

The Impact of Apparel Specific Rules of Origin on U.S. Textile and Apparel Trade: Case Study on CAFTA-DR Countries

June 2022

**Heidi Colby-Oizumi, Kimberlie Freund, Marinos
Tsigas and Laura Rodriguez**

Disclaimer: Office of Industries working papers are the result of the ongoing professional research of USITC staff and solely represent the opinions and professional research of individual authors. These papers do not necessarily represent the views of the U.S. International Trade Commission or any of its individual Commissioners.

Abstract

Under trade agreements and preference programs, the rules of origin (ROOs) determine the eligibility of products to receive preferential market access. Such rules can impact trade, but it can be difficult to fully comprehend and predict how trade flows will respond to changes in the ROOs. Using the example of ROOs for U.S. apparel imports under the Caribbean Basin Trade and Partnership Act of 2000 compared with those under the Dominican Republic-Central America Free Trade Agreement, we employ a computable general equilibrium (CGE) trade model to estimate the effects of the ROO changes on U.S. imports of textiles and apparel from CAFTA-DR countries. While the results do not perfectly mirror the actual changes in trade that occurred during the time period examined (2005–15), the results suggest that modeling can be a useful tool in considering ROO changes. Further work in this area might consider the multitude of factors exogenous to the ROOs that effect trade and how to incorporate such factors into the model.

The Impact of Apparel Specific Rules of Origin on U.S. Textile and Apparel Trade: Case Study on CAFTA-DR Countries

Heidi Colby-Oizumi, Kimberlie Freund, Marinos Tsigas, and Laura Rodriguez

Office of Industries
U.S. International Trade Commission (USITC)
June 2022

The authors are staff and former staff with the Office of Industries and Office of Economics of the U.S. International Trade Commission (USITC). Office of Industries working papers are the result of the ongoing professional research of USITC staff. Working papers are circulated to promote the active exchange of ideas between USITC staff and recognized experts outside the USITC, and to promote professional development of office staff by encouraging outside professional critique of staff research.

This paper represents solely the views of the authors and is not meant to represent the views of the U.S. International Trade Commission or any of its Commissioners. Please direct all correspondence to Heidi Colby-Oizumi, Office of Industries, U.S. International Trade Commission, 500 E Street, SW, Washington, DC 20436, telephone: 202-205-3391, email: heidi.colby@usitc.gov.

The authors would like to thank Byron Barlow, Trina Chambers, and Gwenetta Duvall for their production support.

Introduction

Trade preference programs and free trade agreements (FTAs) offer duty-free and reduced-duty treatment for imports, with a key difference being that unilateral trade preference programs are non-reciprocal whereas FTAs require bilateral trade concessions. Each FTA or preference program sets out its own distinct product-specific rules of origin (ROOs) that determine the country of origin of exported goods and thus their eligibility for preferential treatment under the specific trade regime. To take advantage of the preferential treatment provided by a preference program or FTA, companies must substantiate that their products meet these often complex ROOs. Such ROOs may influence trade patterns and investment in products covering the entire supply chain affected by the rules.

This paper uses economic modeling to estimate the effects of ROO changes on trade using an example of the ROOs for U.S. apparel imports under the Caribbean Basin Trade and Partnership Act of 2000 (CBTPA) compared with those under the Dominican Republic-Central America FTA (CAFTA-DR). The effects are estimated using two different scenarios using a computable general equilibrium (CGE) trade model. The modeling specifically captures the effects of changes to the ROOs on U.S. textile exports and U.S. apparel imports. The results are compared with actual trade data. In addition, the paper provides a high-level overview of U.S. exports of textiles to the region, U.S. imports of apparel from the CAFTA-DR region, and CAFTA-DR intra-regional trade. A short case study on trends in the textile and apparel industry in Honduras since implementation of the CAFTA-DR is presented to illustrate how the ROOs may have facilitated investment (as well as employment, trade, and vertical integration) in the textile and apparel sector.

The working paper is structured as follows: it begins with a brief description of CBTPA and CAFTA-DR and the ROOs for textiles and apparel under these programs. This is followed by an explanation of the methodology used to model the effects of changes to the ROO and a discussion of the modeling results. The trade overview section compares actual trade data to the modeling results and is followed by conclusions.

