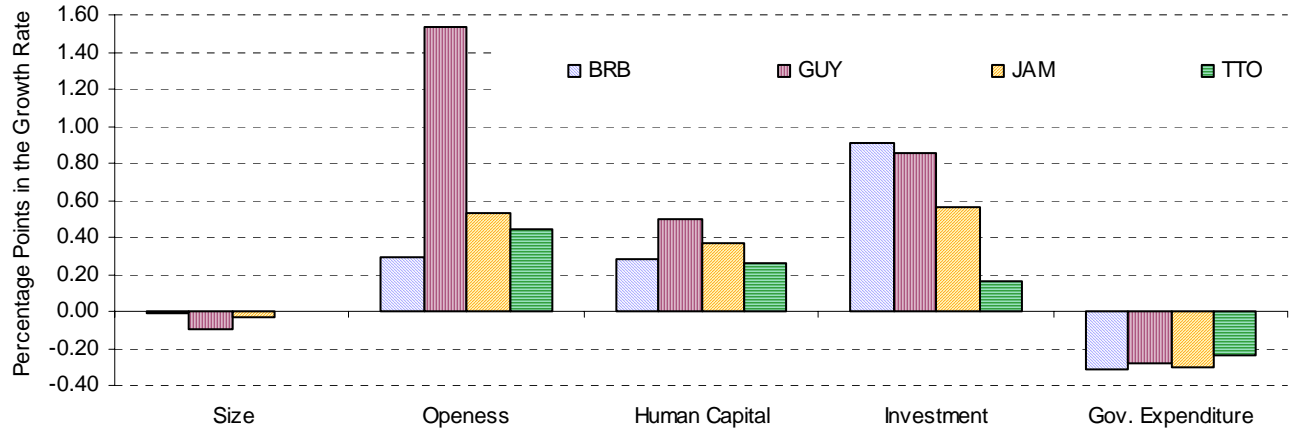
Source: See Appendix. Model 3SLS with current openess and population

Figure 5: Impact of CARICOM's Market Size Effect, Openess and Human Capital on Growth: Barbados (BRB), Guyana (GUY), Jamaica (JAM), and Trinidad and Tobago (TTO)
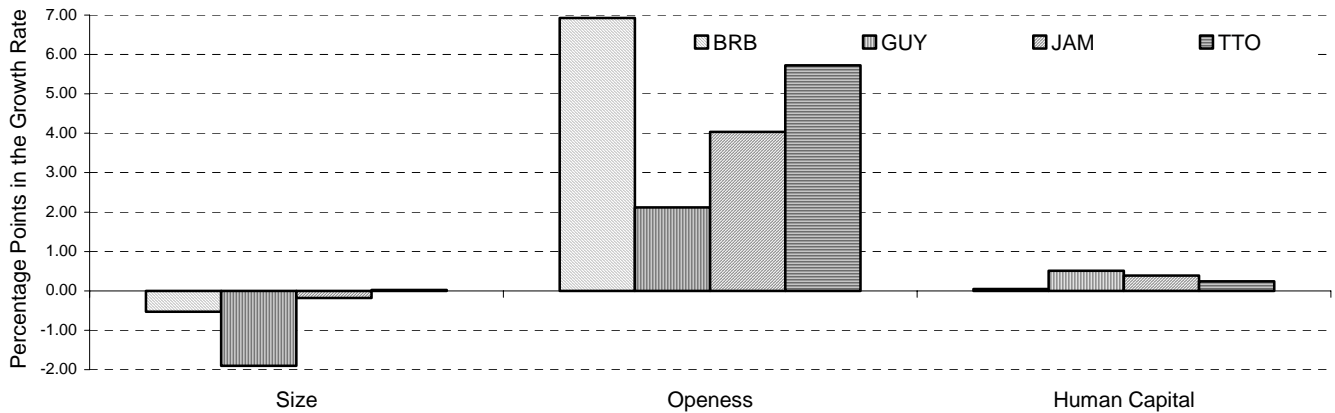
Note: Shock in Size = Population equal to CARICOM's. Shock in openess = Openess ratio equal to Hong Kong's. Shock in Human Capital = Human Capital similar to Hong Kong's. See Appendix for details. Model 3 SLS with current openess and population.

Impressive as they are, theses results should not be read as a definitive proof that there are no scale benefits to be reaped from regional integration in the Caribbean. They reflect mainly empirical regularities across countries and time and not necessarily all the specific conditions of the Caribbean economies involved, which, incidentally, are not fully represented in the sample. The smaller economies, which in theory can be the main beneficiaries of these gains, could not be included in this exercise for the lack of data (note, however, that the high openness of these economies makes it difficult to speculate about the size of the scale gains).

It is also worth noting that even though the methodology used tries to address the issue that variables such as size, openness, human capital and infrastructure are likely to be interdependent, there is only so much one can do to isolate this "endogeneity". For instance, in small economies such as those of the Caribbean, improvements in infrastructure are likely to cost a lot less per capita if they are done on a regional basis. This is confirmed by a recent World Bank (2005) report on Caribbean infrastructure, which suggests that a regional approach can lead to higher economies of scale, lower regulatory costs, higher bargaining power in procurement and greater efficiency gains through competition in areas such as telecommunications, water and energy. Some countries in the region are already reaping some of those benefits as in the case of the Eastern Caribbean Regulatory Authority (ECTEL), a regional telecommunication advisory body established by the OECS countries.

The same rationale applies to human capital, where investment in institutions, be that universities or research and development laboratories, enjoy economies of scales and therefore tend to be more affordable and cost effective if done on a regional basis. Here, too, there are already initiatives in the Caribbean, such as the University of the West Indies, that prove the point. Moreover, by pooling its human resources through factor mobility, the region is more likely to find the minds that will promote innovation and growth. In the production of this type of "goods", size matters and openness can do very little to change that. They are by definition non-tradable "goods" and therefore countries cannot resort to trade to find an alternative and cost effective source of supply.

Those gains in the area of non-tradables, in turn, can be critical to allow the region to sustain or even expand its openness to the world economy in a period where some of the main factors that have driven its exports in the past, such as the non-reciprocal preferential access to the US and EU markets, are bound to become irrelevant either because of preference erosion, given the growing number of preferential trade agreements being signed by the US and the EU, or because some of this preferential access is being questioned either by the WTO (e.g. sugar) or being renegotiated on a reciprocal basis (e.g. ACP-EU). Likewise, there are also challenges to the other pillar of the region's openness - capital flows - coming from the growing competition for aid and FDI from other developing regions of the world. It is not certain whether in the future, the region will be able to count on the substantial amount of aid or FDI it has received so far.

It is clear, then, that the results in Figure 4 and 5 are far more complex than they appear at first sight. They draw attention to the fact that the enlarged market effect of full CARICOM integration is bound to be very limited particularly in the traditional area of tradable goods. Yet, they also suggest that there are sizeable gains to be made in "non-tradables", where size does matter and where the size effect of regional integration can make a more meaningful contribution.

To translate these thoughts and evidences into policy implications, it can be argued, first, that since the size effect on tradables is bound to be limited, the region cannot afford to live either with an imperfect free trade zone or custom union or with high protection against the rest of the world. Obstacles to the free flow of goods and services

can render the already small scale gains irrelevant. Likewise, high protection against the rest of the world would work against maximizing these gains since it would discourage the creation of firms of a more competitive size and would compromise the firms' incentives to learn. More to the point, high protection would dampen firms' incentives to sell abroad, which is exactly where the lion's share of the scale gains is to be made.

Second, to make size gains more meaningful, integration has to fully embrace "non-tradables" and all its implications ranging from common regulatory frameworks and to institutions. Of course, this involves preferences costs, but that is exactly where the benefits of size look more promising.

Factor endowments--Apart from size, the other limitation of south-south agreements such as CARICOM lies in the similarity of the member countries' technology and factor endowments. Similar factor endowments and technology imply that the countries' array of comparative advantages tend to overlap, suggesting that a great deal of their trade would necessarily come from outside the agreement. This, in turn, increases the agreement's exposure to trade diversion and agglomeration (see e.g. Venables 2003).

The costs and benefits of trade diversion are well known and inherent to any preferential agreement (see, e.g. De Melo and Panagariya 1992). They are, one the one hand, the losses associated with replacing efficient, extra-regional, by inefficient, regional suppliers and, on the other, scale and learning gains accruing from the replacement of extra-regional by regional producers. The key to the net result lies in the level of the agreement's protection against the rest of the world. High levels of protection associated with the peculiarities of South-South agreements would impose severe costs to member countries which are consumers of the diverted good, whereas the scale and learning gains linked to the production of this good are likely to be compromised by the size-related limitations discussed above.

As to agglomeration, there is an important distributional story, which is also relevant for the understanding of the full consequences of trade diversion. In a scenario where countries share similar technology and factor endowments, the centripetal forces of agglomeration, i.e. forces that encourage firms to locate close to each other, tend to be overwhelming. Since the advantages of size are not balanced by significant differences in factor prices (e.g. capital and labor), the most likely result is the agglomeration of economic activities in the large countries of the agreement (e.g. Jamaica and Trinidad and Tobago), assuming, of course, there are no major differences in factors such as macroeconomic management and the quality of institutions. This is particularly true for activities that are intensive in scale and sensitive to labor and technological externalities such as manufacturing. This might lead smaller members (e.g. OECS countries) to specialize in constant returns, low productivity sectors, with undesirable consequences in terms of welfare and growth.

To compound this problem, the agglomeration of, say, manufacturing in the large countries would also mean that the benefits of trade diversion would be concentrated on the large countries, whereas the costs would be borne by the smaller partners. Translating this peculiarity into policy implications, it seems clear that, given the risks of

agglomeration, South-South agreements have to be very careful in leveling the playing field when it comes to financial and fiscal incentives. The same can be said about exchange rate mismatches. Huge appreciations/devaluations in the smaller/larger partners' real exchange rates, aside from the unwanted results on trade flows of volatility per se, can reinforce this latent tendency to conglomeration and impose sizeable losses.

To be on the safe side, these agreements should also have mechanisms to try to balance this locational bias towards the large member countries, without, however, imposing restrictions on trade flows that could undermine the single market. As said before, imperfect customs unions would render size benefits irrelevant, which would be more a hindrance than a help particularly to smaller partners.

It does not take much thought to realize that those issues speak to the heart of regional integration in the Caribbean, where there has always been a tension between the interest of larger and smaller countries. This tension has been traditionally eased by the adoption of measures that exempt the smaller countries (the so called less developed countries) from their obligations to the free trade zone and customs union, which, as suggested before, tend to be totally counterproductive.

The recent announcement of a Regional Development Fund is more likely to be effective in addressing this locational bias since it does not undermine the very asset that can help smaller countries to benefit from integration: the common market. The free movement of labour, which also figures among the ultimate objectives of the CSME, is also likely to ease these tensions and spread benefits more evenly. It allows labor to follow spatial changes in the allocation of investment, creating job options for workers that live in countries/regions that might be negatively affected by integration. It also prevents wages and incomes among member countries from following a politically unstainable divergence path. Of course, liberalization in this area has to be gradual to avoid large and rapid movements of labour across borders, a phenomenon that can create a political backlash.

Section II – Looking Back: Integration policies and results.

Section I discussed at some length what to expect from agreements such as CARICOM. This section looks at the actual results of the integration initiatives so far. The aim is not to make a comprehensive evaluation of all economic implications--methodological and data constraints make this task virtually impossible--but to focus on what is widely seen as the main channel through which economic integration impacts member countries' economic performance, i.e. intra and extra-regional trade flows. Data restrictions forced of the analysis to tighten its focus a bit further and to exclude trade in services. This would not be a cause for concern for most regions in the world, but it does limit the analysis when it comes to CARICOM since the majority of its member-countries (particularly the smaller ones) has a major stake in the export of services. As can be seen in Figure 6, all OECS countries plus Jamaica and Barbados have services responding for the bulk of their economy (GDP) and exports.

Figure 6 - Services Share of GDP & Exports: CARICOM 2002
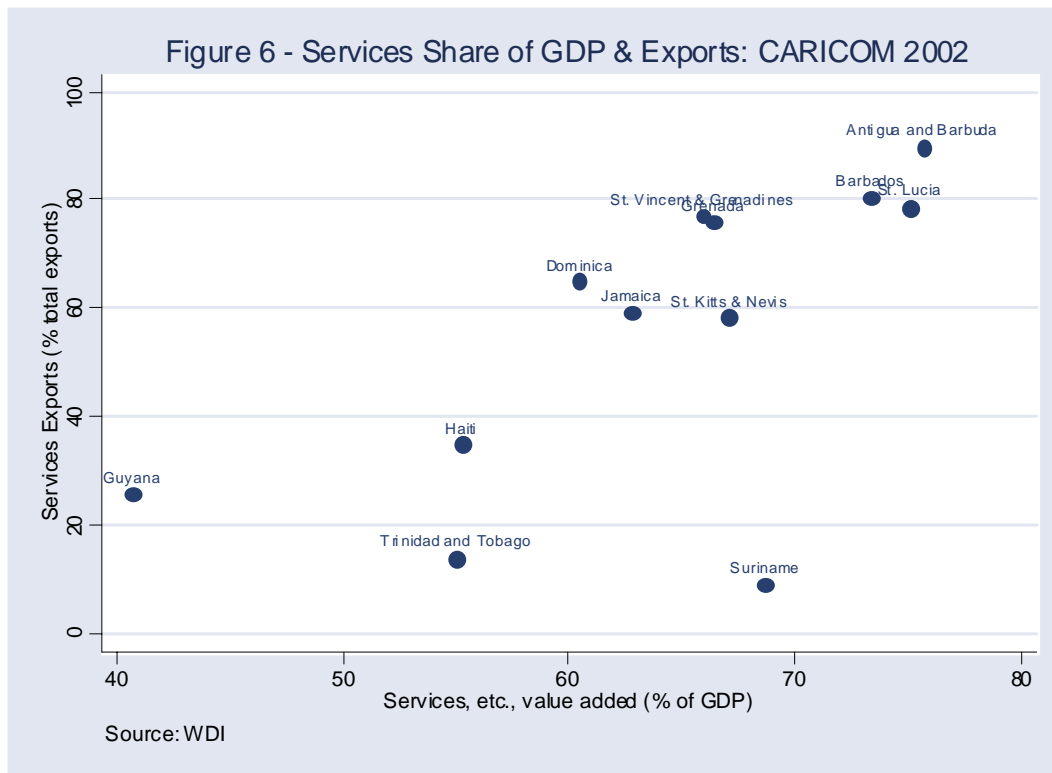
Does that characteristic completely invalidate an analysis based purely on goods? The answer seems to be no for a number of reasons. First, the ability to expand and diversify the production and export of goods appears (implicitly or explicitly) as a key motivation in all integration initiatives of the region since the West Indian Federation. This is also clear in the way the agreements were designed and implemented, full of exemptions and escapes clauses for "sensitive" goods, particularly for the so-called less developed countries (LDCs) (see below).

