PROSPECTS FOR THE FREE TRADE AREA OF THE AMERICAS AND THE LIKELY IMPLICATIONS FOR CARICOM: AN ANALYSIS USING HIERARCHICAL CLUSTERING METHODS

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XXXIV ANNUAL MONETARY STUDIES CONFERENCE
GEORGETOWN, GUYANA – NOVEMBER 12TH – 16TH, 2002

Conference Theme:
CHALLENGES FOR MONETARY AND EXCHANGE RATE REGIMES IN THE
CARIBBEAN

Abstract

Prospects for the Free Trade Area of the Americas and the Likely Implications for CARICOM: An Analysis using Hierarchical Clustering Methods

This paper examines the prospects for the FTAA and the likely implications for CARICOM. The analysis highlights the main issues that have arisen in the various negotiating groups and utilises the hierarchical clustering method to determine whether a single cluster solution is possible based on the readiness indicators of Schott (2002), the sustainability indicators enunciated by Rojas (2002) and "proxy" indicators arising from issues currently under negotiation.

The agglomerative cluster algorithms have retrieved five "cluster groups" and this suggests that there are still major issues to be resolved before a single homogenous FTAA cluster can emerge.

Keywords: Free Trade Areas, hierarchical clustering, agglomerative clustering, economic integration

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Introduction

Economic Integration in the Western Hemisphere has changed quite dramatically in the last ten years following the wide and sweeping reforms that have occurred in Latin America and the Caribbean. These reforms have re-invigorated existing integration arrangements as well as provided the catalyst for the creation of new ones. Among the older schemes that have experienced some form of rebirth are the Andean Community, the Central American Common market, CARICOM and the OECS. The new schemes that have come into existence in the decade of the 1990s are, of course, NAFTA and MERCOSUR.

Since 1994, the countries of the Western Hemisphere have launched an important integration initiative – the Free Trade Area of the Americas - designed to create the world's largest free trade area by eliminating tariffs and non-tariff barriers and creating common trade and investment rules for the democratic nations of the western hemisphere[1]. This paper investigates three important issues that can determine the likely success or failure and sustainability of the FTAA process. First, it seeks to determine whether or not the countries and sub-regional groupings comprising the FTAA can form a single homogeneous cluster based on the readiness indicators outlined by Schott (2002). Second, it investigates the possibilities for clustering countries based on specific areas that arise from the negotiating agenda with the specific intent of comparing these cluster formations with the arrangements under existing sub-regional integration schemes. Third, it utilizes two important macroeconomic indicators, enunciated by Rojas-Suarez (2002), namely debt and the compatibility of exchange rate regimes, to gauge the potential for sustainability of the FTAA process.

The paper contains six sections. Section 1 draws a distinction between traditional and modern versions of free trade areas and discusses the reasons why the FTAA represents a modern rather than a traditional free trade Area (FTA). Section 2 discusses briefly, the history of the FTAA emphasizing the issues that have arisen in the preparatory and negotiating phases. In particular, an attempt is made to highlight the main issues that have arisen or are likely to arise in each of the negotiating groups with a view to determining the extent of progress in each of these groups. Section 3 presents a discussion of hierarchical clustering and the various clustering algorithms (in particular, single linkage, complete linkage and Ward's method) that are utilized to arrange countries into a single or homogenous grouping. Section 4 presents the results of cluster analysis and compares the differences in cluster arrangements based on Schott's readiness indicators, indicators of relevant issues in the negotiating groups and the Rojas-Suarez (2002) sustainability criteria. Section 5 discusses the prospects for the FTAA and the likely implications for the Caribbean against the backdrop of September 11th, the negotiating issues and the results of the cluster analysis. Concluding remarks are presented in Section 6.

Section 1: The FTAA: Traditional or Modern FTA.

In attempting to understand the focus of the current FTAA process, it is critical to bear in mind the distinction between traditional free trade areas (TFTA) and modern free trade areas (MFTA). The TFTA involves the elimination of barriers to trade (usually tariffs) between two participating members with each retaining the right to erect its own barriers against non-member territories. In this type of free trade area, the prime focus is on trade in goods and the welfare implications discussed, ad nauseam, in the theoretical and empirical literature are directed at two main effects: trade creation and trade diversion (see for instance Viner (1950)). The gains from the traditional FTAs are derived in large measure from the reduction in tariff barriers. The traditional style FTA, which is often associated with the concept of "in-ward looking" or closed regionalism, emphasizes trade

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[1] It is important to note that Cuba is not a part of this proposed Free Trade Area.

liberalization among member states and substantial discrimination against non-member territories.

