Small-State Regional Cooperation, South-South and South-North Migration, and International Trade *

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Abstract

This paper provides a different basis than previous analyses for beneficial regional bloc formation and beneficial South-South migration. Due to low bargaining power and scarce resources, small states face severe disadvantages in negotiations with the rest of the world and hence might benefit by forming a regional bloc (such as CARICOM). The study examines a) the impact of bloc formation in a general equilibrium framework where bargaining power, international (INC) and regional (RNC) negotiation costs, the number of issues being negotiated and the bloc’s accession policy determine its size and welfare impact; b) the impact of international migration; and c) the migration-trade relationship and that between South-South and South-North migration. The issues examined have parallels with EU-15 policy towards its more recent members and with its institutional reforms. The main findings are: i) the likelihood of bloc formation, its size and its welfare impact increase with INC, the number of issues, and bloc members’ similarity (i.e., they decrease with RNC); ii) bloc size is optimal (below the optimum) when an accession fee is (is not) charged; iii) the likelihood that intra-bloc migration raises welfare increases with bloc members’ number, dissimilarity, proximity, and with the number of issues, and falls with INC; iv) South-South migration and trade are complements (substitutes) if negotiations by the small state bloc are for an increase in market access (unilateral transfers); and vi) South-North and South-South migration are substitutes and, if migrants remit, so are South-North migration.

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1. Introduction

Developing small and micro states – defined by the UN as, respectively, countries with less than 1.5 and less than one million inhabitants – face severe disadvantages in dealing unilaterally with the rest of the world because of low bargaining power and limited financial and human resources for the various international negotiations they are engaged in. By forming a regional cooperation agreement, small and microstates would benefit from greater bargaining power and joint negotiations, thereby relaxing individual states’ resource constraints and reducing their international negotiation costs. As the world has become more integrated, the number of issues to be dealt with in the international arena has grown and so has the importance of regional cooperation between these states. This is illustrated below for the Caribbean case.

Regional blocs often arise within a geographic region because member countries are likely to exhibit greater similarity of interests (as they often produce and export similar products and typically negotiate with the same regional powers and institutions) and have greater knowledge and understanding of the other member states’ culture and politics. This is likely to matter particularly in the case of small developing states as the costs associated with increased interaction with distant bloc partners may be prohibitive in the face of their very limited resources.

A number of regional blocs with small and micro member states located in relative proximity to each other have been formed over time. One of the better-known ones is the Caribbean Community or CARICOM. It consists of fifteen countries, twelve of which are microstates whose population ranges from 6,000 (Montserrat) to 762,000 (Guyana) and averages 233,000. It includes a small state, Trinidad & Tobago (population 1.3 million), and two larger
countries, Haiti (10 million) and Jamaica (2.7 million). Another such regional bloc is the Pacific Island Countries Trade Agreement or PICTA. It consists of twelve countries, eleven of which are microstates whose population ranges from 1,500 (Niue) to 850,000 (Fiji) and averages 194,000, and a larger country, Papua New Guinea, with a population of 6.7 million. A third bloc is the Gulf Cooperation Council or GCC, which consists of six countries, a microstate (Bahrain: population .8 million), a small state (Qatar: 1.4 million), and four larger countries, of which Saudi Arabia – with some 26 million inhabitants – is the largest.

The case of CARICOM is examined here in order to illustrate the potential benefits that negotiating with foreign entities as a bloc provides, particularly in cases entailing a large number of such negotiations. Byron (1994) and IADB (1995) have argued that the fifteen CARICOM members pooled their negotiation resources and formulated common policy stances in negotiations with larger countries, trade blocs and international organizations. Specifically, CARICOM has been involved in the ACP-EU, WTO, the Commonwealth, UNCTAD and UNCLOS (UN Conference on the Laws of the Sea) negotiations and in negotiations with non-CARICOM Caribbean countries and organizations, including the Organization of Eastern Caribbean States (OECS). It has also negotiated preferential agreements with Colombia and Venezuela, the EPA with the EU, and free trade agreements with Costa Rica, Cuba and the Dominican Republic, and other ones are being considered.

Moreover, it has also participated in bilateral and regional (Western Hemisphere) commissions with Canada, Mexico, the US, the FTAA, the OAS, the G3 (Colombia, Mexico, Venezuela) and SELA, as well as with Japan. Moreover, by trading each other’s support, the
CARICOM nations have succeeded in getting their nationals elected to key international positions such as Commonwealth Secretary-General and ACP Secretary-General.¹

Foreign policy coordination by CARICOM member countries has focused primarily on i) negotiation of preferential access to developed countries’ markets; ii) obtaining consistent and remunerative commodity prices; iii) obtaining larger flows of concessionary finance to the region; and iv) raising the region’s profile in multilateral institutions (Byron, 1994). This paper examines, among other things, the relationship between South-South migration and trade and between South-South and South-North migration in the case where negotiations are about preferential market access and in the case where they are about concessionary finance, two of the four areas of focus of CARICOM’s foreign policy described above.

This paper presents a model in which bloc formation by a region’s small and microstates is based on negotiation costs and bargaining power rather than on the traditional trade-related arguments for regional integration. While the formation of a regional trade bloc between small states is likely to result in a welfare loss (Panagariya 1995, Schiff 1997), the impact of the formation of a bloc of small states pooling their resources for international negotiations is likely to be positive. Though a large number of studies of South-North migration exist in both the trade and migration literature, analysis of South-South migration is much more limited. The trade literature has typically associated South-North migration with wage differentials resulting from trade barriers (e.g., Mundell 1954) or technology differences (e.g., Markusen 1983). South-South

¹ As in many regional agreements, accession to CARICOM was sequential. The original treaty was signed in 1973 by Barbados, Guyana, Jamaica, and Trinidad and Tobago. By mid-1974, seven more countries (Belize, Dominica, Grenada, St. Lucia, St. Vincent, the Grenadines, and Montserrat) had joined, followed by the Bahamas in 1983 and Suriname 1995, and Antigua and Barbuda, Haiti, and St Kitts and Nevis later on. The British Virgin Island and the Turks and Caicos Island were granted Associate Membership in 1991. The members of CARICOM notified the GATT/WTO on formation of a regional trade agreement on goods in 1974 and on services in 2003.
migration might be subject to some additional considerations. For instance, even though the net present value may be larger for South-North than for South-South migration, the latter might prevail in cases where migrants experience financing constraints.\(^2\) This seems to be confirmed by the fact that forty-seven percent of all migration in 2000 took place between developing countries and over eighty percent of that was to a neighboring country (Beine et al. 2008, Ozden et al. 2009). This paper provides a different motive for South-South migration, namely increased benefits from bloc formation among a region’s small developing countries.

