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Export Diversification and the Caribbean Basin Economic Recovery Act

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ABSTRACT: One objective of the Caribbean Basin Economic Recovery Act (CBERA) is to encourage economic growth in the Caribbean Basin countries by promoting increased production and exports of non-traditional products, i.e. export diversification. Although the literature on the impact of preferential trade agreements is extensive, studies dealing with export diversification as a result of such agreements are rare. This paper focuses on a potential effect that the CBERA may have had on the diversification of exports from the Caribbean Basin countries to the United States. It addresses the issue of whether export diversification is a result of the CBERA by analyzing data of U.S. imports from CBERA beneficiaries at the 6-digit HTS classification from 1983 to 1999. After controlling for various factors thought to affect diversification, the data analysis and fixed-effects generalized least squares estimation suggest that, although modestly, the CBERA has in fact contributed to the increased diversification in the region's exports to the United States.

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I. Introduction

One potentially important effect of preferential trade agreements is to promote export diversification in the beneficiary countries. With the exception of Gutiérrez de Piñeres and Ferrantino (2000) and Fenstra and Kee (2004), empirical studies treating export diversification endogenously are rarely found in the literature.¹ Gutiérrez de Piñeres and Ferrantino (2000) found that export diversification may be affected primarily by world interest rates, world growth, and real exports.² Fenstra and Kee (2004) concluded that export diversification depends on trade costs, such as tariffs, distance, and transportation costs. Both of these studies dealt with export diversification endogenously within a system of equations, while studying domestic growth and country productivity, respectively. This paper deals with export diversification as a potential result of preferential trade agreements within a multi-country setting.³

The main objective of this paper is to determine empirically whether the Caribbean Basin Economic Recovery Act (CBERA) has led to increased export diversification in the beneficiary countries' exports to the United States. Export diversification, away from traditional exports such as petroleum, bananas, coffee, and sugar, is one of CBERA's primary objectives in addition to promoting export-led economic growth.⁴ CBERA allows for exporters from designated beneficiary countries to claim duty-free or reduced duty treatment for eligible products into the

¹ However, export diversification and its effect on growth has been studied by Gutiérrez de Piñeres and Ferrantino (2000), Dean (2002 and 2006), Al-Marhubi (2000), and Hetzer and Nowak-Lehmann (2006) among others. Studies of export diversification and export earnings stabilization include Stanley and Bunnag (2001), Love (1979), and Berezin, Salehizadeh, and Santana (2002). Other studies focused on portfolio optimization and export diversification: (Labys and Lord, 1990); diversification and innovation (Balley and Lederman, 2006), and diversification and efficiency (DeRosa, 1991). Excellent literature reviews on preferential trade agreements include OECD, "Regional and Preferential Trade Agreements," and Hoekman and Ozden, "Trade Preferences and Differential Treatment." Also, the Inter-American Development Bank surveyed market access provisions of trade agreements in "Market Access Provisions."

² The countries studied were Colombia, Mexico, and Venezuela, see chapters 5 and 6.

³ This paper does not address issues related to the welfare effects of export diversification, i.e. whether export diversification is welfare enhancing or not.

⁴ The impact of CBERA on growth and investment in the region has been studied by Dean (2006) and U.S. International Trade Commission, *The Impact of the Caribbean Basin, 1999-2000*, Chapter 4.

customs territory of the United States. The diversification analysis of exports to the United States from CBERA beneficiaries focuses on data of U.S. imports from the region at the 2 and 6-digit Harmonized Tariff Schedule (HTS) of the United States. With these data, export diversification indices were constructed and analyzed for each CBERA country and for the region as a whole. The country indices allowed for an econometric estimation in the form of pooled data regression analysis to estimate the effect of CBERA on exports to the United States from 1983 to 1999. The analysis reveals some export diversification present in the data, while the estimation results suggest that CBERA has in fact contributed to such diversification in the region's exports to the United States. The CBERA effect is small, however, but the CBERA contribution to export diversification in the region is higher for Central American countries than for the Caribbean countries, which seem prone to the effects of natural disasters such hurricanes.

The organization of this paper is as follows: section II addresses the CBERA preferences and U.S. imports from the Caribbean Basin countries; section III presents an analysis of diversification in exports from the CBERA beneficiaries to the United States; section IV deals with a model of export diversification for the CBERA region and its econometric estimation; and the final section V presents some conclusions and recommendations.

II. CBERA preferences and U.S. imports from the Caribbean Basin Countries

The Caribbean Basin Economic Recovery Act (CBERA), as part of the Caribbean Basin Initiative, was signed into law by President Ronald Reagan on August 5, 1983,⁵ entered into effect on January 1, 1984, and became permanent as of August 20, 1990. CBERA eliminated or reduced tariffs on eligible imports from member countries and territories in the Caribbean, Central

⁵ Public Law No. 98-67.

American, and South America. As of December 31, 1999, 24 countries were designated as beneficiaries.⁶

In addition to the most favored nation (MFN) program,⁷ there are three major duty-free or duty-reduction preferential programs available to countries of the CBERA region: CBERA,⁸ the U.S. Generalized System of Preferences (GSP), and Production Sharing (PS).⁹ While many of the products covered by CBERA may also enter the United States free of duty under GSP, CBERA has some important advantages over GSP. It covers more tariff categories, has no competitive-need limits, and no country-income restrictions.¹⁰ Under the most recent enhancement of the CBERA program—the Caribbean Basin Trade Partnership Act (CBPTA) enacted May 18, 2000—imports of qualifying cotton, wool, and manmade fiber apparel were now eligible for duty-free treatment.¹¹ The CBPTA also extended preferential treatment to a number of products previously excluded from CBERA, with some rates of duty identical to those applicable to Mexican goods under NAFTA.¹²

⁶ Initially only twenty countries were designated: Antigua and Barbuda, Barbados, Belize, the British Virgin Islands, Costa Rica, Dominica, the Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Montserrat, the Netherlands Antilles, Panama, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. Subsequently, other countries were named beneficiaries: the Bahamas (March 1985), Aruba (April 1986, retroactive to January 1, 1985), Guyana (November 1988), and Nicaragua (November 1990). Four countries, originally eligible for CBERA preferences, Anguilla, the Cayman Islands, Surinam, and the Turks and Caicos Islands, never sought designation. As of May 1, 2007, 19 countries were designated beneficiaries. This is because when the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) enters into force for a country, such a country is removed from the enumeration of designated beneficiary countries under CBERA, CBPTA, and GSP. The CAFTA-DR took effect in 2006 for El Salvador (March 1), Honduras and Nicaragua (April 1), and Guatemala (July 1), and for the Dominican Republic in March 1, 2007. See USITC, *Annual Report*, 1-8.

⁷ Currently, MFN preferences are referred to as preferences under normal trade relations (NTR).

⁸ This unilateral agreement is inconsistent with GATT Article I:1 obligations. Thus, the United States must obtain WTO waivers to grant such preferential treatment. U.S. waivers for tariff preferences under CBERA expired December 31, 2005 but requests for such waivers were submitted to the WTO in February 2005 and 2007. As of September 2007, the waivers, blocked by Paraguay, were still pending approval, Congressional Research Services, “Trade Preferences for Developing Countries,” CRS-3.

⁹ Production sharing is the special provisions under item 9802 in the HTS of the United States. Previously, these items were items 806 and 807 in the Tariff Schedule of the United States (TSUS) that provided for duty-free entry of the U.S.-contend value of items that have been assembled or further processed abroad.

¹⁰ *Ibid.*, 1-8.

¹¹ Further details on eligibility are reported in U.S. International Trade Commission, *The Impact of the Caribbean Basin, 2003-2004*.

¹² U.S. International Trade Commission, *The Impact of the Caribbean Basin, 2003-2004*, 1-9.

Total exports from the CBERA region to the United States, that is, U.S. imports of all goods regardless of duty treatment, have increased substantially over the years. From 1983 to 1999, the CBERA countries' exports to the United States increased 116.9 percent from \$8.9 billion to \$19.4 billion (figure 1).¹³ As a sub-group, total exports from Central American countries to the United States have also increased from \$1.9 billion in 1983 to \$11.4 billion in 1999, reflecting an increasingly larger share within the region's exports to the United States from 21.8 percent to 59.1 percent. Conversely, the share of total exports from Caribbean countries has continuously declined from 78.2 percent in 1983 to 40.9 percent in 1999. On a preferential treatment basis, the share of U.S. imports under CBERA preferences has increased from 6.7 percent in 1984 to 13.7 percent in 1999, while that of GSP declined from 6.9 percent to 0.5 percent in the same period. In contrast, the share of U.S. imports under the production sharing program grew substantially, rising from 13.6 percent in 1984 to 39.3 percent in 1999, becoming the largest preferential program of U.S. imports from the region during this period (figure 2).

Although the export performance of each CBERA country varies notably, combined exports from CBERA beneficiaries to the United States have increasingly diversified but at a modest rate.¹⁴ Between 1983 and 1999, the role of traditionally exported products declined and that of non-traditional goods increased (figure 3). On the basis of a two-digit HTS classification (HTS chapters), in 1983 (the year prior to CBERA implementation) mineral fuels exports, a major traditional export, accounted for 56.6 percent of the region's total exports to the United States. In 1999, such exports accounted for only 7.6 percent. In 1983, other traditional exports such as coffee (HTS chapter 9), sugar (HTS chapter 17), and edible fruit and nuts (HTS chapter 8), jointly accounted for 15.8 percent compared to 9.0 percent in 1999.

¹³ This represents an average share of 1.8 percent in world exports to the United States from 1983 to 1999.

¹⁴ Increasing export diversification in the CBERA region was also reported in U.S. International Trade Commission, *The Impact of the Caribbean Basin, 1997*, 57; and U.S. International Trade Commission, *The Impact of the Caribbean Basin, 1999-2000*, 99.

At the same time, the relative importance of other major export categories including fish (HTS chapter 3) and medical instruments (HTS chapter 90) increased between 1983 and 1999. Non-knitted apparel (HTS chapter 62) became a major export product accounting for 20.9 percent in the region's total exports in 1999, an increase from 3.3 percent in 1983. Similarly, the share of machinery and mechanical appliances exports (HTS chapter 84) almost doubled from 3.9 percent in 1983 to 7.7 percent in 1999. Finally, virtually non-existent as an export product in 1983, knitted apparel (HTS chapter 61) became the leading export in 1999 accounting for 24.6 percent of CBERA countries' total exports to the United States (figure 3). Country specific figures comparing 1983 and 1999 are reported in Appendix 1.

III. Diversification of Exports from CBERA Beneficiaries to the United States

To what degree has the CBERA program contributed to this export diversification? This question has been the subject of at least two studies by the U.S. International Trade Commission. First, "The Impact of the Caribbean Basin Economic Recovery Act, Thirteenth Report 1997," showed that export diversification in the region increased since the inception of the preferential program to 1997. The report, however, pointed out the difficulty of determining the relative importance of the CBERA program in such a process, due mainly to the presence of other programs including GSP, production sharing operations, programs offered by the European Union (EU) and Canada, as well as domestic economic policies implemented by CBERA beneficiaries. Second, a later report, "The Impact of the Caribbean Basin Economic Recovery Act, Fifteenth Report 1999-2000," illustrated that exports of the CBERA region to the United States moved away from traditional products. The study identified export diversification as one important development from 1983 to 1999. In the report, export diversification was analyzed through a normalized Hirschman index.