ROOs under CBTPA and CAFTA-DR















Before the passage and implementation of CAFTA-DR, the U.S. trading partners that are now signatories to that agreement—Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, and Nicaragua—received preferential access to the U.S. market for apparel through CBTPA. CBTPA, together with The Caribbean Basin Economic Recovery Act of 1983 (CBERA), form the Caribbean Basin Initiative (CBI),¹ a unilateral preference program intended to encourage development and provide trade benefits to Caribbean Basin countries. CBTPA was implemented on October 5, 2000. In the presidential proclamation announcing implementation, 24 countries were designated beneficiary countries eligible

¹ The CBI came into effect on January 1, 1984, following passage of CBERA. The program was expanded by CBTPA in 2000 and then by the Trade Act of 2002. CBERA was further amended to provide special benefits to Haiti with passage of the Haitian Hemispheric Opportunity through Partnership Encouragement Act of 2006 (HOPE), the Haitian Hemispheric Opportunity through Partnership Encouragement Act of 2008 (HOPE II), and the Haiti Economic Lift Program of 2010 (HELP). CBERA has no expiration date, but CBTPA is set to expire on September 30, 2030. Office of the U.S. Trade Representative (USTR).

for CBTPA preferences, and 10 countries, including the current CAFTA-DR signatories, were determined to have met the requirements for textile and apparel benefits under CBTPA.²

Previously excluded from preferential treatment under CBERA, CBTPA extended trade benefits to textile and apparel products, subject to the product-specific ROOs. For the most part, under CBTPA, apparel manufactured in beneficiary countries can be imported into the United States duty-free and quota-free, subject to certain requirements concerning the use of U.S. yarns, fabrics, and thread. The specific rules and requirements vary slightly by product and process. For example, duty-free quota-free treatment is given to apparel imported into the United States under CBTPA that is made from U.S. fabrics formed from U.S. yarns; the fabric must be cut and finished (i.e., dyed and printed) in the United States. For apparel made from U.S. fabric (formed from U.S. yarns and finished in the United States) that is cut in a CBTPA beneficiary country, the apparel parts must be sewn together with U.S.-produced thread. Certain knit apparel (except socks) can enter the United States duty-free if made in CBTPA beneficiary countries from CBI regional fabric that is formed from U.S. yarns, subject to an annual quantitative limit (with a separate quantitative limit especially for T-shirts). Other specific ROOs apply to brassieres and articles made from materials not available in commercial quantities from originating sources (referenced for the purpose of this paper as “short supply”). Figure 1 provides a simplified illustration of the ROOs under CBTPA, as well as CAFTA-DR.

Figure 1.a Simplified ROOs for U.S. apparel imports under CBTPA: Specified origin of inputs/processes

Category	United States		CBTPA		Third country	
	Input	Process	Input	Process	Input	Process
Apparel assembled from U.S. fabric^a						
Apparel cut and assembled from U.S. fabric^a						
Certain apparel of regional knit fabrics^b						
Brassieres^c						
Apparel of yarns/fabrics in short supply^d						

Note: Does not take into account other specific provisions or exceptions to the ROOs (e.g., findings, trimmings, linings, etc.).

^a U.S. formed fabric of U.S. yarns.


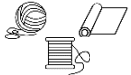
















^b Knit fabric of U.S. yarns. Subject to quantitative limits, with a separate limit for T-shirts.

^c Subject to specific value-added requirements related to the use of U.S.-fabric.

^d Not available in commercial quantities in a timely manner the United States.

² CBTPA beneficiaries are a subset of CBERA countries that enjoy expanded trade preferences. The President designates CBTPA countries, taking into account certain criteria that are outlined in CBTPA. Proclamation 7351 of October 2, 2000, published in the Federal Register, Vol. 65, No. 193, Wednesday, October 4, 2000; and U.S. Department of Commerce, International Trade Administration, Guide to the Caribbean Basin Initiative, 2000 edition, November 2000.

