AN ASSESSMENT OF BARBADOS' COMPETITIVENESS WITHIN THE EU MARKET 1992-2006

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ABSTRACT

This paper sought to assess Barbados' competitiveness within the European Union (EU) market in light of its recent signing of an Economic Partnership Agreement (EPA) with the EU. Using data at the one-digit SITC level from 1992-2006, indices of revealed comparative advantage (RCA) were calculated. We found that Barbados possesses comparative advantages in *Food and Live Animals* and *Beverages and Tobacco*, indicating their competitiveness in these products; the competitiveness of the latter commodities were very stable over time; the country faces the most competition for the EU market from St. Kitts and Nevis, St. Lucia and St. Vincent; and there is evidence that additional export opportunities in other commodities (*Fuels, Lubricants, etc*.; *Animal, Vegetable Oils Fats, Wax*; *Chemicals, Related Products*; *Manufactured Goods*; and *Goods not Classed by Kind*) may exist for Barbadian producers. Sensitivity tests revealed that the RCA indices are stable, are satisfactory as cardinal and dichotomous measures, but are less useful in ranking commodity groups.

Keywords: competitiveness; revealed comparative advantage; Barbados; EU; EPA

JEL classification: F14; F15

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1. Introduction

As a member of the African, Caribbean and Pacific (ACP) grouping, Barbados previously maintained a special trading relationship with the European Union (EU) based on non-reciprocal trade preferences for 30 years. This relationship was driven mainly by cultural, historical and past colonial links. Non-reciprocal duty-free access to the EU markets of products originating in all ACP countries was governed by the successive conventions, Lomé I to Lomé IV, which were in place from 1976-2000.

Lomé, due to its incompatibility with World Trade Organisation (WTO) rules, was replaced by the Cotonou Agreement, signed in Cotonou, Benin in September, 2000. The Agreement established a comprehensive framework for bilateral economic relations between the EU and ACP countries and provided for a shift from the system of non-reciprocal trade preferences to Economic Partnership Agreements (EPAs) by the end of 2007. In October, 2008, CARICOM countries (excluding Haiti and Montserrat) along with the Dominican Republic, collectively known as CARIFORUM, officially signed EPAs with the EU. CARIFORUM countries will have to gradually open their markets to EU products within a twelve-year period, which is scheduled to take place from 2008-2020.

In Barbados the EPA is, for the most part, perceived as a threat to the local economy. Much of this perception is based on the disparities between Barbados and the much larger, more developed countries in the EU. Moreover, there is fear that extending reciprocity and the erosion of preferences will lead to adverse effects, as under the EPA, Barbados will have to gradually open up its markets and lose customs revenue, but is uncertain to gain as much regarding its exports to the EU.

The elimination of preferential trading agreements suggests that Barbados will have to make choices among alternative paths. Indeed, the EPA will provide significant challenges. However, beyond the challenges posed, the significant change in the economic environment presents opportunities for restructuring the economy, development and institutional framework in Barbados. In particular, it offers the opportunity to address and correct the distortions created by

unilateral trade preferences. This will require agility, rapid adaptation and the embrace of new technologies.

To successfully penetrate the EU market, local businesses must produce and effectively market goods and services that are of high quality and low in price in comparison to similar products produced in other countries. To achieve this important objective, goods and services must be internationally competitive. Blunck (2006) suggests that for a business entity, competitiveness is the ability to provide products and services as, or more, effectively and efficiently as the relevant competitors.

Within the context of the EPA, competitiveness matters because on one hand it will become much easier for more goods and services from the EU to enter the domestic economy since import duties must be lowered as part of the country's commitments. On the other hand, Barbadian producers must be able to fully exploit all opportunities that present themselves to sell their goods and services in the EU market. To benefit from these opportunities, these businesses must be able to produce goods and services that are cheaper than other similar products and equal or higher in quality on a sustained basis. None of this is possible unless local businesses are internationally competitive.

A reasonable starting point in assisting local businesses to boost their competitive positions within the EU marketplace is the identification of export commodities to which comparative advantages can be assigned. That assignment can be accomplished by computing and analysing changes in export performance based on revealed comparative advantage, an indicator of international trade specialisation and competitiveness. It is towards this broad objective that our paper is dedicated.

Specifically, the study examines the following questions: What are Barbados' most competitive commodities vis-à-vis the EU[1] in terms of their comparative advantages; to what extent have the most competitive commodities witnessed a shift in their export competitiveness over time; do

[1] In this paper, EU refers to the EU-15: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.

other CARIFORUM countries have any impact on the Barbados' competitiveness in the EU market; and are there any commodities, apart from the most competitive, that may hold EU export potential for Barbadian producers.

Previous studies have examined the competitiveness of several countries' goods in the EU market. Fertö and Hubbard (2003) analyse the competitiveness of Hungary's agri-food products in relation to the EU from 1992-1998. Their findings revealed that Hungary has revealed comparative advantages in 11 product groups: live animals; meat; cereals; vegetables and fruit; sugar; beverages; oilseeds; cork and wood; and animal and vegetable materials, oils and fats. Similarly, Utkulu and Seymen (2004) analysed the competitiveness of Turkey's goods in the EU, finding that Turkey has revealed comparative advantages for 7 product groups: clothing and clothing accessories; vegetables and fruit; sugar, sugar preparations, honey; tobacco; oil seeds and oleaginous fruits; rubber manufactures; textile yarn, fabrics and related products. However, to the best of the authors' knowledge, there are no studies which examine Barbados competitiveness vis-à-vis the EU. Thus another contribution of this study is to help fill this gap.

The remainder of the paper is structured as follows. Section 2 briefly assesses Barbados' export performance with the EU from 1992-2006. Section 3 outlines the methodology for assessing Barbados' competitiveness within the EU market. Section 4 presents and evaluates the empirical results. The paper ends with a summary of the main findings and some concluding remarks in Section 5.

2. Barbados Export Performance with EU

As is evident from Figure 1, Barbados' total commodity exports to the EU remained fairly steady over the period under review, growing at an average annual rate of 1.13 percent. When expressed as a share of the total, the statistics paint a different picture (Table 1, Column 1). While the EU accounted for almost one-quarter of all commodity exports in 1992, by 2006 their share fell to just 10 percent in 2006, a decline of over 50 percent. A similar pattern is exhibited for exports as a share of gross domestic product (GDP) (Table 1, Column 2).

Figure 1 also shows that in contrast to total exports to the EU, total imports increased rapidly over 1992-2006, averaging 7.3 percent growth per year. This large and growing gap between imported and exported goods resulted in a continuous deterioration in the Barbados-EU commodity trade balance both in dollar terms (Table 1, Column 3) and as a percent of GDP (Table 1, Column 4). Indeed, the balance of trade (in dollar terms) declined by 11.5 percent each year.