Though members of a regional bloc may benefit from sharing international negotiation costs, they incur the additional cost of reaching a common position on the issues to be negotiated with foreign entities. The process leading to a common position could be cumbersome and quite costly, particularly if the group size is large and initial positions differ significantly. On the other hand, greater similarity among member states – in their endowments, for instance – would reduce the cost of reaching a joint policy stance.

International migration might make a significant contribution in this context by raising the likelihood that a regional cooperation bloc is formed and by raising the benefit obtained from it. This contribution is likely to be more important – and the welfare impact is likely to be greater – under greater heterogeneity in the endowments of the bloc’s member states.

The following questions are examined in this paper:

i) What are the welfare gains small states may obtain from regional cooperation on international negotiations?

ii) How can South-South migration raise the welfare gains from regional bloc formation?

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\(^2\) Lopez and Schiff (1999) develop an augmented Heckscher-Ohlin model with heterogeneous migration costs and financing constraints for unskilled labor and examine the impact of trade liberalization on the skill composition of South-North migration.
iii) What are the implications for the relationship between South-South migration and trade and between South-South and South-North migration?

iv) How are answers to the above questions affected by the bloc’s accession policy?

Two accession policies are considered here. Under the first one, existing member states do not charge an accession fee to countries they are willing to accept into the bloc. Hence, the same benefit from membership in the bloc is obtained by all its members. Under the second accession policy, existing members levy an accession fee on potential candidates for accession. In this case, the benefit for existing members is greater than that for the new ones.

The remainder of the paper is organized as follows. Section 2 provides a brief description of parallels between EU policy and institutional reform and the issues examined here. Section 3 presents a model of the formation of a small state regional cooperation bloc and its welfare implications under two accession rules in a general equilibrium framework. Section 4 incorporates South-South migration into the model. Section 5 examines the relationship between South-South migration and trade and shows that it varies with the objective of the negotiations. Section 6 incorporates South-North migration in the analysis and Section 7 concludes.

2. Parallels with EU Policy

The issues examined here have parallels with those faced by the EU in recent years. First, the EU expanded from EU-15 to EU-27, with the fifteen existing members granting the new members fewer benefits than they enjoy. For instance, some of the benefits available to the fifteen members of the EU-15 – such as the subsidies associated with the Common Agricultural Policy
or the Social fund benefits – are not available to the new members. A similar accession policy is examined in this paper, whereby existing bloc members grant new members identical *gross* benefits to those they obtain but charge them an accession fee. Hence, the new members’ *net* benefits from EU membership are smaller than the ones obtained by the EU-15 member states.

Second, reaching agreements became increasingly difficult following EU enlargement from fifteen to twenty-seven member states. This led to an institutional reform, with decision making changing from an intergovernmental decision-making process based on unanimity rule to a supra-national one based on qualified majority rule, resulting in a dramatic reduction in the costs associated with the decision-making problems.

In the case examined here, a reduction in the cost of reaching a common negotiating position associated with member states’ dissimilarity is achieved by instituting an intra-bloc (South-South) migration regime whose value to the members increases with the size of the bloc. The mechanism used here to help member countries reduce the costs of reaching agreement is in a sense opposite to the one established by the members of the EU-15 since the right to free migration from the new members to EU-15 member countries was delayed for various years after they acceded to the EU.

### 3. Model

This section presents, in Subsection 3.1, a general equilibrium framework in order to examine the formation of a regional cooperative arrangement or regional bloc between a region’s small states. Subsections 3.2 and 3.3 examine the bloc’s equilibrium size and welfare impact under two
different rules regarding small states’ accession to the regional bloc. This section abstracts from international migration, which is taken up in Section 4.


Assume a Heckscher-Ohlin model for a region with small labor-abundant developing states using capital and labor to produce a labor-intensive exportable \((X)\) and a capital-intensive importable \((Y)\). Prices, which are normalized to one \((P_X = P_Y = 1)\), are given to each small state and to the region as a whole, and thus so are the normalized factor prices \(w = r = 1\).

Small states form a regional bloc if cooperation on international negotiations between its members raises benefits. The number of foreign entities with which each state negotiates is denoted by \(m\). Internal solutions are assumed throughout unless stipulated otherwise.

Each bloc member’s per-issue payoff or “revenue” \(R\) from collective action is

\[ R = R(n), R_n = \frac{\partial R}{\partial n} > 0, R_{nn} = \frac{\partial^2 R}{\partial n^2} < 0. \]  

That \(R(n)\) is an increasing function of bloc size \(n\) reflects the fact that a bloc’s bargaining power in international negotiations increases with its size. The latter is particularly important for small states whose individual bargaining power is minimal. The concavity assumption is based on the conjecture that the increase in bargaining power associated with a given expansion in a regional bloc is more important when the group is small than when it is large.\(^3\)

Negotiation costs are of two types, international costs \(C^I\) and regional costs \(C^R\). Denoting the per-issue fixed cost of international negotiation by \(x > 0\), the cost \(C^I\) incurred by each member of an \(n\)-country regional bloc is

\(^3\) In fact, \(R\) could be convex as long as the benefit (revenue \(R\) minus cost) is concave in \(n\) and an internal solution obtains.
\[ C^I = C^I(n, x), C^I_n < 0, C^I_{nn} > 0, C^I_x > 0, C^I_{nx} < 0; C^I \to \infty \text{ for } n \to 0. \tag{2} \]