Figure 1.b Simplified ROOs for U.S. apparel imports under CAFTA-DR: Specified origin of inputs/processes

Category	United States		CAFTA-DR		Any country	
	Input	Process	Input	Process	Input	Process
Apparel (yarn forward)						
Cut and assemble for certain apparel^a						
Wool apparel (fabric forward)						
Cumulation for certain woven apparel^b						
Apparel of yarns/fabrics in short supply^c						
Tariff preference levels^d						
Value added provision for items of U.S. formed fabric^e						

Note: Does not reflect other specific provisions or exceptions to the ROOs (e.g. pocketing fabric, visible linings, narrow elastic fabric, etc.).







^a Cut and assembly must take place in one or more of the CAFTA-DR countries.

^b Cumulation allows the use of Mexican inputs (no other 3rd countries) to produce woven apparel in CAFTA-DR countries. Subject to limits.

^c Not available in commercial quantities in a timely manner in the CAFTA-DR parties.

^d The TPLs (expired) allowed certain apparel articles from Costa Rica and Nicaragua to be made from 3rd-country textile inputs, subject to limits.

^e Duty assessed is the MFN rate on the value of the assembled good minus the value of fabric formed in the United States.

Key	Inputs:  = yarn  = thread  = fabric
	Processes:  = cutting  = assembly  = dyeing/finishing

Not long after CBTPA was implemented, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua began a dialogue with the United States to explore strengthening the bilateral trade and investment relationship between the United States and Central America. Negotiations towards a free trade agreement were officially announced in early 2003, with the Dominican Republic joining the negotiations later. A CAFTA-DR FTA was signed in late 2004, and following approval by the U.S. Congress, President George W. Bush signed the agreement into law on August 2, 2005. The CAFTA-DR partners subsequently ratified and implemented the agreement at various stages. The first countries to adopt the agreement were El Salvador (March 1, 2006), Honduras (April 1, 2006), Nicaragua (April 1, 2006), and Guatemala (July 1, 2006). CAFTA-DR went into force for the Dominican Republic on March 1, 2007, and Costa Rica was the last country to implement the agreement, with an entry into force date of January 1, 2009. Once the CAFTA-DR countries implemented the FTA with the United States, they graduated from trade preferences under CBI, and textile and apparel exports from the signatory countries to the United States became subject to the product-specific ROOs under CAFTA-DR.

The CAFTA-DR ROOs are quite similar to the ROOs for textiles and apparel under most of the United States' other FTAs. The CAFTA-DR rules require that most textile and apparel goods be made from inputs

produced in the region or the United States, generally from the yarn stage forward. The yarn-forward rule is typical of U.S. FTAs and requires that all textile and apparel production processes from the yarn stage forward must occur in one of the parties to the agreement. There are a number of exceptions, however, to the yarn-forward ROO in CAFTA-DR. For example, a fabric-forward ROO exists for wool apparel, a cut and assemble ROO for certain apparel and luggage, a cumulation provision that permits the use of textile inputs from Mexico (subject to a cap), and an expanded list of yarns and fabrics deemed to be in short supply in the United States and CAFTA-DR countries. The agreement also contained tariff preference levels (TPLs) for Nicaragua and Costa Rica, which allowed certain goods made in those partner countries to be made from non-originating inputs (yarns and fabrics produced in countries other than the United States or CAFTA-DR partners), subject to annual quantitative limits. Those TPLs expired in December 2014 (Nicaragua) and December 2018 (Costa Rica).

A critical difference between the ROOs for apparel under CBTPA versus CAFTA-DR is the ability of CAFTA-DR apparel producers to use regional yarn and fabric without limitation. In short, CAFTA-DR producers can procure, if available, yarns, fabrics, and thread from any CAFTA-DR signatory country. This is in contrast to the stricter ROOs under CBTPA, which (barring limited exceptions) stipulate the use of inputs largely from the United States. Such differences in the ROOs can influence supply chains, encourage vertical integration, promote CAFTA-DR investment in the textile and apparel sector, boost regional sourcing, and ultimately affect trade patterns between the FTA partners. With the cumulation provision and an expanded short supply list (as well as the TPLs when they were in place), CAFTA-DR also provides for far more exceptions allowing the use of non-originating inputs (third-country yarns and fabrics).