Modern FTAs (MFTA) go beyond the narrow confines of trade in goods and attempt to liberalise intra-regional trade in goods and services, investment, intra-regional movements in labour, capital, information and knowledge in congruence with the principles of multilateral free trade (Nicholls et al (2001)). In a real sense, therefore, the MFTA encompasses not only trade in goods, but emphasizes the reduction in non-tariff barriers to trade (administrative, legal and transaction costs) as well as the economies of scale which spur increased competition between firms and which ultimately promote investment (See Tironi (1982), Robson (1993) and Nicholls et al (2002). Besides the trade creating and diverting effects, four additional effects have been identified: **Foreign Profit Creation, Foreign Profit Diversion, Investment Creation and Investment Diversion.** The distinction in the conceptualization of the FTA is very important to make since the NAFTA agreement represented, in several ways, a break away from the traditional notion of an FTA and has effectively served as the new model for the Hemispheric integration effort which is now underway in the region. This model is much more in keeping with the tenets of "open regionalism". There has also been quite a significant amount of discussion on the expected benefits and costs of the Free Trade Area of the Americas initiative.

Rojas-Suarez (2002) has recently raised the question of the conditions that are required for the sustainability of the Free Trade Agreement and has argued that the macro, micro and political considerations that have been generally utilized to measure the ability of any given country to compete in the international playing field is likely to be insufficient to guarantee the success and permanence of the FTAA. Instead, she proposes that the compatibility of exchange rate regimes and the sustainability of fiscal deficits are critical factors in determining the success or failure of the FTAA process.

Section 2: The Hemispheric Integration Process:

One can consider the Free trade Area of the Americas to be, largely, the response of the United States of America to the creation of the single market in Europe, the rise of Japan, the slow progress of the multilateral free trade process and the potential threats that China and the middle eastern countries present for US global economic and political interests. In the aftermath of the terrorist attacks of September 11th, the United States of America has moved even faster to deepen and widen not only its trade linkages with Latin America but, as well, to manage in a more effective way, financial transactions, investment and security.

The FTAA initiative was launched during the first Summit of the Americas in December 1994. At this Summit, the 34 Heads of State of countries in the Western Hemisphere (democratically elected heads of State (excluding CUBA)) signed the declaration on "Partnership for the Development and Prosperity of the Americas" which had as its core objectives:

- Preservation and Strengthening of the Community of Democracies in the Americas
- The Promotion of Prosperity through Economic Integration and Free Trade
- The Eradication of Poverty and Discrimination
- Sustainable Development and the Conservation of the natural environment for future generations.

The FTAA will represent a combined population of 800 million and a gross domestic product of between US$ 9-10 trillion and will be, of course, the largest free trade area in the world. One can subdivide the FTAA process into two main phases: the preparatory phase and the negotiating phase.

(a) Preparatory Phase:

In this phase, emphasis was placed largely on the institutional mechanisms for the FTAA as well as on the design of the work programme for the various institutional units. The actual mechanisms during this phase consisted of Ministerial meetings, Vice-Ministerial Meetings, hemispheric working groups and the Tripartite Committee (OAS, IDB and ECLAC). Between December 1994 and March 1998, there was one main Summit and four trade ministerial meetings. Altogether some 12 working groups were established to cover the following broad areas: (i) Market Access; (ii) Customs Procedures and Rules of Origin; (iii) Investment; (iv) Standards and Technical barriers to Trade; (v) Sanitary and Phytosanitary Measures; (vi) Subsidies, Anti-Dumping and Countervailing Duties; (vii) Smaller Economies; (viii) Government Procurement; (ix) Intellectual Property Rights; (x) Services; (xi) Competition Policy and (xii) Dispute Settlement.

(b) Negotiating Phase:

It was at the Santiago Summit in May 1998 that negotiations towards the creation of the FTAA were formally launched. This Summit agreed effectively to a structure for negotiations comprising of a Trade Negotiations Committee (TNC) at the Vice-Ministerial Level and nine negotiating groups which are presented in the ensuing table:

Table 1: Negotiating Groups in the FTAA Process

Negotiating Groups	Acronym	Chair	Vice-Chair
		Date: October 2002 – January 2005	
Negotiating Group on Market Access	*NGMA*	*Colombia*	*Dominican Republic*
Negotiating Group on Agriculture	*NGAG*	*Uruguay*	*Mexico*
Negotiating Group on Services	*NGSV*	*CARICOM*	*Ecuador*
Negotiating Group on Investment	*NGIN*	*Panama*	*Nicaragua*
Negotiating Group on Government Procurement	*NGGP*	*Costa Rica*	*Paraguay*
Negotiating Group on Intellectual Property Rights ;	*NGIP*	*Dominican Republic*	*Venezuela*
Negotiating Group on Subsidies, Anti-Dumping and Countervailing Duties;	*NGADCV*	*Argentina*	*Canada*
Negotiating Group on Competition Policy;	*NGCP*	*Peru*	*CARICOM*
Negotiating Group on Dispute Settlement	*NGDS*	*Canada*	*Chile*