Bloc members also incur a per-issue regional cost \( C^R(n, \alpha, m) \) of reaching a common policy stance, where parameter \( \alpha \) -- considered exogenous in this section and endogenous in Section 4 -- is a measure of the dissimilarity (e.g., in endowments) of member states and of their positions on each of the \( m \) issues. This cost is given by

\[
C^R = C^R(n, \alpha, m), C^R_\alpha > 0, C^R_{\alpha \alpha} > 0; C^R_n > 0, C^R_{nn} > 0; C^R_m < 0, C^R_{nn} > 0; C^R_{nm} < 0, C^R_{mm} < 0, C^R_{m \alpha} > 0 \tag{3}
\]

The regional cost \( C^R \) increases at an increasing rate with the number of member states \( n \) and the same hold for \( \alpha \). The latter implies that a degree of dissimilarity exists beyond which it is more beneficial to negotiate individually than as part of a regional bloc, in which case no bloc is formed. On the other hand, \( C^R \) decreases at a decreasing rate with the number of issues \( m \) being negotiated, i.e., the negative impact of \( m \) on \( C^R \) due to scale and scope economies diminishes with \( m \).

The total per-issue negotiation cost \( C \) is the sum of international and regional negotiation costs, i.e., \( C = C^I(n, x) + C^R(n, \alpha, m) \). The average per-issue benefit \( B \) is the difference between the bloc’s payoff \( R \) and the sum of the international and regional negotiation costs, i.e.:

\[
B(n, \alpha, x, m) = R(n) - C^I(n, x) - C^R(n, \alpha, m) \tag{4}
\]

Since \( R(n) \), \( -C^I(n, x) \) and \( -C^R(n, \alpha, m) \) are concave in \( n \), so is \( B(n, \alpha, x, m) \), i.e., \( B_{nn} = \frac{\partial^2 B}{\partial n^2} < 0 \). This is shown in Figure 1 where \( B \) is represented by curve AB. The benefit of negotiating individually is denoted by \( B^I \), which is assumed positive (see Figure 1). The likelihood that the maximum value of \( B \) is greater than \( B^I \), and thus that a regional bloc is

\[ ^4 \text{A possible specification of } C^I \text{ would be } C^I = x/n. \]
formed, increases with bloc members’ similarity (i.e., with lower regional negotiation costs), with the level of international negotiation costs and with the number of issues being negotiated.

A bloc’s equilibrium size depends on its policy with respect to accession. Two cases are examined. The first one, presented in Section 2.2, assumes member states do not charge an accession fee. The second one, presented in Section 2.3, assumes they charge an accession fee if it is optimal to do so.\(^5\)

Note that major elements of the general equilibrium model, namely the region’s production, consumption and trade of the two goods, cannot be determined at this stage. The object of the international negotiations must first be specified before these variables can be solved for and the model closed. This is done in Section 5.

3.2. No Accession Fee

Denote the maximum value of the average per-issue benefit \(B(n, \alpha, x, m)\) by \(B^E\) and the corresponding bloc size by \(n_E\) (i.e., \(n_E\) satisfies the first-order condition \(B_n = R_n - C_n = 0\); the second-order condition is satisfied since \(B_{nn} < 0\)). The \(n_E\) members of the bloc are drawn randomly from the small states in the region, with a probability \(n_E < 1\) of being selected.

The solution \(n_E(B^E)\) is represented by point B (L) in Figure 1. In the absence of accession fees, new member states obtain the same benefit \(B\) as existing members and accession by an additional state generates a positive (negative) externality for \(n < (>) n_E\) by raising (reducing) the value of \(B\). Thus, as long as \(n < n_E\), member states have an incentive to allow

\(^5\) Andriamananjara and Schiff (2001) examined bloc formation in a partial rather than general equilibrium framework and did not consider issues related to international migration or international trade.
new states to join. However, they have no incentive to expand the bloc beyond size $n_E$ since $B$ falls for $n > n_E$. Thus, $n_E$ is the equilibrium size under this accession rule.

The per-issue value of the regional bloc is $V^E = n_E(B^E - B^I)$ and is represented by area EFLK in Figure 1. The total value of the bloc is $G^E = mn_E(B^E - B^I)$. The impact of changes in $\alpha$, $x$ and $m$ on $n_E$ is obtained by differentiating the first-order condition $B_n = R_n - C_{n}^{I} - C_{n}^{R} = 0$. Thus, we have: $B_{nn} dn - C_{na}^{I} dx - C_{na}^{R} d\alpha - C_{nm}^{R} dm = 0$ which, with $B_{nn} < 0, C_{na}^{R} > 0, C_{nm}^{R} < 0$ (equations (1) to (4)), implies:

$$dn_{E} / d\alpha = C_{na}^{R} / B_{nn} < 0, dn_{E} / dx = C_{nx}^{I} / B_{nn} > 0, dn_{E} / dm = C_{nm}^{R} / B_{nn} > 0.$$ (5)

Thus, the bloc size $n_E$ that maximizes the member states’ average benefit falls with the degree of dissimilarity between them (i.e., it falls with regional negotiation costs) and increases with international negotiation costs and with the number of issues being negotiated.

3.3. Accession Fee

Assume the $n_E$ bloc members decide to increase their benefit from bloc formation by charging an accession fee to any other of the region’s small states that joins the bloc. Denote the equilibrium bloc size in this case by $n^*$, which is the bloc size that maximizes the value of the bloc, $V^*$, for the $n_E$ members. The $n_E$ members allow $(n^* - n_E)$ additional states to accede to the bloc (in exchange for a fee) if $V^* > V^E$, i.e., if $\Delta V^* \equiv V^* - V^E > 0$. Non-member small states agree to pay an accession fee if the benefit for them is at least equal to the benefit $B^I$ of negotiating individually. Given the excess supply of non-member states willing to join the
regional bloc \((1-n_E > n^*-n_E)\), the \(n_E\) bloc members can extract the entire surplus, with the acceding states obtaining the non-member benefit \(B^1\).