In Table 2, a ranking of Barbados' main EU export partners is presented for selected years. The United Kingdom (UK) is Barbados' most significant export partner by a large margin, accounting for 68 percent or more of total exports to the EU. Apart from the UK, rankings of the remaining EU partners fluctuate from year to year. Moreover, none of these countries ever account for as much as 10 percent of Barbados' total EU exports. In general, though, Barbados' major partners are, geographically speaking, from the most Western European countries.

Finally, Table 3 presents the share of commodities exported to the EU relative to the world, according to their SITC classification at the one-digit level. Food and Live Animals, and Beverages and Tobacco are the top commodities exported. However, while Food and Live Animals averaged just over 50 percent of total exports over 1992-2006, never falling below 40 percent in any year, this category has generally declined over the period. Beverages and Tobacco exports have been relatively stable, averaging a 25 percent share of all commodities exported. Overall, Barbados' commodity exports to the EU average around 20 percent of all commodities exported.

3. Methodology and Data

In modern economic literature, the concept of comparative advantage is commonly employed to evaluate patterns of trade and export specialisation. According to Heckscher-Olin theory, a country's comparative advantage is determined by its relative factor scarcity, that is, its factor endowment ratios relative to the rest of the world or a set of countries.

Since relative prices under autarky are not observable, measuring comparative advantage poses particular challenges (Balassa, 1989). Instead, Balassa (1965, 1979, 1986, 1989) argues that comparative advantage is "revealed" by observed trade patterns. He argued that exports could be used to reveal the comparative advantage of a particular country in the absence of data on factor costs, as the pattern of commodity exports reflects relative costs as well as differences in non-price factors that can be expected to determine the structure of exports. Balassa (1965) developed the most widely used approach to analysing revealed comparative advantage known as the Balassa Index. This index is essentially an index of revealed export advantage (RXA) which can be expressed as:

$$RCA_{ij}^{1} = RXA = \frac{X_{ij} / \sum_{j=1}^{J} X_{ij}}{\sum_{n=1}^{N} X_{nj} / \sum_{n=1}^{N} \sum_{j=1}^{J} X_{nj}} \tag{1}$$

where X_{ij} is country *i*'s export value of commodity *j*; $\sum_{j=1}^{J} X_{ij}$ is the total export value of country *i*; $\sum_{n=1}^{N} X_{nj}$ is the export value of commodity *j* for a set of *N* reference countries; $\sum_{n=1}^{N} \sum_{j=1}^{J} X_{nj}$ is the export value of all commodities for a set of *N* reference countries; and RCA_{ij}^{1} is the revealed comparative advantage of country *i* in commodity *j*. When RCA_{ij}^{1} is greater than 1, it indicates that country *i* has a comparative advantage in the export of commodity *j* in the market of a set of reference countries; while RCA_{ij}^{1} less than 1 indicates the country possesses a comparative disadvantage.

Several criticisms have been levelled at the measured of comparative advantage as expressed by Equation (1). This has led to several variants of the original Balassa Index. Greenaway and Milner (1993) argue that RCA_{ij}^{1} is biased due to the omission of imports, particularly when country-size is important. An alternative RCA index which recognises the possibility of simultaneous exports and imports of a particular commodity is the net exports RCA:

$$RCA_{ij}^{2} = \frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}} \tag{2}$$

where X_{ij} and M_{ij} are country *i*'s export and import values of commodity *j* to a set of *N* reference countries respectively. Equation (3) ranges in value from -1 to 1. Negative values indicate revealed comparative disadvantage and positive values indicate revealed comparative advantage; however, there is some ambiguity when RCA_{ij}^{2} is around zero (Greenaway and Milner, 1993).

Vollrath (1991) proposes three alternative measures of a country's revealed comparative advantage. The first, the relative trade advantage (RTA) can be expressed as the difference between the revealed export advantage (RXA) and revealed import advantage (RMA):

$$RCA_{ij}^{3} = RTA = RXA - RMA = \frac{X_{ij} / \sum_{j=1}^{J} X_{ij}}{\sum_{n=1}^{N} X_{nj} / \sum_{n=1}^{N}\sum_{j=1}^{J} X_{nj}} - \frac{M_{ij} / \sum_{j=1}^{J} M_{ij}}{\sum_{n=1}^{N} M_{nj} / \sum_{n=1}^{N}\sum_{j=1}^{J} M_{nj}} \tag{3}$$

where variables are as defined in Equation (1), but *M* represents imports.

The second measure is the logarithm of the relative export advantage (*ln* RXA) is defined as:

$$RCA_{ij}^{4} = \ln(RXA) = \ln\left(\frac{X_{ij} / \sum_{j=1}^{J} X_{ij}}{\sum_{n=1}^{N} X_{nj} / \sum_{n=1}^{N}\sum_{j=1}^{J} X_{nj}} \right) \tag{4}$$

The third measure is revealed competitiveness (RC) which can be expressed as the difference between *ln* RXA and *ln* RMA:

$$RCA_{ij}^{5} = \ln(RXA) - \ln(RMA) = \ln\left(\frac{X_{ij} / \sum_{j=1}^{J} X_{ij}}{\sum_{n=1}^{N} X_{nj} / \sum_{n=1}^{N}\sum_{j=1}^{J} X_{nj}} \right) - \ln\left(\frac{M_{ij} / \sum_{j=1}^{J} M_{ij}}{\sum_{n=1}^{N} M_{nj} / \sum_{n=1}^{N}\sum_{j=1}^{J} M_{nj}} \right) \tag{5}$$

RCA_{ij}^{4} and RCA_{ij}^{5} are symmetric through the origin. Positive values of all three of Vollrath's (1991) alternative measures of revealed comparative advantage reveal a comparative/competitive advantage whereas negative values indicate comparative/competitive disadvantage.

Given the number of alternative RCA indices that will be used in this paper, varying results and by extension varying conclusions can be obtained. That is, the finding of revealed comparative advantage or disadvantage is likely to be sensitive to the index used. Ballance et al. (1987) suggest some statistical tests for examining the extent to which various RCA indices are consistent in their identification of comparative advantage. While the usual interpretation of an RCA index is that it identifies the extent to which a country has a comparative advantage in a product, which Ballance et al. term the cardinal interpretation, the latter offer two additional interpretations: the ordinal interpretation, that is, the index provides a ranking of products by degree of comparative advantage; and the dichotomous interpretation, that is, the index offers a binary-type delineation of products based on comparative advantage and disadvantage.