Second, the limitations of south-south agreements in general (e.g. market size and similarity of factor endowments) and CARICOM in particular (e.g. openness) also apply to trade in services and, therefore, it is unlikely that their inclusion would change either the direction or the magnitude of the impacts on trade flows, particularly on intra-regional trade flows. This seems to be underscored by type of services the region has specialized into. As shown in Figure 7, travel services (i.e. tourism), which traditionally are not heavily affected by trade barriers, accounts for most of the services exports in the region, particularly in those countries that are heavily specialized on services (only Trinidad and Tobago and Barbados seem to have a significant stake on financial services). There is no data available on the direction of these exports, but it seems likely that most revenues comes form outside the region, which would reflect not only the limitations of size (population and income), but also the geographical similarities of the member countries. It seems unlikely, therefore, that integration could have or has had any major impact in terms of intra-regional flows of services.

Figure 7 - Travel and Financial Services in Services Exports: CARICOM 2002

Source: WDI
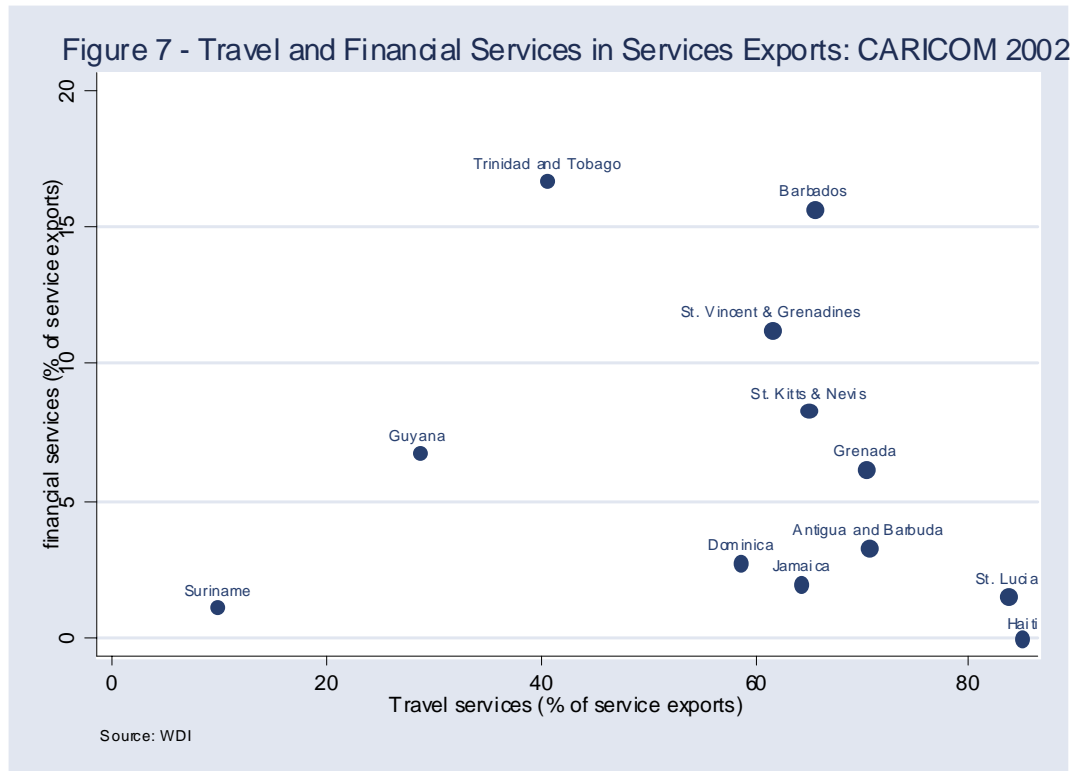
Third, even though member countries such as the OECS do not have a significant stake in production of goods, their welfare, as in any other country, depends heavily on the price and quality of the goods they consume, be that capital, intermediate or consumer goods. As integration changes intra and extra-regional trade barriers, it has an important impact on the prices and quality of these goods, including through the occurrence of trade diversion (more on that below), which may have important welfare and growth implications for those countries. So, trade in goods matter even if you are mainly a service provider.

In sum, it would have been better to have data on services, but their exclusion does not seem invalidate the analysis and possibly does not change its main conclusions. The section begins by reviewing the descriptive trade data available and CARICOM's record of implementation and, then, makes an attempt at a more rigorous, econometric analysis of the integration effects.

Intraregional trade, trade costs and the distribution of benefits

Figure 8 offer a broad picture of intra and extrarregional merchandise trade flows in CARICOM in 1970-2003. Trade in oil products was excluded because they were not subjected to relevant trade barriers at any time during the period and their high share of intraregional trade (an average of 37 percent over the period) and high price volatility would cloud the analysis.

Since the first integration initiative was in 1958 with the West Indies Federation (later followed by CARIFTA and by the Eastern Caribbean Common Market in 1968), it would have been better to look at trade and tariff data starting in the 1950s. This would allow for a better perspective of trade flows before and after the first preferences were granted. Data constraints, though, force the analysis to begin in 1970, three years before CARICOM was signed, and to be limited to trade flows. It seems reasonable to assume that at that time there were already a number of trade preferences in place among most Caribbean countries (the CARIFTA agreement, for instance, speaks of immediate free trade among member countries), although it is difficult to assess how important they were since there were many exceptions and a differential treatment for "less developed countries."[7]

Figure 8 -CARICOM's Non-oil Intra and Extraregional Trade Flows
1970-2003. 1970=100 (Constant 2000 US$ Million)
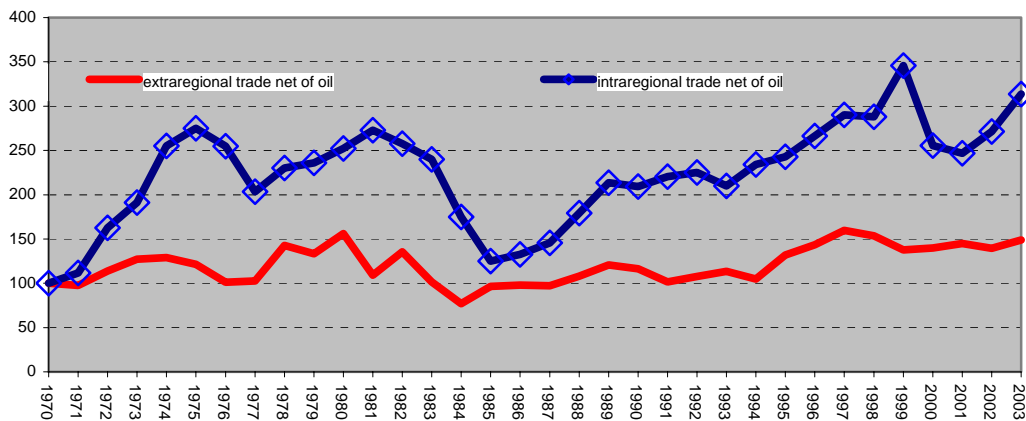
Note: Oil products are SITC 3 V.1. Haiti is not included.
Source: Comtrade and CARICOM Secretariat.

Whether or not preferences were important, Figure 8 shows that intraregional trade grew much faster than extrarregional trade in the first half of the seventies, even before CARICOM was signed. CARICOM is widely seen as landmark in the integration process since it marked the member countries' decision to upgrade CARIFTA's free trade zone to a common market.[8] From the strict point of view of trade costs, though, it is not clear if the new treaty markedly changed the status quo. Apparently, CARIFTA's main characteristics i.e. (i) an incomplete free-trade zone marked by several exceptions and special differential treatment for countries, sectors and regions and (ii) relatively high tariffs to extrarregional trade, were inherited by CARICOM and prevailed into the early

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[7] See The Dickenson Bay Agreement. http://www.sice.oas.org/Trade/CCME/dikson.asp/ and CARICOM Secretariat (2005). CARIFTA included all present CARICOM members except for Suriname and Haiti. The Eastern Caribbean Common Market included all OECS members.

[8] See The Treaty of Chaguaramas http://www.sice.oas.org/Trade/CCME/CCME2.asp.

nineties.[9] The customs union, which was clearly a step ahead, was not seriously enforced until the late nineties. The fact that intraregional trade grew slightly faster after 1973, but was soon to find its ceiling, seems consistent with the hypothesis that there was no major change in the status quo. Yet, there are many other factors that may explain this behavior, not least the 'structural' limitations of the agreement discussed in Section I and the debt crisis that affected the region in the 1980s.

Open regionalism--Whatever the underlying factors, the bottom line is that the peak, in constant dollars, reached by intraregional trade in 1975 was only to be surpassed 22 years later, in 1997, after a series of reforms that started with the decision to establish the CSME in 1989 and were institutionalized by the revised Treaty of Chaguaramas signed in 2001. Even though problems still lingered on, particularly with exceptions, these reforms improved the discipline and implementation of the free trade zone and customs union (a common external tariff - CET - was finally agreed in 1992, but took another ten years to be fully implemented by most member countries). The reforms also brought down protection against extrarregional imports both at the country and regional level. The CET simple average, for instance, fell from 20 percent in the early 1990s to 10 percent in 2003 (see Jessen and Vignoles 2005).

Tables 3 and 4 give a good picture of how far trade costs went down for both intra and extrarregional trade in seven CARICOM countries for which there is recent data available. Table 3 covers intraregional trade and presents data for both the actual tariff paid by importers and the overall tax burden that importers face when bringing goods from other countries into the bloc. It is clear that for most countries the average tariff is not zero, but reasonably low. The exceptions are Bahamas, which is not part of the common market, and to a certain extent Dominica and Grenada. The latter two countries have average tariffs of 4.1 and 3.2 per cent, respectively, which are much lower than that of Bahamas, but unduly high for members of an agreement that aims to be a common market.

Tariffs alone, though, do not tell the whole story. When other taxes that are levied on imports (and only on imports) are taken into account the trade cost situation deteriorates significantly, with four out of the seven countries presenting tax burdens that are unacceptable in a common market, let alone in a market of modest dimensions. Suriname appears to be the worst case with the average tax burden reaching 19.3 percent (with peaks of 234 percent), reflecting massive taxes on food imports. The situation in Dominica, Grenada and Saint Lucia is not as bad, but the tax burden ranges from 7 to 8 percent, approximately, which is higher than the OECD average tariff.

On the extrarregional front (Table 4), most countries appear to be converging to the 10 per cent level in tariffs, but there is still considerable variation ranging from 7 per cent in Jamaica to 15 percent in Suriname. This could be reflecting differences in import composition, but the fact that tariffs also diverge at the sectoral level suggests that the

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[9] Information about the member countries' tariffs in the 1970s and 1980s is sketchy, but most analysts describe this period as "import substitution". Caldentey (2005), for instance, citing an unpublished World Bank Report, puts the average nominal protection for manufacturing goods in the 1980s (including tariffs and surcharges) at 50% in Trinidad Tobago, 43% in Barbados and 41 in Jamaica.

enforcement of the CET still has quite a way to go. As with intraregional trade, when other, non-CET, import taxes are included, the level of protection increases substantially, with the exception of Jamaica, Guyana and Trinidad and Tobago. Overall, extrarregional protection, despite the progress made in the last decade, remains unduly high, which tends to be particularly costly for small, open economies that have trade as their main source of growth. Moreover, this level of protection still leaves considerable room for trade diversion particularly in agriculture, food (where preferences can get as high as 20 percentage points) and manufacturing (where preferences range from 7 to 18 percentage points). Whereas this level of tariffs may reflect legitimate fiscal and other concerns (e.g. food safety), it can be particularly costly for the smaller members since, as discussed below, they are more likely to be importing those goods from the larger countries.

Despite its limitations, the reforms of the 1990s appear to have given intraregional trade a new boost – a hypothesis tested below in the context of the gravity model--but it seems clear that this was not enough to produce a robust performance. Figure 9 shows that the declining trend that set in during the debt crisis of the 1980s was reversed, but so far the share of intraregional trade in non-oil trade remains around the modest levels achieved in the late 1970s (in 2003-the latest figure available- the share was 5.6 percent). When oil is included, the picture looks better, with the share of interregional trade reaching all-time highs during the 1990s (7.6 percent in 2003). Yet, as argued before, trade in oil has little to do with trade liberalization—it is guided by supply and price dynamics--and even if these issues are overlooked and all trade is taken into account, intraregional trade remains indisputably marginal at the start of the new millennium.

Figure 9: Share of Intraregional Trade in Total Trade.
CARICOM 1970-2003 Hodrick-Prescott trend %

Note: oil trade is defined as SITC 3 Rev 1
Source: COMTRADE and CARICOM Secretariat
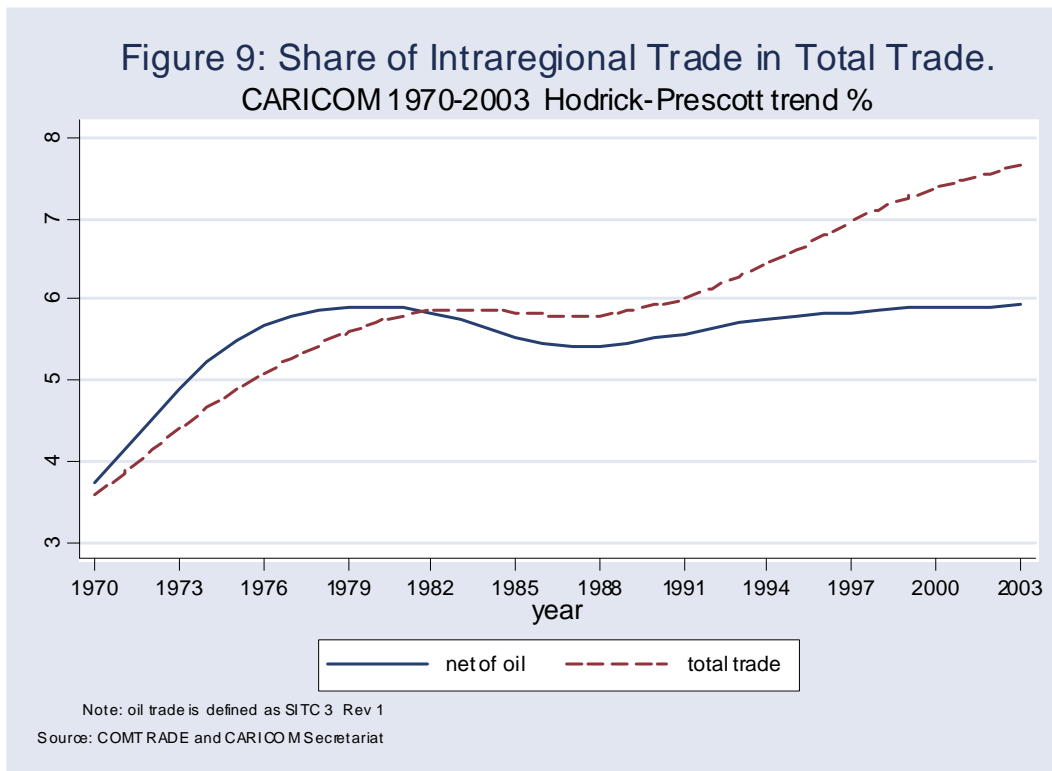
Some analysts read those trends as a "classic evidence of the failure of a critical area of the integration process" (ECLAC 2003, p 9). Whereas the protracted implementation of the free trade zone and customs union are likely to have contributed to those meager results, one can hardly call these results surprising or a "failure" once CARICOM's structural limitations are taken into account. As discussed in Section I, the limitations of size and factor endowment all conspire to limit trade gains. The share of intraregional trade in CARICOM is not much different from those of other south-south agreements that share similar limitations. For instance, intraregional trade in MERCOSUR, at its peak was not more than 11 percent of total trade and in the case of the ANDEAN community not more than 5.4 percent. So CARICOM's results are very much in line with what the theory suggests, the problem, perhaps, was with the mistaken expectations.