Consequently, \(\Delta V = (n-n_E)(B-B^1)\), with \(B\) denoting the average benefit for a bloc of size \(n\), and \(V = V_E + \Delta V\) reaches a maximum \(V^*\) at \(n = n^*\) where \(\partial V / \partial n = B-B^1 + (n-n_E)B_n = 0\) or where the marginal gross benefit of accession \(MB = B + (n-n_E)B_n = B^1\), with \(n-n_E)B_n\) being the negative externality the \((n-n_E)^{th}\) new member imposes on the \(n_E\) bloc members. The solution for \(n^*(B^*)\) is represented by point C (J) in Figure 1, with \(V^* = V_E + \Delta V^*\), where \(\Delta V^* = (n^*-n_E)(B^*-B^1)\) is represented by area FGJI = area FGL.

Differentiating the first-order condition \(B(n,\alpha,x,m) - B^1(x) + (n-n_E)B_n(n,\alpha,x,m) = 0\), we have \(\Phi dn + \Gamma d\alpha + \Omega dx + \Theta dm = 0\) where \(\Phi = 2B_n + (n-n_E)B_{nn}\), \(\Gamma = B_{\alpha} + (n-n_E)B_{n\alpha} + B_n \partial(n-n_E) / \partial \alpha\), \(\Omega = B_x + (n-n_E)B_{nx} - B^1_x\) and \(\Theta = B_m + (n-n_E)B_{nm} + B_n \partial(n-n_E) / \partial m\), which, together with equations (1) to (4), implies \(\Phi < 0, \Gamma < 0, \Omega > 0, \Theta > 0\) for \(n = n^* > n_E\).  

Consequently, the impact of \(\alpha\), \(x\) and \(m\) on \(n^*\) is:

\[
\frac{dn^*}{d\alpha} = -\Gamma / \Phi < 0, \frac{dn^*}{dx} = -\Omega / \Phi > 0, \frac{dn^*}{dm} = -\Theta / \Phi > 0.
\]

Thus, bloc size \(n^*\) falls with member states’ dissimilarity (i.e. with regional negotiation costs) and increases with international negotiation costs and the number of issues being negotiated.

Note that bloc size \(n^*\) also maximizes welfare for the region as a whole since the marginal benefit for the \(n_E\) members, \(MB(n,\alpha,x,m) = B^1(x,m)\), is identical to that for the \((n^*-n_E)\) new

\[6\] Since \(C_{nx} < 0\) (equation 2), we have \(B_x - B^1_x > 0\), which, together with \(B_{nx} > 0\), implies \(\Omega > 0\) for \(n = n^* > n_E\). Moreover, \(C_{na}^R > 0\) (equation 3) implies \(\partial(n-n_E) / \partial \alpha > 0\) for \(n = n^* > n_E\).
members and the \((1 - n^*)\) non-members. As is well known, welfare is maximized when the marginal (social) value of a resource is equalized across all its alternative uses, which in this case means that regional welfare is maximized since the marginal social value is equalized across for the three groups of small states.\(^7\)

The main results obtained in this section are collected below in Proposition 1.

**Proposition 1**: Assume a region’s small states negotiating with \(m\) non-regional entities on \(m\) different issues, and with some of the small states negotiating as a bloc if it generates an average benefit \(B\) that is greater than the benefit \(B^i\) obtained from negotiating individually. Then: i) the likelihood that \(B > B^i\) and a bloc is formed decreases with bloc members’ dissimilarity \(\alpha\), i.e., with regional negotiation costs, and increases with international negotiation costs \(x\) and the number of issues negotiated \(m\); ii) in the absence of accession fees, equilibrium bloc size \(n_E\) maximizes members’ average benefit \(B_E\) but not regional welfare; iii) under an accession fee, equilibrium bloc size \(n^* > n_E\) maximizes the average benefit of the \(n_E\) members at level \(B^* > B^E\) where the marginal benefit they obtain from a new state’s accession is equal to the benefit \(B^1\) obtained by the other \((n^* - n_E)\) bloc members and the \((1 - n^*)\) non-members. Thus, the region’s welfare is also maximized at \(n^*\); and iv) \(\frac{dn_N}{d\alpha} < 0, \frac{dn_N}{dx} > 0, \frac{dn_N}{dm} > 0; n_N = n_E, n^*\).

### 3.4. Multiple Blocs

The regional optimum is conditional on the formation of only one bloc. Assume now that non-member states whose benefit is \(B^j\) form a separate bloc \(z\) that also includes, in the case of an accession fee, the \(n^* - n_E\) states that are members of the \(n_E\)-bloc and whose benefit is \(B^j\) as well. The solution is provided in the Appendix for four distinct cases: with one (several) \(n_E\)-bloc(s) and for a bloc size \(z\) that is bigger (smaller) than a critical value where none (all) of the \(z\)-

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\(^7\) In the case of a common property resource, a “tragedy of the commons” results when the average rather than the marginal social value of the resource employed is equated in all its uses. This obtains under free entry into the regional bloc, i.e., under open access to the common property resource, in which case the average benefit \(B(n, \alpha, x, m) = B^j(x, m)\) is identical for all the region’s small states and the value of the regional bloc is entirely dissipated. This situation is represented by point D in Figure 1, with migration level equal to \(n_E\).
bloc members join the $n_E$-bloc or blocs. The main results are that i) the $z$-bloc members do better than in the one-bloc case in all four cases and under either policy regarding the accession fee; and ii) the $n_E$ members of the $n_E$-bloc do as well as in the one-bloc case in the absence of an accession fee and do worse in the presence of an accession fee.

4. South-South Migration

As discussed in Section 3, a plausible reason for the dissimilarity in small states’ positions regarding the issues that are negotiated internationally is the dissimilarity in their endowments of labor and capital. Since the member states cooperate in forming a regional bloc and maximize the benefit from international negotiations by internalizing the bloc’s positive externalities, it seems plausible to assume that they would also cooperate on intra-bloc migration if it benefits them. This might be the case, for instance, if migration between them resulted in a reduction in the dissimilarity in their endowments.