Method and Data

We simulated the effects on U.S. exports of textiles and U.S. imports of apparel arising from changes in ROOs for imports from the CAFTA-DR economies. The simulations examine the impact of the changes to the ROOs under CAFTA-DR compared with those under CBTPA using data from 2005 (prior to implementation of CBTPA) and 2015 (CAFTA-DR fully implemented) as benchmarks. The year 2005 was chosen to represent trade prior to implementation of the CAFTA-DR but post elimination of global quotas. The year 2015 was chosen to allow sufficient time for supply chains to adjust to the new ROOs. The simulations were run with the GTAP model, a computable general equilibrium (CGE) model of global

trade.³ We used GTAP data for 2004 and 2014, which we updated to 2005 and 2015, respectively, to correspond with the aforementioned benchmark years.⁴

The simulations use a three-step process to analyze the impact of the changes to the ROOs under CAFTA-DR. First, we modeled the removal of U.S. applied tariffs on U.S.-CAFTA-DR trade to reflect duty-free imports of apparel that were previously dutiable under CBTPA. The tariff simulations quantify how trade flows could change in the absence of U.S. applied tariffs on imports of apparel and textiles from CAFTA-DR countries.

Next, we modeled the ROO changes allowing expanded use of regional and third-country textile inputs in U.S. apparel imported from the CAFTA-DR countries. In order to highlight the impact of the more liberal ROOs for apparel under CAFTA-DR, we focus on the impact of increasing the share of CAFTA-DR textile imports from (1) other CAFTA-DR countries, (2) Mexico, and (3) all other countries, excluding the United States. Increasing shares of CAFTA-DR textile imports from the region reflects the FTA ROOs that allow inputs from partners to the agreement; increasing the share of textile imports from Mexico reflects the cumulation provisions in the FTA that allow certain textile inputs of Mexican origin; and increasing shares from all other countries reflect the FTA provisions for inputs in short supply and the TPLs. The ROO simulations are based on observed changes from 2005 to 2015 in the share of CAFTA-DR imports of textiles from the countries in the three groups. For example, Guatemala's sourcing shares of textile imports changed as follows from 2005 to 2015: imports from other CAFTA-DR countries increased from 4.3 percent to 12.4 percent; imports from Mexico increased from 2.1 percent to 5.5 percent; imports from all other countries, excluding the United States, declined from 70.4 percent to 64.5 percent.⁵ To mimic the effect of the ROOs, we related these changes in import shares to changes in the effective prices of imports. Stricter ROOs act as a constraint, making the effective price of imports higher. To account for more liberalized ROOs allowing greater inputs from third countries (particularly from China), we reduced the price of CAFTA-DR imports of textiles from all other countries (third countries). Lastly, as part of the simulation on ROO changes, the effects are separated by type of ROO changes reflected in the three country groups (CAFTA-DR, Mexico, and all other countries, excluding the United States).

Finally, the model considers the impact of tariffs and ROO changes simultaneously to estimate the total effect. In our estimation of ROOs, we have focused on changes in tariffs and sourcing shares; we have not considered any other changes that occurred that could affect U.S. trade with the CAFTA-DR countries between 2005 and 2015.

³ The GTAP model is documented in Hertel, 1997, and in Corong et al., 2017. The simulated effects were obtained using the General Equilibrium Modeling Package (GEMPACK) (Harrison and Pearson, 1996). GEMPACK is a suite of economic modeling software that is especially suitable for obtaining simulated effects from a CGE model.

⁴ The data for 2004 and 2014 are from GTAP Database Version 10. The earlier GTAP Version 9 Data Base is documented in Aguiar et al., 2016. In addition to the United States and the six CAFTA-DR economies, eight other economies are also identified in the data sets: Canada, Mexico, China, Vietnam, Bangladesh, India, Indonesia, Jordan, and a rest-of-the-world (ROW) region, which represents all other economies. In terms of sectoral specification, the GTAP data were aggregated to eight sectors: farming, extraction, processed foods, textiles, apparel, leather goods, other manufacturing, and services. We changed the specification of textiles so that it refers to the group of textile products that are intermediate inputs in the production of apparel.

⁵ Although imports from China increased from 19.0 percent to 41.7 percent from 2005 to 2015, imports from all other countries, excluding the United States, declined from 51.4 percent to 22.8 percent, resulting in overall decline.