Ballance et al. (1987) suggest a test of consistency for each interpretation. The consistency test for cardinality is based on the correlation coefficient between paired indices in each year. The consistency test for the indices as ordinal measures is based on the rank correlation coefficient for each pair of indices. Finally, the test of the indices as a dichotomous measure is the share of product groups in which both of the paired indices indicate comparative advantage or comparative disadvantage respectively. Values close to 1 for each test indicate that a pair of indices is consistent as a cardinal, ordinal or dichotomous measure of comparative advantage respectively.

Stability of alternative RCA measures has also been called into question. The first indicator of stability employed is proposed by Hoekman and Djankov (1997) is the relative importance of those products which reveal a comparative advantage in time period *t* but a comparative disadvantage (RCD) in *t*+1, or vice-versa. A second indicator employed is proposed by Hinloopen and Van Marrewijk (2001) suggests examining the distribution of the Balassa Index (RCA_{ij}^{1}) over time. This study also calculates coefficients of variation (CV) for each annual index and also for each commodity group as additional indicators of stability.

To examine whether or not Barbados' exports to the EU market face competition from other CARIFORUM countries, the paper estimates Spearman's Rank Correlation (SRC) coefficients of

revealed comparative advantage for each commodity using the Balassa Index (RCA_{ij}^{1}) following Mahmood (2000), between Barbados and other CARIFORUM countries respectively. *SRC* varies between -1 and 1. The greater *SRC* is over 0, the more intense the competition in the export market between two countries with respect to a particular product; a value of 0 indicates there is no relationship and thus no competition; and the closer the values are to -1, the greater the degree of complementarity there is in the exported goods of two countries. Increases in the correlation over time are associated with growing similarity of the two nations export profiles and can be taken as evidence of intensified competition, and vice-versa (Pomfret, 1981).

Since this study is interested in the competitiveness of Barbados in the EU market, our indices are calculated with the EU-15 as the comparator. All values for commodity exports and imports are sourced from the United Nations (UN) COMTRADE online database at the one-digit level of the Standard International Trade Classification (SITC) and run from 1992-2006. There are 10 one-digit product categories. Annual indices are calculated.

Finally, it is worthwhile to point out that a problem with RCA indices is that observed trade patterns may be distorted by government interventions, thus causing misrepresentation of underlying comparative advantage (Greenaway and Milner, 1993). It is thus a concern that policies such as import restrictions, export subsidies and other protectionist measures of governments may, to an extent, distort RCA indices. Therefore, care should be taken by researchers and policymakers when interpreting results of RCA indices. While such concerns cannot be totally eliminated, it is our contention that the indices used in this paper offer a useful guide to the underlying comparative and competitive advantage of Barbadian exports. Indeed, Richardson and Zhang (1999) argue that export-based RCA measures are not sensitive to growth and business cycle differences across trading partners, which tend to affect both the numerator and denominator equally. For the same reason, Richardson and Zhang suggest that export-based RCAs are not sensitive to the height of trade barriers, as long as they are across the board, non-discriminatory protection against all exports. Moreover, Vollrath (1989) points out that government intervention and competitiveness are usually inversely related. This indicates that commodities which reveal a comparative advantage are likely to be even more competitive if markets were to become more open.

4. Empirical Findings and Analysis

4.1 *Revealed Comparative Advantage*

Results from the five RCA indices (Equations 1-5) are shown in Tables 3-8. In addition to the indices, the tables show the average RCA and CV over 1992-2006 for each commodity group. The annual indices have essentially the same pattern. All five show that Barbados holds a revealed comparative advantage in *Food and Live Animals*; and four of the five indicate a revealed comparative advantage in *Beverages and Tobacco*, the exception being the net exports RCA (RCA_{ij}^{2}). Apart from these commodity groups, two of the five indices indicate revealed comparative advantages in *Goods not Classed by Kind* (RCA_{ij}^{3} and RCA_{ij}^{5}); and one index finds a revealed comparative advantage in the group *Crude Materials, Inedible, Except Fuels* (RCA_{ij}^{3}). Several of the indices also find evidence of revealed comparative advantages in *Fuels, Lubricants etc.* (RCA_{ij}^{3}) and *Miscellaneous Manufactured Articles* ($RCA_{ij}^{1}, RCA_{ij}^{3}, RCA_{ij}^{4}, RCA_{ij}^{5}$) in some years.

4.2 *Consistency of Revealed Comparative Advantage*

We assess the consistency of our indices since, as our results indicate, several identified a comparative advantage in some goods while others did not. Table 9 reports the results from our consistency tests for cardinality, ordinal ranking and dichotomy of the alternative RCA measures for selected years: 1992, 1997, 2002 and 2006. The consistency test as a cardinal measure of comparative advantage shows that of the 10 possible pairings for each of the 4 years presented, 31 of the 40 paired indices shows a high level of correlation (≥ 0.70). The test for consistency of the indices as ordinal measures shows that only 18 of the 40 pairings have rank correlation coefficients less than 0.70, and at least 2 of these coefficients occur in each year. These results imply that all 5 indices are not consistent in ranking product groups. Finally, the test of the indices as a dichotomous measure shows that 35 of the 40 paired indices are at least equal to 0.70. Thus our indices can be considered consistent from this perspective. Overall, our RCA measures are useful indicators in determining whether Barbados possesses a comparative advantage in a particular commodity group, though less useful in indicating the rankings of the groups according to their RCA values.

4.3 *Stability of Revealed Comparative Advantage*

In this section, the stability of the indices is examined. First, the relatively small CVs for each product group (row) for each index (Tables 3-8), with one just one or two exceptions, indicate that product group RCA values were fairly stable over the 15-year period under investigation. CVs for each annual index (column) were very small and almost identical from year-to-year, which is another indication of the stability of our indices.

The test by Hoekman and Djankov (1997) is presented in Table 10. Since there were 15 years under study, the authors examine two periods of equal length; 1992-1998 is the first period (t) and 2000-2006 is the second period (t+1). To determine if there is a switch from revealed comparative advantage to revealed comparative disadvantage and vice-versa, the authors average the RCA indices for each product group from 1992-1998 and 2000-2006 respectively; these are referred to as $\overline{RCA}$ and $\overline{RCD}$. All indices indicate that none of the commodity groups experienced a switch from $\overline{RCA}$ to $\overline{RCD}$ in the 2 time periods. In contrast, three of the indices indicate a switch from $\overline{RCD}$ to $\overline{RCA}$. However, the commodity groups which switched accounted for at most 2.21 percent of the total value of commodities traded (the commodity groups which switched are indicated in the table). This supports the view that the structure of revealed comparative advantage did not change significantly in the period under investigation.