The endowment of labor and capital can be defined in a number of ways. The definition used here is the labor-capital ratio $l_i = L_i / K_i$. The extent of dissimilarity or heterogeneity in small states’ endowments and thus in their positions is represented by the parameter $\alpha$ in the regional cost function $C^R = C^R(n, \alpha, m)$ in equation (3). A number of statistics of the distribution of $l_i$ can serve as a measure of $l_i$’s heterogeneity. For simplicity, the measure used here is the range of $l_i$ values across the bloc’s small states $\alpha = \alpha = l_{\text{MAX}} - l_{\text{MIN}}$.

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8 For instance, international negotiations that lower trade barriers for the small states’ export good result in a higher export price and thus in a higher wage rate and a lower return to capital, which will oppose such negotiations. Hence, the cost of reaching a common position rises with an increase in the difference in the labor-capital ratio of labor- and capital-abundant small states.

9 The share of intra-bloc migration in CARICOM’s total migration is about 4%, similar to that for PICTA, and the share for CARICOM’s 13 small and microstates is over twice that (about 9%). Small states’ extra-bloc migration is examined in Section 5.
Assume, without loss of generality, that $K$ is constant at level $K = 1$. Then, $l_i$ simplifies to $L_i$ and $\alpha = L_{\text{MAX}} - L_{\text{MIN}}$, with $L_i \in (0,1)$ assumed to be distributed uniformly. Small states can maximize their benefit from membership in the bloc by ensuring a compact set of the bloc’s labor force values, e.g., $L_i \in (0, n)$, $n = n_E, n^*$, and by reducing the value of $\alpha$ by starting with migration from the member state with the largest labor force (the “top” state) to the member state with the smallest one (the “bottom” state).

Since migration reduces the labor force in the top state and raises it in the bottom one, the number of top and bottom states increases with $M$. Thus, reducing the value of $\alpha$ requires emigration from, and immigration to, an increasing number of states as migration proceeds. Hence, the marginal impact of migration on $\alpha$ declines (in absolute value) as migration increases. In fact, the impact of migration $M$ on $L_{\text{MAX}}$ is

$$\frac{\partial L_{\text{MAX}}}{\partial M} = -\frac{1}{M}$$

and its impact on $L_{\text{MIN}}$ is

$$\frac{\partial L_{\text{MIN}}}{\partial M} = \frac{1}{M}.$$  

Thus, we have:

$$\frac{\partial \alpha}{\partial M} = \frac{\partial (L_{\text{MAX}} - L_{\text{MIN}})}{\partial M} = -\frac{2}{M}, \frac{\partial^2 \alpha}{\partial M^2} = \frac{2}{M^2}.$$  

(7)

Equation (7) shows that $\alpha$ is decreasing at a decreasing rate in $M$. In other words, migration’s effectiveness in reducing the regional negotiation cost $C^R$ falls as migration proceeds. The total benefit obtained by the $n_E^M$ member states – the number of bloc member states under migration in the absence of accession fee – is:

$$G^M \equiv mV^M - C^M = mV^M - cM,$$  

(8)

where $G^M$ and $V^M$ are, respectively, the values of $G$ and $V$ in the case of migration, and $C^M (c)$ is the total (unit) migration cost.
The marginal migration benefit for the \( n^M_E \) member states is

\[
\frac{\partial G}{\partial M} = m \left[ n^*_E \frac{\partial V^M}{\partial M} + V^M \frac{\partial n^M_E}{\partial M} \right] - c, \quad \frac{\partial V^M}{\partial M} > 0, \tag{9}
\]

where \( V^M \) is the per-issue average benefit for each of the \( n^M_E \) member states.

Denote optimum values with a tilde, and the optimum value of \( M \) and maximum values of \( V^M \) and \( G^M \) in the presence (absence) of an accession fee by \( \tilde{M}^*(\tilde{M}^E) \), \( \tilde{V}^*(\tilde{V}^E) \) and \( \tilde{G}^*(\tilde{G}^E) \), respectively. Thus, we have \( \tilde{G}^E = m\tilde{V}^E - c\tilde{M}^E \) and \( \tilde{G}^* = m\tilde{V}^* - c\tilde{M}^* \), with \( \tilde{M}^k \) solving the equality \( \frac{\partial \tilde{G}^k}{\partial \tilde{M}^k} - c = 0 \), where \( k = E \) (*) in the absence (presence) of an accession fee.

Since \( \frac{\partial X}{\partial M} = \left( \frac{\partial X}{\partial \alpha} \right) \left( \frac{\partial \alpha}{\partial M} \right) = -\frac{2}{M} \left( \frac{\partial X}{\partial M} \right) \) for any variable \( X \) and, as shown in Section 2.3,

\[
\tilde{V}^* = \tilde{n}_E (\tilde{B}^E - B^1) + (\tilde{n}^* - \tilde{n}_E)(\tilde{B}^* - B^1), \tag{10}
\]

it follows from \( \frac{\partial \tilde{G}^*}{\partial \tilde{M}^*} - c = 0 \) that \( \tilde{M}^* \) is given by

\[
\tilde{M}^* = -\frac{2m}{c} \left\{ \left( \tilde{B}^E - B^1 \right) \frac{\partial \tilde{n}^*}{\partial \alpha} + \frac{\partial \tilde{B}^E}{\partial \alpha} \right\} + \left[ \left( \tilde{B}^* - B^1 \right) \frac{\partial (\tilde{n}^* - \tilde{n}_E)}{\partial \alpha} + \left( \tilde{n}^* - \tilde{n}_E \right) \frac{\partial \tilde{B}^*}{\partial \alpha} \right],
\]

where \( \frac{\partial \tilde{B}^E}{\partial \alpha} = -\frac{\partial C^R (\tilde{n}_E)}{\partial \alpha}, \frac{\partial \tilde{B}^*}{\partial \alpha} = -\frac{\partial C^R (\tilde{n}^*)}{\partial \alpha} \) and \( \frac{\partial \tilde{n}^*}{\partial \alpha} \) are given by equations (5) and (6), respectively, and the term in the \{ \} brackets is negative.\(^{10}\)