We used two separate scenarios to illustrate how differences in the liberalization of ROOs affect the trade flows. In the first scenario, we simulated the effects of actual changes in tariffs and ROOs that took place from 2005 to 2015. In the second scenario, we simulated the effects of actual changes in tariffs that took place from 2005 to 2015 and less liberal ROOs. Specifically, we reduced the share of CAFTA-DR imports of textiles from the three country groups by 50 percent, effectively reducing the price effect of the ROO changes. The results focus on the effects of the changes to the ROOs on U.S. exports of textiles to CAFTA-DR countries and U.S. imports of apparel from CAFTA-DR countries.

Results and Discussion

Table 1 shows the simulated effects from the two scenarios, including the tariff effect, the ROO effect, and the total effect. In scenario 1, U.S. exports of textiles to CAFTA-DR countries increased by 14.4 percent (\$359.1 million) in the absence of U.S. tariffs, which is driven by a 30.6 percent increase (\$1.8 billion) in U.S. imports of apparel from CAFTA-DR. As this simulation does not consider the liberalized ROOs, in order for CAFTA-DR countries to export more apparel to the United States, they need to import more U.S. textiles to satisfy the ROOs.

Table 1 Simulated effects of CAFTA-DR on U.S. trade in textiles and apparel under two sets of rules of origin

		Scenario 1: Change in U.S. tariffs, and rules of origin from 2005 to 2015 based on observed trade			Scenario 2: Change in U.S. tariffs from 2005 to 2015 based on less liberal rules of origin		
		Total effect	Tariffs effect	ROOs effect	Total effect	Tariffs effect	ROOs effect
U.S. exports of textiles to:							
CAFTA-DR	percent	1.4	14.4	-13.0	8.2	14.5	-6.3
	million \$	34.2	359.1	-324.8	204.1	361.6	-157.6
ROOs components							
Regional	million \$			-40.7			-24.8
Mexico	million \$			-65.6			-30.9
Third country	million \$			-218.5			-101.8
All other countries	percent	-0.2	-0.2	0.1	-0.2	-0.2	*
	million \$	-12.7	-17.4	4.7	-16.1	-18.1	2.0
World	percent	0.2	3.4	-3.2	1.9	3.4	-1.5
	million \$	21.5	341.6	-320.1	188.0	343.5	-155.5
U.S. imports of apparel from:							
CAFTA-DR	percent	43.5	30.6	12.9	35.7	30.2	5.5
	million \$	2,520.6	1,773.4	747.3	2,071.0	1,752.4	318.5
All other countries	percent	-2.8	-2.0	-0.9	-2.3	-2.0	-0.4
	million \$	-1,589.4	-1,112.8	-476.6	-1,308.4	-1,102.9	-205.5
World	percent	1.5	1.1	0.4	1.2	1.1	0.2
	million \$	931.2	660.5	270.6	762.6	649.5	113.0

*Positive but less than 0.05

Looking at the ROO effects in scenario 1, the 2005–15 changes in ROOs caused a 13.0 percent (\$324.8 million) decline in U.S. textile exports to CAFTA-DR countries. The CAFTA-DR countries imported more textiles from countries other than the United States because the effective prices of those products declined. With lower textile prices, CAFTA-DR apparel prices declined too, leading to a 12.9 percent (\$747.3 million) increase of U.S. apparel imports from CAFTA-DR.

Separating the effects by type of ROO changes, table 2 shows that in scenario 1, changing the ROOs to allow CAFTA-DR regional inputs contributed to a \$40.7 million decline in U.S. exports of textiles to CAFTA-DR countries. Changing the ROOs to include cumulation with Mexico contributed to a \$65.6 million decline in U.S. exports of textiles to CAFTA-DR countries. Finally, amending the ROOs to allow the use of third-country textile inputs from all other countries, excluding the United States, contributed to a \$218.5 million decline in U.S. exports of textiles to CAFTA-DR.

The combined effect of the tariff removal and changes to the ROOs in scenario 1 results in a 43.5 percent (\$2.5 billion) increase in U.S. imports of apparel from CAFTA-DR countries; however, U.S. exports of textiles to CAFTA-DR countries increase by only 1.4 percent (\$34.2 million). The combined effect on U.S. total exports of textiles to the world show a marginal increase of 0.2 percent (\$21.5 million) and a 1.5 percent (\$931.2) increase in apparel imports from the world. U.S. exports of textiles to and U.S. imports of apparel from the rest of the world decline.