A final test of stability concerns only the Balassa Index (RCA^1_{ij}). Our findings (Table 11) suggest that Barbados' revealed comparative advantage has strengthened to some extent, that is, the distribution is tending to shift to the right. The mean value rose from 1.41 to 2.02, reaching a high of 2.74 in 2005, while the maximum value rose from 8.66 in 1992 to 8.79 in 2006, reaching a high of 16.46, also in 2005. However, the index remained very stable over time; 80 percent of the values are less than 1 for 13 of the 15 years under study; 80 percent are less than 2 for 13 of 15 years; 80 percent are less than 4 for 14 of 15 years; and 90 percent are less than 8 for 9 of 15 years. In sum, the Balassa Index showed very little fluctuation over 1992-2006.

4.4 *Impact of CARIFORUM on Barbados' Export Competitiveness*

Results from the test (Spearman's Rank Correlation Coefficients of the Balassa Index) of the impact of other CARIFORUM countries on Barbados' competitiveness are shown in Table 12.[2] Countries which appear to offer Barbados the most competition for the EU market are St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines. Indeed, of the 3 countries, St. Lucia's coefficients are rising over time, suggesting increasing competition between Barbados and St. Lucia. In a similar vein, competition from Jamaica appears to be intensifying. Generally, with the exception of Trinidad and Tobago, all countries offer some degree of consistent competition for Barbados. Trinidad and Tobago, offers the lowest competition; in 2002 and 2006, the correlation coefficients become negative, implying that there is a measure of complementarity in Barbados' and Trinidad and Tobago's exports to the EU in recent years. This last point is consistent though with the view that competition from Trinidad and Tobago's is declining over time.

The high degree of association between revealed comparative advantages of Barbados and other CARIFORUM countries suggests that these countries are competing for market share in the EU market. It also hints at the presence of intra-CARIFORUM competition. The latter observation could be validated by examining the level of intra-regional trade between Barbados and other CARIFORUM countries which, however, is outside the scope of the current paper.

4.5 *Emerging Commodity Groups*

Finally, the paper examines whether there are any goods, apart from those that show a revealed comparative advantage (*Food and Live Animals* and *Beverages and Tobacco*) that might offer additional export opportunities for Barbadian producers. First, we note again, that Barbados' main export partner was the UK by a considerable margin. As a result, the findings of revealed comparative advantage in *Food and Live Animals* and *Beverages and Tobacco* are likely to have been significantly influenced mainly by Barbados' trade to the UK. The approach taken in this paper to identify other commodities which may offer other export opportunities for Barbados, is to calculate separate RCA indices for Barbados vis-à-vis the UK and for Barbados vis-à-vis the

[2] Antigua and Barbuda is not included in the list of countries due to a lack of available data.

EU, excluding the UK, respectively; the Balassa Index (RCA_{ij}^{1}) is employed. These results are shown in Tables 13 and 14.

First, the RCA pattern with respect to the UK (Table 13) is almost identical to that for the EU as a whole (Table 3), lending support to our contention above of the outsized significance of the UK on the overall index. Second, it is apparent from Table 15, that Barbados holds a comparative advantage in other commodity groupings when the UK is excluded: *Fuels, Lubricants, etc*.; *Animal, Vegetable Oils Fats, Wax*; *Chemicals, Related Products*; *Manufactured Goods* to a lesser extent; and *Goods not Classed by Kind*. Noticeably, it is only after 1998, a period that coincides with the introduction of the Euro currency that Barbados appears to have improved its competitiveness in these products within the EU market (excluding the UK). On the other hand, there is little to no evidence of Barbados' comparative advantage in *Food and Live Animals* and *Beverages and Tobacco* in mainland EU countries after 1998, compared to evidence of such a comparative advantage, for *Beverages and Tobacco* in particular, before 1998. The findings offer a hint that the former commodities may have become more competitive from a price perspective to countries which adopted the Euro, while the latter have become less so. If recent trends continue, the industries which produce and export the former commodities have an opportunity to emerge as major contributors to Barbados' EU export profile. This is a very significant finding in light of the competition Barbados is likely to face from other countries with whom the EU has signed EPAs and other trade agreements.

5. Summary and Concluding Remarks

This paper sought to assess Barbados' competitiveness within the European Union (EU) market in light of its recent signing of an Economic Partnership Agreement (EPA) with the EU. Specifically, the study sought to provide answers to the following questions: What are Barbados' most competitive commodities vis-à-vis the EU in terms of their comparative advantages; to what extent have the most competitive commodities witnessed a shift in their export competitiveness over time; do other CARIFORUM countries have any impact on the

Barbados' competitiveness in the EU market; and are there any commodities, apart from the most competitive, that may hold EU export potential for Barbadian producers.

Using data at the one-digit SITC level from 1992-2006, we discovered that Barbados possesses comparative advantages in *Food and Live Animals* and *Beverages and Tobacco*, indicating their competitiveness in these products; the competitiveness of the latter commodities were very stable over time; Barbados faces the most competition for the EU market from St. Kitts and Nevis, St. Lucia and St. Vincent; and there is evidence that additional export opportunities in other commodities (*Fuels, Lubricants, etc.*; *Animal, Vegetable Oils Fats, Wax*; *Chemicals, Related Products*; *Manufactured Goods*; and *Goods not Classed by Kind*) may exist for Barbadian producers. Sensitivity tests revealed that the RCA indices are stable, are satisfactory as cardinal and dichotomous measures, but are less useful in ranking commodity groups.

However, the research raises additional questions. First, even though it appears that Barbados does not have comparative advantages in several commodity groups, it is important to point out that they may still possess comparative advantages in particular items within that group. Since the RCAs in this study are based on the highest level of aggregation, this could not be revealed. To uncover if this is the case, focus would have to be on commodities at lower levels of aggregation. Second, to determine the factors driving competitiveness, once again, more disaggregated information is required. Third, issues such as whether comparative advantages are as a result of low tariffs, low transportation costs or special trading arrangements, for example, can be analysed.

Overall, though, the study is an important first step in revealing the commodities for which Barbados is competitive and can take advantage of its EPA with the EU. As has already been noted, government intervention and competitiveness tend to be inversely related. This suggests that commodities which possess a revealed comparative advantage could become even more competitive as markets become less distorted under the EPA.