Source: OAS Secretariat

Table 2: Negotiating Groups in the FTAA Process

Other FTAA Entities	Acronym	Chair	Vice-Chair
		Date: October 2002 – January 2005	
Consultative Group, Smaller Economies	*CGSE*	*Ecuador*	*CARICOM*
Committee of Government Representatives on the participation of Civil Society	*SOC*	*Bolivia*	*Peru*
Technical Committee on Institutional Issues	*TCI*	*Chile*	*Mexico*

Source: OAS Secretariat

Also, three non-negotiating special committees were created: - the Consultative Group on Smaller Economies (CGSE) (interest of smaller economies); Committee of Government representatives on the Participation of Civil Society (SOC) (interests of civil society); and the Joint Government-Private Sector Committee of Experts on Electronic Commerce (internet readiness and electronic commerce). The second revised draft text for negotiations has since been produced, although it remains heavily bracketed in a number of areas. This text constitutes the basis for some hard negotiations that are expected to conclude by January 2005. In a bid to ensure that an agreement could be concluded by the stipulated deadline, the Buenos Aires Ministerial has since established a deadline of May 15, 2002 for the commencement of market access negotiations in five of the negotiating groups, namely Market Access, Agriculture, Services, Investment and Government Procurement. The Parties to the negotiations have agreed to some core procedures and modalities that should govern the negotiations. First, there is to be progressive liberalization in agricultural and non-agricultural goods as well as in services, investment and government procurement, and these negotiations are to be consistent with the Articles XXIV and V of the GATT 1994 and GATS, respectively. Second, a number of timeframes[2] has been established for the submission of offers, revised offers and information relating to the Inventory of Non-Tariff Measures and the completion of the hemispheric database.

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[2] Offers for agricultural and non-agricultural products, services, investment and government procurement are expected to be made between December 15, 2002 and February 15, 2003. Submission of requests for

(c) *Main Issues in Selected Negotiating Groups*:

(i) Negotiating Groups on Market Access and Agriculture: One of the core objectives of this group is to facilitate the integration of smaller economies into the FTAA. Several issues are being considered by this group, the most important of which concern (i) *the selection of a methodology for the elimination of tariffs; the format of schedules and the pace of tariff elimination and reduction*; (ii) *the identification of non-tariff measures with a view to their reduction and elimination* and (iii) *the preparation of an inventory of non-tariff measures*. The group is also considering a number of complex issues relating to rules of origin (eligibility for FTAA preferences) customs procedures and methods relating to sensitive sectors that are vulnerable to competition from imports.

The main objective of the Negotiating Group in Agriculture is to bring trade in agriculture under greater discipline and to ensure that sanitary and phytosanitary measures are not applied in a discriminatory manner. The major issues under discussion relate to the elimination of subsidies and the treatment of such sensitive issues such as domestic support payments, loan deficiency payments and commodity loan programmes. In particular, decisions on the treatment of sensitive agricultural imports and subsidized products loom large on the negotiating agenda.

There has been much disagreement among negotiating parties as to the definition of the base tariff that is to be utilized to initiate negotiations on agricultural and non-agricultural goods. The member states of CARICOM have proposed a two-tiered structure for agricultural and non-agricultural goods, respectively:

(i) *that the base tariff to be administered by the smaller economies for agricultural goods should be the WTO bound tariff as at December 15, 2003*

(ii) *that the base tariff to be administered by the smaller economies for non-agricultural goods should be the MFN applied tariff as at January 15, 2003.*

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improvements to the offers is to be made between February 16 2003 and June 2003. Initiation of process for the presentation of revised offers is to be made by July 15 2003.

This proposal has met with considerable opposition by some delegations, which prefer to define the base tariff as the smaller of the MFN applied tariff at the date of notification and the WTO bound tariff as at January 2004. CARICOM has argued following the concerns of the smaller economies that there should be some asymmetrical treatment in favour of the smaller economies in the determination of the base tariff and that the applied tariff rate was not a viable option for use as the base tariff in the absence of disciplines on subsidies, domestic support and export credits. The position on agriculture adopted by the Caribbean Community has been greeted with some amount of displeasure by other parties to the negotiations.

(ii) Negotiating Group on Services (NGSV): The main objective of the services negotiations is to identify comprehensive rights and obligations in services and appropriate supplementary sector-specific standards. Although a draft chapter on services has been developed a number of issues still remain unresolved. The most important of these relate to the negotiating modality, i.e. the extent to which a top-down ("negative list") or bottom–up ("positive list") to services negotiations should be undertaken. In the negative list approach, all of the service sectors are subject to the same core rules and countries must indicate which service sectors they want excluded from coverage. In the positive list approach, countries specify in their schedules only the commitments that they plan to make. There has been much dis-agreement about which negotiating modality should be adopted for the services sector. The United States of America which adopted the negative list approach in the NAFTA agreement has argued for the adoption of this approach while many other countries are opposed to utilizing the positive list approach for fear that the negative list approach involves a more comprehensive agreement which can limit social policies of governments especially in the areas of education and health if they are not built in from the start into the agreement. It should be noted, that CARICOM is yet to submit its inventory of measures affected by trade in services to this negotiating group.