Since \( \tilde{V}^E = \tilde{n}_E (\tilde{B}^E - B^1) \) and \( \frac{\partial \tilde{n}^*}{\partial \alpha} < \frac{\partial \tilde{n}_E}{\partial \alpha} < 0 \) (equation (3) and \( \tilde{n}^* > \tilde{n}_E \)), we have

\[
\tilde{M}^E = -\frac{2m}{c} \left[ \left( \tilde{B}^E - B^1 \right) \frac{\partial \tilde{n}_E}{\partial \alpha} + \frac{\partial \tilde{B}^E}{\partial \alpha} \right] < \tilde{M}^*, \tag{11}
\]

\(^{10}\) That \( \frac{\partial (\tilde{n}^* - \tilde{n}_E)}{\partial \alpha} < 0 \) follows from \( C^R_{na} > 0 \) (equation (3)).
The impact $\Delta \tilde{G}^k$ of migration on the total benefit of the $\tilde{n}_E$ members is

$$\Delta \tilde{G}^k = \tilde{G}^k(\tilde{M}^k) - G^k(0) = m[\tilde{V}^k(\tilde{M}^k) - V^k(0)] - c\tilde{M}^k$$

for $k = E(*)$. Migration raises $V$ in two ways. First, the reduction in $\alpha$ and in the regional negotiation cost $C^R$ raises $V$ at the original bloc size $n^*(n_E)$. Second, the optimal adjustment of the bloc size from $n^*(n_E)$ to $\tilde{n}^*(\tilde{n}_E)$ further raises $V$. Given that $C^R_{aa} > 0$, a sufficiently high value of $\alpha$ exists for which $V^r(0) < 0$ (in the absence of migration) and no regional bloc is formed. In that case, if $\tilde{G}^k > 0$ – i.e., if the value of the bloc is positive under optimal migration, a result that is more likely to hold in the presence of an accession fee than in its absence – the impact of migration on the value of the bloc, $(\Delta \tilde{G}^k)^r$, is equal to

$$(\Delta \tilde{G}^k)^r = m\tilde{V}^k(\tilde{M}^k) - c\tilde{M}^k > \Delta G^k.$$ 

In other words, if a bloc is formed under migration, its impact is greater in the case where no bloc is formed in its absence.

Note that the contribution of migration to the value of the bloc is greater in the presence than in the absence of an accession fee. The reason is that the marginal cost of dissimilarity increases with the size of the bloc, i.e., $C^R_{aa} > 0$ (see equation (3)). Thus, a change in intra-bloc migration policy in order to reduce the cost of reaching an agreement between bloc members becomes more important as the size of the bloc increases.

Finally, note that the number of issues being negotiated would also be expected to change in the case of migration. For simplicity, it is taken as exogenous here.

The findings obtained in this section are summarized in Proposition 2.

**Proposition 2:** The impact of international migration on bloc and regional welfare is

$$\Delta \tilde{G}^k = m[\tilde{V}^k(\tilde{M}^k) - V^k(0)] - c\tilde{M}^k,$$

with $k = E(*)$ in the absence (presence) of an accession fee.

The likelihood that $\Delta \tilde{G}^k > 0$ increases with small states’ dissimilarity $\alpha$, their proximity (i.e., with lower migration cost $c$), the number of issues being negotiated and a lower international
migration cost $x$. The benefit from migration is greater in the case where a regional bloc is formed in the presence of migration but not in its absence, i.e., when $\tilde{G}^k(0) \leq 0 < \tilde{G}^k(M^k)$.

5. South-South Migration and Trade

The relationship between migration and trade has been examined extensively. Mundell (1954) showed that substitution between trade and factor movement prevails in the classic Heckscher-Ohlin model, while Markusen (1983) showed that complementarity obtains when changing some of the Heckscher-Ohlin model’s underlying assumptions. On the other hand, Rauch (…), Casella and Rauch (…) and Gould (…), on the other hand, examined the trade-migration relationship resulting from diasporas’ impact on trade between source and host countries. They find that diasporas have a positive impact on trade and that the impact is greatest in the case of differentiated goods. 11

This paper provides a new basis for the trade-migration relationship, namely intra-bloc migration’s positive impact on the benefit of international negotiations and the latter’s impact on trade. This section considers two alternative objectives that small states pursue in these negotiations and examines the implications of each for the relationship between international migration and trade. The first objective is to obtain a higher level of unilateral transfers and the second one is to obtain greater access to developed countries’ markets. The implications for the relationship between migration and trade are examined, respectively, in Sections 5.1 and 5.2 below. Note that, once the specific objective of the negotiations is given, it is possible to

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11In an augmented Heckscher-Ohlin model with skilled and unskilled labor, heterogeneous migration costs and financing constraints for unskilled labor, Lopez and Schiff (1999) find that trade liberalization in the North or South results in a reduction (increase) in skilled (unskilled) labor migration from the South. Thus, trade and skilled (unskilled) labor migration are substitutes (complements).
determine the level of output, consumption and trade for the two goods and the model can be closed.

5.1. Unilateral Transfers

The object of the negotiations by the region’s small states with foreign donor countries in this case is to obtain a higher level of unilateral transfers. The results obtained below hold in the case of other forms of concessionary finance as well. Migration between bloc members raises the size of the bloc and the level of unilateral transfers (equation (1)). The fact that prices are given implies that production of $X$ and $Y$ is given and is independent of migration’s impact on the level of the unilateral transfers obtained or of the bloc members’ total benefit $\Delta \tilde{G}^k$.

The goods exported by small developing states in the Caribbean, South Pacific and the Gulf consist essentially of basic commodities. These consist of agricultural commodities in some states and mineral ones in others. Hence, it seems plausible to assume that unilateral transfers are made in units of donor countries’ export good $Y$ rather than in units of small states’ own commodity export good $X$.