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Table 1: Summary of Barbados Commodity Exports to EU

Year	Commodity Exports to EU as a Percent of World Exports (%)	Commodity Exports to EU as a Percent of GDP (%)	Balance of Commodity Trade with EU (US$)	Balance of Commodity Trade with EU as a Percent of GDP (%)
1992	23.6	1.4	(44,852,521)	(1.4)
1993	18.2	1.0	(64,250,312)	(1.9)
1994	21.3	1.1	(60,346,133)	(1.7)
1995	20.5	1.3	(81,916,988)	(2.2)
1996	19.0	1.3	(82,071,102)	(2.1)
1997	20.2	1.3	(90,727,562)	(2.1)
1998	19.4	1.1	(121,843,352)	(2.6)
1999	17.6	0.9	(130,232,205)	(2.6)
2000	16.3	0.9	(133,044,310)	(2.6)
2001	15.7	0.8	(137,306,535)	(2.7)
2002	17.5	0.8	(135,556,087)	(2.7)
2003	14.9	0.7	(162,150,472)	(3.0)
2004	19.9	0.7	(136,116,122)	(2.4)
2005	12.3	0.7	(175,159,526)	(2.8)
2006	10.4	0.7	(175,642,429)	(2.7)

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 2: Ranking of EU Commodity Export Partners for Selected Years

1992			1997			2002			2006		
Country	Value (US$)	Share of EU (%)	Country	Value (US$)	Share of EU (%)	Country	Value (US$)	Share of EU (%)	Country	Value (US$)	Share of EU (%)
1. UK	37,555,708	86.71	1. UK	48,426,284	85.47	1. UK	25,691,651	68.42	1. UK	33,024,804	72.32
2. Netherlands	1,673,063	3.86	2. France	2,445,999	4.32	2. France	3,268,297	8.70	2. Germany	4,169,428	9.13
3. Germany	1,044,893	2.41	3. Netherlands	1,874,868	3.31	3. Spain	2,889,129	7.69	3. France	2,558,796	5.60
4. France	832,413	1.92	4. Germany	1,813,271	3.20	4. Italy	1,703,802	4.54	4. Italy	1,272,867	2.79
5. Spain	702,712	1.62	5. Denmark	969,232	1.71	5. Germany	1,165,336	3.10	5. Netherlands	1,219,182	2.67
6. Denmark	620,210	1.43	6. Sweden	346,325	0.61	6. Netherlands	972,245	2.59	6. Belgium	946,383	2.07
7. Sweden	614,689	1.42	7. Italy	316,345	0.56	7. Portugal	591,921	1.58	7. Greece	817,514	1.79
8. Italy	169,347	0.39	8. Spain	208,493	0.37	8. Belgium	402,083	1.07	8. Spain	646,189	1.42
9. Finland	71,545	0.17	9. Austria	92,777	0.16	9. Sweden	401,006	1.07	9. Denmark	604,153	1.32
10. Ireland	18,454	0.04	10. Finland	85,140	0.15	10. Denmark	284,886	0.76	10. Ireland	151,232	0.33
11. Austria	8,595	0.02	11. Ireland	63,419	0.11	11. Greece	91,882	0.24	11. Sweden	146,224	0.32
12. Portugal	542	0.001	12. Greece	15,280	0.03	12. Austria	89,604	0.24	12. Austria	108,857	0.24
13. Belgium	-	-	13. Belgium	-	-	13. Luxembourg	33,709	0.09	13. Portugal	73,039	0.16
13. Greece	-	-	13. Luxembourg	-	-	14. Ireland	25,779	0.07	14. Finland	24,649	0.05
13. Luxembourg	-	-	13. Portugal	-	-	15. Finland	23,836	0.06	15. Luxembourg	3,390	0.01

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 3: Barbados' Commodity Exports to EU as Percentage of Barbados' Commodity Exports to World (%)

Commodities		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN
[SITC Rev.3 code 0]	Food And Live Animals	67	61	68	55	42	48	47	49	48	42	40	50	54	51	46	51
[SITC Rev.3 code 1]	Beverages and Tobacco	22	21	11	26	26	34	36	33	25	26	24	19	25	28	18	25
[SITC Rev.3 code 2]	Crude Materials, Inedible, Except Fuels	11	11	12	17	40	6	12	5	6	16	16	35	15	9	6	14
[SITC Rev.3 code 3]	Fuels, Lubricants, etc.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
[SITC Rev.3 code 4]	Animal, Vegetable Oils, Fats, Wax	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0
[SITC Rev.3 code 5]	Chemicals, Related Products	3	1	7	5	2	3	2	1	2	2	3	3	3	3	3	3
[SITC Rev.3 code 6]	Manufactured Goods	10	6	8	15	8	8	8	7	6	6	6	3	2	1	2	6
[SITC Rev.3 code 7]	Machines, Transport Equipment	18	9	5	8	10	10	12	12	19	19	17	22	13	11	10	13
[SITC Rev.3 code 8]	Miscellaneous Manufactured Articles	4	6	10	23	14	22	23	6	6	7	16	11	14	9	16	12
[SITC Rev.3 code 9]	Goods Not Classed By Kind	14	12	11	11	6	9	21	25	26	24	16	24	29	22	22	18
TOTAL EXPORTS	TO EU	24	18	21	21	19	20	19	18	16	16	17	15	20	12	10	18

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 4: *RCA*[1] (Balassa Index)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**8.66**	**8.84**	**9.87**	**7.96**	**9.39**	**9.46**	**8.53**	**9.91**	**10.73**	**9.42**	**8.70**	**9.13**	**10.31**	**8.92**	**7.86**	**9.18**	11.30
Beverages and Tobacco	**4.04**	**4.59**	**1.32**	**4.84**	**4.68**	**6.64**	**8.12**	**7.51**	**6.15**	**9.66**	**9.58**	**7.55**	**11.85**	**16.46**	**8.79**	**7.45**	2.04
Crude Materials, Inedible, Except Fuels	0.13	0.17	0.16	0.72	0.78	0.12	0.13	0.10	0.06	0.16	0.28	0.72	0.41	0.25	0.36	0.30	1.23
Fuels, Lubricants, etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.23	0.00	0.00	0.17	0.02	0.03	0.43
Animal, Vegetable Oils, Fats, Wax	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.05	0.01	0.01	0.00	0.00	0.01	0.57
Chemicals, Related Products	0.16	0.05	0.38	0.27	0.10	0.16	0.11	0.07	0.12	0.11	0.17	0.15	0.12	0.20	0.19	0.16	1.93
Manufactured Goods	0.20	0.26	0.28	0.55	0.34	0.31	0.36	0.35	0.27	0.30	0.35	0.16	0.11	0.07	0.10	0.27	2.17
Machines, Transport Equipment	0.33	0.24	0.11	0.21	0.18	0.16	0.19	0.25	0.39	0.38	0.29	0.43	0.24	0.24	0.32	0.26	2.87
Miscellaneous Manufactured Articles	0.11	0.19	0.28	0.63	0.49	0.68	**1.10**	0.25	0.30	0.33	0.70	0.46	0.48	0.62	**2.23**	0.59	1.14
Goods Not Classed By Kind	0.44	0.13	0.17	0.02	0.03	0.04	0.15	0.67	0.37	0.43	0.56	0.44	0.36	0.44	0.34	0.31	1.49
CV	0.50	0.49	0.41	0.57	0.52	0.52	0.55	0.53	0.50	0.53	0.56	0.56	0.52	0.49	0.60		