Another core issue relates to the scope and coverage of the agreement. As regards the scope of the agreement, the discussion has revolved around the extent to which

provisions in the agreement apply to sub-national levels of government and whether additional disciplines for key sectors such as financial services and telecommunications should form part of this agreement. The United States of America is pushing for specialized provisions for financial services because of the regulatory implications that arise from this strategic sector. In respect of coverage of the agreement, the discussion has centred on whether the agreement should be limited solely to the cross-border provision of services or indeed whether it should cover all four modes of supply (cross-border, commercial presence, consumption abroad and movement of natural persons) defined and adopted under the GATS. This is a particularly important issue since, in the FTAA agreement, the establishment of a commercial presence through investing is dealt with under a separate negotiating group, namely investment. Moreover, the United States of America wishes to deal with services-related investment under the investment chapter of the FTAA rather than in the negotiating group on services. A significant amount of work still has to be done in this sector with regard to safeguards, subsidy provisions, general or security exceptions to the rule, and special provisions for domestic regulations. Countries will also have to develop individual schedules for market access commitments.

(iii) Investment: The main objective of the negotiations on investment is to establish a fair and transparent legal framework for the promotion of investment through the creation of a stable and predictable environment that protects the investor, his investment and related flows. A draft chapter has been produced which focuses on the *definition of investment and investor; scope of applications; national treatment; MFN treatment; fair and equitable treatment; expropriation and compensation; compensation for losses; key personnel; transfer of funds; performance requirements; general reservations and dispute settlement. A* compendium of foreign investment regimes and reports on foreign investment in Latin America has also been produced. The negotiating group on Investments has agreed to use a negative list approach. In addition, the TNC has instructed that the initial offer shall be comprehensive and in accordance with the current laws and regulations. However, the group still has to agree on the definition of investments and the scope of coverage of the agreement. One of the major issues for

debate is the proposal by the United States of America to include labour and the environment in the investment chapter.

(4) Government Procurement: The main objective of the negotiating group on government procurement is to ensure openness and transparency in government procurement practices with a view to guaranteeing non-discrimination and fairness and the establishment of identical procurement practices. The group has proposed the compilation of procurement statistics and information on contracts from various national statistical systems. In this area, CARICOM has requested technical assistance to prepare market access offers. Several Member States have not yet submitted the statistical data required by the negotiating group.

Section 3: Hierarchical Cluster Analysis

Cluster analysis is a multivariate statistical technique that groups unclassified data or observations into clusters such that each cluster is as homogeneous as possible. Clusters are continuous regions of space containing a relatively high density of points that are separate from other regions with a relatively low density of points (Everitt (1980). The technique basically involves the following five core steps:

(i) Selection of Objects and Characteristics:

The first step involves the selection of objects and their characteristics for classification. In this paper, the objects for study are the thirty-four (34) countries of the Western Hemisphere for which a number of characteristics (such as growth rates of GDP, average MFN tariff rates, etc.) have been collected. The list of characteristics that are employed in the study are contained in Appendix 1.

(ii) Standardisation of the Data:

The second step involves the conversion of the variables to a common scale for analysis. This is a rather crucial step since several of the similarity measures are not scale invariant and therefore change according to a change in scale. The more popular methods for standardization involve use of logarithmic transformations; scores based on principal component and factor analysis; and standardization measures based on Z-scores (standardised normal variables) or variables with either zero mean or unit variance. Edelbrock (1979) has argued, however, that for variables in a multivariate data set with different distribution parameters, standardization may not constitute an equivalent transformation and may change the relationships between the variables.

(iii) Selection of Clustering Technique and Algorithm

Two broad clustering techniques can be employed to group objects that are homogeneous – hierarchical clustering and non-hierarchical clustering. In this analysis, hierarchical clustering methods are the focus of our attention. This method involves the fusion or division of the data by agglomerative or divisive procedures. A number of algorithms exist for determining the degree of similarity between clusters consisting of more than one object. The analysis in this paper focuses on three such algorithms, namely: single linkage (or nearest neighbour), complete linkage (or furthest neighbour) and Ward's method. Lance and Williams (1967) and Aldenderfer and Blashfield (1984) represent linkages in the hierarchical clustering technique by the following general rule:

$$d(h,k) = A(i)*d(h,i) + A(j)*d(h,j) + B*d(i,j) + C*abs[d(h,i) - d(h,j)]$$

where $d(h,k)$ is the dis-similarity of distance between cluster h and cluster k; cluster k is the result of combining cluster (or cases) i and j in an agglomerative step; and A, B and C are parameters that define the linkage form.