In scenario 2, the tariff effects are similar to those in scenario 1 because the same tariffs are removed in both scenarios. They are slightly different because the changes in the ROOs in scenario 2 reflect different trade shares than those in scenario 1.

The ROO effects for scenario 2 on U.S. exports of textiles to CAFTA-DR and U.S. apparel imports from CAFTA-DR are more than half that shown in scenario 1. Specifically, the 2005–15 changes in ROOs caused a 6.3 percent (\$157.6 million) decline in U.S. textile exports to CAFTA-DR countries and a 5.5 percent (\$318.5 million) increase in U.S. apparel imports.

The combined effect of the tariff and ROO changes for scenario 2 result in a 35.7 percent (\$2.1 billion) increase in U.S. apparel imports from CAFTA-DR countries, while U.S. exports of textiles could increase by 8.2 percent (\$204.1 million). In scenario 2, a smaller expansion in CAFTA-DR imports of textiles compared with scenario 1 could cause a smaller expansion in U.S. apparel imports from CAFTA-DR and a larger expansion in U.S. textiles exports to CAFTA-DR. Unlike scenario 1, which showed a marginal positive effect on U.S. exports of textiles to the world, scenario 2 shows a slightly larger positive effect, with U.S. textile exports expanding by 1.9 percent (\$188.0 million). For U.S. imports of apparel from the world, the effect is marginally smaller than the effect shown under scenario 1.

Trade Overview⁶

As noted above, with the implementation of CAFTA-DR, the ROOs for apparel under the agreement had the potential to affect regional supply chains for the textile and apparel sector. Notably, since the rules allow any amount of apparel to be made with CAFTA-DR regional yarns and fabrics, one might expect new investment in these sectors in the CAFTA-DR region and consequently greater use of local and regional inputs (see Box 1). Similarly, one might also expect U.S. exports of yarns to increase for use in

⁶ Unless otherwise noted, all trade data discussed in this section are from the U.S. International Trade Commission Dataweb database.

CAFTA-DR regional fabric production. For apparel, one might expect U.S. imports of apparel from the CAFTA-DR region to increase if the CAFTA-DR rules help the regional industry become more competitive.

Box 1 Honduras – Investment Case Study

ROOs may influence trade patterns, production, and investment, as firms evaluate and alter their business operations to optimize the trade benefits offered under preferential trading arrangements. Honduras, the largest Central American supplier of apparel to the U.S. market is an important example of these dynamics. In addition to its low-cost labor, proximity to the United States, and the logistical advantages of having the largest deep water port in Central America (Puerto Cortes), Honduras has benefitted from the expanded ROOs and permanent trade preferences provided for under CAFTA-DR. The implementation of CAFTA-DR prompted U.S.¹ and other foreign firms to increase their sourcing from and investment in Honduras’ apparel manufacturing and to expand into vertically-integrated manufacturing and full-package programs (see table below).

Table Examples of foreign investment in the Honduran industry following CAFTA-DR implementation through 2015

Year	Firm	Activity	Investment
2006	Delta Apparel (USA)	Manufacturing facility to knit, dye, finish, cut, and sew fabrics into apparel	\$25 million
2007	Santista Textil (Brazil)	Textile manufacturing	\$100 million
2008	Gildan Activewear (Canada)	Vertically-integrated apparel and fabric manufacturing (ramp up)	\$105 million
2011			\$6 million
2014			\$48.9 million
2009	Acme-McCrary (USA)	Apparel manufacturing	\$16.5 million
2010	Modtex International (Canada)	Apparel manufacturing (Puerto Cortes FTZ)	\$28.6 million
2014	Hanesbrands (USA)	Apparel manufacturing	\$2.2 million

Steady investment in Honduras’ textile and apparel sector, however, does not appear to have had a significant impact on employment and the number of firms. There were 123 textile and apparel firms in Honduras in 2015 compared with 153 in 2005, down from a peak of 169 firms in 2007. Likewise, employment in the sector fluctuated downward during 2005–15, from 100,311 workers to 98,981 workers. The expansion of vertically-integrated production, which is largely capital intensive, could partly explain the downturn in the number of workers. It should be noted, however, that two significant developments hampered overall economic growth and negatively affected employment and trade during the 2005–15 period—the major recession that began in late 2007 and lasted several years and the political coup in Honduras in 2009. It is likely that without the permanent trade preferences and expanded ROOs put into place by CAFTA-DR, Honduras’ textile and apparel sector might have experienced a greater downturn.