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 5: RCA^2 (Net Export Index)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**0.54**	**0.35**	**0.41**	**0.42**	**0.61**	**0.54**	**0.29**	**0.21**	**0.25**	**0.15**	**0.03**	-0.01	**0.05**	-0.03	-0.08	**0.25**	1.10
Beverages and Tobacco	-0.24	-0.27	-0.71	-0.17	-0.08	**0.03**	-0.12	-0.24	-0.41	-0.25	-0.29	-0.49	-0.10	-0.27	-0.49	-0.27	-1.45
Crude Materials, Inedible, Except Fuels	-0.53	-0.61	-0.86	-0.47	-0.53	-0.67	-0.78	-0.87	-0.89	-0.77	-0.67	-0.33	-0.53	-0.75	-0.69	-0.66	-4.10
Fuels, Lubricants, etc.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-0.87	-0.87	-0.89	0.33	-1.00	-1.00	**0.09**	-0.68	-0.79	-1.89
Animal, Vegetable Oils, Fats, Wax	-1.00	-1.00	-1.00	-0.99	-0.98	-0.99	-1.00	-0.99	-0.99	-0.99	-0.97	-0.99	-0.99	-1.00	-1.00	-0.99	-115.10
Chemicals, Related Products	-0.92	-0.98	-0.84	-0.88	-0.95	-0.91	-0.95	-0.97	-0.95	-0.96	-0.95	-0.95	-0.94	-0.94	-0.93	-0.93	-26.75
Manufactured Goods	-0.85	-0.89	-0.85	-0.72	-0.83	-0.87	-0.86	-0.87	-0.92	-0.91	-0.90	-0.95	-0.96	-0.98	-0.97	-0.89	-13.39
Machines, Transport Equipment	-0.52	-0.74	-0.85	-0.80	-0.84	-0.83	-0.87	-0.85	-0.77	-0.80	-0.83	-0.83	-0.89	-0.87	-0.84	-0.81	-9.00
Miscellaneous Manufactured Articles	-0.92	-0.87	-0.80	-0.64	-0.63	-0.59	-0.52	-0.87	-0.88	-0.87	-0.74	-0.84	-0.80	-0.79	-0.42	-0.75	-4.94
Goods Not Classed By Kind	-0.37	-0.58	-0.36	-0.85	-0.79	-0.72	-0.55	**0.51**	**0.42**	**0.30**	**0.33**	**0.22**	**0.03**	-0.32	-0.65	-0.23	-0.47
CV	-1.21	-1.55	-1.61	-1.38	-1.19	-1.20	-1.49	-1.07	-1.15	-1.24	-0.89	-1.39	-1.39	-1.42	-2.36		

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 6: RCA^3 (RTA)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**7.48**	**7.50**	**8.45**	**6.90**	**8.62**	**8.50**	**7.34**	**8.46**	**9.23**	**7.99**	**7.13**	**7.58**	**8.47**	**7.17**	**6.10**	**7.79**	9.43
Beverages and Tobacco	-0.69	**0.88**	-2.92	**1.31**	**1.69**	**3.32**	**4.19**	**3.39**	**0.88**	**4.80**	**4.62**	**2.00**	**7.66**	**8.64**	**1.08**	**2.72**	0.90
Crude Materials, Inedible, Except Fuels	0.00	**0.03**	-0.31	**0.30**	**0.20**	-0.02	-0.04	-0.11	-0.10	-0.01	**0.08**	**0.54**	**0.20**	0.00	**0.07**	**0.06**	0.28
Fuels, Lubricants, etc.	-0.08	-0.05	-0.05	-0.06	-0.04	-0.03	-0.08	-0.01	0.00	-0.01	**0.22**	-0.02	-0.01	**0.16**	**0.01**	0.00	-0.04
Animal, Vegetable Oils, Fats, Wax	-1.23	-1.18	-0.90	-0.73	-0.30	-0.28	-0.33	-0.25	-0.26	-0.39	-0.61	-0.35	-0.48	-3.27	-3.57	-0.94	-0.89
Chemicals, Related Products	-1.98	-2.06	-1.59	-1.51	-1.60	-1.47	-1.29	-1.44	-1.29	-1.27	-1.38	-1.12	-0.98	-1.28	-1.17	-1.43	-4.84
Manufactured Goods	-1.17	-1.41	-1.18	-0.79	-1.16	-1.49	-1.10	-1.03	-1.40	-1.24	-1.19	-1.23	-1.39	-1.33	-1.23	-1.22	-6.97
Machines, Transport Equipment	-0.25	-0.39	-0.51	-0.60	-0.78	-0.62	-0.68	-0.62	-0.44	-0.50	-0.49	-0.53	-0.76	-0.54	-0.58	-0.55	-4.05
Miscellaneous Manufactured Articles	-1.08	-0.65	-0.61	-0.37	-0.29	-0.28	**0.17**	-0.60	-0.80	-0.69	-0.21	-0.42	-0.40	-0.38	**1.17**	-0.36	-0.70
Goods Not Classed By Kind	**0.03**	-0.03	**0.04**	-0.06	-0.06	-0.04	**0.04**	**0.63**	**0.34**	**0.38**	**0.50**	**0.38**	**0.28**	**0.27**	**0.10**	**0.19**	0.83
CV	0.04	0.10	0.01	0.18	0.21	0.25	0.30	0.28	0.20	0.30	0.31	0.26	0.35	0.25	0.08	0.04	