The single linkage method employs a minimum distance rule to find objects that are nearest neighbours. This minimum distance rule can be expressed as $d_{(i,j),k} = \min(d_{ik}, d_{jk})$ and combines clusters i and j and any other cluster, k that are nearest neighbours. The single linkage method is invariant to monotonic transformations of the similarity matrix and is unaffected by ties in the data. The method, however, tends to have a tendency to form long elongated clusters. The complete linkage method is the very opposite of single linkage and employs a maximum distance rule to find objects that are farthest neighbours. This maximum distance rule can be expressed as $d_{(i,j),k} = \max(d_{ik}, d_{jk})$ and combines clusters i and j and any other cluster, k that satisfies the rule. The complete linkage method generally tends to find compact hyper-spherical clusters that are composed of highly similar cases.

Apart from these distance based measures, the method developed by Ward (1963) is based neither on a maximum or minimum distance rule between clusters but forms clusters by minimizing the total within-group or within-cluster sums of squares (i.e. the error sum of squares). This error sum of squares can be represented algebraically as follows:

$$ESS = \sum_{j=1}^{N} (X_j - \overline{X})' * (X_j - \overline{X})$$

where ESS is the error sum of squares; X_j is the multivariate measurement associated with the jth item and $\overline{X}$ is the mean of all the items. In the first stage, this error sum of squares equals zero when each case represents its own cluster. The method then proceeds to join those cases or groups that result in the minimum increase in the error sum of squares.

(iv) Selection of Similarity Method:

The concept of inter-object similarity or dissimilarity is fundamental to cluster analysis since it gives a measure of correspondence or resemblance of objects to be measured and a number of distance measures are utilized to measure the similarity between pairs of

objects. The Minkowski metric provides a relatively useful metric for computing various distance measures and can be represented by the following formula:

$$d(x, y) = \left[\sum_{i=i}^{p} \left| x_i - y_i \right|^m \right]^{\frac{1}{m}}$$

This metric yields the Euclidean distance and city block metric when m=1 and m=2, respectively. In the analysis, we employ the squared Euclidean distance metric as a measure of similarity.

(v) Choice of Number of Clusters

Perhaps the most difficult of the steps involved in cluster analysis is the choice of the number of clusters to represent the data. In the context of our analysis the choice of clusters is determined by interpretation of the vertical icicle plot and horizontal plot or dendograms. One critical caveat to note is that it the cluster solutions can differ substantially depending on the clustering algorithm and similarity measure adopted. This implies that even for the same data set, the membership of cluster can differ appreciably suggesting that cluster solutions are inherently non-unique. An attempt was made to select stable cluster solutions by taking the modal class of cluster membership from each of the three different algorithms. Another technique suggested in the literature is cross-replication of a truncated data set.

Section 4: Results of Hierarchical Cluster Analysis

The hierarchical cluster algorithms were applied to three broad types of indicators comprising (i) Schott's readiness indicators, (ii) indicators arising from the negotiating agenda and (iii) indicators based on the Rojas-Suarez sustainability criteria. In our analysis, we have utilised the single linkage and complete linkage algorithms as well as Ward's method as our major clustering techniques while inter-object similarity is

measured by squared Euclidean distance. The results from cluster analysis utilising the selected measures for each category of indicators are presented in Tables 4, 5 and 6, respectively.

Table 4 Cluster Results: Schott's Readiness Indicators

COUNTRY	SINGLE LINKAGE	COMPLETE LINKAGE	WARD'S METHOD	MODAL CLASS
ANT	3	4	4	4
ARG	3	3	3	3
BAH	3	3	3	3
BDS	2	2	2	2
BEZ	3	3	3	3
BOL	3	3	3	3
BRZ	3	4	4	4
CAN	1	1	1	1
CHZ	2	2	2	2
COL	3	3	3	3
COS	2	2	2	2
DOM	3	4	4	4
DRP	3	4	4	4
ECU	4	5	5	5
ELS	3	3	3	3
GRE	3	3	3	3
GUA	3	4	4	4
GUY	3	4	4	4
HAT	5	5	5	5
HON	3	3	3	3
JAM	3	4	4	4
MEX	2	2	2	2
NIC	4	5	5	5
PAN	3	3	3	3
PRG	3	3	3	3
PRU	3	3	3	3
STK	3	4	4	4
STL	3	4	4	4
STV	3	4	4	4
SUR	4	5	5	5
TTO	2	2	2	2
URG	2	2	2	2
USA	1	3	1	1
VEN	3	3	3	3