Trade composition and the distribution of gains--Other issues worth examining are the composition and distribution of intraregional trade. The composition can be seen through many angles. For instance, Table 5 looks at the composition of intraregional trade of selected (due to data constraints) CARICOM countries according to broad sectors. It is clear that intraregional trade has been different things to different member countries. Among the so-called MDCs (more developed countries according to CARICOM's terminology), there is Jamaica for which the bloc's market apparently started as an opportunity to diversify into manufacturing, but that gradually turned into an outlet for agricultural goods. There is Barbados, for which intraregional trade has been mainly about manufacturing, although the importance of this sector has been declining since the 1980s; and there is Guyana, whose exports have been consistently dominated by agriculture. For Trinidad and Tobago, despite its vast oil and gas endowments, the intraregional market has been an opportunity to diversify into manufacturing and agricultural products. For the LDCs (less developed countries according to CARICOM's terminology), CARICOM has been mainly about exporting agricultural products, with the exception of Dominica for which manufacturing has been playing the dominant role.

From this angle, one can already see the contours of an intraregional division of labor, which apparently has not gone through major changes in the last three decades, except for Jamaica. The picture becomes clearer, though, when we look at how the market is distributed among member countries and how this distribution has evolved. As can be seen in Table 6, MDCs account for most of the intraregional trade in the period, which, of course, reflects differences in size. Size alone, however, does not explain why intraregional exports are more concentrated than imports, even if oil products are excluded. Nor does it explain changes across time, within and across groups. Table 6 shows the drastic changes that occurred in export shares among the MDCs, with Jamaica more than halving its participation whereas that of Barbados nearly doubled. Across groups, it is clear that after gaining considerable ground in the 1970s, the LDCs began to see their share of intraregional exports shrinking considerably, even though there were exceptions such as Dominica.

TABLE 3- Actual Tariff and Tax Burdens on Intraregional Imports by Sectors. Selected CARICOM Countries. 2003/04 (%)																			
COUNTRY		AGRICULTURE			FOOD			FUEL			MANUFACTURES			ORES AND METALS			TOTAL		
		Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV
Bahamas	Tariff	12.4	0-35	1.3	26.0	0-210	1.2	17.1	12-22	0.4	26.0	0-60	0.6	0.0	0-0	0.0	25.7	0-210	0.8
	Tax Burden	19.4	7-42	0.8	29.7	2-217	1.1	24.1	19-29	0.3	32.8	0-67	0.5	0.0	0-0	0.0	31.9	0-217	0.6
Dominica	Tariff	0.5	0-15	5.6	1.8	0-150	5.4	2.0	0-25	3.1	5.2	0-100	1.7	0.4	0-5	3.5	4.1	0-150	2.3
	Tax Burden	2.2	0-17	1.3	6.7	0-237	2.0	3.9	0-27	1.6	7.0	0-102	1.3	2.2	0-7	0.7	6.8	0-237	1.5
Grenada	Tariff	1.4	0-40	4.0	1.6	0-42	4.2	1.9	0-25	2.5	3.9	0-40	2.0	0.8	0-5	2.3	3.2	0-42	2.3
	Tax Burden	6.3	0-45	0.9	6.2	0-112	1.1	4.1	0-25	1.5	8.6	0-120	1.1	4.9	0-10	0.6	7.8	0-120	1.1
Guyana	Tariff	0.0	0-0	-	0.1	0-30	16.2	0.0	0-0	-	0.1	0-30	11.8	0.0	0-5	10.1	0.2	0-70	13.2
	Tax Burden	0.0	0-0	-	5.3	0-53	1.9	0.0	0-0	-	0.1	0-30	11.8	0.0	0-5	10.1	1.3	0-70	4.3
Jamaica	Tariff	0.0	0-0	-	0.7	0-40	6.2	1.9	0-20	3.1	1.6	0-40	3.3	0.0	0-0	-	1.1	0-40	4.2
	Tax Burden	0.1	0-0	1.5	1.7	0-65	4.0	2.0	0-20	2.9	1.8	0-40	3.0	0.1	0-0	1.2	1.6	0-65	3.6
St. Lucia	Tariff	0.3	0-5	3.9	0.8	0-45	5.1	0.0	0-0	-	2.0	0-40	3.1	0.4	0-15	5.0	1.4	0-45	3.7
	Tax Burden	5.1	0-12	0.4	10.2	0-186	2.2	5.9	0-52	1.4	7.1	0-116	1.0	5.1	0-21	0.7	7.7	0-186	1.7
Suriname	Tariff	0.0	0-0	-	1.0	0-50	6.8	0.0	0-0	-	2.2	0-40	2.7	0.0	0-0	-	1.6	0-50	3.5
	Tax Burden	12.2	12-12	0.0	53.5	0-234	0.9	2.6	0-12	1.2	9.5	0-56	1.0	1.3	0-2	0.8	19.3	0-234	1.6
Trinidad & Tobago	Tariff	0.0	0-0	-	3.4	0-370	6.0	0.7	0-5	2.6	1.8	0-38	3.0	0.3	0-5	4.2	2.7	0-370	6.1
	Tax Burden	0.0	0-0	-	3.4	0-370	6.0	0.7	0-5	2.6	1.8	0-38	3.0	0.3	0-5	4.2	2.7	0-370	6.1

NOTES: Actual tariffs are tariff revenue divided by the CIF value of imports. Tax burden is the sum of actual tariff and other taxes on imports divided by the CIF value of imports . CV is the coefficient of variation.

Bahamas: information from the fiscal year 2003/2004;

Dominica: information from the calendar year 2001

Grenada: information from the calendar year 2002

Guyana: information from the calendar year 2003

Jamaica: information from the fiscal year 2002/2003

St. Lucia: information from the calendar year 2003

Suriname: information from the calendar year 2004

Trinidad & Tobago: information from the calendar year 2003

Source: Data from the countries' customs administration collected by the IADB project "Fiscal Impact of Integration and Trade Liberalization Efforts in the Caribbean."

TABLE 4- Actual Tariff and Tax Burdens on Extrarregional Imports by Sectors.																		
Selected CARICOM Countries 2003/04 (%)																		
COUNTRY		AGRICULTURE			FOOD			FUEL			MANUFACTURES			ORES AND METALS			TOTAL		
		Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV	Average	Range	CV
Bahamas	Tariff	21.1	0-35	0.7	21.9	0-232	1.0	29.6	0-101	0.7	25.7	0-100	0.6	24.9	0-35	0.5	25.1	0-232	0.6
	Tax Burden	26.0	0-42	0.5	26.1	0-326	0.9	36.6	7-108	0.6	32.7	0-107	0.5	31.7	0-42	0.4	31.6	0-326	0.5
Dominica	Tariff	5.7	0-40	1.8	20.6	0-150	1.0	4.3	0-25	1.3	12.4	0-200	1.1	4.7	0-25	1.4	13.7	0-200	1.1
	Tax Burden	7.6	0-42	1.4	23.9	0-169	0.9	6.2	0-27	0.9	14.7	0-478	1.0	6.7	0-27	1.0	16.1	0-478	1.0
Grenada	Tariff	9.7	0-40	0.9	21.0	0-50	0.6	5.8	0-22	1.1	12.2	0-50	0.8	5.4	0-22	1.0	13.4	0-50	0.8
	Tax Burden	14.9	0-105	0.7	28.0	0-150	0.7	10.3	0-28	0.7	17.6	0-150	0.7	11.8	0-122	1.3	19.0	0-150	0.8
Guyana	Tariff	13.8	0-20	0.6	21.7	0-100	1.0	3.5	0-20	1.5	9.2	0-100	1.1	4.6	0-40	1.2	10.2	0-100	1.2
	Tax Burden	13.8	0-20	0.6	22.6	0-135	1.0	3.5	0-20	1.5	9.2	0-100	1.1	4.6	0-40	1.2	10.2	0-135	1.2
Jamaica	Tariff	9.4	0-395	1.9	10.2	0-100	1.7	1.4	0-20	2.7	6.5	0-233	1.6	1.8	0-20	3.0	7.0	0-395	1.7
	Tax Burden	9.4	0-395	1.8	15.0	0-100	1.3	1.6	0-20	2.4	6.6	0-233	1.6	2.0	0-25	2.8	7.9	0-395	1.6
St. Lucia	Tariff	6.9	0-40	1.8	22.0	0-164	0.7	1.2	0-20	3.2	11.2	0-70	1.0	3.9	0-30	2.4	13.1	0-164	1.0
	Tax Burden	11.5	0-45	1.1	31.1	0-649	1.1	6.9	0-27	0.6	17.3	0-594	0.8	9.1	0-37	1.1	19.7	0-649	1.0
Suriname	Tariff	17.5	0-40	0.5	20.4	0-500	0.8	7.8	0-20	0.9	15.7	0-333	0.7	7.6	0-21	1.0	14.9	0-500	0.7
	Tax Burden	30.0	0-56	0.4	42.7	0-825	1.2	18.6	0-34	0.6	27.9	0-550	0.5	13.6	0-29	0.6	27.6	0-825	0.7
Trinidad	Tariff	13.4	0-592	1.7	27.4	0-849	1.6	3.5	0-30	1.3	10.4	0-998	1.0	2.9	0-49	1.5	11.7	0-998	1.4
& Tobago	Tax Burden	13.4	0-592	1.7	27.4	0-849	1.6	3.5	0-30	1.3	10.4	0-998	1.0	2.9	0-49	1.5	11.7	0-998	1.4

NOTES: Actual tariffs are tariff revenue divided by the CIF value of imports. Tax burden is the sum of actual tariff and other taxes on imports divided by the CIF value of imports . CV is the coefficient of variation.

Bahamas: info Bahamas: information from the fiscal year 2003/2004

Dominica: infor Dominica: information from the calendar year 2001

Grenada: inform Grenada: information from the calendar year 2002

Guyana: inform Guyana: information from the calendar year 2003

Jamaica: inforr Jamaica: information from the fiscal year 2002/2003

St. Lucia: inforr St. Lucia: information from the calendar year 2003

Suriname: info Suriname: information from the calendar year 2004

Trinidad & Tob Trinidad & Tobago: information from the calendar year 2003

Source: Data from the countries' customs administration collected by the IADB project "Fiscal Impact of Integration and Trade Liberalization Efforts in the Caribbean."

Countries	Agriculture			Manufacturing			Fuels			Ores & Metals		
	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03
Jamaica	25.4	33.1	47.9	63.0	57.6	47.9	9.1	7.0	2.1	2.5	2.2	2.1
Barbados	16.7	27.0	27.9	71.7	70.2	61.5	11.3	2.2	10.4	0.4	0.6	0.2
Guyana	68.2	68.9	83.7	31.1	29.8	13.4	0.0	0.0	0.0	0.7	1.3	2.9
Trinidad & Tobago	8.5	19.3	15.7	18.1	35.2	25.3	73.2	45.3	58.8	0.2	0.2	0.2
MDCs	16.2	24.4	22.1	32.4	41.3	28.8	50.8	33.8	48.7	0.6	0.5	0.4
St. Kitts and Nevis	42.1	80.2	55.4	57.4	19.6	15.7	0.0	0.1	26.7	0.5	0.1	2.2
St Lucia	47.2	51.8	67.5	52.8	48.1	31.6	0.0	0.1	0.2	0.0	0.0	0.7
St Vincent	80.1	80.2	81.2	19.9	19.4	18.5	0.0	0.0	0.0	0.0	0.4	0.3
Belize	97.3	92.5	75.9	2.7	7.5	23.9	0.0	0.0	0.0	0.0	0.1	0.2
Dominica	16.0	6.9	7.7	83.6	92.3	90.4	0.0	0.0	0.1	0.4	0.8	1.8
LDCs	61.7	52.4	53.7	38.2	47.1	44.5	0.0	0.0	0.9	0.1	0.4	0.9

**Table 5: Composition of Intraregional Exports. Selected CARICOM countries. %
1980s, 1990s, 2000-03 (period average %)**

Source: COMTRADE, SITC Rev 1

These figures, though too crude to allow for any conclusive inference on the distributive impact of regional integration (there are, of course, other factors at play), seem consistent with a scenario described earlier where the combination of asymmetries in size and similarities in factor endowment favors the concentration of economic activity in the larger countries. The export side of this "equation" is particularly important since, as discussed earlier, integration in the region has been driven mainly by size aspirations. If the smaller countries' share of the pie is shrinking, especially of a pie that has not been growing significantly, it seems safe to assume that they are not, in general, benefiting from the so-called enlarged market effect. In fact, the scale impact may have been negative.

Table 6 - Member Countries' Share of Intraregional Trade. CARICOM 1970-2003 (%)								
Countries	Imports				Non-oil Exports*			
	1970	1980	1990	2000-03	1970	1980	1990	2000-03
Trinidad and Tobago	19.1	24.4	11.4	8.4	47.9	38.2	54.6	55.3
Barbados	15.2	17.7	16.8	18.9	8.3	13.9	13.1	13.0
Guyana	25.5	15.5	9.7	10.1	17.6	8.9	6.7	11.3
Jamaica	21.2	14.8	27.3	35.4	17.6	18.7	10.8	7.0
MDCs	81.0	72.3	65.2	72.9	91.4	79.6	85.2	86.5
Dominica	2.1	3.5	3.7	3.2	0.7	3.0	3.8	3.7
St. Vincent and the Grenadines	3.2	3.8	5.1	4.4	1.2	6.0	4.3	2.7
St. Lucia	4.6	6.0	8.6	6.3	2.8	4.6	2.8	2.4
Belize	0.9	0.9	3.5	1.4	1.6	2.5	1.4	2.3
Grenada	3.4	3.9	5.3	4.7	0.4	1.2	1.3	1.4
Antigua	3.3	6.1	4.7	4.0	1.5	2.1	0.8	0.7
St. Kitts and Nevis	0.8	2.5	3.0	2.9	0.5	1.0	0.4	0.3
Montserrat	0.62	0.97	0.81	0.28	0.0	0.1	0.0	0.1
LDCs	19.0	27.7	34.8	27.1	8.6	20.4	14.8	13.5
CARICOM	100	100	100	100	100	100	100	100
Note: It does not include Suriname and Haiti, which joined the bloc later in the period. *Excludes SITC 3 Rev.1 Source: COMTRADE and CARICOM Secretariat.								

More desegregated export figures shown in Table 7 shed some light on this hypothesis, but, unfortunately, the data available does not cover the whole period. The data confirm the concentration of export activity, both within the MDCs and across country groups, in sectors such as agriculture and manufacturing. Trinidad and Tobago seems to be reinforcing its dominant position in the region as the main agriculture and manufacturing producer (on top of its dominant position in mining), amid the collapse of Jamaica's position and a declining trend in the LDCs' share, with the exception of Belize in agriculture and Dominica in both manufacturing and agriculture.