In this paper the analysis and measurement of export diversification in the CBERA region is carried out with an export diversification index (*ExpDiv*) constructed for each country generated as follows:

$$ExpDiv_t = \sum_{i=1}^n (s_{i,t})^2 \quad (1)$$

where

$$s_{i,t} = e_{it} / \sum_{i \in (1,n)} e_{it} \quad (2)$$

Here, for each country, e_{it} represents exports of commodity i 's in year t , and s_{it} is the share of commodity i 's exports in a country's exports to the United States in year t . The index $ExpDiv_t$ takes the value of 1 if the country's exports are concentrated in a single commodity classification and the values approaching 0 as exports become more diversified.¹⁵ To construct $ExpDiv_t$ data on U.S. imports from CBERA beneficiaries at the six-digit HTS classification were collected from 1983 to 1999.¹⁶

The results of calculating the export diversification index, $ExpDiv_t$, are illustrated in figures 4, 5, and 6. The index shows various degrees of export diversification. For the entire CBERA region, i.e. all countries combined, the index shows an increasing process of diversification, which is more pronounced during the early years of the implementation of CBERA, particularly in 1984 and 1985 (Figure 4).¹⁷ This is more noticeable when mineral fuels (HTS chapter 27) is included in the calculation of the index, suggesting the region accelerated its diversification away from petroleum, its leading traditional export, beginning in the early

¹⁵ Gutiérrez de Piñeres and Ferrantino, *Export Dynamics*, 24.

¹⁶ Trade data were obtained from TPIS, the Trade Policy Information System of the International Trade Administration, U.S. Department of Commerce: <http://tpis.ita.doc.gov/> (accessed December, 2007).

¹⁷ $ExpDiv_t$ for the entire CBERA region was calculated with total U.S. imports from all CBERA countries.

eighties. At the end of the period, the index shows higher diversification, i.e. a lower value for $ExpDiv_t$ (figure 4), which is consistent with the above graphical analysis of more diversified exports (figure 3).

Most Central American countries appear to also accelerate their export diversification efforts during the early and mid-eighties.¹⁸ In particular, Costa Rica, El Salvador, Guatemala, and Honduras show high rates of diversification. Nicaragua's diversification intensified beginning in 1991.¹⁹ Whereas Belize's index shows only marginal export diversification Panama's index shows no significant gains (figures 5 and 6).²⁰

The diversification index for the Caribbean countries varies widely. Most Caribbean economies are too small to support more than a few key industries inhibiting their efforts to diversify. In these countries tourism, and recently offshore banking, enjoy strong comparative advantages. Here, diversification away from these sectors may reduce efficiency. In addition, most Caribbean agricultural production is concentrated in a few major commodities.²¹ However, considered as a region, the Caribbean is more diversified than each individual country within the region.²² Various Caribbean countries are good cases of increasing export diversification including: the Dominican Republic, Jamaica, St. Lucia, and Trinidad and Tobago (figures 5 and 6). For instance, Trinidad and Tobago increased its diversification but within sectors. This type of export diversification, referred to as vertical diversification, is illustrated when during the 1970s and 1980s Trinidad and Tobago exported mostly crude oil, but since the mid-1980s the country diversified its petroleum industry into oil and gas refining, liquid natural gas production and petrochemicals.

¹⁸ Specific country cases of problems and prospects for export diversification for Costa Rica, Guatemala, Panama, Belize, Honduras, Jamaica, and the Dominican Republic are found in Paus (eds), "*Struggle Against Dependence.*"

¹⁹ Nicaragua was not a designated CBERA beneficiary until November, 1990.

²⁰ Panama was suspended as a CBERA beneficiary on April 9, 1988 and reinstated on March 17, 1990.

²¹ Berezin, Salehizadeh, and Santana suggested that since the European Union grants preferential treatment to sugar and bananas, some countries have less incentives to diversify into new agricultural products, , "The Challenge of Diversification in the Caribbean," 8.

²² *Ibid.*, 14.

IV. Modeling Export Diversification in the CBERA Region

The previous section illustrated some increasing diversification present in the CBERA beneficiaries' exports to the United States from 1983 to 1999.²³ Here, we determine the extent to which that increased export diversification was or not due to the CBERA preferences by using regression techniques.

The empirical literature explaining export diversification is rare. Two exceptions are the studies by Feenstra and Kee (2004) and Gutiérrez de Piñeres and Ferrantino (2000). In their analysis Feenstra and Kee estimated an equation of export variety as a function of U.S. tariffs and transportation costs in addition to preferential agreements such as NAFTA and the CBERA for the period from 1982 to 1997. They found that the CBERA increases export variety, while increases in U.S. tariffs and transportation costs diminished it. The CBERA increased export variety in agriculture, textiles and apparel, machinery and transport, and the electronic industry. Gutiérrez de Piñeres and Ferrantino (2000) measured export diversification by constructing the index $ExpDiv_i$ as defined above for Colombia, Mexico, and Venezuela.²⁴ They found that export diversification may be affected mainly by world interest rates and world growth.

Some of the effects that the CBERA has had in the region have been studied recently. One important study by Dean (2006) examined the impact of the CBERA on growth and development in the Caribbean and Central American countries.²⁵ Dean's results showed that increased CBERA preferences utilization stimulated investment and growth in the region.

Considering this model as a basis, we test empirically whether some of the variables that affect

²³ Taylor and Taylor and Brian also found that although at different rates, increasing export diversification in Central American and Caribbean countries was important from 1989 to 2000; "Export Diversification" and "Agricultural Export Diversification." Evidence of increasing reliance on the U.S. market and reduced share of other markets linked to the CBI by Central America was found by Stanley and Bunnag, "A new look at the benefits of diversification," 1374.

²⁴ Gutiérrez de Piñeres and Ferrantino (2000) chapters 5 and 6.

²⁵ See also Dean (2002) and U.S. International Trade Commission, *The Impact of the Caribbean Basin, 15th Report, 1999-2000*, 99.

the region's growth, as in Dean's model, also affect diversification in the CBERA beneficiaries' exports to the United States.

Specifically, in this paper, export diversification is modeled using the index for each country i , $ExpDiv_{it}$, while allowing for preferential programs such as CBERA, GSP, MFN, and production sharing operations to impact export diversification.²⁶ The model also allows for other variables to affect export diversification including the GDP, real exchange rates, and openness of the economy. The model takes the form:

$$ExpDiv_{it} = x'_{it}\beta + \varepsilon_{it} \quad (3)$$

where β is a vector of regression coefficients to be estimated; x'_{it} is a matrix of explanatory variables, which includes the countries' GDP, a measurement of openness, measures of various preferential programs—CBERA preferences, production sharing operations, GSP, and MFN—and an exchange rate; and ε_{it} is a vector of disturbances or random error terms. To interpret the coefficients β , consider that the export diversification index, $ExpDiv_{it}$, will decline if diversification increases. Thus, if the estimated coefficients' signs on GDP, openness, CBERA preferences, production sharing operations, GSP, and MFN turn out all to be negative, that suggests that export diversification increases as GDP increases, the economy becomes more open, and CBERA beneficiaries utilize more of their preferences under CBERA, production sharing, GSP and MFN. If the estimated coefficient on the real exchange rate turns out be positive, then real U.S. dollar depreciation or real appreciation of the foreign currency makes foreign goods more expensive in relative terms, bringing about a decrease in foreign exports to the United States and less diversification.

²⁶ A similar econometric approach dealing with the U.S. GSP was applied by Sapir and Lundber "The U.S. Generalized System of Preferences and its Impacts."

Equation (3) was estimated using pooled data for 21 CBERA beneficiaries from 1983 to 1998. Three countries, out of 24 CBERA beneficiaries, were excluded: Aruba, St. Vincent and the Grenadines, and Montserrat. Aruba is primarily an oil refiner and did not become a beneficiary until January 1988.²⁷ St. Vincent and the Grenadines and Montserrat underwent major natural disasters during the period of analysis.²⁸ These events together made it difficult for these countries to take advantage of the trade preferences available to them. The CBTPA, implemented in 2000, brought about major changes in the preferential treatment of the region's exports to the United States and so the sample ends in 1998. The export diversification index, $ExpDiv_{it}$, was calculated excluding HTS chapter 27, petroleum and petroleum products, and HTS chapters 98 and 99. $ExpDiv_{it}$ entered the regressions in natural logarithm.

Because preference programs data on a country-by-country basis are difficult to obtain from 1984 to 1988, measures for the entire region are used in the estimation. Regional measures of CBERA preferences, GSP and MFN are obtained from various CBERA reports from the U.S. International Commission. CBERA preferences are measured as the ratio of U.S. imports under CBERA preferences to total U.S. imports from CBERA beneficiaries. Similarly, GSP and MFN are measured as ratios of U.S. imports entering under such programs to total U.S. imports from CBERA countries. Production Sharing operations are measured by the share of U.S. apparel imports from the region that enter under production sharing operations. The source of the later series was Dean (2006).²⁹ The measures of CBERA preferences, production sharing, GSP and MFN all enter the regressions in natural logarithms.

For each country trade openness is measured as ratio of the sum of the country's total merchandise imports plus exports to GDP. Trade and GDP data were obtained from the World

²⁷ In 1985 Exxon exit Aruba and during the 1990's the country's government emphasized tourism and pig farming as major economic activities.

²⁸ St. Vincent and the Grenadines suffered hurricane Emily in 1987, droughts in 1993 and 1994, poor weather in 1996 and hurricane Lenny in 1999. Montserrat was hit by hurricane Hugo in 1989 and in 1995 and 1997 suffered major catastrophic volcanic eruptions, which resulted in about two thirds of the population of 12,000 to leave the island.

Development Indicators of the World Bank. The real exchange refers to line *rec* from the International Financial Statistics of the International Monetary Fund.³⁰ The variables for trade, GDP and *rec* enter the estimation also in natural logarithms. Two dummy variables were created. The first dummy is intended to capture the implementation of NAFTA and takes the values equal to unity from 1994 to 1998 and zero elsewhere. Following Dean (2006), the second dummy is for the war in Central America, i.e. the civil war in Guatemala, El Salvador, and Nicaragua.

The estimation was carried out using the fixed effects methodology within the instrumental variables framework.³¹ This is to account for the possibility that $ExpDiv_{it}$ is endogenous with GDP or some of the preferential agreements and countries in the region experienced common contemporaneous shocks such as collapses in prices of exported commodities. The instruments are all of the exogenous variables and lagged $ExpDiv_{it}$. The estimation results, corrected for country-specific first order serial correlation and groupwise-heteroskedasticity, are reported in tables 1 and 2.

Overall, the estimation results suggest that U.S. bilateral preferential agreements did in fact help to diversify exports from the CBERA beneficiaries to the United States from 1983 to 1998. Specifically, a one percent increase in the share of CBERA exports in total exports from the region increased the export diversification index by 0.36 percent (column 4). The effect of CBERA on export diversification is marginally superior to openness and production sharing operations but exchange rate changes seem to be more important for export diversification than any preferential agreement. Additionally, for the CBERA region U.S. imports under MFN play an important role. Notably, the civil war in Central America did not help export diversification in the region' exports but it has the largest and most statistically significant effect.

²⁹ I thank Judy Dean from the U.S. International Trade Commission for making these data available.

³⁰ An increase in *rec* means foreign currency appreciation or dollar depreciation.

³¹ Wooldridge suggests that in the case of policy analysis or program evaluation, the fixed effects estimation is often superior to pooled OLS or random effects, *Econometric Analysis*, 279.