Assume first that all activities associated with regional and international negotiations, including migration, are “produced” with good $Y$. Since the unilateral transfers are made in units of good $Y$ as well, it follows that the increased benefit $\Delta \tilde{G}^k$ consists of units of good $Y$ as well. The increased benefit raises the demand for $X$ by $s_x \Delta \tilde{G}^k$ and the demand for $Y$ by $s_y \Delta \tilde{G}^k$, where $s_x(s_y) > 0$ is the income share spent on $X$ ($Y$) and $s_x + s_y = 1$. This implies an excess-supply of $Y$ of $(1 - s_y)\Delta \tilde{G}^k$ and equivalent excess-demand for $X$ equal to $s_x \Delta \tilde{G}^k$. Consequently,

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12 The small states’ increased benefit is spent on the two goods according to their inhabitants’ homothetic preferences (as assumed in the Heckscher-Ohlin model), i.e., with the shares spent on the two goods invariant to changes in income levels.
imports of $Y$ decline and so do exports of $X$. Thus, South-South migration and trade are substitutes in this case.

Assume alternatively that all activities associated with regional and international negotiations, including migration, are “produced” with both $X$ and $Y$ or exclusively with $X$. This assumption only reinforces the substitution result. The reason is that, since $X$ is also used to generate the increased benefit, the excess-demand for $X$ is larger than if only $Y$ is used. Equivalently, since fewer units of $Y$ are used to generate the increased benefit, the excess-supply of $Y$ is larger as well. Hence, South-South migration results in a greater decline in trade in this case, i.e., in a higher degree of substitution. 13

5.2. Market Access

In this case, migration between bloc members raises bloc size and access for bloc members’ export good in their trading partners’ market. The higher value of the bloc’s exports of $X$ – whether due to an increase in export volume or unit value – implies that bloc imports increase as well. Thus, South-South migration and trade are complements in this case.

The results obtained in this section are summarized in Proposition 3.

Proposition 3: The relationship between international migration and international trade depends on the object of the negotiations. Under negotiations for increased unilateral transfers, migration and trade are substitutes, given the assumption that the transfers are provided in units of the donors’ exportable good. Under negotiations for increased market access, migration and trade are complements.

Note that in theory, transfers of $Y$ may be so large that the total amount of $Y$ available, inclusive of output, is larger than the demand for it. In that case, unilateral transfers result in a trade reversal, with small states exporting $Y$ and importing $X$. 13
6. South-South and South-North Migration

Assume heterogeneous South-North migration costs, with all the region’s small states having an identical South-North migration cost function \( Z_j = Z(MN_j) \), where \( MN_j \) denotes migration to the North by individual \( j \in [1, J] \). Individuals are ordered such that \( Z_j \) increases with \( j \).\(^{14}\) Thus, we have:

\[
Z_j = Z(MN_j), \quad Z_j > 0. \tag{12}
\]

Denote the wage rate in the North (South) by \( w_N (w_S) \), with \( w_N > w_S \) (say, due to the North’s higher technology level) and denote the negotiation benefit by \( B^k \). Per capita income in small state \( i \) is \( y^k_i = w_S + B^k / L_i \), where \( L_i \) is the size of the labor force in small state \( i \) before migration takes place. In other words, migrants obtain the per capita benefit from their source rather than from their host country. Thus, migration does not generate a dilution of the per capita benefit in migrants’ host country, i.e., it does not generate a redistribution of the per-capita benefit from the host to the source countries, a condition host countries are likely to demand in order to agree to the new migration regime.

The equilibrium level of migration \( MN_j \) varies across small states and scenarios and is determined by the equality

\[
Z_j = w_N - y^k_i = w_N - w_S - \frac{B^k}{L_i}. \tag{13}
\]

\(^{14}\) The migration cost may consist of economic and/or psychic costs. Their heterogeneity may be due to differences in information, possibly due to differences in migration prevalence, or in the size, organizational capacity and/or generosity of networks to which migrants have access, all of which may affect economic and psychic migration costs.
For any small state \( n_i \), \( y_i^1 < y_i^E < y_i^* < \tilde{y}_i^E \), with \( y_i^* \) larger or smaller than \( \tilde{y}_i^E \) and \( \tilde{y}_i^E < \tilde{y}_i^* \). Consequently, it follows that \( Z^1 > Z^E > Z^* > \tilde{Z}^* \), with \( Z^* \) larger or smaller than \( \tilde{Z}^E \) and \( \tilde{Z}^E > \tilde{Z}^* \). Therefore, \( MN^1 > MN^E > MN^* > \tilde{MN}^* \), with \( MN^* \) larger or smaller than \( \tilde{MN}^E \) and \( \tilde{MN}^E > \tilde{MN}^* \). Thus, South-North migration is largest for small states negotiating individually as well as for the \( (\tilde{n}^* - \tilde{n}_E) \) small member states that obtain the same benefit \( B^1 \). It is smaller for the \( \tilde{n}_E \) member states in the absence of an accession fee and smaller still for these states in a bloc of size \( n^* \).

The level of South-North migration is smallest under South-South migration since welfare is higher than in its absence for the \( \tilde{n}_E \) bloc members. Thus, South-South and South-North migration are substitutes (unrelated) for the \( \tilde{n}_E \) bloc members (other states, whether members of the bloc or not). This result holds, whether an accession fee is charged or not.

Finally, note that if the South-North migrants send remittances back home, the impact on trade is the same as the impact from South-South migration in the case of unilateral transfers (see Section 5.1). With remittances provided in units of host countries’ export good \( Y \), imports and exports of small states decline. This implies that South-North migration and trade are substitutes.

The results obtained in this section are summarized in Proposition 4.

**Proposition 4**: \( n_E \) bloc members benefit from bloc formation and from South-South migration, while the others do not. Thus, bloc formation and South-North migration are substitutes (unrelated) for \( n_E \) bloc members (the region’s other states), and the same relationship holds for South-South and South-North migration. If South-North migrants send remittances back home, migration and trade are substitutes (complements) if the share of remittances sent in units of the importable (exportable) good is greater than share in consumption.

**7. Conclusion**
This paper examined the issue of regional bloc formation among small states for the purpose of obtaining greater benefits from international negotiation. The formation of a regional bloc was based on its impact on small states’ regional and international negotiation costs as well as on their bargaining power rather than on the traditional trade-related arguments for regional integration. The analysis was conducted within the framework of an augmented Heckscher-Ohlin model that includes international negotiation as an additional activity. The analysis was conducted under two accession policies, levying and not levying an accession fee.