Concerning U.S. apparel trade activity with Honduras, during the 2005–15 period, Honduras accounted for about one-third of total U.S. imports of apparel from the CAFTA-DR region. In 2005, U.S. imports of apparel from Honduras that entered under the CBI and CBTPA trade preference programs totaled \$2.2

billion and accounted for 81 percent of total U.S. apparel imports from Honduras. By 2015, when CAFTA-DR had been in place for almost 9 years for Honduras (which joined the CAFTA-DR on April 1, 2006), U.S. imports of apparel from Honduras that entered free of duty rose to almost \$2.5 billion and accounted for 94 percent of total U.S. apparel imports from that country.

Since 2015, foreign investment in Honduras' textile and apparel sector has continued apace with additional U.S. companies, such as Fruit of the Loom, NIKE, and Williamson-Dickie, expanding or setting up operations in apparel manufacturing in Honduras.ⁱⁱ More recently, Parkdale mills announced plans to invest \$150 million in constructing a new yarn spinning facility in Honduras.ⁱⁱⁱ In addition to foreign investment, Honduran firms have stepped up fabric production and moved into yarn manufacturing in an effort to offer full-package programs. A significant recent example was the announcement by Honduran firm Elcaltex in 2018 of its plans to build a new \$73 million synthetic yarn production plant.^{iv} Honduras is and will likely remain a significant CAFTA-DR player in textiles and apparel trade and a key U.S. trading partner.

ⁱ The United States currently accounts for the largest share (an estimated 36 percent) of foreign investment in Honduras. Asociación Hondureña de Maquiladores representative, email message to USITC staff, June 17, 2019.

ⁱⁱ Fruit of the Loom, NIKE, and Williamson-Dickie started apparel manufacturing and/or logistical operations in Honduras in 2016 and 2018, respectively.

ⁱⁱⁱ Davis, "Spotlight on Honduras."

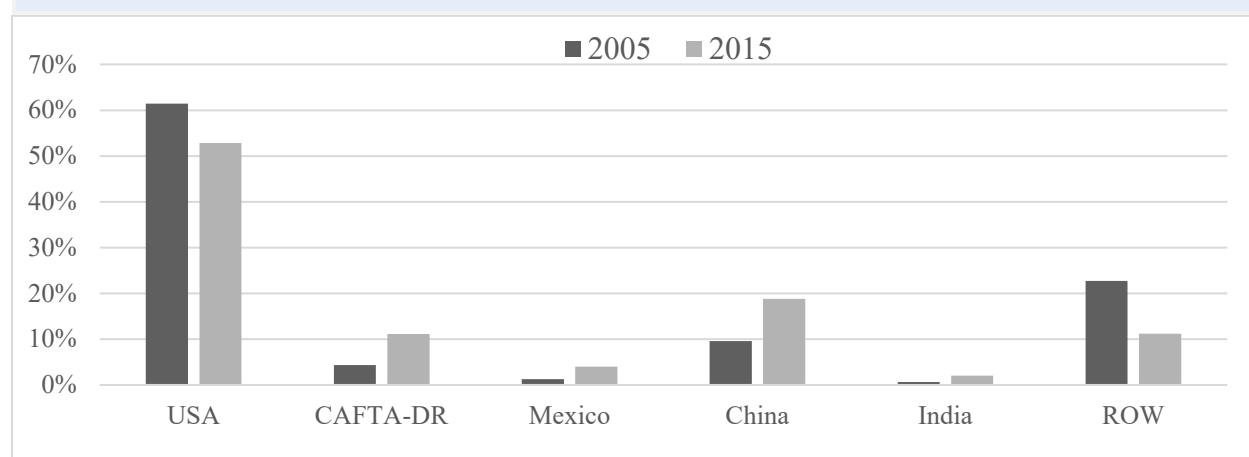
^{iv} Husband, "Parkdale Mills to build new yarn spinning facility."