This paper can be extended in various directions by: (1) using different measurements of export diversification such as the Gini concentration index as in Stanley and Bunnag (2001); (2) considering the effect of CBERA preferences on a country-by-country basis, which requires CBERA preferences for each individual country; (3) considering that export diversification might be attributable to trading new products or upgrading the quality and variety of products as in Hillberry and McDaniel (2002), Jabara and Lynch (2006), Amiti and Freund (2006), and Schoot (2001); and (4) carrying out the analysis on an industry-by-industry basis as in Feenstra and Kee (2004).

V. Conclusions

Although extensive, the theoretical literature emphasizes that economic theory cannot provide clear-cut conclusions on the net effects of preferential trade agreements. Therefore, it is an empirical issue to determine the net impact of preferential agreements such as the Caribbean Basin Economic Recovery Act (CBERA). Since its inception in 1984, one of the objectives of the CBERA was to promote increased exports of non-traditional products. Using an index of export diversification this paper carries out an analysis to determine if exports from the Caribbean Basin countries to the United States have in effect diversified as a result of the CBERA preferences.

The data analysis, using U.S. imports from the CBERA countries from 1983 to 1999, together with an estimation applying fixed-effects regression techniques suggest that CBERA preferences have contributed to the diversification of the region's exports to the United States.

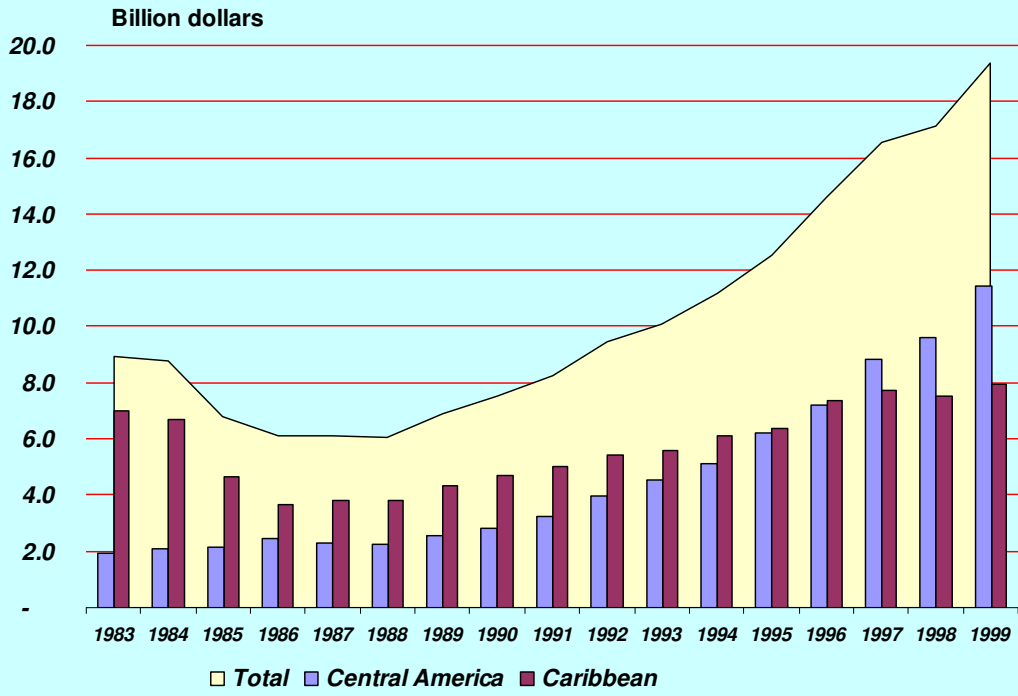
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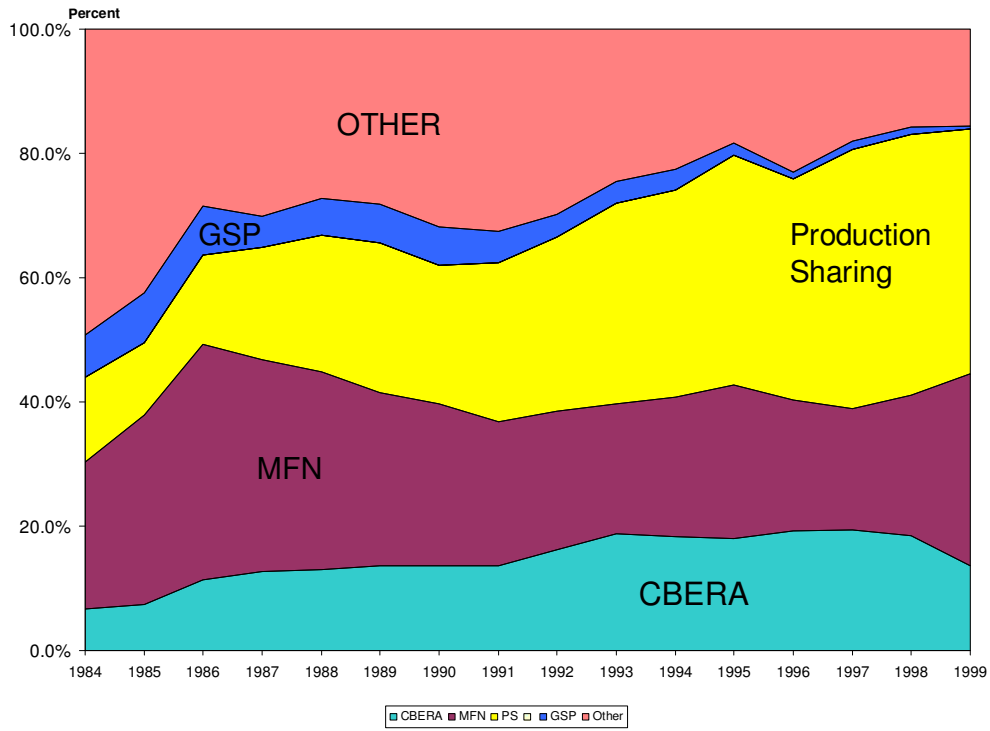
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Figure 1 U.S. imports for consumption from CBERA countries, 1983-1999



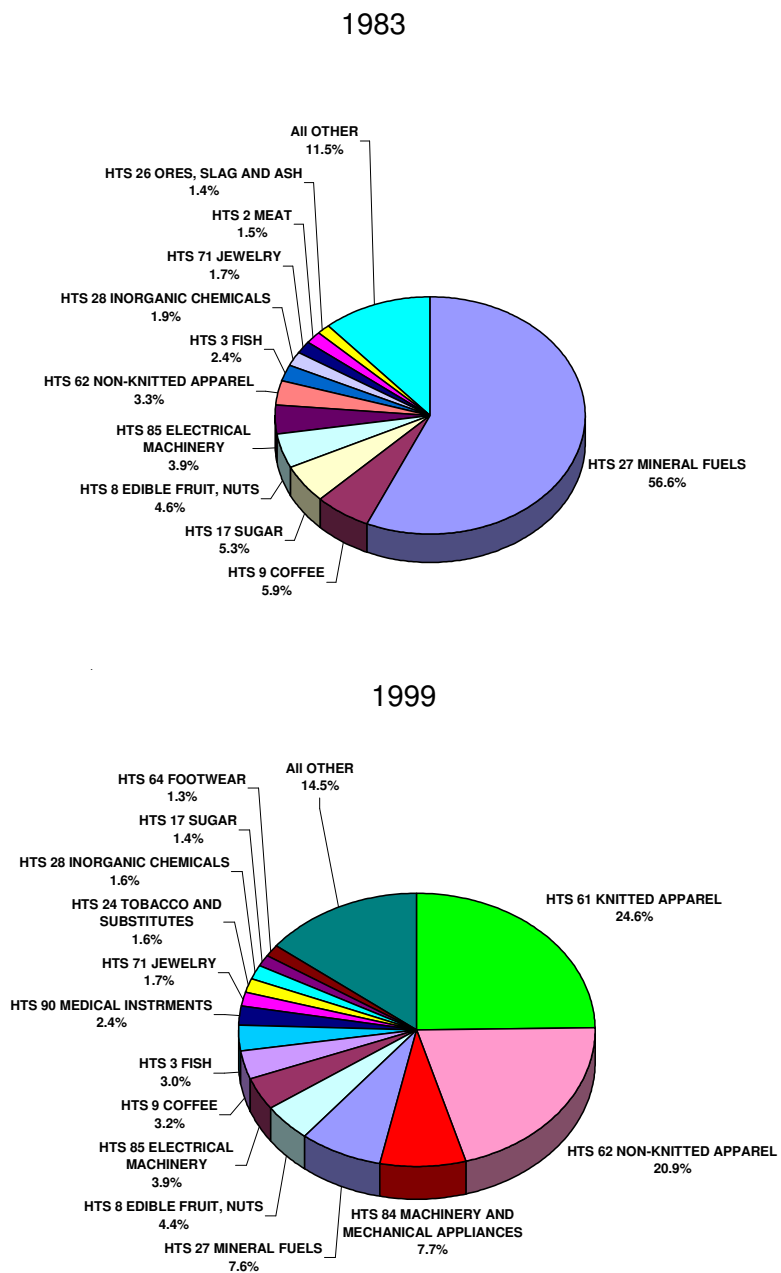
Source: U.S. Department of Commerce.

Figure 2. U.S. Imports for consumption from CBERA countries, by duty treatment, 1984-1999



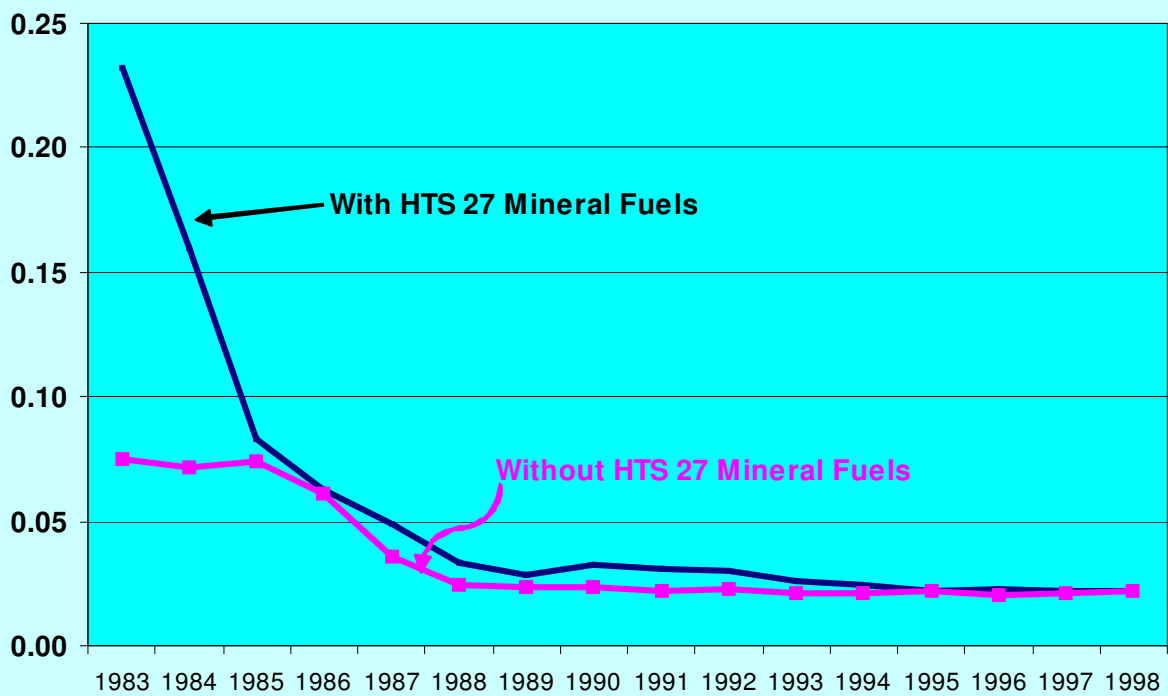
Source: *The Impact of the Caribbean Basin Economic Recovery Act*, USITC, various issues.