One important qualification that can be done to this analysis is the fact that it does not includes services and services, as mentioned earlier, are by far the dominant activity for the smaller, OECS countries. Would the inclusion of services change the whole picture? It does not to seem to be the case. Probably, the bulk of these countries' services exports (tourism) are and has been to markets outside the region, which would do little to change their share of intraregional trade. It is possible that the growing specialization of these countries on tourism was accelerated by integration, but then this would reinforce the argument above about signs of concentration and agglomeration in the production of goods. There is no doubt that dominant share of services in their economies make any adjustment in the production of goods less costly, but as consumers of goods these countries remain exposed to its effects, which may or may not be growth and welfare enhancing.

	Agriculture			Manufacturing			Fuels			Ores & Metals		
Table 7 - Country Share of CARICOM Intraregional Exports by Sector: 1980s, 1990s, 2000-03 (period average %)												
	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03
Jamaica	15.7	9.9	7.8	24.8	11.0	6.3	2.6	1.8	0.2	63.2	35.2	18.4
Barbados	9.0	11.8	9.8	24.7	19.6	17.4	2.8	0.8	1.9	8.0	13.5	3.9
Guyana	20.3	13.8	19.1	5.9	3.8	2.5	0.0	0.0	0.0	8.2	14.1	35.8
Trinidad & Tobago	23.8	48.4	50.2	32.1	56.3	65.1	94.5	97.4	97.8	18.6	30.8	30.2
MDCs	**68.8**	**83.9**	**87.0**	**87.5**	**90.7**	**91.3**	**100.0**	**100.0**	**99.9**	**98.0**	**93.6**	**88.3**
St. Kitts and Nevis	0.9	0.6	0.4	1.0	0.1	0.1	0.0	0.0	0.1	0.5	0.1	0.8
St Lucia	6.0	3.1	3.7	4.3	1.9	1.4	0.0	0.0	0.0	0.0	0.0	2.2
St Vincent	14.3	7.8	4.9	2.3	1.2	0.9	0.0	0.0	0.0	0.2	2.0	0.9
Belize	8.5	3.9	3.5	0.1	0.2	0.9	0.0	0.0	0.0	0.0	0.2	0.4
Dominica	1.4	0.7	0.6	4.7	5.9	5.4	0.0	0.0	0.0	1.3	4.1	7.4
LDCs	**31.2**	**16.1**	**13.0**	**12.4**	**9.2**	**8.7**	**0.0**	**0.0**	**0.1**	**2.0**	**6.4**	**11.7**
CARICOM	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: COMTRADE, SITC Rev 1

Overall, it can be argued that more than three decades of regional integration have not done much to change a regional division of labor that dates back from colonial times, despite all the exceptions and differential treatment granted to LDCs. In fact, as the figures suggest, integration seems to have reinforced this division, an outcome that goes against CARICOM's initial objectives (see, e.g., McIntyre 1995).

This point is well illustrated by Morgan's (1962) paper written right before the collapse of the West Indian Federation in 1962, which, in the absence of proper data, offers both a solid prediction of the impacts of regional integration and a rare glimpse of the division of labor then prevailing in the Caribbean. Morgan (p. 127) argues,

 "Trade of the West Indian Islands with one another, though increasing, is, compared with total trade, small."[....]"The reason is principally that of similarity of products, for the islands are essentially primary producers, and their trade with one another is largely in foodstuffs, raw material and petroleum products. The removal of tariffs within the federal area would not result in any striking changes in either the volume or the composition of this federal trade." But, then, he adds,

 "With the introduction of free trade within the federal area some of the sugar and rum factories in the smaller islands have to close, as their existence is due to heavy protection against other West Indian supplies. Similarly, some of the oil and soap factories would have to move elsewhere. But while relatively small adjustments are necessary to bring about free trade in local products [....], more difficult adjustments are involved in the case of manufacturing goods. Manufacturing production is largely shared between Trinidad and Jamaica. [....] The introduction of internal free trade would threaten some of the Jamaican industries, in particular those producing textiles, clothing and footwear."
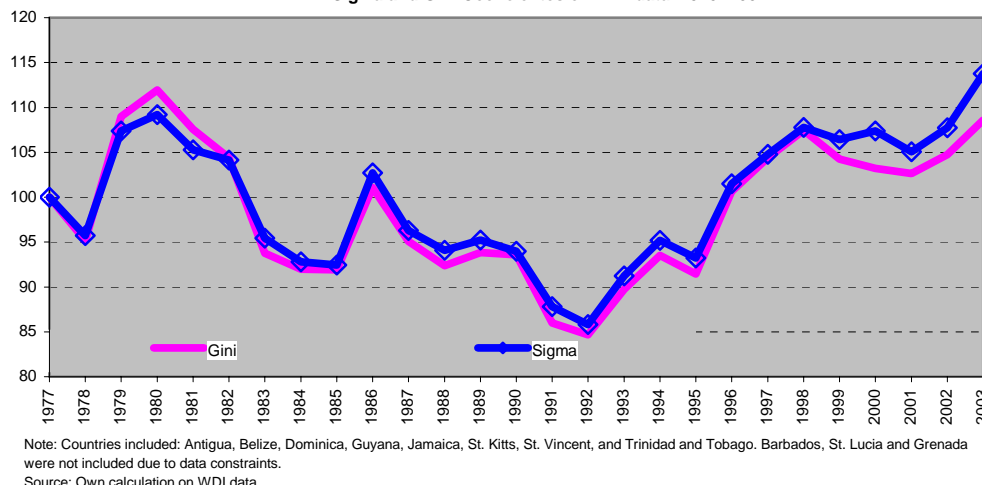
Morgan also offers some hard evidence of the (already) dominant position of Trinidad and Tobago in the intraregional trade in 1955. He uses data on Barbados' imports as a proxy for the whole region and Trinidad and Tobago and Jamaica appear as the only

significant regional suppliers of manufacturing goods. However, whereas Trinidad's exports amounted to WI$ 10,189 (West Indian dollars), Jamaica's were below WI$ 1,000.

As shown earlier, nearly half a century later, Morgan's predictions turned out to be fairly accurate not only with regard to the potential of intraregional trade, but also its composition. Differential treatment appears to have precluded some of the adjustments in "local products", but his concerns with Jamaica's industry were to the point. Trinidad and Tobago, taking advantage of preferences and economies of scale and agglomeration (and arguably of better macro management, see Martin and Vignoles 2006), increased its dominance over manufacturing trade and Jamaica's position collapsed. Geographic concentration, however, as shown, went beyond manufacturing and included also agriculture, even though economies of scale and agglomeration in this sector are not nearly as important as in manufacturing.

Geographic concentration of economic activities is not necessarily a bad thing for the region since it can increase efficiency in the production of goods. Yet, it does raise the question of how the benefits are being distributed across member countries, particularly if (i) the reallocation is being driven by preferences whose distortionary costs are being paid by the smaller/consumer countries and (ii) the incomes of member countries are diverging instead of converging. As can be seen in Figure 10, two standard measures of income convergence, sigma convergence (standard deviation of per capita incomes) and the Gini coefficient, suggest that there was some convergence until the early nineties, but this trend was clearly reversed afterwards. [10]

**Figure 10 : CARICOM's Income Covergence.
Sigma and Gini Coeficientes on PPP data. 1970=100**

Note: Countries included: Antigua, Belize, Dominica, Guyana, Jamaica, St. Kitts, St. Vincent, and Trinidad and Tobago. Barbados, St. Lucia and Grenada were not included due to data constraints.
Source: Own calculation on WDI data

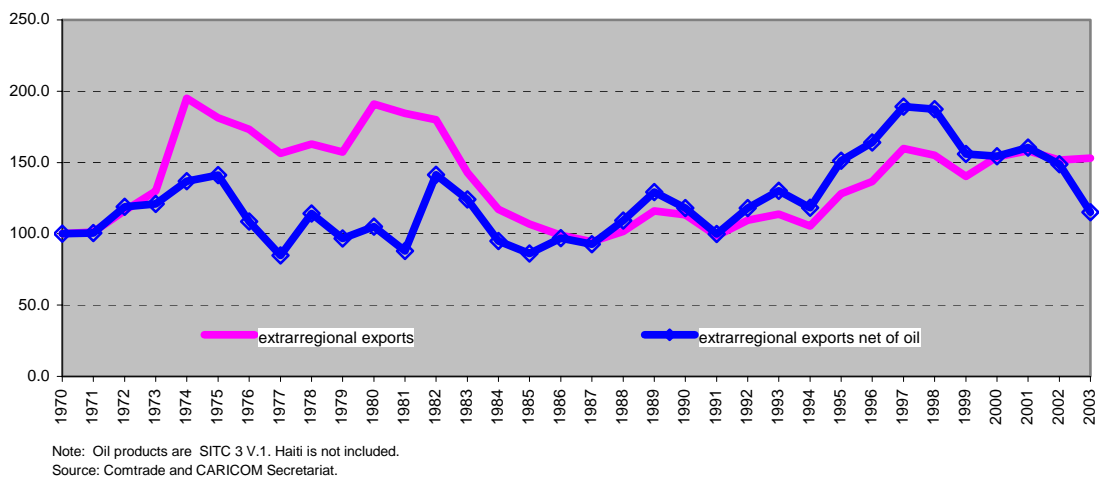**The external position—** As with intraregional flows, the impact of integration on extraregional trade does not appear to have been significant. Over the last three decades, as already anticipated by Figure 8, there is neither evidence of a blatant negative shock

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[10] We have also tested for "beta convergence", i.e., poorer countries growing faster than its richer counterparts and the hypothesis was rejected.

along the lines of trade diversion—with rare exceptions, intra and extrarregional trade appears to commove—nor is there a clear sign that regional integration has boosted extrarregional trade flows. To be sure, looking exclusively at extrarregional exports (see Figure 11), there are signs of improvement in CARICOM's export performance in the 90s (net of oil exports), an event that coincides with the block's deepening. However, since 1998 non-oil extrarregional exports have been falling sharply, which raises doubts about any long-term, positive impact. This declining trend seems particularly worrying against a background where the annual average of extraregional exports in 2000-03 is only 28 percent above the 1970s average. To give some perspective to this figure, LAC's average in 2000-03 was 240 percent above the 1970s average.

Figure 11 -CARICOM's Extraregional Total and Non-Oil Exports
1970-2003. 1970=100 (Constant 2000 US$ Million)

Note: Oil products are SITC 3 V.1. Haiti is not included.
Source: Comtrade and CARICOM Secretariat.

Looking at the composition of extraregional exports (Table 8), there is clearly a shift away from agriculture and into manufacturing for both MDCs and LDCs, although with important differences within each group. Among MDCs, Barbados bucks the trend with a declining share of manufacturing, whose importance in extraregional exports is well below that of intraregional exports. Trinidad and Tobago, Guyana and Jamaica are in a symmetric position, with manufacturing becoming increasingly more relevant for extraregional than intraregional exports. Among the LDCs, Belize is the only country that experienced a declining share in manufacturing and it shares with Dominica the unique characteristic of having manufacturing occupying a larger share of intra-regional than of extraregional exports. The traditional model whereby the bloc's internal market works as a springboard for diversification into manufacturing--i.e. manufacturing assumes greater relevance for intra than for extrarregional exports--does not seem to be working for most LDCs and certainly not for Jamaica among the MDCs.

Table 9 looks beyond sectors and into the issue of product level concentration (or diversification) of both intra and extraregional exports. Data constraints limited the analysis to a high level of aggregation and to a small number of countries, but it seems safe to argue that intraregional exports are considerably more diversified than exports to the rest of the world. The exceptions are among the LDCs, with Belize and Dominica

showing higher concentration in the regional rather than the global market. Across time, there has been little change in the regional level of concentration, whereas extraregional exports for the block as whole became considerably more diversified. The latter, though, has been mainly driven by Trinidad and Tobago.

Table 8: Composition of Extraregional Exports. Selected CARICOM countries. % **1980s, 1990s, 2000-03 (period average %)**											
	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03	1980s	1990s	2000-03
	Agriculture			Manufacturing			Fuels			Ores & Metals		
Jamaica	34.3	27.2	25.0	48.6	63.9	67.4	1.4	0.9	1.4	15.6	8.0	6.3
Barbados	25.8	39.9	19.4	72.4	56.8	32.4	1.6	1.5	47.7	0.2	1.7	0.5
Guyana	64.3	67.9	66.5	8.1	8.9	16.3	0.0	0.0	0.0	27.5	23.1	17.2
Trinidad & Tobago	4.1	11.6	3.5	12.1	41.6	36.5	83.1	46.0	59.5	0.7	0.8	0.5
MDCs	19.9	25.4	14.1	24.7	47.9	42.7	47.7	20.3	40.1	7.7	6.4	3.1
St. Kitts and Nevis	28.4	34.9	16.1	62.7	64.0	82.7	8.2	1.0	0.8	0.7	0.1	0.4
St Lucia	90.1	71.2	58.6	9.8	26.7	36.6	0.0	2.0	4.5	0.0	0.1	0.4
St Vincent	82.4	57.3	32.9	14.3	41.8	66.3	3.3	0.9	0.2	0.0	0.1	0.6
Belize	77.2	82.1	75.2	21.7	16.8	18.5	0.4	0.5	5.7	0.7	0.6	0.6
Dominica	71.7	45.9	36.9	24.8	50.8	59.5	2.3	1.5	0.2	1.2	1.8	3.4
LDCs	71.2	66.1	53.6	25.9	32.3	42.3	2.4	1.1	3.3	0.5	0.5	0.8
Source: COMTRADE, SITC Rev 1												

It also worth noting the levels of concentration at the end of the period, an issue where Jamaica and the OECS countries stand out in the block; the former for having the highest level of concentration in extraregional exports, high even by the not so remarkable standards of other small, natural resource abundant countries in LAC, such as Chile (HHI index in 2000-03 was 0.17). This fact is in itself a cause for concern, given the potential negative consequences in terms of the country's growth (high volatility) and productivity (see e.g. Feenstra and Kee 2004), but it also draws attention to Jamaica's inability to translate higher diversification in the regional market into higher diversification in world markets. By contrast, in the case of OECS' Dominica and Saint Lucia, the relatively low levels of concentration seem to be at odds with their economic size. Instead of being a sign of economic health, these may well be the result of resources being spread too thinly among several activities, with none of them reaching a scale high enough to make them competitive regionally and abroad.

Table 10 offers a different perspective for the composition analysis by looking at the countries' share of CARICOM's extraregional exports. The story that comes out is very similar to that of intraregional exports, except for the fact the movements here are less pronounced. There are limited signs of deconcentration towards the LDCs in the nineties, driven mostly by Belize and St Vincent in agriculture, but this trend is reversed in the 2000s. Overall, extraregional exports remain heavily concentrated in the MDCs, particularly Trinidad and Tobago, which, as in the case of intraregional imports, has been taking ever growing shares of both the agriculture and manufacturing "pie"; a "pie", as shown earlier, which has barely grown in the last three decades.

Table 9: Concentration of Intra and Extraregional Exports: Selected CARICOM Countries.						
Herfindahl-Hirschman Index (HHI), 1980-2003 SITC Rev 1, 5 digits						
Countries	Intraregional			Extraregional		
	1980s	1990s	2000-03	1980s	1990s	2000-03
Barbados	0.04	0.09	0.10	0.13	0.08	0.08
Jamaica	0.05	0.06	0.08	0.63	0.52	0.51
Trinidad and Tobago	0.05	0.05	0.05	0.60	0.32	0.27
Belize	0.62	0.30	0.79	0.52	0.40	0.35
Dominica	0.23	0.21	0.20	0.14	0.16	0.17
St. Lucia	0.11	0.12	0.09	0.13	0.24	0.26
CARICOM	0.03	0.03	0.04	0.35	0.21	0.19

.Note: The HHI varies between 0 (least concentrated) and 1 (most concentrated).