The issues examined in the paper were shown to have parallels with the issues faced by the EU as a consequence of its enlargement from fifteen to twenty-seven members, including the smaller benefits provided to the new members and the institutional reform designed to facilitate the EU’s decision-making process following its enlargement.

The paper showed that the size and welfare impact of the bloc depends on the accession policy. A selective membership in the absence of an accession fee leads to an inefficiently small bloc from the viewpoint of its members and of the region as a whole because the marginal accession benefit is greater than non-member states’ benefit. In the case of an accession fee, bloc size is optimal for the original bloc members and for the region as a whole. The average benefit is smaller than in the no-fee case but is larger for the original members (i.e., for the bloc members in the no-fee case).

Second, the likelihood a regional bloc is formed and its size, under both accession rules, is greater for a higher level of international negotiation costs, of the number of issues being negotiated, of similarity between the bloc members (i.e., for lower regional negotiation costs).
Third, South-South (intra-bloc) migration raises the average benefit obtained by the bloc members and the region as a whole as long as the migration cost is below a critical value. The likelihood this obtains is greater for a greater level of dissimilarity between the region’s small states, of the number of issues being negotiated, and for a lower level of international migration costs, for instance in the case of greater proximity between the small states.

Fourth, the relationship between South-South migration and trade depends on the object of the negotiations. Under negotiations for increased unilateral transfers, migration and trade are substitutes. On the other hand, under negotiations for increased market access, migration and trade are complements.

Fifth, the extent of South-North migration under heterogeneous migration costs across individuals depends on the income gap between North and South. Thus, small non-member states negotiating individually and those members that obtain the same benefit as non-members exhibit greater South-North migration than the bloc’s original members, and the latter’s level of migration is smaller under an accession fee than in its absence. Moreover, by raising the benefit obtained by the original member states, South-South migration results in a decrease in South-North migration for them, implying that the two types of migration are substitutes.

Finally, note that the analysis can be expanded to, for instance, the case of large countries and strategic interaction with foreign entities, alternative means of reducing the cost of reaching agreement on negotiating positions, regional public goods, and to an endogenous number of issues being negotiated. The latter would allow the foreign entities’ benefit of negotiating with a single entity rather than with a number of small states to be incorporated in the analysis.
Appendix: Multiple Blocs

The case where the non-member states and the member states that obtain a benefit $B^l$ form a separate bloc is examined here. They form a bloc of size $z$ (referred to as the $z$-bloc) whose average benefit is $B^z > B^l$. Assume first that $n_E > \frac{1}{2}$, which implies that $z < n_E$, and that $z$ is larger than a critical value $\hat{z}$ which is defined below, i.e., $\hat{z} < z < n_E$. Note that since $B$ is maximized at $n = n_E$ (with $B = B^E$), it follows that the marginal benefit $MB^E = B^E$ at $n_E$ (see Figure 1).

Any member of the $z$-bloc that defects to the $n_E$-bloc generates a negative externality for the other $z$-bloc members ($\partial B^z / \partial z > 0$ for $z < n_E$). Thus, $z$-bloc members have an incentive to prevent any defection to the $n_E$-bloc. Since, from equation (3), the marginal benefit of an additional member falls with the size of the bloc, it follows that a member of the $z$-bloc that defects generates a loss that is greater than the resulting gain for the $n_E$-bloc. Thus, given that members of the $n_E$-bloc cannot match the value a $z$-bloc member has for its own bloc, $z$-bloc members do not defect and the $n_E$-bloc’s equilibrium size remains at its original size $n_E$.

This solution holds for a value of $z$ that is larger than a critical value $\hat{z}$, which is defined as follows. Denote by $B(n_E, n_e + z)$ the average benefit the $n_E$-bloc members obtain from the $z$ members of the $z$-bloc if all of them defected to the $n_E$-bloc, i.e.,

$$B(n_E, n_e + z) = \frac{1}{z} \int_{n_E}^{n_E + z} MB(n)dn. \quad (1)$$

The critical value $\hat{z}$ is defined as the value of $z$ for which

$$B^z = B(n_E, n_e + \hat{z}),$$

i.e., where the $z$ members’ average contribution $B(n_E, n_e + \hat{z})$ to the $n_E$-bloc is equal to the value $B^z$ that the $n_E$-bloc members must offer so that all $z$-bloc members join.

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15 Note that $B(n_E, n_e + z) < B(n_E + z)$.
Then, if \( z < \hat{z} \), all members of the \( z \)-bloc join the \( n_E \)-bloc. The reason is that \( B(n_E, n_E + z) \) increases while \( B^Z \) falls as \( z \) falls, i.e., \( B(n_E, n_E + z) > B^Z \) for \( z < \hat{z} \).

Assume alternatively that \( n_E < \frac{1}{2} \), say \( 1 = \lambda n_E + z, \lambda \geq 2, 0 < z < n_E \). Then, \( \lambda \) blocs of size \( n_E \) are formed, and the critical value in this case is not \( \hat{z}/\lambda \) rather than \( \hat{z} \). Thus, the likelihood that the first solution holds is greater in this case.

The members of the \( z \)-bloc do better by forming a bloc than acting individually in the four cases, while members of the \( n_E \)-bloc do worse they did under one bloc in the presence of an accession fee. The latter is due, first, to the fact that when \( z > \hat{z} \) or \( z > \hat{z}/\lambda \), the \( n_E \)-bloc cannot expand to the larger bloc size \( n^* \) (as occurred in the presence of one bloc only) and that when \( z < \hat{z} \) or \( z < \hat{z}/\lambda \), members of the \( n_E \)-bloc must pay \( z \)-bloc members a benefit \( B^Z > B^I \).

References
Casella and Rauch (…),
Gould (…),
Lopez and Schiff (1999),
Markusen (1983),
Mundell (1954),
Rauch, James (...),
Figure 1: Equilibrium Bloc Size

\[ B(n,m), MB(n,m) \]

NO ACCESSION FEE:
- Bloc Size = AB
- Reject new members

ACCESSION FEE:
- Bloc Size = AC
- Accept new members
- Reject new members