Figure 3
U.S. imports for consumption from CBERA countries, 1983 and 1999



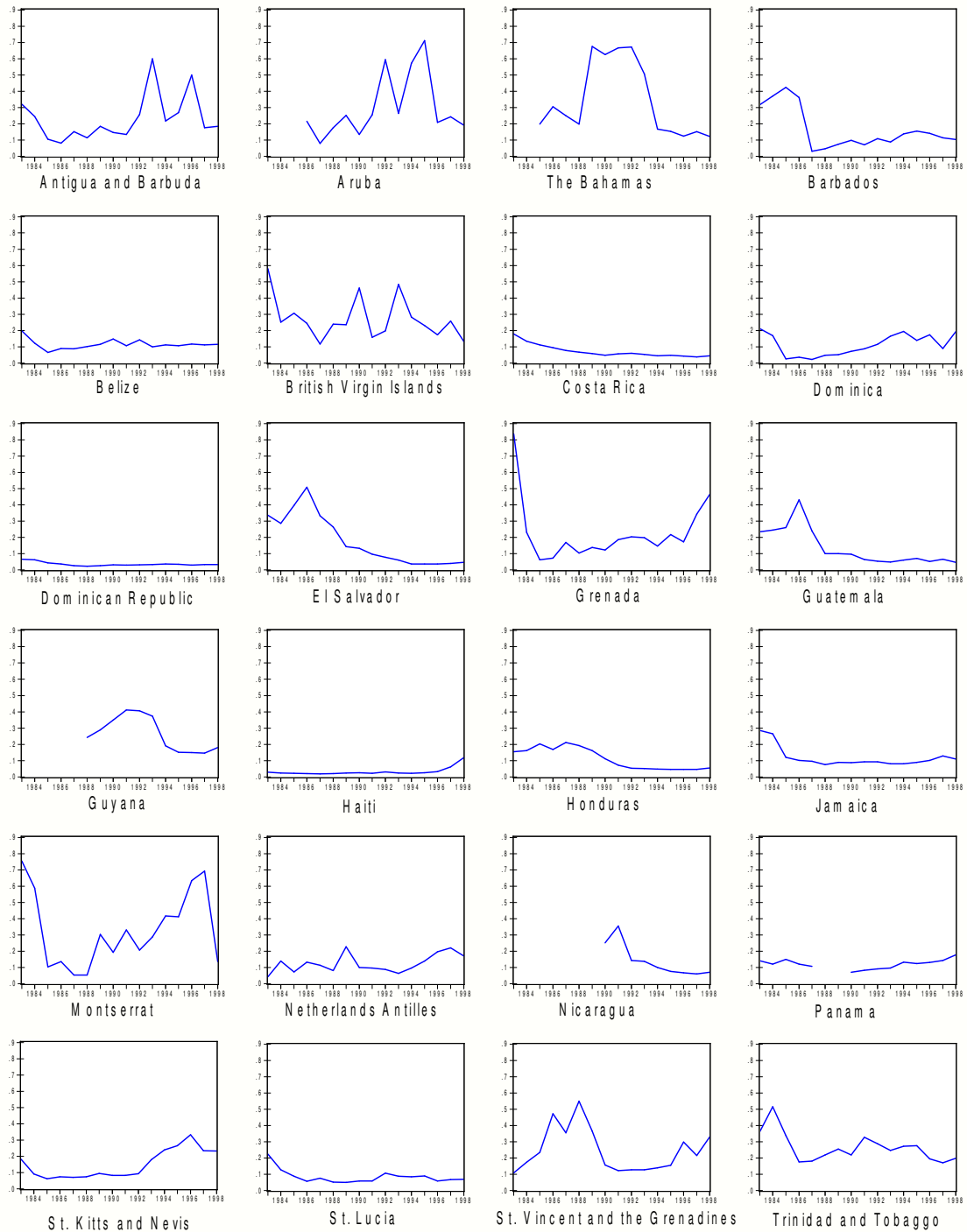
Source: Compiled from official Statistics of the U.S. Department of Commerce.

Figure 4
Export diversification index for the CBERA region, 1983-1998



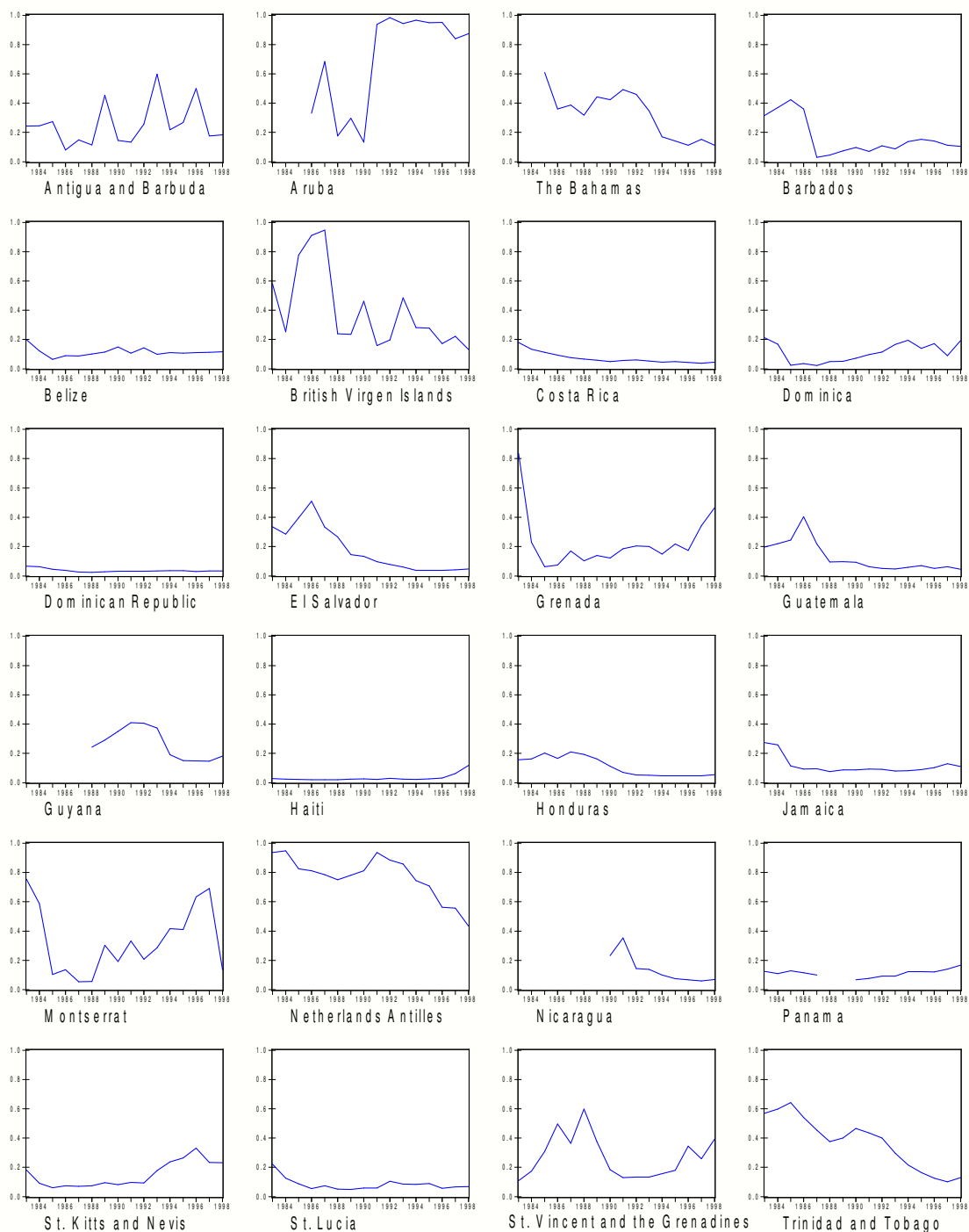
Source: Constructed by the author with data from the U.S. Department of Commerce.

Figure 5
Export diversification index for the CBERA countries excluding mineral fuels, 1983-1998



Source: Constructed by the author with data from the U.S. Department of Commerce.

Figure 6
Export diversification index for the CEBRA countries including mineral fuels, 1983-1998



Source: Constructed by the author with data from the U.S. Department of Commerce.

Table 1.
Effect of CBERA preferences on the region's export diversification ^a

Dependent Variable: Export Diversification Index, <i>ExpDiv_t</i>		
Variable	Panel FGLS (1)	Panel Two-Stage FGLS ^b (2)
Ln of GDP	-0.1407 (-0.40)	-0.2729 (-0.75)
Ln of Openness	-0.3031 (-2.81)	-0.3121 (-2.79)
Ln of CBERA preferences	-0.6452 (-3.27)	-0.5802 (-3.14)
NAFTA	0.0163 (0.18)	0.0127 (0.16)
Trend	0.0517 (2.43)	0.0531 (2.50)
War	1.1503 (6.26)	1.0540 (5.27)
Ln Real Exchange Rate	0.4793 (1.52)	0.6797 (1.81)
Ln Production Sharing	-0.4329 (-1.26)	-0.4515 (-3.68)
Country Fixed Effects (Cross)	Yes	Yes
Country AR1 Correction	Yes	Yes
Observations	302	298

^a t-statistics in parenthesis. Standard errors are robust to heteroskedasticity and serial correlation.

^b Instruments include all exogenous variables and lagged values of endogenous.

Source: Author calculations.

Table 2.
Effect of CBERA preferences on the region's export diversification ^a

Dependent Variable: Export Diversification Index, <i>ExpDiv_t</i>		
Variable	Panel Two-Stage FGLS ^b (3)	Panel Two-Stage FGLS ^b (4)
Ln of GDP	-0.2784 (-0.76)	-0.2483 (-0.74)
Ln of Openness	-0.3121 (-2.75)	-0.3023 (-2.73)
Ln of CBERA preferences	-0.6034 (-3.25)	-0.3647 (-2.04)
NAFTA	0.0304 (0.41)	0.1040 (1.37)
Trend	0.0618 (2.26)	0.0137 (0.43)
War	1.0503 (5.11)	1.0539 (4.86)
Ln Real Exchange Rate	0.6897 (1.81)	0.6564 (1.77)
Ln Production Sharing	-0.4895 (-3.38)	-0.2982 (-2.03)
Ln GSP	0.0542 (0.59)	.0097 (0.10)
Ln MFN		-0.4206 (-2.02)
Country Fixed Effects (Cross)	Yes	Yes
Country AR1 Correction	Yes	Yes
Observations	298	298

^a t-statistics in parenthesis. Standard errors are robust to heteroskedasticity and serial correlation.

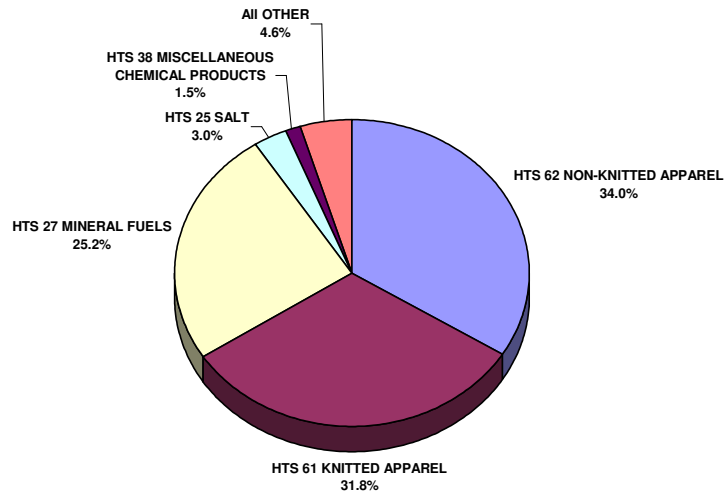
^b Instruments include all exogenous variables and lagged values of endogenous.