Source: Own calculation with COMTRADE data.

Table 10 - Country Share of CARICOM Extraregional Exports by Sector:												
1980s, 1990s, 2000-03 (period average %)												
	1980s	1990s	2000s	1980s	1990s	2000s	1980s	1990s	2000s	1980s	1990s	2000s
	Agriculture			Manufacturing			Fuels			Ores & Metals		
Jamaica	36.9	33.5	33.7	50.3	52.0	36.6	0.8	1.9	0.9	56.0	52.8	49.1
Barbados	4.8	3.4	4.0	13.0	3.2	2.7	0.2	0.2	4.6	0.1	0.8	0.6
Guyana	26.6	22.0	25.8	3.2	1.9	2.6	0.0	0.0	0.0	37.9	40.0	38.8
Trinidad & Tobago	8.9	14.5	11.9	25.5	34.3	50.3	98.6	97.1	93.8	5.4	5.3	9.3
MDCs	77.2	73.5	75.3	92.1	91.4	92.1	99.6	99.3	99.3	99.4	98.8	97.8
St. Kitts and Nevis	1.6	1.0	0.9	3.4	1.2	1.9	0.2	0.0	0.0	0.1	0.0	0.1
St Lucia	6.3	5.7	2.9	0.7	1.4	0.7	0.0	0.3	0.1	0.0	0.1	0.1
St Vincent	3.5	4.4	3.2	0.6	2.1	2.6	0.1	0.1	0.0	0.0	0.0	0.3
Belize	7.8	12.5	16.0	2.1	1.7	1.6	0.0	0.1	0.6	0.2	0.5	0.7
Dominica	3.5	2.9	1.7	1.2	2.2	1.1	0.1	0.2	0.0	0.2	0.6	0.9
LDCs	22.8	26.5	24.7	7.9	8.6	7.9	0.4	0.7	0.7	0.6	1.2	2.2
CARICOM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Source: COMTRADE, SITC Rev 1												

The gravity test

So far a number of hypotheses has been raised about the impact of regional integration in the Caribbean based only on theory and descriptive statistics. This subsection takes a more rigorous approach and uses a gravity model to test some of those hypotheses. When it comes to assessing trade agreements, economists usually resort to two types of analytical tools: computable general equilibrium (CGE) and gravity models. The former, in theory, would deliver more precise results since it takes into account all the interrelationships between all markets, be that markets for goods or factors. In practice, though, it has some important drawbacks, among them its intense data needs. Given

CARICOM's well-known data constraints, this particular downside turns this option in a non-stater.

The other option, the gravity model, offers a less comprehensive and somewhat ambiguous welfare analysis of trade agreements, based exclusively on trade flows. Its more moderate data requirements, though, make it the best available option to overcome CARICOM's data constraints. Gravity models are built on the assumption that bilateral trade flows are directly proportional to the size and inversely proportional to the distance between countries.[11] This assumption has been very successful in explaining empirically the bulk of trade between countries and in providing estimates of the relative importance of the many factors that affect trade costs, among them preferential trade agreements.

The canonical gravity model takes the form

$$X_{ij} = \sum_{n=1}^{N} \alpha_n Size_i + \sum_{m=1}^{M} \beta_m Dis\tan ce_{ij} + \sum_{z=1}^{Z} \gamma_z RTA_{ij} \tag{1}$$

Where x_{ij} is the imports of country i from country j; *Size* is a set of variables related to country size (e. g. population and GDP); *Distance* is a set of variables that affect trade costs (e.g. distance, adjacency, language and remoteness) and RTA comprises a set of variables that indicate if countries i and j are members, if at all, of common or different trade agreements.[12]

The estimated sign and magnitude of γ_z is interpreted as a measure of how membership of regional trade agreements impacts bilateral trade flows after the influences of country size and distance are netted out. To be able to say something about the welfare implications of these agreements, it is important to estimate not only their impact on intra-regional trade, but also on trade with the rest of the world. The underlying rationale is based on Viner's (1950) seminal concepts of trade creation and trade diversion. Trade creation arises when a regional agreement leads to the replacement of high cost by low cost import suppliers. Analogously, trade diversion occurs when high cost import suppliers replace low cost competitors. The welfare impact of a trade agreement would hinge on the balance between those two effects. It is considered welfare improving if there is net trade creation and welfare reducing if net trade diversion prevails.

As de Melo, Panagaryia and Rodrik (1993) pointed out, Viner's conclusion that trade creation is always welfare improving and trade diversion always welfare diminishing is less general than he initially thought and involves a number of caveats. Yet, most analysts tend to agree that agreements that show a net trade creation are more likely to improve the members' welfare. To capture these effects, three types of RTA variables are usually included in the gravity model (see Soloaga and Winters 2001): (i) a so-called

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[11] See Anderson and van Wincoop (2004) for a review.
[12] For simplicity, the time dimension and stochastic error are being omitted. Variables, except for indicator variables, are measured in logs. See Appendix for details.

dummy variable, say *INT*, which is given a value of 1 if both countries belong to the same agreement and zero otherwise, to capture the intraregional trade effects; (ii) a dummy variable, say *IM*, which is given a value of 1 if the importing country belongs to the agreement and its partner does not (zero otherwise), to capture the impact on extrarregional imports; and, finally, (iii) a dummy variable, say *EX*, which is given a value of 1 if the exporting country belongs to the agreement and its partner does not (zero otherwise), to measure the impact on extregional exports.

The purpose of this last EX variable is to measure the agreement's impact on non-member countries' welfare. The argument is that if the agreement diverts member countries' exports from the rest of the world to the region, this would raise the price of non-member countries imports vis-`a-vis their exports (terms of trade) and, therefore would have a negative impact on their welfare. It could also be interpreted, though, as the agreement's impact on the region' competitiveness in the rest of the world.[13]

By comparing the magnitude and sign of the γ_z coefficients of these three dummy variables, one can have an estimate of the agreement's impact on regional trade and can also draw some Vinerian conclusions about its welfare impacts. For instance, if the coefficient of *INT* is positive (i.e. the agreement boosts intraregional imports beyond what would be predicted by country size and distance) and the coefficient of *IM* is negative (i.e. the agreements diminishes the regions' propensity to import from the rest of the world), but the sum of the two coefficients is positive, there is net trade creation. If the sum is negative, then, there is net trade diversion. If both coefficients are positive, then, there is only trade creation.

This is not the first time the gravity model is used to assess CARICOM's impact. Égoumé-Bossogo and Mendis (2002, EM heretofore) appear to have pioneered this effort and, using data for 1980-1999, reached very positive conclusions. They found that CARICOM was trade creating (both INT and IM had positive and statistically significant coefficients), and that this positive impact increased throughout the period, especially after the CET reduction in the early 1990s. Based on these results they argued that, "There is untapped potential for higher intraregional trade, implying that further regional integration is warranted and, at the same time, trade liberalization should continue."(p. 23).

There are reasons to believe, though, that these results should be taken with some scepticism. Gravity models are notorious for overestimating the impact of trade agreements and this seems clearly to be the case with EM's work. For instance, their estimates, depending on the model specification, suggests that CARICOM has led member countries to trade 5 to 48 times more than would have been predicted by their size and geographical characteristics. For all that has been discussed earlier about the theoretical limits of intra-CARICOM trade and given the patterns shown in the descriptive data, these estimates do not look plausible.

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[13] For instance, if the coefficient of EX is positive and statically significant this implies that the agreement boosted extraregional exports beyond what would be expected from the countries' size and geographical characteristics.

Even if the magnitude of the impact is left aside--some economists argue that what matter are the sign and the change of the impact (coefficient) over time (see, e.g., Soloaga and Winters op cit.) – the plausibility issue still remains. Another common result in gravity models is the indication of positive impacts well before trade agreements were signed, something that can be attributed to either: (i) "anticipation effects", i. e, countries trade more because their economic agents are anticipating the agreement opportunities—an interpretation that may make sense for the years right before the agreement; or (ii) some unobserved and specific characteristic of the countries' bilateral relationship that the model wrongly attributes to the agreement.

A clear interpretation of the results would require, then, a period of analysis that starts well before the agreement (or the inclusion in the model of the regional preferences, information on which a piece of information which does not seem to be available) and econometric techniques that help to control for these unobserved characteristics that may be affecting bilateral trade. EM's analysis does not meet any of these requirements. The data starts in 1980, well after CARICOM was signed (not to mention the previous trade agreements signed in the region) and the econometric technique (ordinary least squares) does not control for specific effects. So, there is no way to know if the positive impact (and how much of it) was already there before the agreement and if the impact reflects an intraregional (unobserved) characteristic other than the trade agreement. Moreover, EM does not exclude oil from the estimation, a product whose trade has little to do with agreements and, as mentioned before, that accounts for a considerable share of intraregional flows in the period.

The econometric exercise conducted here tries to mitigate these problems, first, by putting together a database for 69 countries (12 Caribbean countries) that excludes oil products and starts in 1970 (1970-2003), three years before CARICOM was signed. As mentioned earlier, given that intraregional preferences date back to at least CARIFTA in 1968, the proper thing to do would have been to use data starting in the early sixties. Unfortunately, this data is not available. Second, the exercise uses an econometric technique—panel with random effects—that is able to control for the impact of pair specific (say, Barbados and Trinidad and Tobago), unobserved characteristics, being, therefore, better equipped to isolate the impact of trade preferences.

A number of other changes are also made with respect to EM's model; they are inspired by the recent advances on the gravity literature and aim to increase the precision of the estimates (see Appendix 1 for a detailed description of the model). For instance, the model now includes the impact of the countries' "remoteness" (distance to all trade partners) on trade. The justification is that more "remote" countries tend to trade more with their closest neighbours, irrespective of the distance between them. The model also tries to capture the impact of real bilateral exchange rates, a key variable in the determination of both volume and composition of intraregional trade.

Table A.5 of the appendix presents the results, with the model run in three specifications: the traditional OLS, random effects and random effects with time trends. The first specification is the one used by EM, but with the changes mentioned above. The results are somewhat similar to those of EM. They also suggest that CARICOM has

a positive, but implausibly large impact on intraregional trade that more than compensates for a negative impact on extrarregional imports (trade diversion) and exports.

The second specification controls for country-pair specific effects and is loosely based on Carrère (2004). The third specification is a variation of the second and includes a time trend to capture the impact of omitted variables (i. e. not included in the model) that may be affecting bilateral trade throughout the sample and that may be growing overtime (e.g. global trade). A time trend is also interacted with the CARICOM dummies to capture changes in the agreement's impact over time. When estimated for the whole period, the results of these two specifications are very similar, so the analysis here is concentrated on the third specification, which is thought to capture better the dynamic impacts of the agreement.

The first thing to note is that CARICOM's overall results are even more favourable than those of the OLS specification. They suggest that the agreement is trade creating (instead of the net trade creating of the OLS version) with positive and statistically significant impacts on intraregional imports and on extrarregional imports and exports. However, despite the use of non-oil trade and of a more appropriate econometric technique, the magnitude of the impact remains implausibly high, particularly in the light of descriptive statistics reviewed earlier.

Figure 12 illustrates this point by presenting a comparison between CARICOM's observed intraregional trade, the trade predicted by the model and the counterfactual. That is, the intraregional trade that would have occurred, driven only by the countries' size, distance and bilateral exchange rates, if there were no agreement. As can be seen, the model works well in terms of explaining the actual trade, but it does so by attributing an implausibly large positive impact to CARICOM. The traditional gravity variables do not seem capable of sufficiently explaining intraregional trade, so the model resorts to the CARICOM dummy to get a better fit to the data. Given the size of the CARICOM effect, however, the dummy must be either picking up "noise" in the data or the impact of other unknown variable(s) that are not related to size, distance and exchange rates and that may be specifically important to trade in the region. This point seems to be corroborated by the fact that the estimated impacts for most of the other agreements in the sample are more modest and plausible.

Figure 12-CARICOM's Impact on Intraregional Trade
Random Effects Gravity Model
1970-2003
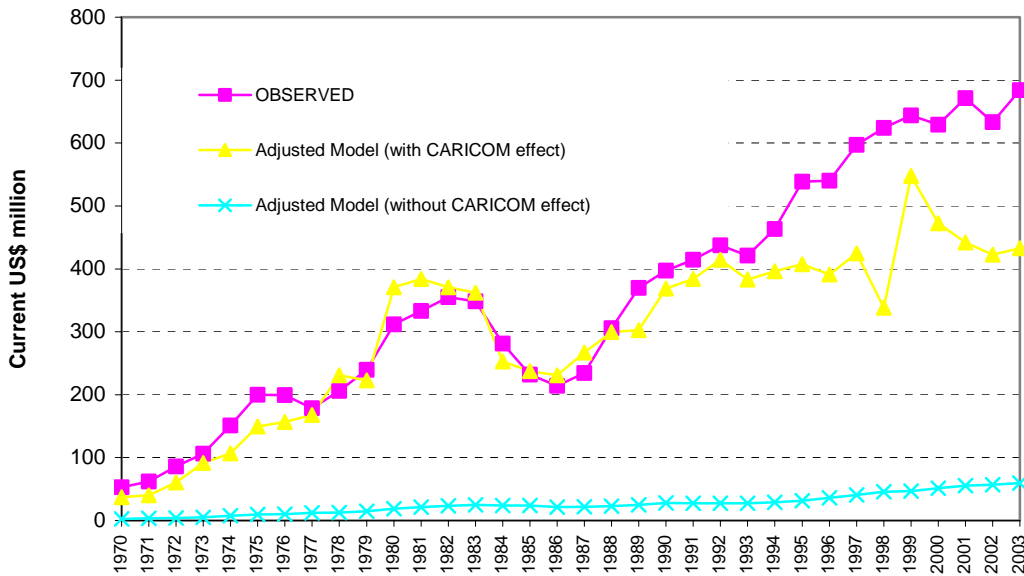
Source: Appendix Randon Effects Model 2

If the results cannot be trusted with respect to the magnitude, they say something relevant about the trend of the impacts. Figure 13 presents evidence on how CARICOM's impacts evolved over the period. It is clear that they were already present even before CARICOM was signed in 1973. It can be either the "anticipation effect" or CARIFTA's preferences, but the magnitude of the effect on intraregional trade suggests that there is something else that cannot be properly identified and that affects the whole period. Whatever it is, the absence of a "big-bang" effect --either when CARICOM was signed or when it was reinvigorated by the common external tariff (CET) agreement in 1993-- and the declining trend the marks the whole period seem consistent with a hypothesis discussed earlier: the peak of the intraregional gains seems to have happened in the late 1960s and early 1970s, which was then followed by a period of diminishing returns that not even the 1990s reforms were able to reverse. If that is really the case, this goes against EM's conclusions that there is an "untapped potential" for higher intraregional trade.