Table 5 Cluster Results: Negotiating Agenda Indicators

COUNTRY	SINGLE LINKAGE	COMPLETE LINKAGE	WARD	MODAL CLASS
ANT	1	1	1	1
ARG	2	2	2	2
BAH	1	1	1	1
BDS	3	3	3	3
BEL	3	3	3	3
BOL	2	2	2	2
BRZ	2	2	2	2
CAN	2	2	2	2
CHL	2	2	2	2
COL	2	2	2	2
COS	2	2	2	2
DOM	1	1	1	1
DRP	2	2	2	2
ECU	3	3	3	3
ELS	3	3	3	3
GRE	1	1	1	1
GUA	4	4	4	4
GUY	1	1	1	1
HAT	1	1	1	1
HON	3	3	3	3
JAM	2	2	2	2
MEX	2	2	2	2
NIC	2	2	2	2
PAN	2	2	2	2
PRG	3	3	3	3
PRU	2	2	2	2
STK	1	1	1	1
STL	1	1	1	1
STV	1	1	1	1
SUR	1	1	1	1
TTO	3	3	3	3
URG	2	2	2	2
USA	5	5	5	5
VEN	2	2	2	2

Table 6 Cluster Results: Rojas-Suarez Sustainability Criteria

COUNTRY	SINGLE LINKAGE	COMPLETE LINKAGE	WARD	MODAL CLASS
ANT	1	1	1	1
ARG	2	2	2	2
BAH	1	1	1	1
BDS	1	1	1	1
BEL	1	1	1	1
BOL	3	2	3	3
BRZ	1	2	3	2
CAN	1	3	1	1
CHL	1	3	1	1
COL	1	3	3	3
COS	1	4	4	4
DOM	1	1	1	1
DRP	1	3	5	3
ECU	3	2	3	3
ELS	1	4	4	4
GRE	1	1	1	1
GUA	1	3	5	3
GUY	1	3	3	3
HAT	1	3	3	3
HON	4	4	4	4
JAM	1	3	3	3
MEX	1	3	5	3
NIC	5	5	2	5
PAN	1	4	4	4
PRG	1	3	5	3
PRU	1	2	3	2
STK	1	1	1	1
STL	1	1	1	1
STV	1	1	1	1
SUR	1	1	1	1
TTO	1	1	1	1
URG	1	3	5	3
USA	1	3	1	1
VEN	1	3	5	3

Table 4 presents the results from the readiness indicators developed by Schott (1992). Schott has divided his readiness indicators into two broad groups: (i) **macroeconomic indicators** (*price stability, the rate of growth of GDP, budget discipline, debt sustainability, current account stability and national savings*) (ii) **market indicators** (*reliance on trade taxes and market oriented policies*) and (iii) **policy sustainability** – an ordinal variable which gauges the social welfare, political rights and civil liberties of a country and therefore measures the sustainability of political support for domestic reforms. The readiness indicator is computed as an un-weighted average of the scores of these three broad groups. Five broad cluster sets were identified from the hierarchical solution.

Cluster Solution: Schott's Readiness Indicators
Cluster Set 1a = {*Canada, Mexico, USA, Uruguay, Costa Rica, Barbados, Trinidad and Tobago and Chile*};
Cluster Set 2a = {*Argentina, Paraguay, Bolivia, Peru, Venezuela, El Salvador, Guatemala, Honduras and Colombia*}
Cluster Set 3a = {*Brazil, Ecuador*}
Cluster Set 4a = {*Nicaragua, Guyana, Haiti, Suriname*}
Cluster Set 5a = {*Panama, Antigua and Barbuda, The Bahamas, Belize, Dominica, Dominican Republic, Grenada, St. Kitts, St. Lucia, St. Vincent and Jamaica*}

Table 5 presents the results from indicators that are more closely concerned with issues in the negotiating groups. The main negotiating indicators utilised were (i) the passage of competition legislation after 1990, (ii) the passage of intellectual property legislation after 1990, (iii) the proportion of trade in commercial services relative to the world total (iv) inflows of foreign direct investment and (v) the applied MFN tariff rate. Five broad cluster solutions also emanated from the hierarchical agglomerative solutions. In this cluster set, there were two clusters with single elements, clusters 4 and 5, respectively.

Cluster Solution: Negotiating Issues
Cluster Set 1b = {*Antigua and Barbuda, The Bahamas, Dominica, Grenada, Guyana, Haiti, St. Kitts, St. Lucia, St. Vincent, Suriname*};
Cluster Set 2b = {*Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominican Republic, Jamaica, Mexico, Nicaragua, Panama, Peru, Venezuela, Uruguay*}
Cluster Set 3b = {*Barbados, Belize, Ecuador, El Salvador, Honduras, Paraguay, Trinidad and Tobago*}
Cluster Set 4b = {*Guatemala*}
Cluster Set 5b = {*USA*}

Table 6 presents results based on the sustainability criteria of Rojas-Suarez (2002). The main indicators utilised in the cluster analysis were (i) the sustainability of external debt measured by the debt to exports ratio and the compatibility of exchange rate regimes measured by a categorical variable that differentiates between countries with independently floating, managed floating, crawling peg, fixed peg and dollarised exchange rate regimes. Five clusters solutions were also identified from this analysis.