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 7: *RCA*[4] (*ln* RXA)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**2.16**	**2.18**	**2.29**	**2.07**	**2.24**	**2.25**	**2.14**	**2.29**	**2.37**	**2.24**	**2.16**	**2.21**	**2.33**	**2.19**	**2.06**	**2.21**	25.01
Beverages and Tobacco	**1.40**	**1.52**	**0.28**	**1.58**	**1.54**	**1.89**	**2.09**	**2.02**	**1.82**	**2.27**	**2.26**	**2.02**	**2.47**	**2.80**	**2.17**	**1.88**	3.20
Crude Materials, Inedible, Except Fuels	-2.05	-1.76	-1.81	-0.33	-0.25	-2.16	-2.02	-2.33	-2.77	-1.86	-1.27	-0.33	-0.90	-1.38	-1.03	-1.48	-1.90
Fuels, Lubricants, etc.	*NA*	*NA*	-7.56	-7.51	-8.06	-8.04	-7.33	-4.24	-4.98	-4.10	-1.45	-10.96	-9.97	-1.79	-4.05	-6.16	-2.08
Animal, Vegetable Oils, Fats, Wax	*NA*	*NA*	*NA*	-4.69	-4.80	*NA*	*NA*	-5.31	-5.53	-4.95	-3.05	-4.90	-4.63	-5.95	*NA*	-4.87	-6.03
Chemicals, Related Products	-1.80	-2.99	-0.98	-1.29	-2.27	-1.81	-2.18	-2.67	-2.14	-2.20	-1.79	-1.87	-2.13	-1.60	-1.68	-1.96	-3.90
Manufactured Goods	-1.62	-1.36	-1.27	-0.61	-1.09	-1.17	-1.03	-1.06	-1.31	-1.19	-1.05	-1.82	-2.16	-2.61	-2.30	-1.44	-2.61
Machines, Transport Equipment	-1.12	-1.43	-2.22	-1.58	-1.70	-1.83	-1.68	-1.37	-0.93	-0.96	-1.24	-0.85	-1.43	-1.43	-1.15	-1.39	-3.74
Miscellaneous Manufactured Articles	-2.24	-1.67	-1.28	-0.47	-0.72	-0.38	**0.09**	-1.40	-1.20	-1.12	-0.36	-0.77	-0.72	-0.47	**0.80**	-0.79	-1.07
Goods Not Classed By Kind	-0.82	-2.07	-1.79	-4.15	-3.61	-3.32	-1.88	-0.40	-0.99	-0.84	-0.58	-0.82	-1.02	-0.81	-1.08	-1.61	-1.36
CV	-0.46	-0.52	-0.61	-0.58	-0.62	-0.53	-0.47	-0.60	-0.62	-0.55	-0.38	-0.48	-0.51	-0.45	-0.34		

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 8: *RCA*[5] (RC)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**1.99**	**1.89**	**1.94**	**2.02**	**2.50**	**2.28**	**1.97**	**1.92**	**1.97**	**1.88**	**1.71**	**1.77**	**1.72**	**1.63**	**1.50**	**1.91**	7.75
Beverages and Tobacco	-0.16	**0.21**	-1.17	**0.32**	**0.45**	**0.69**	**0.72**	**0.60**	**0.15**	**0.69**	**0.66**	**0.31**	**1.04**	**0.74**	**0.13**	**0.36**	0.69
Crude Materials, Inedible, Except Fuels	0.00	**0.16**	-1.07	**0.53**	**0.30**	-0.13	-0.29	-0.76	-0.94	-0.06	**0.35**	**1.40**	**0.70**	0.00	**0.23**	**0.03**	0.04
Fuels, Lubricants, etc.	*NA*	*NA*	-4.49	-4.74	-4.77	*NA*	-4.76	-0.54	-0.52	-0.49	**3.11**	-6.87	-5.73	**2.63**	**0.75**	-2.20	-0.65
Animal, Vegetable Oils, Fats, Wax	*NA*	*NA*	*NA*	-4.39	-3.63	-4.78	*NA*	-3.95	-4.20	-4.02	-2.62	-3.86	-3.92	-7.13	*NA*	-4.25	-3.67
Chemicals, Related Products	-2.57	-3.74	-1.65	-1.87	-2.80	-2.30	-2.52	-3.09	-2.48	-2.52	-2.23	-2.11	-2.22	-1.99	-1.98	-2.41	-4.60
Manufactured Goods	-1.94	-1.87	-1.65	-0.89	-1.49	-1.76	-1.41	-1.38	-1.82	-1.62	-1.48	-2.15	-2.57	-2.95	-2.58	-1.84	-3.41
Machines, Transport Equipment	-0.57	-0.96	-1.74	-1.37	-1.66	-1.58	-1.53	-1.23	-0.75	-0.83	-0.99	-0.81	-1.43	-1.18	-1.05	-1.18	-3.25
Miscellaneous Manufactured Articles	-2.41	-1.49	-1.16	-0.47	-0.46	-0.34	**0.16**	-1.23	-1.29	-1.13	-0.27	-0.65	-0.60	-0.47	**0.75**	-0.74	-0.98
Goods Not Classed By Kind	**0.08**	-0.19	**0.25**	-1.58	-1.21	-0.73	**0.31**	**2.68**	**2.37**	**2.11**	**2.30**	**2.10**	**1.53**	**0.96**	**0.33**	**0.75**	0.55
CV	-0.45	-0.44	-0.70	-0.59	-0.60	-0.48	-0.41	-0.34	-0.38	-0.32	0.03	-0.39	-0.46	-0.28	-0.16		

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 9: Consistency of Revealed Comparative Advantage

	1992				1997				2002				2006			
Cardinal	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}
RCA^2_{ij}	0.92				0.98				0.34				0.77			
RCA^3_{ij}	0.88	0.92			0.96	0.98			0.94	0.51			0.75	0.94		
RCA^4_{ij}	0.93	0.90	0.73		0.91	0.88	0.81		0.92	0.45	0.89		0.86	0.74	0.69	
RCA^5_{ij}	0.76	0.95	0.83	0.76	0.87	0.95	0.93	0.75	0.32	0.95	0.49	0.49	0.47	0.86	0.72	0.43
Ordinal	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}
RCA^2_{ij}	0.95				0.79				0.51				0.82			
RCA^3_{ij}	0.45	0.62			0.20	0.58			0.67	0.86			0.88	0.99		
RCA^4_{ij}	1.00	0.91	0.55		1.00	0.70	0.22		1.00	0.51	0.67		1.00	0.75	0.83	
RCA^5_{ij}	0.67	0.87	0.95	0.67	0.65	0.98	0.83	0.48	0.48	1.00	0.86	0.48	0.39	0.86	0.82	0.39
Dichotomous	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}	RCA^1_{ij}	RCA^2_{ij}	RCA^3_{ij}	RCA^4_{ij}
RCA^2_{ij}	0.90				1.00				0.70				0.70			
RCA^3_{ij}	0.80	0.90			1.00	1.00			0.70	0.70			0.70	0.40		
RCA^4_{ij}	1.00	0.88	0.75		1.00	1.00	1.00		1.00	0.80	0.70		0.89	0.88	0.67	
RCA^5_{ij}	0.75	0.88	1.00	0.75	1.00	1.00	1.00	1.00	0.70	0.70	1.00	0.70	0.67	0.33	1.00	0.67

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 10: Stability of Revealed Comparative Advantage

Index	Percentage Share of Commodity Groups where: $\overline{RCA}_{1992-1998}$ and $\overline{RCD}_{2000-2006}$ 1992-1998	2000-2006	Percentage Share of Commodity Groups where: $\overline{RCD}_{1992-1998}$ and $\overline{RCA}_{2000-2006}$ 1992-1998	2000-2006	Commodity Groups
RCA^1_{ij}	0.00	0.00	0.00	0.00	
RCA^2_{ij}	0.00	0.00	0.28	1.52	*Goods Not Classed By Kind*
RCA^3_{ij}	0.00	0.00	0.28	1.78	*Fuels, Lubricants, etc*.; and *Goods Not Classed By Kind*
RCA^4_{ij}	0.00	0.00	0.00	0.00	
RCA^5_{ij}	0.00	0.00	1.11	2.21	*Crude Materials, Inedible, Except Fuels*; and *Goods Not Classed By Kind*