Overall, the results confirm the positive, trade creating nature of the regional preferences, but their magnitude remains an open empirical question. The model, as in previous estimates, generates results that are at odds with what both the theory and the descriptive statistics suggest. The information, however, about the trend of the impacts seems to reconcile theory, descriptive and econometric evidence, suggesting that the effects date from a period before CARICOM was signed and that they were not significantly bolstered either by the implementation or changes experienced by the agreement over the last three decades.

Figure 13- CARICOM's Impacts onTrade, 1970-2003 Randon Effects Gravity Model
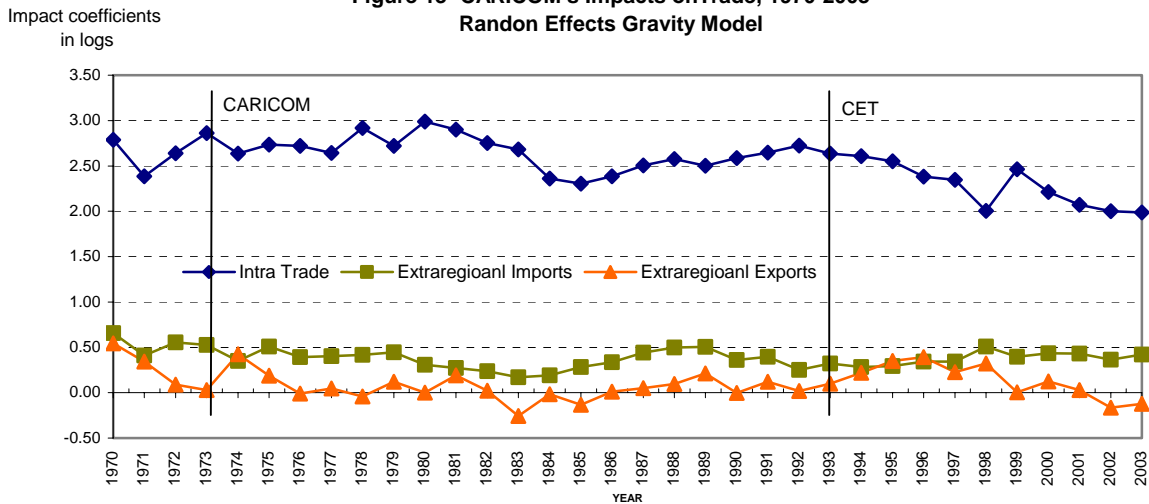
Note: the estimated coefficients for extreregional imports are not significant for the period 1976-1991`
Source: Appendix , Random effects model 2.

IV-Summary and Conclusions

In the Caribbean, the goal of regional integration emerged as a tool for political emancipation under the form of the short-lived West Indian Federation. Yet, even then the political motivation rested upon a deep-rooted economic perception about the constraints of size to growth and development. This perception would drive all the other integration initiatives that followed -- the free-trade zone CARIFTA in 1968 and the customs union CARICOM in 1973-- and seems to be the main motivation behind the ambitious and recently launched CSME.

In a region where all but three countries (Jamaica, Trinidad and Tobago and Haiti) are classified by the United Nation as "microstates", this concern with size does not come as a surprise and, in fact, it is a concern to which economic theory lends qualified support since the days of Adam Smith and his insight about the division of labor being limited by the size of the market. The more recent theories of trade and growth also speak of larger countries being better positioned to reap the gains of trade, given their advantage in scale-intensive activities, and to innovate and grow since they can count on larger markets to spread costs and on larger pools of human capital from which to draw their scientists and engineers.

The advantages of size, though, are not seen as absolute. First, there are costs coming mainly in the form of heterogeneous preferences. That is, the larger the country, the more heterogeneous preferences are, and, therefore, the more difficult it is to design policies that satisfy the interest of all constituencies. Second, there is the argument that even if the area and population of a country is small, by having access to the world

markets, the actual size of its market can be many times that of its domestic market. Trade, then, can be a powerful instrument to attenuate the restrictions of size and it can effectively shift the trade-off between it costs and benefits.

Those insights are particularly illuminating for the understanding of the dynamics of Caribbean integration, particularly its costs and benefits. For instance, it helps to understand why, despite their profound awareness of their size limitations, Caribbean countries have resisted unit recently to take bolder step towards deeper forms of political and economic integration. The high degree of openness that marks most economies in the region, boosted by non-reciprocal preferential access to the US and EU markets and by substantial inflows of aid and FDI, has probably attenuated the size handicap, reducing the appeal of regional integration without, however, making its heterogeneity (or sovereignty) costs any smaller.

A growth accounting exercise, used to simulate the impact of the enlarged CARICOM market on Jamaica, Trinidad and Tobago's, Barbados and Guyana's growth rates, illustrates these points. Changes in size, the so-called market-size effect, are shown to have little impact on these countries' growth rates, particularly when compared to changes in other growth determinants such as openness, infrastructure and human capital. These results seem to reflect the fact that openness in these countries is already above the world average and that an increase in size would weigh heavier on costs (heterogeneous preferences) than on benefits.

The interaction between size, openness and preference costs seems also to be behind the timing of the CSME initiative. Two of the main pillars of CARICOM's openness, unilateral preferences for CARICOM exports to world markets, on the one hand, and FDI and aid flows on the other, are being rapidly eroded by the proliferation of preferential agreements and unfavorable WTO rulings and by the growing competition for aid and FDI. So, even though globalization is making the world market larger, from the point of view of the Caribbean it is looking increasingly smaller because of the idiosyncrasies of their insertion into the world economy. To put it in another way, globalization is tightening the size constraints of the region.

So, how can the CSME help Caribbean countries redress the balance between size and openness and thereby improve the region's growth prospects? Given that (i) policy barriers to intraregional trade are on average already low; (ii) the countries' factor endowments, with a few exceptions, are very similar; and (iii) the region as a whole fits into the description of small country; there can be no illusions about the scale or traditional trade gains of integration.

Low barriers to interregional trade mean that there are no substantial allocative gains to be reaped, with the exception of countries/sectors that are still highly dependent on waivers and exceptions to the common market, mainly in agriculture. The similarity of factor endowments suggests that intraregional trade is bound to be limited and most trade will be done with the outside world. Finally, the size constraints imply that the regional market alone will not help firms to substantially reduce their average costs.

The descriptive analysis of the trade flows in the last three decades lends support to those claims. Intraregional trade, when measured in constant prices, appears to have peaked in the early, pre-CARICOM, seventies and it was not until the late nineties that this ceiling was breached. Three decades of integration do not seem to have done much to bolster intraregional trade and it is unlikely that this picture will change much with the CSME. True, the period analyzed covers different levels of discipline and implementation of the free trade zone and common market and the analysis of actual tariffs and tax burdens on imports suggests that there are still gains to be reaped by removing those trade costs. On average, though, these costs are not high enough to suggest that their removal will substantially change the rather modest performance of intraregional trade.

The more rigorous analysis done with the help of a gravity model confirms the trade creating nature of the regional preferences, but does not help much in determining the magnitude of their impact. It does lend support, though, to the hypothesis that most of the intraregional gains occurred in the late sixties and early 1970s and that, in subsequent years, a trend of diminishing returns set in despite what can be considered trade creating reforms in the 1990s.

On the extrarregional side, neither the descriptive nor the econometric analysis provide evidence of a crippling trade diversion-- intra and extrarregional trade appear to commove--nor of a substantial positive impact on the region's competitiveness. The latter appears to have improved in the late nineties— a period that coincides with CARICOM's consolidation—but only to revert to a downward trend at the turn of the century.

To argue that these traditional, trade-related gains have been and are bound to be limited is not the same as arguing that they were negligible or irrelevant or that there is no point in perfecting the free trade zone and customs union. Trade barriers may be low on average, but there are still some important restrictions, particularly in agriculture, whose elimination can generate tangible allocative gains. Moreover, precisely because these trade-related gains are intrinsically limited, in order for them to be anywhere meaningful, the region cannot afford to live with an imperfect free trade zone or customs union. Obstacles to the free flow of goods and services can easily render these gains irrelevant.

It is also important to be aware of the distributional impacts of integration. Because of the similarity of factor endowments, south-south agreements are particularly prone to trade diversion and agglomeration of economic activities at the expense of the smaller partners. The econometric analysis does not suggest that trade diversion is a major problem in CARICOM, yet there are signs that the production of goods is moving towards on of the largest countries in the region. To avert a politically unsustainable scenario where large and wealthier countries "take it all", it is important to slightly "tilt the playing field" in favor of the smaller and poorer partners. CARICOM has already taken a key initiative in this direction with the creation of the Regional Development Fund, but there are also other possibilities such as giving smaller countries, in the context of a much needed harmonization of investment policies, the possibility of

offering more generous fiscal and credit incentives than their larger counterparts; or the adoption of a distribution criteria of the common tariff revenue that would favor the more vulnerable partners.

The free movement of labour, which also figures among the objectives of the CSME, is also likely to spread the benefits of integration more evenly. It allows labor to follow spatial changes in the allocation of investment, creating job options for workers that live in countries/region that might eventually lose from integration. It also prevents wages and incomes among member countries to follow a politically unstainable divergence path. Of course, liberalization in this area has to be gradual to avoid large and rapid movements of labour across borders, a phenomenon that can create a political backlash. An intraregional work visa scheme with quotas for unskilled workers, for instance, could be an efficient way to test the waters and to kick start this process.

What should be avoided at all costs are compensatory measures that interfere with the consolidation of the common market such as exceptions to custom union discipline—an expedient so far heavily used in CARICOM. These measures can make the already limited trade gains irrelevant and they hurt the very asset that can benefit the smaller partners: the enlarged market.

If the prospects of trade-related gains are modest and conditional on common market rules being strictly enforced (and distributional risks being managed), one cannot say the same about the payoff of integration in non trade-related areas. The advantages of size go well beyond the production of tradable goods. They include the production of goods and services that form the countries' social and physical infrastructure. In this case, size matters and openness can do very little to change that. They are by definition non-tradables and therefore countries cannot resort to trade to find an alternative and cost effective source of supply. This has very concrete implications for small countries such as those in the Caribbean that either have to carry a heavy fiscal burden to produce those goods and services or simply do not have access to them at all.

These are goods that tend to play a critical role in the countries' productivity, competitiveness and growth prospects, at a time when some of the key pillars of CARICOM's insertion in the world markets are being eroded. The importance of those gains has not gone unnoticed by CARICOM governments and officials who constantly mention "functional cooperation" among their goals, and, indeed, the region already has a number of important initiatives in areas such as education, disaster management and foreign policy coordination. Yet, the impression that comes out of the text of the treaties and from their implementation is that functional cooperation is seen as playing an ancillary role to the traditional, trade-related areas of CARICOM integration. Functional integration is even referred to as the "non-economic" side of integration when, in fact, integration gains in non-tradables are likely to dwarf the traditional gains from trade.

To maximize those non-tradable gains, the focus of integration, or cooperation to use the region's language, should be broader and the efforts more ambitious than has been the case so far. There are gains to be reaped in both the social and physical infrastructure. The key to those gains is to find those non-tradable goods and services whose joint provision on a regional basis reduces costs, and therefore, the fiscal burden on firms and

individuals, while improving their availability. This would serve both (i) the consolidation of the common market, insofar as a common set of rules, institutions and policies reduces transaction costs and uncertainty and (ii) the ultimate objective of boosting the region's productivity, insertion in the world markets and overall growth prospects.

Technical Appendix

This technical appendix outlines the methodology used in the two econometric exercises discussed in Sections I and II, respectively, of the paper. The first is a growth accounting exercise aimed at providing some guidance on the growth implications for CARICOM countries of the enlarged market effect. It also serves the purpose of assessing the growth-related gains of integration in non-tradable areas.

The second exercise uses a gravity model to estimate the impact of regional preferences on CARICOM's intra and extraregional trade. The aim is not only to have a clearer picture of the effects so far, but also to provide some guidance with respect to future trade gains deriving from the CSME.

I-Size and Openness in a Growth Model

This exercise is based on Alesina and Spolaore (2003) and Alesina, Spolaore and Wacziarg (2004), who see the "equilibrium" size of countries as emerging endogenously from the trade-off between the economic and political-economy costs and benefits of size, on the one hand, and its interaction with openness, on the other.

Large countries would benefit, *inter alia*, from: (i) greater potential for specialization, (ii) scale economies in the production of goods and creation of knowledge; (iii) lower per-capita costs in the provision of public goods; (iv) greater opportunities to internalize cross-regional externalities; (v) more means to insure against region-specific shocks and to attenuate regional disparities with redistributive schemes. These benefits, however, would be tempered by the costs of heterogeneous preferences. Being a large country implies that its citizens have to share public goods and policies in ways that cannot satisfy everybody's preferences.

In an open economy, this trade-off between the costs and benefits of size is seen as being modified by the opportunity to trade with the rest of the world. Even if the area and population of a country is small, by having access to world markets, the actual size of its market can be many times that of its domestic market. The more open the economy, the less important would be the benefits of size or the disadvantages of being small.

Alesina and Spolaore test their theory in the context of a growth regression where size and openness appear alongside other traditional determinants of growth such as human capital and investment. Size and openness are expected to have a positive impact on growth; size for the benefits discussed above and openness for the knowledge spillovers discussed in the endogenous growth literature (e. g. Grossman and Helpman 1991). To capture the impact of openness on the size trade-off, the variables *size* and *openness* are interacted and the coefficient in this interaction term is expected to be negative. The more open the economy, the less relevant are the benefits of size and vice-versa, i.e., the larger the economy, the less relevant are the benefits of openness.

The empirical framework uses the following general growth specification:

$$\ln\left(\frac{y_{it}}{y_{it-\tau}}\right) = \beta_0 + \beta_1 \cdot \ln(y_{it-\tau}) + \beta_2 \cdot \ln(S_{it}) + \beta_3 \cdot O_{it} + \beta_4 \cdot (O_{it} \times \ln(S_{it})) + \beta_5' \cdot Z_{it} + \varepsilon_{it}$$

where,

- $i = 1, \text{K}, n$ denotes the country i.
- $t = 1, \text{K}, T$ denotes the time t.
- y denotes per capita income.
- S denotes a measure of country size.
- O denotes a measure of openness.
- Z is a vector of control variables, which are determinants of the steady-state level of per capita income.

This model is run using both the Seemingly Unrelated Regression (SUR) method and the Three Stage Least Squares (3SLS) method. The SUR estimator can be seen as a flexible form of the random-effects panel estimator, which allows for different covariances of the error term across time periods. The estimation procedure is to formulate one equation per decade, constrain the coefficients to equality across periods, and run SUR on the resulting system of equations. The 3SLS estimator is used to alleviate the possible endogeneity of openness and GDP growth. The authors follow Frankel and Romer (1999) in using geographical variables as instruments. This estimator achieves consistency through instrumentation, and efficiency through the estimation of cross-period error covariance terms.

As indicated earlier, we wanted to use Alesina and Spolaore theoretical and empirical framework to assess the impact of the enlarged market effect on the growth of CARICOM countries. A deep form of integration as envisaged by the CSME, if taken to its ultimate consequences, would be akin to increasing the size of the countries involved to the size of all CARICOM countries together. So, we needed an estimate of the size impact net of the influence of openness and other possible determinants of growth. With these coefficients at hand, we could simulate the full size impact of integration, holding all other variables constant. We could also compare this effect with the effect of other growth variables adopting the same procedure.