Source: Author calculations.

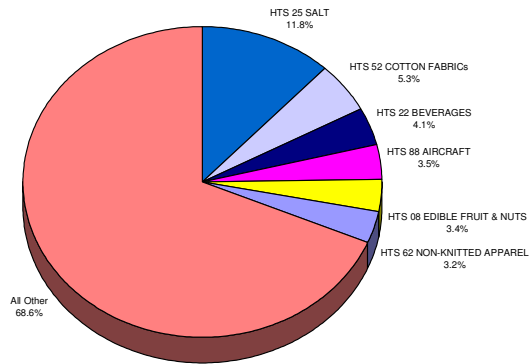
Appendix 1: U.S. imports for consumption from the CBERA region, by countries, 1983 and 1999

Figure A.1
U.S. imports for consumption from Antigua Barbuda

1983

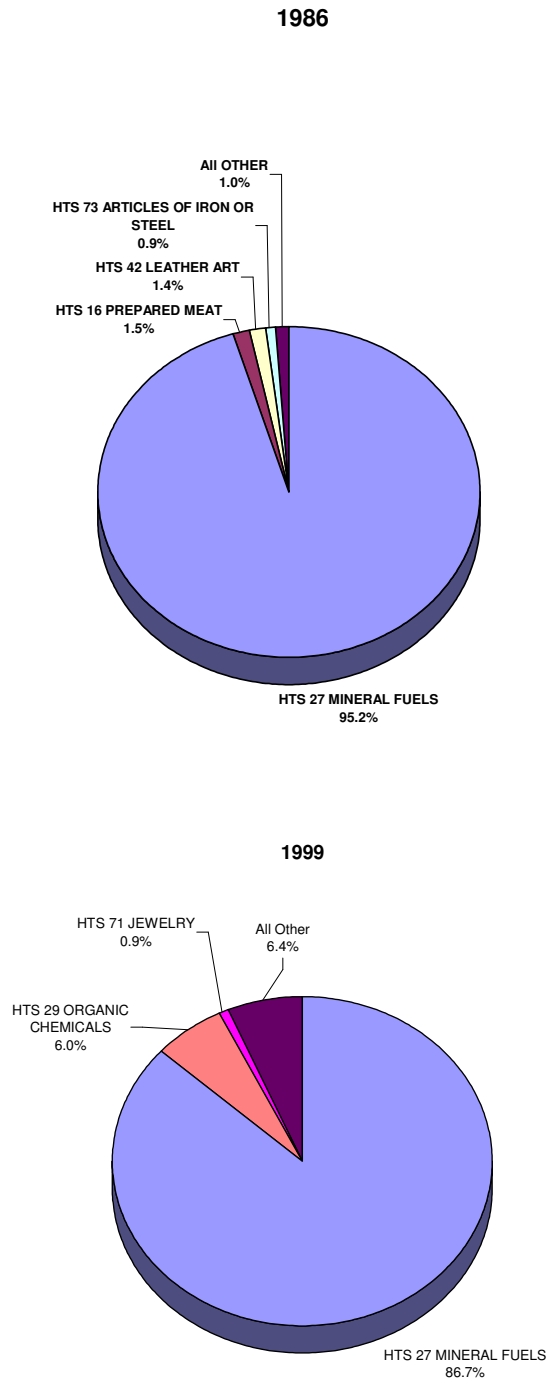


1999



Source: Compiled from official statistics of the U.S. Department of Commerce

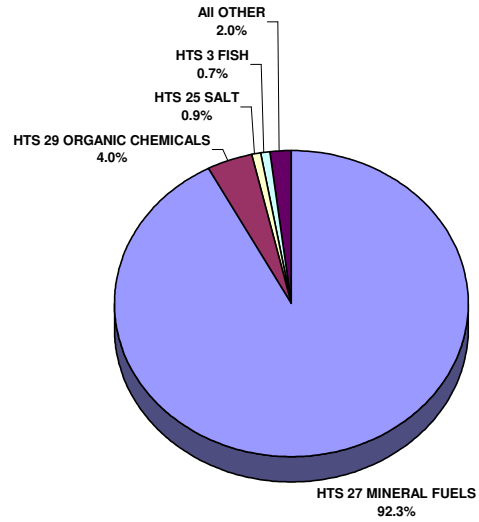
Figure A.2
U.S. imports for consumption from Aruba



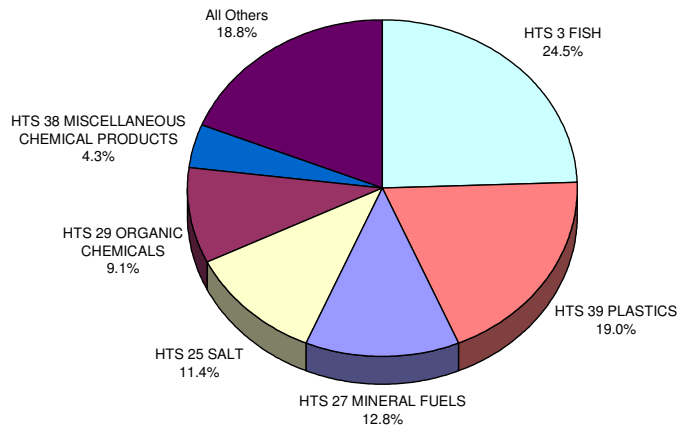
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.3
U.S. imports for consumption from the Bahamas

1983



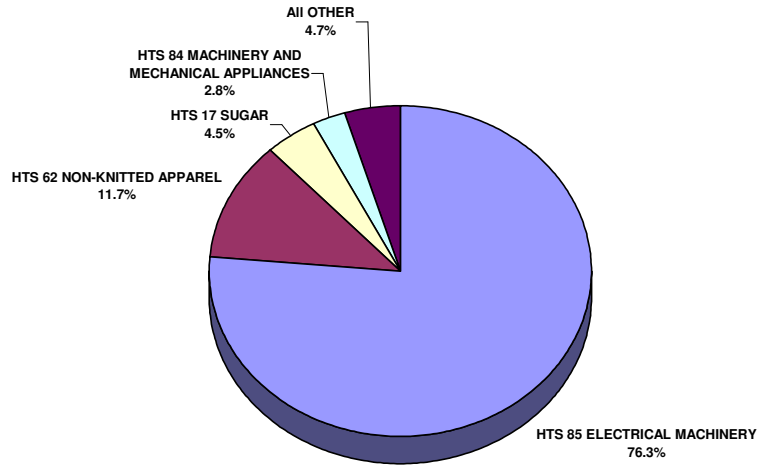
1999



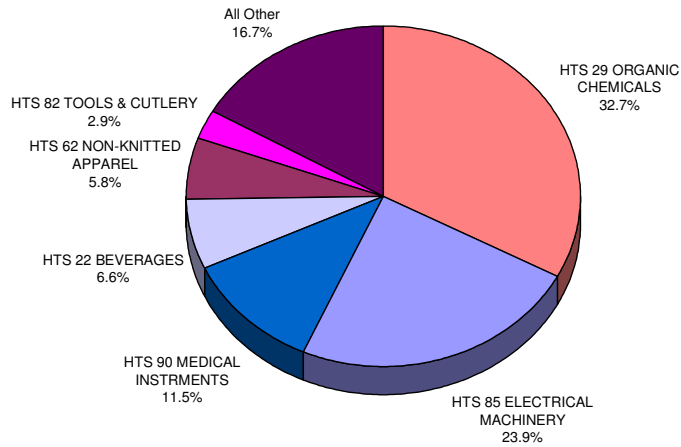
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.4
U.S. imports for consumption from Barbados

1983



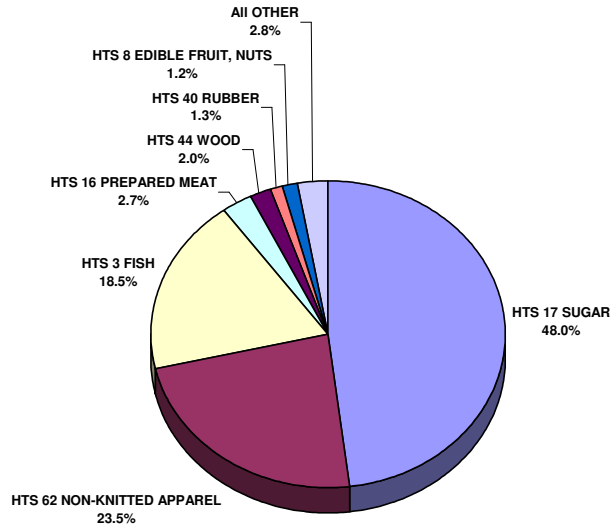
1999



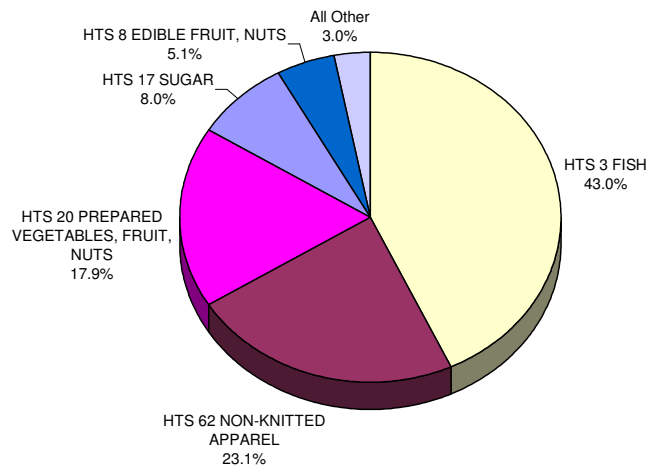
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.5
U.S. imports for consumption from Belize

1983



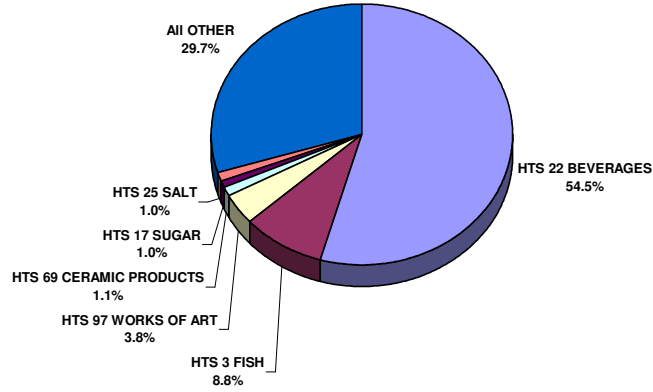
1999



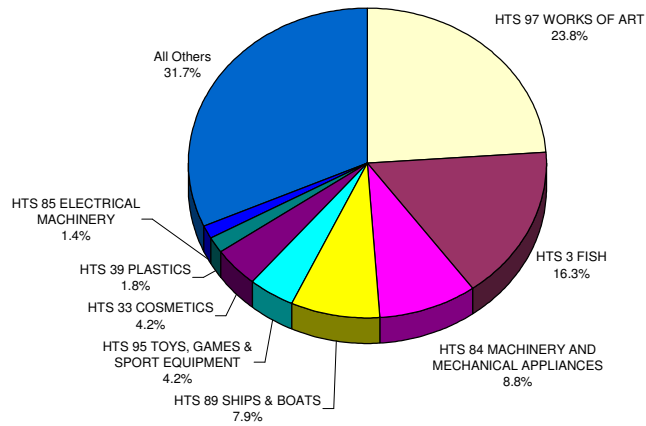
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.6
 U.S. imports for consumption from British Virgin Islands