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 11: The Distribution of RCA^1 (Balassa Index)

Summary Statistic	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Mean	1.41	1.45	1.26	1.52	1.60	1.76	1.87	1.91	1.84	2.08	2.09	1.91	2.39	2.74	2.02
Maximum	8.66	8.84	9.87	7.96	9.39	9.46	8.53	9.91	10.73	9.66	9.58	9.13	11.85	16.46	8.79
Percent of Balassa Index:															
<1	80	80	80	80	80	80	70	80	80	80	80	80	80	80	70
<2	80	80	90	80	80	80	80	80	80	80	80	80	80	80	70
<4	80	80	90	80	80	80	80	80	80	80	80	80	80	80	80
<8	90	90	90	100	90	90	80	90	90	80	80	90	80	80	90

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 12: Spearman's Rank Correlation of *RCA*[1] (Balassa Index) between Barbados and CARIFORUM Countries

Countries	1992	1997	2002	2006
The Bahamas	*NA*	0.81	0.54	0.72
Belize	0.62	0.77	0.31	0.54
Dominica	*NA*	0.61	0.40	0.55
Dominican Republic	*NA*	0.62	*NA*	*NA*
Grenada	*NA*	0.92	0.42	0.68
Guyana	*NA*	0.62	0.60	0.74
Jamaica	0.39	0.57	0.52	0.78
St. Kitts and Nevis	*NA*	0.89	0.72	0.74
St. Lucia	0.55	0.71	0.88	0.81
St. Vincent and the Grenadines	*NA*	0.77	0.79	0.67
Trinidad and Tobago	0.20	0.30	-0.26	-0.10

Source: Authors' calculations based on SITC data from the UN COMTRADE database.

Table 13: *RCA*[1] (Balassa Index) vis-à-vis UK

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**16.51**	**16.98**	**18.45**	**16.27**	**18.97**	**19.80**	**17.52**	**23.05**	**24.21**	**25.47**	**24.52**	**22.12**	**22.57**	**22.91**	**21.89**	**20.75**	6.63
Beverages and Tobacco	**1.52**	**2.21**	**0.66**	**2.18**	**2.40**	**3.08**	**3.89**	**2.85**	**2.39**	**4.44**	**4.26**	**3.30**	**3.68**	**5.76**	**5.81**	**3.23**	2.23
Crude Materials, Inedible, Except Fuels	0.08	0.08	0.18	**1.07**	**1.30**	0.18	0.24	0.13	0.14	0.29	0.57	0.89	0.60	0.45	0.69	0.46	1.19
Fuels, Lubricants, etc.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.50
Animal, Vegetable Oils, Fats, Wax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.17	0.00	0.01	0.00	0.00	0.01	0.30
Chemicals, Related Products	0.07	0.03	0.31	0.15	0.03	0.06	0.02	0.01	0.03	0.03	0.07	0.02	0.03	0.14	0.15	0.08	0.97
Manufactured Goods	0.11	0.14	0.09	0.11	0.09	0.10	0.09	0.08	0.10	0.12	0.15	0.07	0.04	0.04	0.04	0.09	2.70
Machines, Transport Equipment	0.20	0.15	0.06	0.10	0.10	0.10	0.11	0.15	0.36	0.27	0.21	0.29	0.28	0.29	0.29	0.20	2.08
Miscellaneous Manufactured Articles	0.04	0.13	0.27	0.68	0.49	0.70	**1.16**	0.15	0.11	0.11	0.07	0.07	0.11	0.11	1.05	0.35	0.93
Goods Not Classed By Kind	0.43	0.33	0.46	0.07	0.10	0.07	0.30	0.69	0.24	0.25	0.40	0.39	0.26	0.33	0.22	0.30	1.86

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Table 14: *RCA*[1] (Balassa Index) vis-à-vis EU (excluding UK)

Commodities	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	MEAN	CV
Food And Live Animals	**1.34**	0.69	0.80	0.66	0.80	**2.30**	0.04	0.06	0.01	0.04	0.06	0.27	0.07	0.04	0.00	0.48	0.74
Beverages and Tobacco	**12.10**	**12.40**	**3.80**	**9.78**	**10.31**	**16.10**	0.01	0.00	0.09	0.16	**1.69**	0.00	0.00	**3.71**	0.00	**4.68**	0.81
Crude Materials, Inedible, Except Fuels	0.59	**1.17**	0.76	**1.06**	**1.03**	0.17	**2.96**	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**1.43**	0.61	0.74
Fuels, Lubricants, etc.	0.00	0.00	0.01	0.00	0.00	0.00	**13.89**	**1.85**	**1.87**	**1.67**	**2.38**	**2.18**	**1.40**	**2.24**	0.60	**1.87**	0.54
Animal, Vegetable Oils, Fats, Wax	0.00	0.00	0.00	0.04	0.06	0.01	0.00	**59.53**	**51.12**	**44.27**	**39.46**	**15.18**	**13.18**	**12.02**	0.00	**15.66**	0.72
Chemicals, Related Products	0.66	0.20	**1.11**	0.76	0.61	0.75	**1.40**	**1.86**	**1.48**	**2.09**	**1.36**	**1.75**	0.30	0.51	0.58	**1.03**	1.73
Manufactured Goods	0.81	**1.46**	**2.43**	**2.30**	**2.13**	**1.57**	0.21	0.43	0.74	0.69	**1.72**	0.94	0.97	**2.30**	**2.59**	**1.42**	1.79
Machines, Transport Equipment	0.98	0.90	0.61	0.59	0.70	0.45	0.02	0.04	0.05	0.02	0.03	0.01	0.03	0.03	0.02	0.30	0.82
Miscellaneous Manufactured Articles	0.47	0.63	0.16	0.17	0.23	0.31	0.78	**1.27**	**1.09**	0.84	0.50	0.83	0.74	0.55	**3.84**	0.83	0.92
Goods Not Classed By Kind	0.66	0.30	0.33	0.00	0.03	0.12	**15.38**	**9.88**	**7.94**	**9.50**	**7.51**	**8.92**	**15.40**	**9.86**	0.29	**5.74**	1.00

Source: Authors' calculations based on SITC data from the UN COMTRADE database.
Note: Revealed comparative advantages are highlighted in bold.

Figure 1: Total Commodity Exports and Imports to EU