To implement this exercise, we run Alesina, Spolaore and Wacziarg's (2004) model (henceforth ASW) using the same specifications and econometric techniques, but with a few modifications. First, we wanted to make sure that CARICOM countries were included in the sample--it was only possible to find the required data for Jamaica, Trinidad and Tobago, Guyana and Barbados. Second, we wanted to use an aggregate measure of human capital, instead of breaking it down by gender as in ASW. There is no clear theoretical reason for the gender breakdown to be included. Third, we wanted to include the quality of infrastructure as one of our variables of interest. This, for two main reasons: infrastructure is often mentioned as a key determinant of growth (See, e.g. Calderon & Serven 2004) and it is arguably a key non-tradable sector where the gains of Caribbean integration could be significant.

The variables and data sources used in our version of the growth regression are the following:

- **Growth rate of real per capita income**. Log difference of real GDP per capita, source: Heston-Summers-Aten V.6.1

- **Size**. We define size in two ways: as the Log of real GDP, and as the Log of Population, source: Heston-Summers-Aten V. 6.1

- **Openness**. We define openness in two ways: as the ratio of imports plus exports in current prices to GDP in current prices, and as the ratio of imports plus exports in exchange rate US$ to GDP in PPP US$, source: Heston-Summers-Aten V. 6.1

- **Log of initial per capita GDP**. Log of real GDP per capita in the initial period used to calculate the growth rate considered, source: Heston-Summers-Aten V. 6.1

- **Human Capital**. Log of the average years of secondary schooling in the total population over age 25, source: Barro-Lee.

- **Investment**. Share of investment in real GDP per capita, source: Heston-Summers-Aten V. 6.1

- **Government**. Share of government consumption of goods and services in real GDP per capita, excluding transfers and public investment, source: Heston-Summers-Aten V. 6.1

- **Infrastructure**. Aggregate index of infrastructure stocks which includes the telecommunication sector, the power sector, and the transportation sector, source: Calderon and Serven (2004).

- **Small country**, **Island**, **Small Island**, **and Landlocked country**. Geographic dummy variables, source: Authors' calculations.

The data is structured in a panel comprising four periods of 10 year-averages (1960-69, 1970-79, 1980-89, 1990-99), and up to 82 countries, including Jamaica, Barbados, Guyana and Trinidad & Tobago (see Table A3). Since the inclusion of infrastructure changes the results significantly, we present both versions of the model. Table A.1 presents the results of the regressions without infrastructure, with different measures of size and openness. The magnitude, sign and significance of the coefficients across specifications are similar to those of ASW and generally robust to the two econometric techniques used. The fact that the coefficient of the interaction term is negative and significant confirms the argument that the positive impact of size is tempered by the countries' openness.

Table A.2 presents the results for the model with infrastructure, which, due to data restriction cover only 67 countries, two of which are from CARICOM (Jamaica and

Trinidad and Tobago). As can be see, the sign of the coefficients remains the same, but the coefficient of the size-openness interaction is only statistically significant in the SUR-current openness-population specification. This seems to be reflecting the fact that the infrastructure variable is highly correlated with openness, which complicates the interpretation of the results. To be on safer ground, we used the results of the model without infrastructure in one of our preferred specifications (3SLS with current openness and population) to run the simulations presented in Figure 4 and 5 of Section I. This specification controls for the endogeneity of openness and growth and the coefficients are highly significant.

Figures A1 and A2 below present the results of the simulation, using the infrastructure model in the only specification that produced statically significant coefficients (SUR with current openness and population). Even though the message seems to be the same as the other simulations (size effects are not likely to be sizeable, particularly when compared with other growth effects), it has to be taken with caution given that we are not controlling here for the endogeneity of openness and the model is not robust to changes in specifications.

Figure A.1. Effect of One Standard Deviation Change in Selected Variables on the Growth Rate of Jamaica (JAM) and Trinidad and Tobago (TTO).
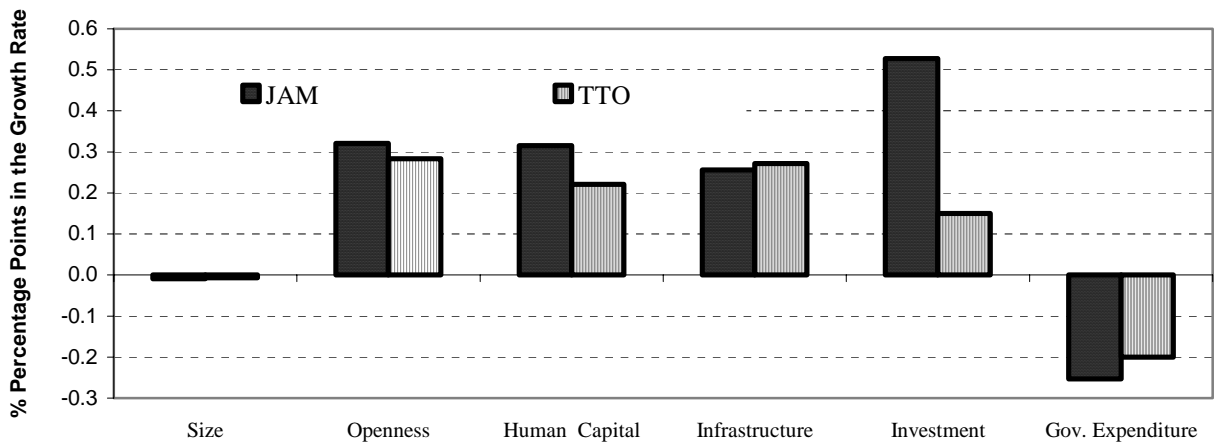
Source: Table A.2- Model SUR, population, current openess

Figure A.2- Estimated Impact of Caricon's Market Size Effect, Openess and Infrastructure on the Growth Rate Jamaica and Trinidad and Tobago (TTO).
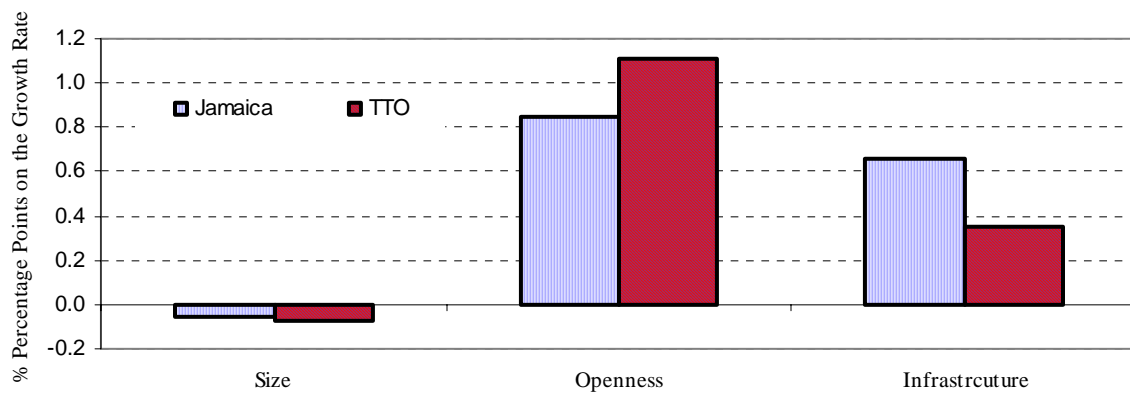
Note: Shock in Size = Population equal to CARICOM's . Shock in openness = Openness ratio equal to Guyana's. Shock in Infra structure= Quality index similar to Singapore's . Source: Table A.2, model SUR, population, current openess

	Size = Population				Size = Real GDP			
Table A.1- Size and Openess in a Growth Model (1960-1999) Without Infrastructure.								
Dependent Variable: · Growth rate of real per capita income								
	Current Openess		**Real Openess**		**Current Openess**		**Real Openess**	
	(SUR)	**(3SLS)**	**(SUR)**	**(3SLS)**	**(SUR)**	**(3SLS)**	**(SUR)**	**(3SLS)**
Variables	**Coeff.**	**Coeff.**	**Coeff.**	**Coeff.**	**Coeff.**	**Coeff.**	**Coeff.**	**Coeff.**
Size*Openess	-0.006 **	-0.008 **	-0.007	-0.011 *	-0.003 *	-0.002	-0.007 **	-0.014 ***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Size	0.467 ***	0.680 ***	0.258 *	0.466 **	0.484 ***	0.838 ***	0.450 ***	0.903 ***
	(0.14)	(0.17)	(0.13)	(0.18)	(0.13)	(0.20)	(0.13)	(0.19)
Openess	0.104 ***	0.138 ***	0.111 *	0.191 *	0.095 *	0.100	0.193 **	0.399 ***
	(0.03)	(0.04)	(0.05)	(0.08)	(0.04)	(0.07)	(0.07)	(0.11)
Log of Initial per capita GDP	-0.859 ***	-0.849 ***	-1.023 ***	-1.129 ***	-1.109 ***	-1.725 ***	-1.224 ***	-1.780 ***
	(0.18)	(0.19)	(0.19)	(0.21)	(0.19)	(0.24)	(0.21)	(0.25)
Human Capital	0.524 ***	0.488 ***	0.592 ***	0.580 ***	0.496 ***	0.495 **	0.523 ***	0.498 **
	(0.14)	(0.14)	(0.14)	(0.15)	(0.14)	(0.16)	(0.15)	(0.16)
Investment (% GDP)	0.109 ***	0.102 ***	0.110 ***	0.104 ***	0.099 ***	0.083 ***	0.097 ***	0.078 ***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Government Consumption (% GDP)	-0.038 ***	-0.041 ***	-0.037 **	-0.040 ***	-0.036 **	-0.043 ***	-0.038 **	-0.050 ***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Intercept	0.944	-2.855	5.852 *	3.282	-1.400	-5.986	0.618	-6.127
	(2.92)	(3.54)	(2.80)	(3.41)	(3.31)	(5.07)	(3.27)	(4.60)
Intercept 1970-1979	0.462	-3.422	5.397	2.753	-1.952	-6.770	0.058	-6.892
	(2.96)	(3.59)	(2.84)	(3.46)	(3.35)	(5.12)	(3.32)	(4.67)
Intercept 1980-1989	-0.725	-4.671	4.251	1.599	-3.187	-8.176	-1.084	-8.015
	(2.97)	(3.60)	(2.84)	(3.46)	(3.35)	(5.13)	(3.31)	(4.66)
Intercept 1990-1999	-0.629	-4.670	4.376	1.680	-3.171	-8.514	-0.952	-7.981
	(2.95)	(3.61)	(2.82)	(3.45)	(3.35)	(5.13)	(3.29)	(4.63)
Number of obs (NT)	82 (4)	82 (4)	82 (4)	82 (4)	82 (4)	82 (4)	82 (4)	82 (4)

* $p<0.05$; ** $p<0.01$; *** $p<0.001$, the standard errors are in parenthesis

	Size = Population				Size = Real GDP			
	Current Openness		Real Openness		Current Openness		Real Openness	
	(SUR)	(3SLS)	(SUR)	(3SLS)	(SUR)	(3SLS)	(SUR)	(3SLS)
Variables	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Size*Openess	-0.006 *	-0.007	-0.006	-0.007	-0.002	0.000	-0.005	-0.005
	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Size	0.496 **	0.538 **	0.337 *	0.332	0.491 ***	0.624 ***	0.455 ***	0.536 **
	(0.16)	(0.19)	(0.14)	(0.19)	(0.15)	(0.18)	(0.14)	(0.16)
Openess	0.104 *	0.120	0.107	0.109	0.066	0.038	0.127	0.150
	(0.05)	(0.06)	(0.07)	(0.11)	(0.06)	(0.08)	(0.09)	(0.11)
Log of Initial per capita GDP	-1.577 ***	-1.561 ***	-1.692 ***	-1.680 ***	-1.932 ***	-2.190 ***	-1.951 ***	-2.060 ***
	(0.27)	(0.28)	(0.28)	(0.29)	(0.28)	(0.30)	(0.30)	(0.32)
Human Capital	0.416 *	0.421 *	0.406 *	0.401 *	0.353 *	0.398 *	0.383 *	0.416 *
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.19)	(0.18)	(0.18)
Investment (% GDP)	0.096 ***	0.097 ***	0.093 ***	0.094 ***	0.082 ***	0.074 ***	0.084 ***	0.082 ***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Government Consumption (% GDP)	-0.035 **	-0.035 **	-0.035 **	-0.035 **	-0.034 **	-0.039 **	-0.034 **	-0.036 **
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Infraestructure	0.605 **	0.585 **	0.697 **	0.704 **	0.657 **	0.547 *	0.644 **	0.572 *
	(0.22)	(0.22)	(0.22)	(0.23)	(0.22)	(0.24)	(0.23)	(0.25)
Intercept	6.692	5.848	10.497 **	10.498 *	5.581	3.972	6.853	5.638
	(3.86)	(4.31)	(3.60)	(4.46)	(4.58)	(5.51)	(4.44)	(5.30)
Intercept 1970-1979	6.063	5.222	9.879 **	9.889 *	4.892	3.186	6.164	4.896
	(3.89)	(4.33)	(3.62)	(4.48)	(4.60)	(5.53)	(4.48)	(5.34)
Intercept 1980-1989	4.873	4.040	8.704 *	8.718	3.653	1.848	4.985	3.710
	(3.89)	(4.33)	(3.62)	(4.47)	(4.60)	(5.53)	(4.46)	(5.31)
Intercept 1990-1999	5.017	4.192	8.875 *	8.898 *	3.704	1.691	5.136	3.814
	(3.88)	(4.31)	(3.60)	(4.44)	(4.59)	(5.53)	(4.43)	(5.27)
Number of obs (NT)	67 (4)	67 (4)	67 (4)	67 (4)	67 (4)	67 (4)	67 (4)	67 (4)

Table A.2- Size and Openess in a Growth Model (1960-1999) with Infrastructure.
Independent Variable: · Growth rate of real per capita income

* $p<0.05$; ** $p<0.01$; *** $p<0.001$, the standard errors are in parenthesis

Table A-3. Growth Model with Infrastructure: Countries in the sample						
Developed Countries	**Developing Countries**					
Industrial	**Africa**	*Asia*	*Europe*	*Middle East*	*Latin America*	*Caricom*
Australia	Algeria	Bangladesh	Iceland	Iran, Islamic Rep.	Argentina	Barbados
Austria	Benin	Fiji	Turkey	Israel	Bolivia	Guyana
Bel-Lux	Bostwana	Hong Kong, China		Jordan	Brazil	Jamaica
Canada	Cameroon	India		Syrian Arab Rep.	Chile	Trinidad & Tobago
Denmark	Congo	Indonesia			Colombia	
Finland	Gambia	Korea, Rep.			Costa Rica	
France	Ghana	Malaysia			Dominican Rep.	
Greece	Kenya	Nepal			Ecuador	
Ireland	Lesotho	Pakistan			El Salvador	
Italy	Malawi	Papua New Guinea			Guatemala	
Japan	Mali	Philippines			Honduras	
Netherlands	Mauritius	Sri Lanka			Mexico	
New Zealand	Mozambique	Thailand			Nicaragua	
Norway	Niger				Panama	
Portugal	Rwanda				Paraguay	
Spain	Senegal				Peru	
Sweden	South Africa				Uruguay	
Switzerland	Togo				Venezuela	
United Kingdom	Uganda					
United States	Zambia					
	Zimbabwe					

Table A-4. Growth Model without Infrastructure: Countries in the sample						
Developed Countries	**Developing Countries**					
Industrial	**Africa**	*Asia*	*Europe*	*Middle East*	*Latin America*	*Caricom*
Australia	Algeria	Hong Kong, China	Turkey	Iran, Islamic Rep.	Argentina	Jamaica
Austria	Ghana	India		Israel	Bolivia	Trinidad & Tobago
Bel-Lux	Kenya	Indonesia		Jordan	Brazil	
Canada	Mali	Korea, Rep.		Syrian Arab Rep.	Chile	
Denmark	Mauritius	Malaysia			Colombia	
Finland	Niger	Nepal			Costa Rica	
France	Rwanda	Papua New Guinea			Dominican Rep.	
Greece	Senegal	Philippines			Ecuador	
Ireland	South Africa	Sri Lanka			El Salvador	
Italy	Uganda	Thailand			Guatemala	
Japan	Zambia				Honduras	
Netherlands	Zimbabwe				Mexico	
New Zealand					Nicaragua	
Norway					Panama	
Portugal					Paraguay	
Spain					Peru	
Sweden					Uruguay	
Switzerland					Venezuela	
United Kingdom						
United States						

II-Gravity Model with Trade Agreements

This exercise draws on the now well-established tradition of using gravity models to assess the impact of trade agreements (see Anderson and Wincoop 2004 for a review) and whose more recent contributions include Soloaga and Winters (2001), Cheng and Wall (2005), Coulibaly (2006) and Carrère (2006).