1983



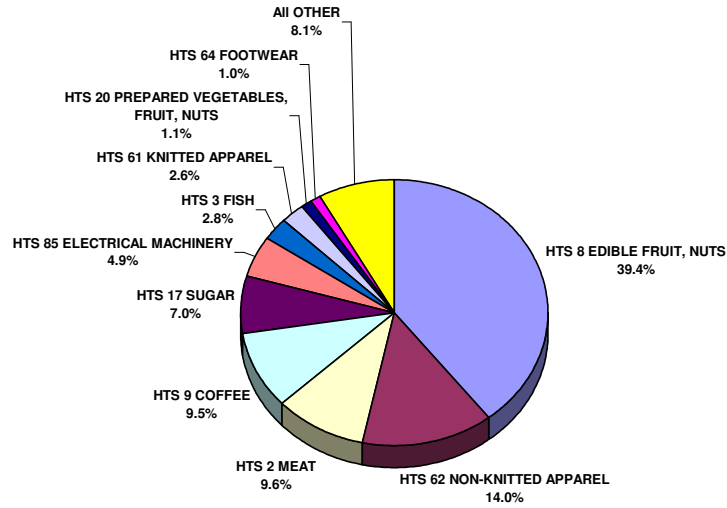
1999



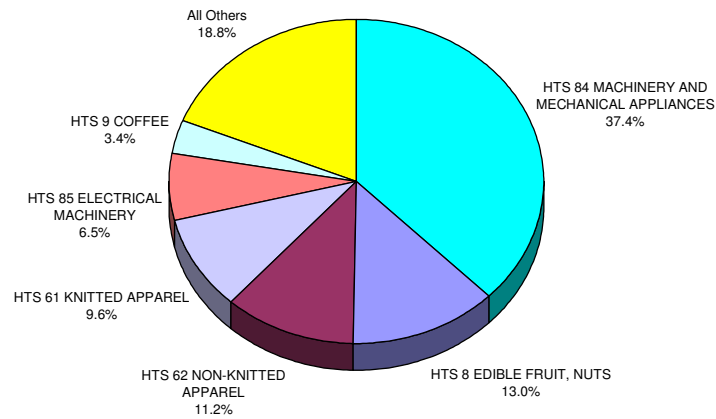
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.7
U.S. imports for consumption from Costa Rica

1983



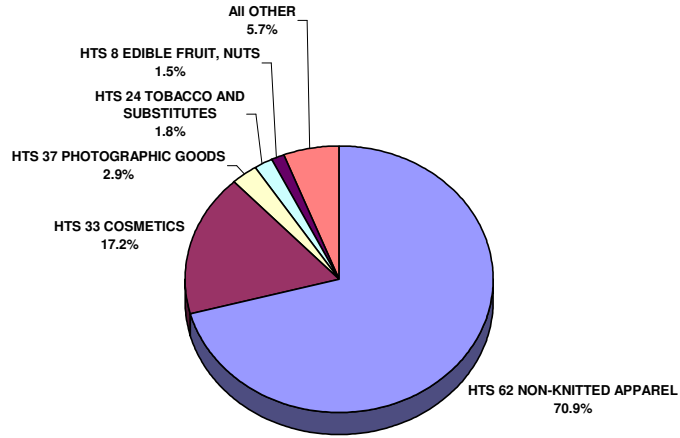
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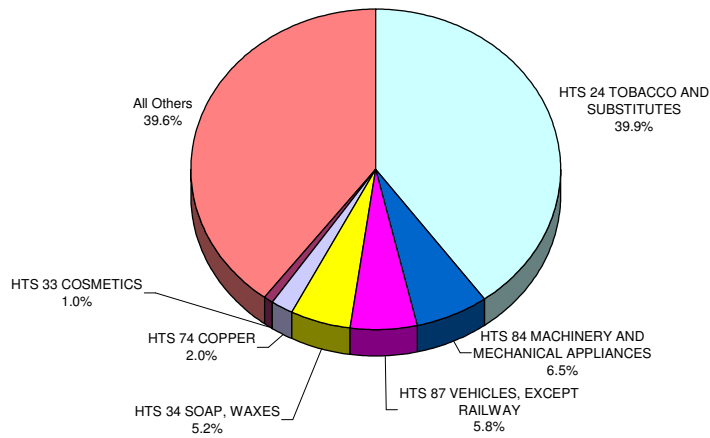
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.8
U.S. imports for consumption from Dominica

1983



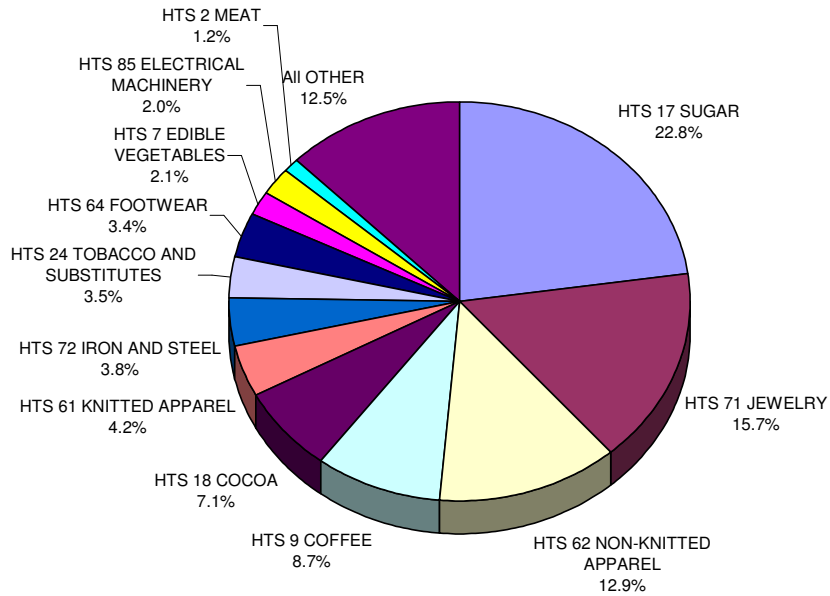
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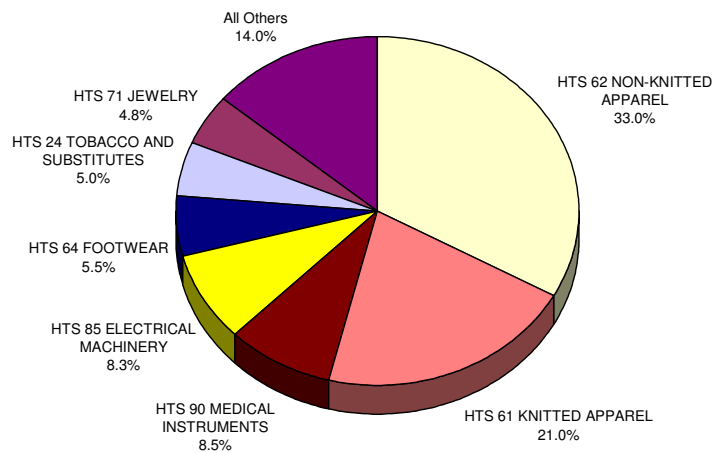
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.9
U.S. imports for consumption from the Dominican Republic

1983



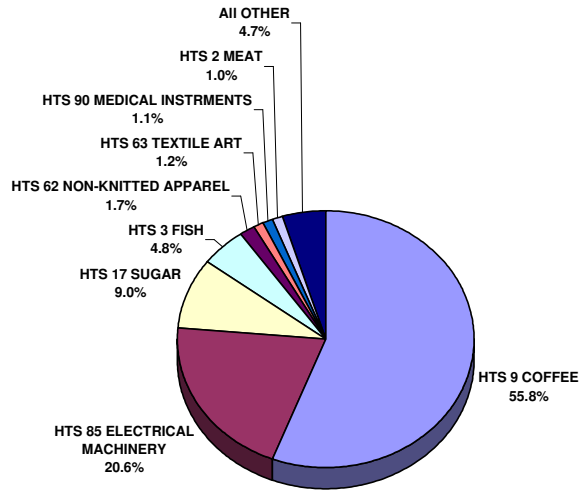
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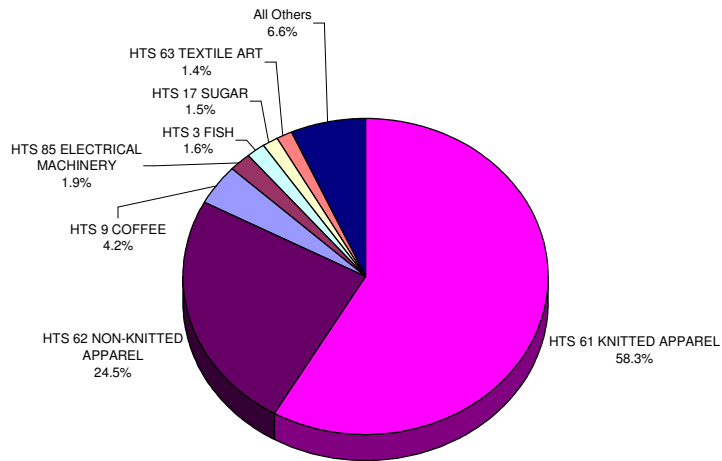
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Figure A.10
U.S. imports for consumption from El Salvador

1983

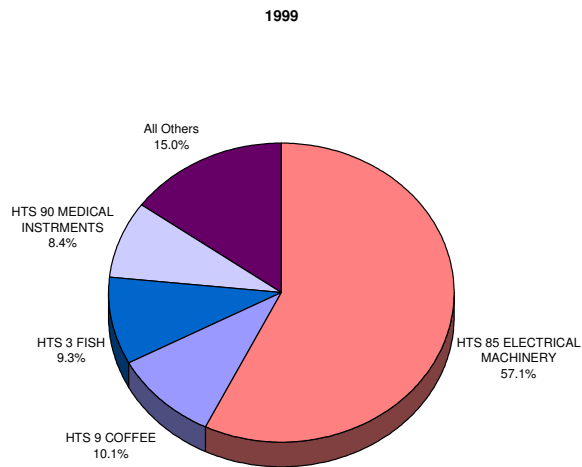
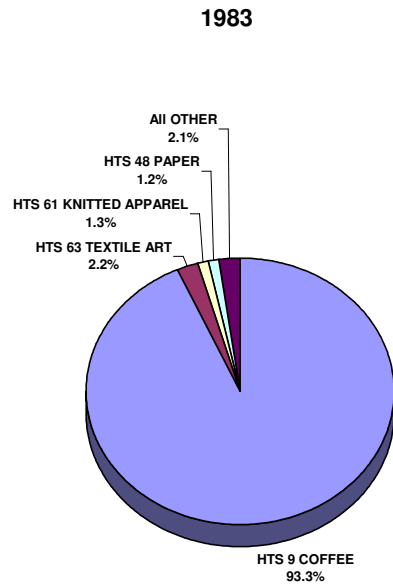


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Source: Compiled from official statistics of the U.S. Department of Commerce