Cluster Solution: Rojas-Suarez Criteria
Cluster Set 1c = {*Antigua and Barbuda, The Bahamas, Barbados, Belize, Canada, Chile, Dominica, Grenada, St. Kitts, St. Lucía, St. Vincent, Trinidad and Tobago, USA*};
Cluster Set 2c = {*Argentina, Brazil, Peru*}
Cluster Set 3c = {*Bolivia, Colombia, Dominican Republic, Ecuador, Guatemala, Guyana, Haiti, Jamaica, Mexico, Paraguay, Uruguay, Venezuela*}
Cluster Set 4c = {*Costa Rica, El Salvador, Honduras, Panama*}
Cluster Set 5c = {*Nicaragua*}

Cluster Set Intersections of Indicator Variables by Country
Cluster Sets: 1a ∩1b ∩1c= {Empty Set}
Cluster Sets: 2a ∩2b ∩2c= {Argentina, Peru}
Cluster Sets: 3a ∩3b ∩3c= {Ecuador}
Cluster Sets: 4a ∩4b ∩4c= {Empty Set}
Cluster Sets: 5a ∩5b ∩5c = {Empty Set}

The preliminary results from the cluster analysis have identified five relatively different cluster solutions for each set of indicators and have found relatively limited cluster set intersections among the different indicator items. The technical results have found a greater degree of dis-similarity between countries within each indicator group and also across indicator groups. This suggests that the interests of the various countries in the negotiations as well as their level of preparedness may not be compatible for the emergence of an homogeneous FTAA, and countries will need to establish a basis for consensus if the negotiations are to arrive at any meaningful result based on similarity of negotiating agendas and similarity of socio-economic and political conditions.

Section 5: Prospects for the FTAA and Challenges for CARICOM

The events of September 11th, 2001 and the passage of the Trade Promotion Authority Bill in 2002 have contributed to the quickening of the pace of negotiations towards an hemispheric free trade area. The process of creating this hemispheric FTAA has been affected by a number of important challenges. The first challenge, relates to the re-emergence of major political and economic difficulties in the Latin America region. Coincidentally, each FTAA Summit has been followed almost immediately by serious financial crises in some of the larger Latin American economies. Indeed, the Mexican peso collapsed months after the Miami Summit and the optimism from the Santiago Summit faded several months later in the wake of the Brazilian financial crisis of 1998-

99. The Argentinean crisis also followed on the heels of the Quebec City summit in 2001. Although, no inference is drawn here about the relationship between the occurrence of the Summit and the financial crises that have emerged, it is important to point out that the re-emergence of crises in Latin America have led to a series of questions as to whether many Latin American countries could live up to the rules and disciplines of an FTAA agreement. Indeed, in a recent publication, the UNECLAC has estimated that growth in the Latin American region will decline to - 0.8% in 2002 and will remain relatively low by the end of 2003.

Moreover, the continuing political strife in many Latin American countries, in particular, Colombia and Venezuela, has the potential to complicate the pace of negotiations. Venezuela has recently been plunged into a cycle of civil unrest (with a number of coup/countercoup attempts) which has increased the degree of instability in that country. In Colombia, the decade long war between insurgent and government forces has the potential to bring more instability to the Andean region as a whole. In the CARICOM region, the border disputes between Venezuela/Guyana and Guyana/Suriname can threaten the negotiating stance that CARICOM countries may wish to pursue in the FTAA. These conflicts that have increasingly arisen between the external economic environment, the domestic macroeconomic policy agenda and the social development processes pose numerous difficulties for a large percentage of the FTAA membership.

The second major challenge relates to the conflicting signals that are being sent by some of the larger countries within the FTAA negotiating group. For example, the President of Venezuela has made no secret of his opposition to the FTAA process. Political support for the FTAA has also weakened in Brazil, which has had to focus more on the recovery from its own domestic economic crises in recent times. Brazil's scepticism about the FTAA initiatiye has recently been reflected in the comments of the newly elected President, Luiz Inacio Lula da Silva, that the FTAA represents "an annexation of Latin America to the United States".

The recent passage of the Trade Act of 2002 has now given the President of the United States the use of Trade Promotion Authority (TPA) or "fast track" negotiating authority. Three previous attempts to gain this authority failed in the 1990s. As a consequence, the US President is now free to negotiate free trade agreements, which the US Congress can accept or reject but not amend. The main purpose of the bill is to assure foreign governments that the US Congress will act expeditiously on any agreement negotiated with the US government.