The basic empirical framework takes the form

$$\ln M_{ij} = \alpha + \beta_1 \cdot \ln Y_i + \beta_2 \cdot \ln N_i + \beta_3 \cdot \ln Y_j + \beta_4 \cdot \ln N_j + \beta_5 \cdot \ln D_{ij} + \beta_6 \ln R_i + \beta_7 \cdot \ln R_j$$
$$+ \beta_{10} \cdot I_i + \beta_{11} \cdot I_j + \beta_{12} \cdot L_i + \beta_{13} \cdot L_j + \beta_{14} \cdot C_{ij} + \beta_{15} \cdot LANG_{ij} + \beta_{16} \cdot RER_{ij}$$
$$+ \sum_k INT_k \cdot (P_{ki} \cdot P_{kj}) + \sum_k IM_k \cdot [P_{ki} - (P_{ki} \cdot P_{kj})] + \sum_k EX_k \cdot [P_{kj} - (P_{ki} \cdot P_{kj})] + \varepsilon_{ij}$$

where,

- $i = 1, K, I$ denotes the reporter country.

- $j = 1, K, J$ denotes the partner country.

- $k = 1, K, K$ denotes a trade agreement.

- M denotes the imports.

- Y denotes the GDP.

- N denotes the population.

- D denotes the distance between the involved countries.

- R denotes "remoteness" of the country.

- I is a dummy variable taking the value of 1 if the country is an island and -1 otherwise.

- L is a dummy variable taking the value of 1 if the country is landlocked and -1 otherwise.

- C is a dummy variable taking the value of 1 if the countries involved share a border and -1 otherwise.

- $LANG$ is a dummy variable taking the value of 1 if the countries involved share the same language and -1 otherwise.

- RER denotes the bilateral real exchange rate between the involved countries.

- P is a dummy variable taking the value of 1 if the country (i or j) is a member of the trade agreement (k) and zero otherwise.

- ε error term assumed to be log-normally distributed.

Following Soloaga and Winters (2001), the total effect of each agreement is decomposed into three separate effects:

- The effect on members' trade (both export and imports), measured by the coefficients INT.

- The effect on the members' imports from the rest of the world, measured by the coefficients IM.

- The effect on the members' exports to the rest of the world, measured by the coefficients EX.

In order to estimate the model we use the following data:

- **Imports**. Annual total imports in nominal US$ dollars, source: UN-COMTRADE database, complemented, whenever the information was missing, by data from CARICOM Secretariat for intra-CARICOM trade.

- **Gross Domestic Product**. GDP in nominal US$ dollars, source: WDI-database, The World Bank group.

- **Population**. Total population, source: WDI-database, The World Bank group.

- **Distance**. Simple geodesic distance between the principal cities in each country, source: Distances-CEPII database.

- **Remoteness**. Average distance of reporter country to exporter partners, weighted by exporters' GDP share in world GDP, source: Authors' calculations with information of WDI-database and Distances-CEPII database.

- **Island and Landlocked dummy variables.** Geographic dummy variables, source: Authors' calculations.

- **Contiguous dummy variable**. Indicating if two countries are contiguous, source: Distances-CEPII database.

- **Language**. Indicating if two countries have the same official language, source: Distances-CEPII database.

- **Real Exchange Rate**. Bilateral real exchange rate between the pair of countries, source: Authors' calculations with information of the IFS-database, The International Monetary Fund.

- **Trade agreements**. Set of three dummy variables for each agreement.[14]We consider 8 trade agreements: ANDEAN, CACM, MERCOSUR, NAFTA, ASEAN, EFTA, EU, and CARICOM. Source: Authors' calculations.

The database has data for 69 countries (Table A.6) for the period 1970 to 2003, including 12 CARICOM countries: Antigua & Barbuda, Belize, Barbados, Dominica, Grenada, Guyana, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, and Trinidad & Tobago.

Countries that do not declare their imports from a partner or which do not import from this partner are identified in the same way, i.e., with a missing value. The fact that the data is not censored at zero makes procedures such as Tobit estimation, a usual feature of gravity models, unnecessary. However, not all the country-pairs in the sample are available for all the periods. This creates a selection bias and we deal with it by adding three new variables as in Nijman and Verbeek (1992): the number of years of presence of the couple ij's in the sample (PRES); a dummy that takes the value 1 if ij is observed during the entire period, 0 otherwise (DD); and a dummy that takes the value 1 if ij was present in t-1 (PA).

As in Soloaga and Winters (2001) and Carrère (2006), we maintain, in all the model specifications, the set of dummy variables for each trade agreement over the entire 1970-2003 period. This is not only to capture "anticipation effects", but also, and perhaps more importantly, to avoid attributing to agreements the effects of other unobservable characteristics of the countries' relationship.

As in Carrère (2006), we use a panel with random effects to take advantage of both the time and cross-sectional dimension of the data and to control for country-pair heterogeneity. The fixed effects approach would not be an option because the set of dummy variables is time invariant, and therefore the impact of the preferences would not be identified.

Finally, the traditional approach to measure the impact of trade agreements, i.e. either running the model for the whole period with year dummies or interacting year dummies with the agreements dummies, may bias the results for not controlling properly for trends that may be affecting bilateral trade throughout the sample (e. g. trends in the world trade) and for not capturing the trends that may be driving the impact of each particular agreement. To deal with this problem, we estimate the gravity equation adding two variables: *Year*, which varies between t_o and t_n and whose coefficient reflects trends that may be affecting the whole sample; and its interaction with the agreement dummy, whose coefficient captures the specific trend of each agreement. [15]

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[14] See Appendix 3.
[15] For an alternative approach for this problem see Coulibaly (2006).

As a robustness check, we ran the model in three specifications:

1) OLS, which pools the data for the whole period and does not take into account the time dimensions and country-pair effects;

2) The random-effects estimation, which uses both the time and cross-sectional variation and controls for country-pair heterogeneity[16]; and

3) The random-effects estimation with time trends, which captures the dynamic effect of the trade agreements as well as the country-pair unobservable effects.

Table A.5 presents the main results of the estimation (full results are available upon request), which are discussed in more detail in Section II of the paper.

Table A.5

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[16] Unlike Carrère (2006), we do not use the Hausman-Taylor estimator to control for possible correlation between some regressors and the country-pair unobservable effects. Using the Hausman specification test, we did not find evidence of correlation between the bilateral specific effects and the explanatory variables.

Table A.5

	GRAVITY MODEL WITH TRADE AGREEMENTS (1970-2003)		
	i=REPORTER; j=PARTNER; t=TIME		
	Dependent Variable: LN(Mijt) -LN(Imports)-		
	POOL (OLS)	EFFECTS 1	EFFECTS 2
	(1970-2003)	(1970-2003)	(1970-2003)
Variables	Coeff.	Coeff.	Coeff.
Yi	1.089 ***	0.661 ***	0.697 ***
	(0.01)	(0.01)	(0.01)
Yj	1.197 ***	0.502 ***	0.436 ***
	(0.01)	(0.01)	(0.01)
Ni	-0.126 ***	0.218 ***	0.013
	(0.01)	(0.02)	(0.02)
Nj	0.008	0.451 ***	0.373 ***
	(0.01)	(0.02)	(0.02)
Dij	-1.018 ***	-0.770 ***	-0.836 ***
	(0.01)	(0.03)	(0.03)
Ri	0.126 ***	-1.392 ***	-0.870 ***
	(0.04)	(0.09)	(0.09)
Rj	1.668 ***	-0.667 ***	0.713 ***
	(0.03)	(0.09)	(0.09)
RERij	-	-0.041 ***	-0.011
		(0.01)	(0.01)
PRES	-	0.028 ***	0.042 ***
		(0.00)	(0.00)
DD	-	1.609 ***	1.672 ***
		(0.06)	(0.06)
PA	-	0.574 ***	0.361 ***
		(0.02)	(0.01)
ISLANDi	-0.112 ***	0.518 ***	0.183 ***
	(0.02)	(0.07)	(0.04)
ISLANDj	-0.218 ***	0.599 ***	0.206 ***
	(0.02)	(0.07)	(0.04)
LANG	0.749 ***	0.720 ***	0.279 ***
	(0.01)	(0.06)	(0.03)
LANDj	-0.151 ***	-0.074	-0.101 *
	(0.02)	(0.10)	(0.05)
LANDi	-0.134 ***	-0.112	-0.067
	(0.02)	(0.10)	(0.05)
CONTIG	0.071 *	0.396 **	0.231 **
	(0.04)	(0.15)	(0.07)
ANDEAN (intra)	1.234 ***	0.385	-0.228
	(0.06)	(0.26)	(0.27)
ANDEAN (imports)	-0.120 ***	-0.281 ***	-0.489 ***
	(0.02)	(0.08)	(0.08)
ANDEAN (exports)	-0.132 ***	-0.393 ***	-0.499 ***
	(0.02)	(0.08)	(0.08)
CACM (intra)	2.815 ***	2.059 ***	2.536 ***
	(0.08)	(0.32)	(0.33)
CACM (imports)	-0.245 ***	-0.435 ***	-0.665 ***
	(0.02)	(0.09)	(0.09)
CACM (exports)	0.307 ***	0.009	0.685 ***
	(0.02)	(0.09)	(0.09)
MERCOSUR (intra)	1.237 ***	1.501 ***	0.911 *
	(0.10)	(0.41)	(0.41)
MERCOSUR (imports)	-0.500 ***	-0.395 ***	-0.649 ***
	(0.03)	(0.10)	(0.10)
MERCOSUR (exports)	0.272 ***	0.592 ***	0.597 ***
	(0.03)	(0.10)	(0.10)
NAFTA (intra)	1.008 ***	0.523	1.282 *
	(0.13)	(0.56)	(0.57)
NAFTA (imports)	0.112 ***	-0.545 ***	-0.374 **
	(0.03)	(0.11)	(0.11)
NAFTA (exports)	0.754 ***	0.517 ***	1.544 ***
	(0.03)	(0.11)	(0.11)
ASEAN (intra)	1.646 ***	1.581 ***	0.786 *
	(0.07)	(0.32)	(0.32)
ASEAN (imports)	0.503 ***	0.546 ***	0.319 ***
	(0.02)	(0.09)	(0.10)
ASEAN (exports)	0.481 ***	0.473 ***	-0.301 **
	(0.02)	(0.09)	(0.09)
EFTA (intra)	0.637 ***	0.860 ***	1.606 ***
	(0.05)	(0.20)	(0.20)
EFTA (imports)	-0.078 ***	-0.136	0.202 *
	(0.02)	(0.08)	(0.08)
EFTA (exports)	0.578 ***	0.535 ***	1.032 ***
	(0.02)	(0.08)	(0.08)
EU (intra)	0.425 ***	0.615 ***	1.226 ***
	(0.03)	(0.13)	(0.13)
EU (imports)	0.380 ***	0.046	0.369 ***
	(0.02)	(0.08)	(0.08)
EU (exports)	0.879 ***	0.679 ***	1.596 ***
	(0.02)	(0.08)	(0.08)
CARICOM (intra)	3.586 ***	3.530 ***	3.580 ***
	(0.05)	(0.20)	(0.20)
CARICOM (imports)	-0.209 ***	0.291 **	0.308 **
	(0.03)	(0.11)	(0.11)
CARICOM (exports)	-0.433 ***	0.040	0.483 ***
	(0.03)	(0.11)	(0.11)
Number of obs (NT)	132279	132279	132279
Number of bilateral (N)	-	4619	4619
R-square (R^2)	0.76	0.74	0.76

* p<0.05; ** p<0.01; *** p<0.001
The standard errors are in parenthesis

Table A.6- Gravity Model: Countries in the Sample

Developed Countries	Developing Countries					
Industrial	**Africa**	*Asia*	*Europe*	*Middle East*	*Latin America*	*Caricom*
Australia	Morocco	Bangladesh	Turkey	Egypt	Argentina	Antigua & Barbuda
Austria	Tunisia	Hong Kong, China		Israel	Bolivia	Barbados
Belg-Lux		India		Kuwait	Brazil	Belize
Canada		Indonesia		Oman	Chile	Dominica
Denmark		Korea, Rep.		Saudi Arabia	Colombia	Grenada
Finland		Malaysia			Costa Rica	Guyana
France		Pakistan			Ecuador	Jamaica
Germany		Philippines			El Salvador	St. Kitts
Greece		Singapore			Guatemala	St. Lucia
Ireland		Sri Lanka			Honduras	St. Vincent
Italy		Thailand			Mexico	Suriname
Japan					Nicaragua	Trinidad & Tobago
Netherlands					Panama	
New Zealand					Paraguay	
Norway					Peru	
Portugal					Uruguay	
Spain					Venezuela	
Sweden						
Switzerland						
United Kingdom						
United States						

Table A.7- Trade Agreements is the Sample.

ANDEAN	CACM	MERCOSUR	NAFTA
Bolivia	Costa Rica	Argentina	Canada
Chile	El Salvador	Brazil	Mexico
Colombia	Guatemala	Paraguay	United States
Ecuador	Honduras	Uruguay	
Peru	Nicaragua		
Venezuela			
ASEAN	**EFTA**	**EU**	**CARICOM**
Indonesia	Austria	Austria	Antigua & Barbuda
Malaysia	Denmark	Belgium	Barbados
Philippines	Finland	Denmark	Belize
Singapore	Iceland	Finland	Dominica
Thailand	Liechtenstein	France	Grenada
	Norway	Germany	Guyana
	Portugal	Greece	Jamaica
	Sweden	Ireland	St. Kitts
	Switzerland	Italy	St. Lucia
	United Kingdom	Luxembourg	St. Vincent
		Netherlands	Suriname
		Portugal	Trinidad & Tobago
		Spain	
		Sweden	
		United Kingdom	

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