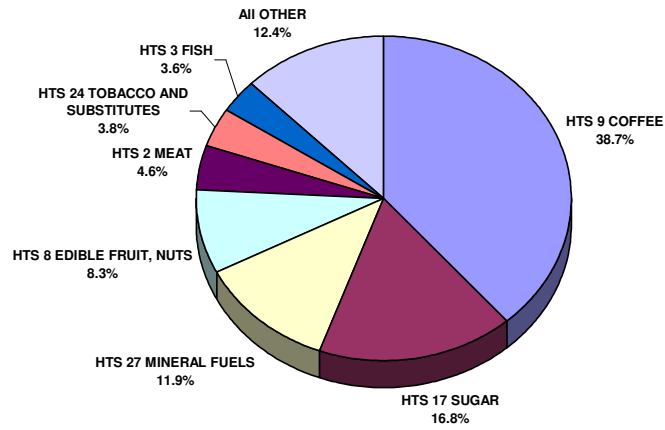
Figure A.11
U.S. imports for consumption from Grenada



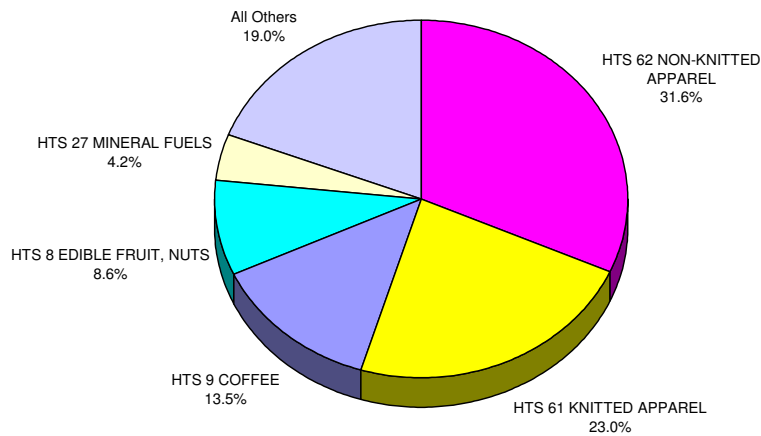
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.12
 U.S. imports for consumption from Guatemala

1983



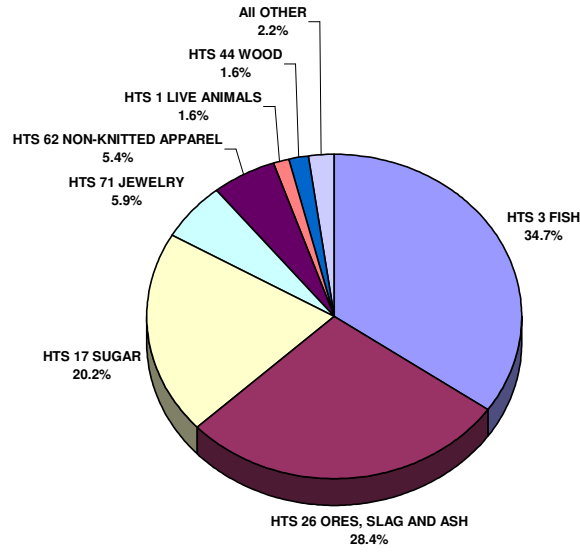
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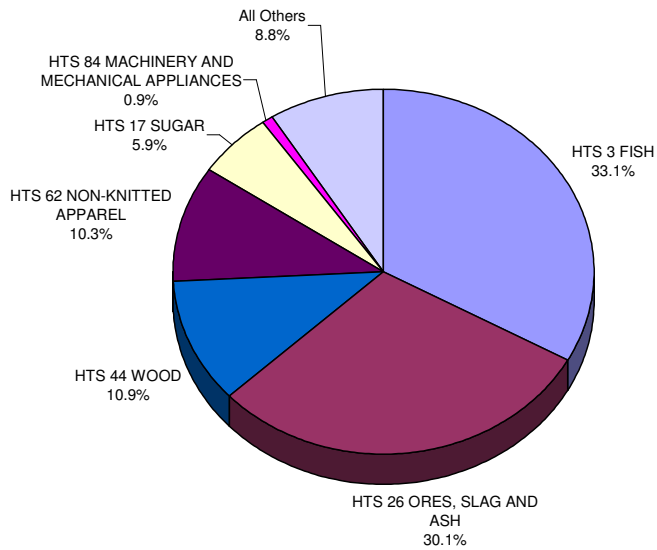
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.13
U.S. imports for consumption from Guyana

1983



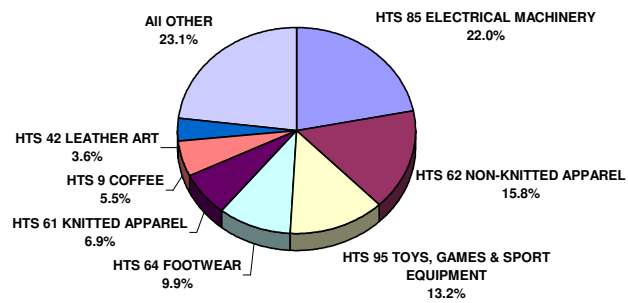
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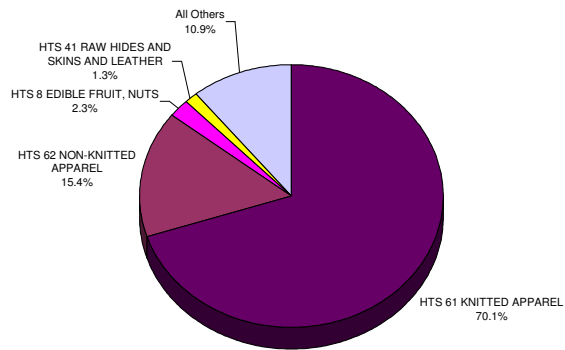
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.14
U.S. imports for consumption from Haiti

1983



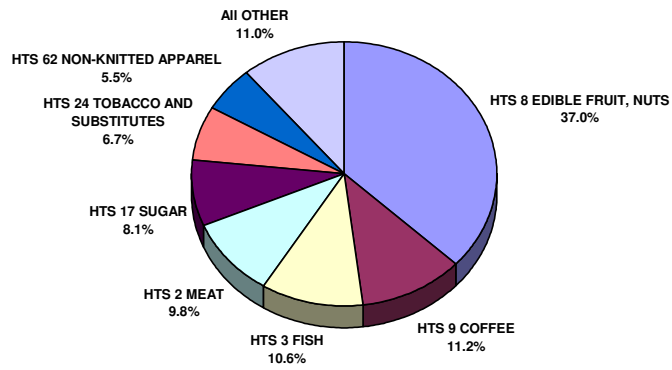
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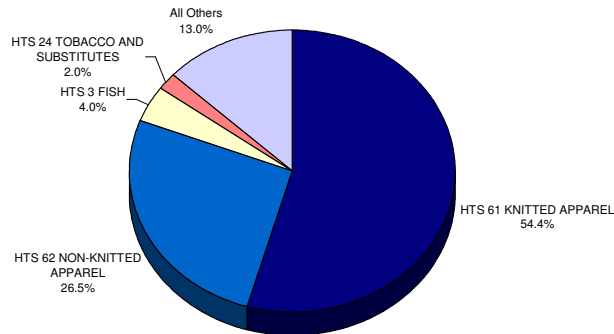
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Figure A.15
U.S. imports for consumption from Honduras

1983



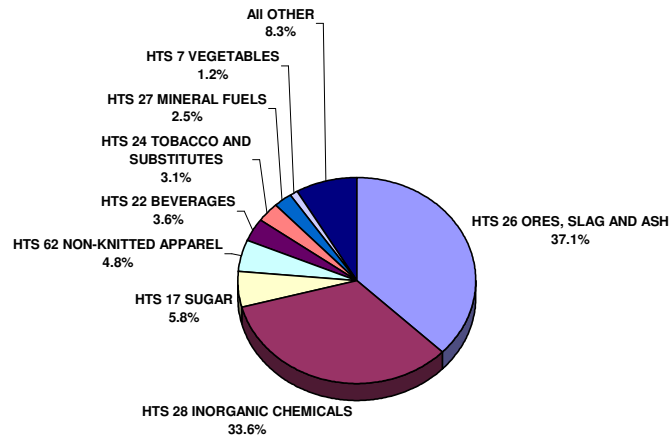
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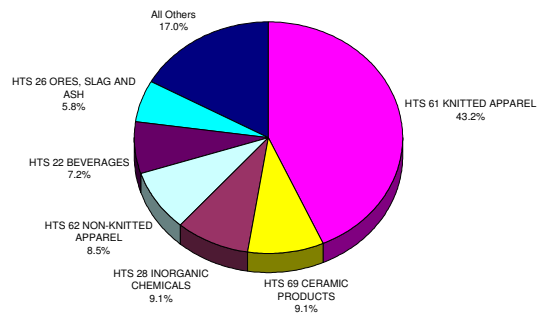
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Figure A.16
U.S. imports for consumption from Jamaica

1983



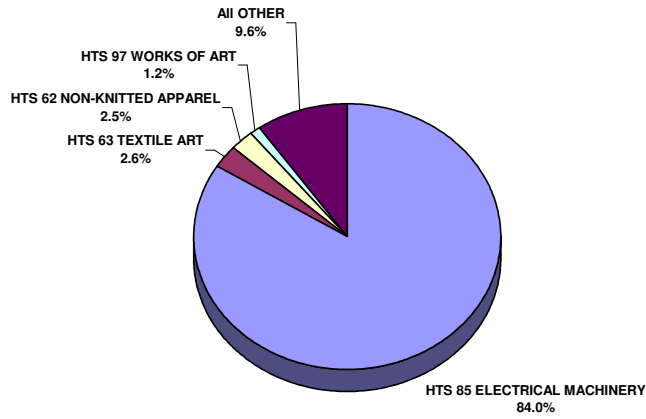
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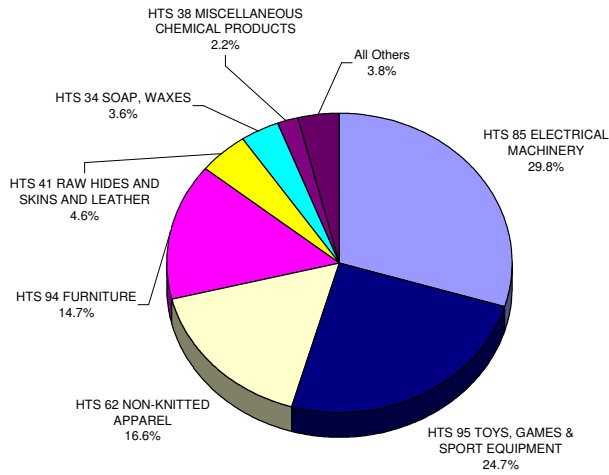
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.17
 U.S. imports for consumption from **Montserrat**