Whereas the TPA is intended to demonstrate the political commitment of the United States of America to the wider hemispheric initiative, its narrow passage reveals the significant opposition to the FTAA which still exists in the United States of America. Indeed, the House of Representatives voted 215 to 212 in favour of granting President Bush trade promotion authority while the Senate approved 64 to 34. The difficulty in securing the TPA, in the US, reflects a serious divide between the two national parties, which hold different views as to the role of labour and environment in trade negotiations. It should therefore be of no surprise if the US Presidential elections of 2004 add further complications towards an FTAA agreement, although the GOP victory in the recently concluded Congressional elections could still make passage of a final agreement more likely.

This lack of bipartisan consensus on trade policy has made negotiators very cautious about new commitments from the US. Indeed, because of political pressure from domestic constituencies, the Bush Administration has also sent confusing signals with regard to its trade policy agenda, since the Doha Ministerial. A few months after the promise of new trade liberalisation at the 2001 Doha Ministerial, the US President imposed new steel import barriers in March 2002 under the "escape clause" of Section 201 of US trade law. This action was quickly followed by Congressional passage of a new farm bill in May 2002 that provides $15-20 billion per year in subsidies to US farmers. Many political commentators have argued that these policies were pursued to aid farmers and steel producers and to strengthen the President's political base.

Also, trade officials of the United States of America have indicated that the United States of America is in the process of concluding a free trade agreement with Chile by the end of this year and will commence negotiations in 2003 with five Central American countries: Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. Other countries such as the Dominican Republic, Bolivia, Colombia, Peru and Uruguay have also indicated a willingness to sign separate trade deals with the United States. The pronouncements by the United States of America have led to disquietude among some FTAA participants about the broad negotiating approach undertaken by the United States. Many participants are afraid that the United States will utilise the separate FTA deals to force consensus on some of the more controversial negotiating issues.

The third major challenge that arises in the FTAA negotiating process relates to negotiation fatigue and capacity. Since the 1998 Santiago Summit, the various negotiating groups and other special committees have conducted some 205 separate meetings for a total of 593 meeting days. The intensification of the pace of negotiations is expected to increase the frequency of these meetings. The concurrent negotiations engaging the attention of CARICOM countries, especially the ACP/EU (Cotonou) and WTO negotiations, have already stretched the negotiating capacity of the small economies of the CARICOM region and has placed tremendous strain on the finances and human resource capacity of the region. This lack of capacity has affected the CARICOM's ability to properly prepare for the negotiations and could ultimately compromise its negotiating position.

Conclusion

This paper has examined the prospects for the Free Trade Area of the Americas using hierarchical clustering algorithms. The preliminary results from the cluster solution suggest that there is a large degree of dis-similarity between countries with respect to macroeconomic conditions and negotiating issues. The preliminary cluster solutions

yielded a set of five sub-groupings which tentatively indicate that there is likely to be no single homogeneous FTAA cluster solution based on the existing readiness indicators proposed by Schott (1992) and the sustainability criteria proposed by Rojas-Suarez (2002). Moreover, the results from indicators of similarity also suggest that there is much disparity among FTAA countries with regard to issues on the negotiating agenda. Our tentative finding implies that the interests of the various countries in the negotiations as well as their level of preparedness are not compatible with the emergence of a single homogeneous FTAA grouping, and that countries will need to work much harder to establish a basis for consensus if the negotiations are to be successfully concluded.

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Table 3

Variable Name	Variable Description	Data Type	Measurement
Rojas' Sustainability Criteria			
Extdebt	Debt sustainability	Ordinal	Ext debt as % of exports of goods and services
Excgregm	Exchange rate compatibility	Ordinal	IMF classification system
Schott's Readiness Indicators			
Macroeconomic Indicators			
Prstable	Price stability	Ordinal	Variation in CPI
Gdpgrwth	GDP Growth Rate	Ordinal	Real GDP growth rate
Buddisp	Budget discipline	Ordinal	Public sector surplus /deficit as a percentage of GDP
Extdebt	Debt sustainability	Ordinal	Ext debt as % of exports of goods and services
Curstab	Current stability	Ordinal	Real effective exchange rate index
Natsav	National Savings	Ordinal	National savings as a percentage of GDP
Market Indicator (mktindc)			
Trdtax	Reliance on Trade Taxes	Ordinal	Trade Taxes as percentage of current tax revenue
Mktorpol	Market Oriented Policies	Ordinal	
Negotiating Groups Agenda			
Cpolega90	Passage of competition policy legislation After 1990	Binary	Ordinal
Iprlega90	Passage of IPR legislation policy after 1990	Binary	Ordinal
Tradserv			Trade in commercial services of country x/Trade in commercial services of all countries
Inflwfdi			Foreign Direct Investment Inflows
Tarrffav	MFN applied Tariff Rate	Tariff	Numeric (percentage)