1983



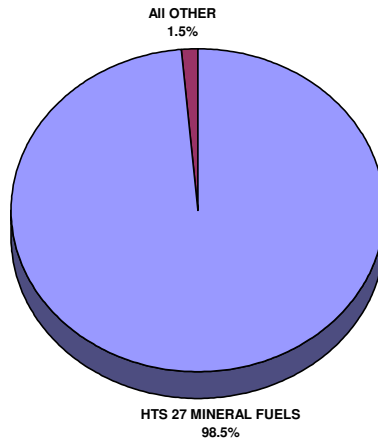
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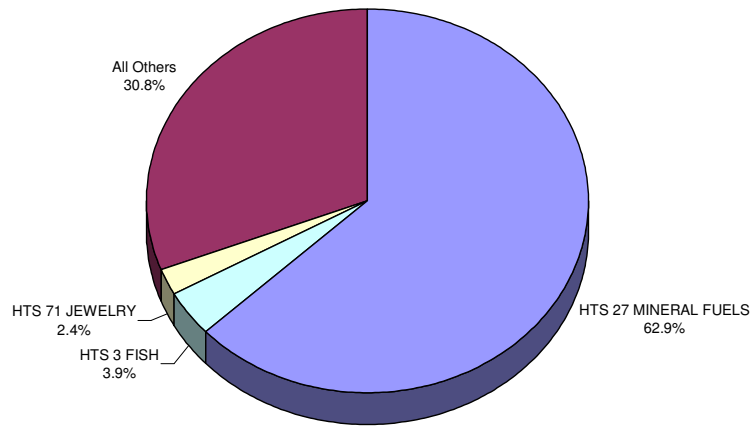
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.18
U.S. imports for consumption from Netherlands Antilles

1983



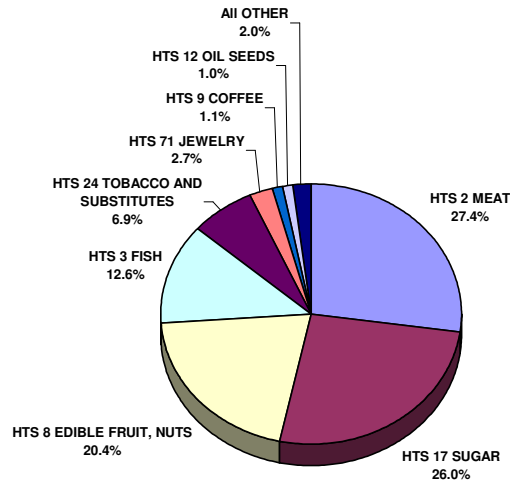
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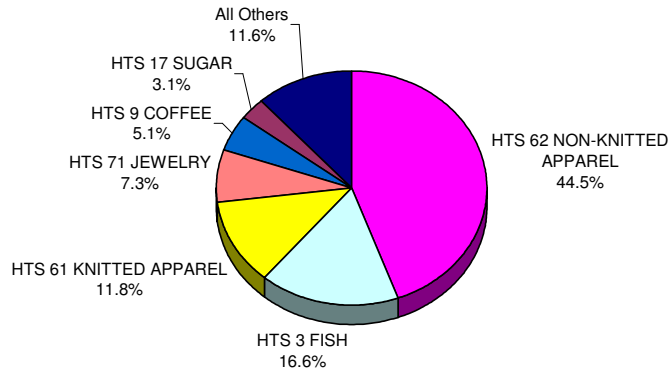
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.19
U.S. imports for consumption from Nicaragua

1983



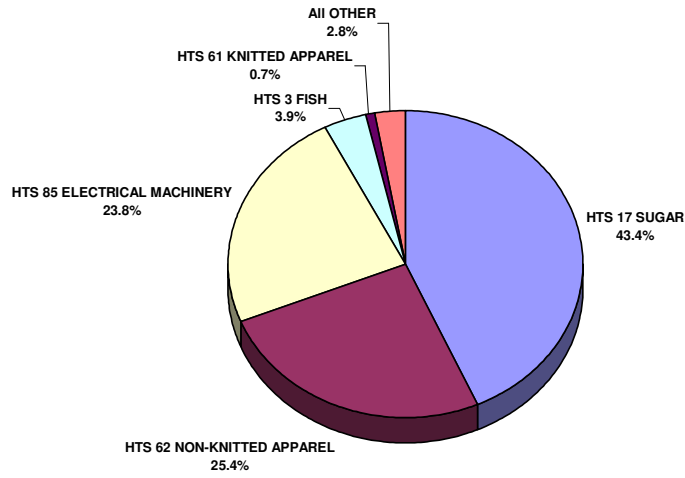
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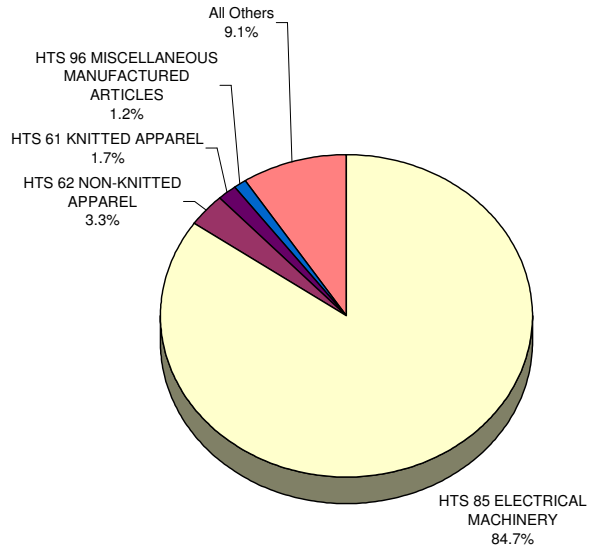
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.21
 U.S. imports for consumption from St. Kitts and Nevis

1983



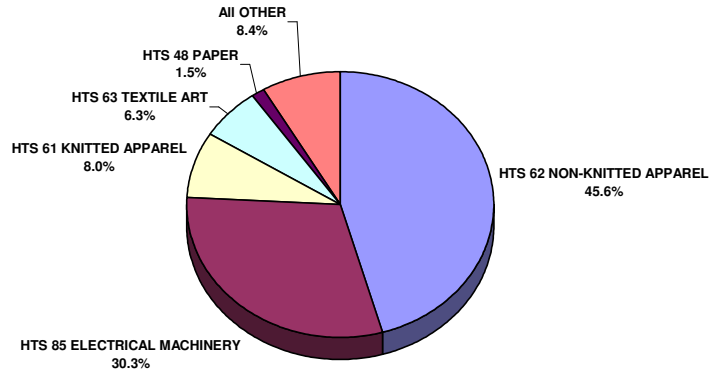
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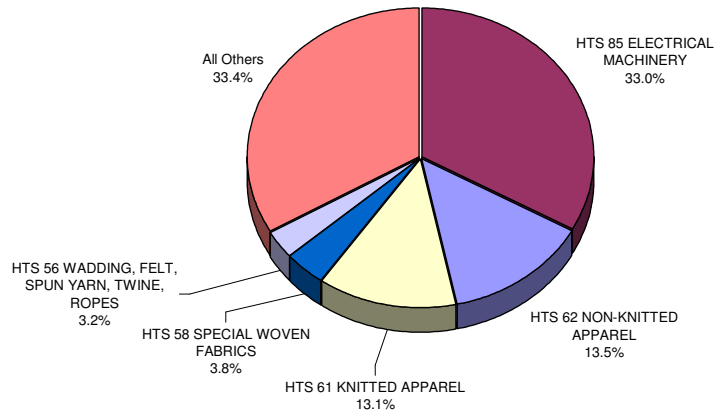
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.22
 U.S. imports for consumption from St. Lucia

1983



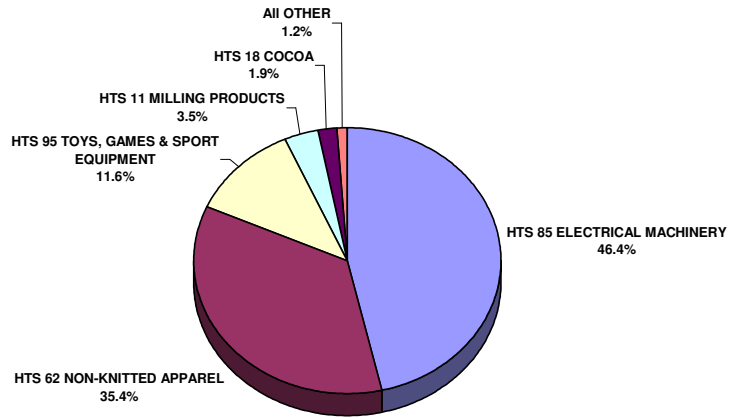
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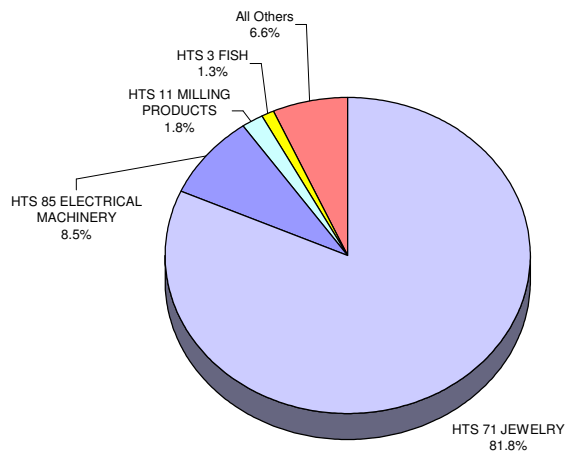
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.23
U.S. imports for consumption from St. Vincent and the Grenadines

1983



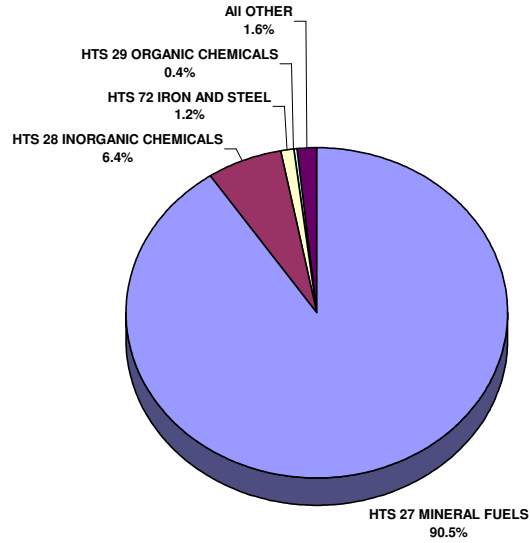
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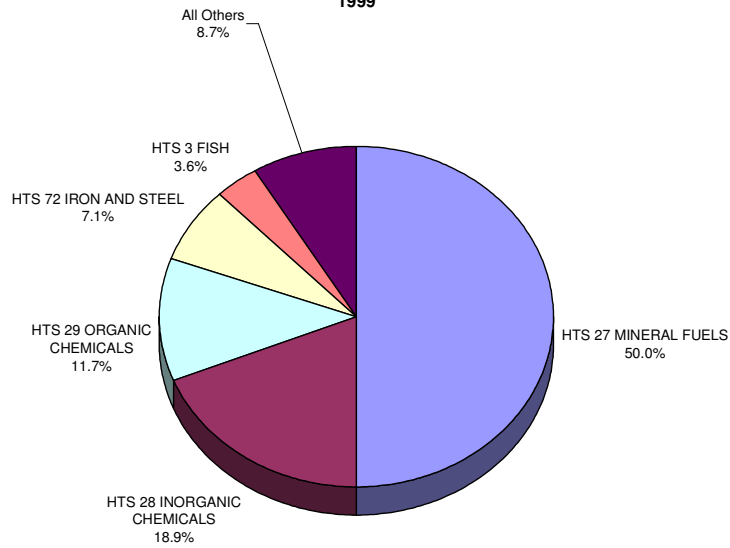
Source: Compiled from official statistics of the U.S. Department of Commerce

Figure A.24
U.S. imports for consumption from Trinidad and Tobago

1983



1999



Source: Compiled from official statistics of the U.S. Department of Commerce