Looking at actual trade data, as expected, U.S. exports of textiles to the CAFTA-DR region increased from 2005 to 2015. In 2015, U.S. exports of textiles to the region totaled \$2.6 billion, up by \$139 million or 5.6 percent from 2005 levels. This increase was more than the percentage increase projected by the model (table 2). In spite of this increase, the U.S. share of the CAFTA-DR region's imports of textile inputs declined from 2005 to 2015, while the share supplied through inter-regional trade and China increased (figure 2). China's share of CAFTA-DR textile imports nearly doubled during the period to 19 percent, accounting for \$0.9 billion in 2015. It is likely that the increase in China's share of CAFTA-DR textile imports is at least partially attributable to provisions in the CAFTA-DR that allow greater use of third-country inputs. Similarly, the share of imports accounted for by intra-regional trade nearly tripled, suggesting that the ROOs under CAFTA-DR encouraged regional textile production and trade.

Table 2 Comparison of CGE model results with 2005–15 trade

Trade flow		Total effect under Scenario 1	Actual change in trade
U.S. exports of textiles to:			
CAFTA-DR	percent	1.4	5.6
	million \$	34.2	139.1
All other countries	percent	-0.2	6.0
	million \$	-12.7	510.3
World	percent	0.2	5.9
	million \$	21.5	649.4
U.S. imports of apparel from:			
CAFTA-DR	percent	43.5	-8.5
	million \$	2,520.6	-773.2
All other countries	percent	-2.8	25.3
	million \$	-1,589.4	15,561.5
World	percent	1.5	20.9
	million \$	931.2	14,788.3

Figure 2 Share of CAFTA-DR textile imports by supplier(s)

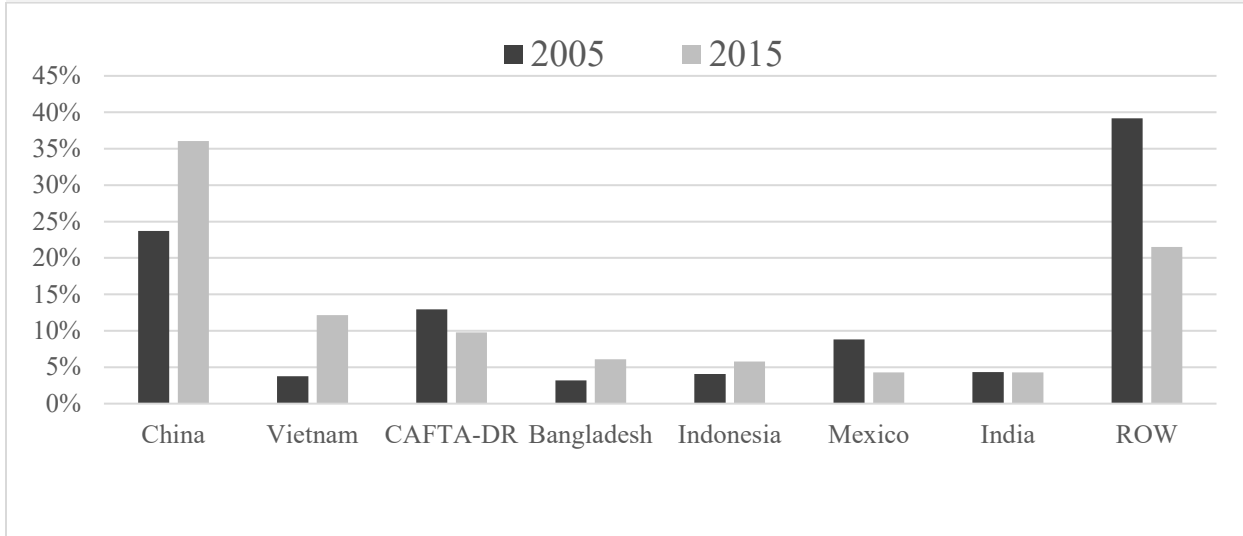


Source: Global Trade Atlas. Data based on mirror trade data.

In contrast to trade flows in textiles, U.S. apparel imports did not match the expectations predicted by the model. U.S. imports of apparel from the CAFTA-DR region as a whole declined from \$9.1 billion in 2005, accounting for 13 percent of total U.S. imports of apparel, to \$8.4 billion or 10 percent of the U.S. market in 2015 (figure 3). By comparison, the model predicted a large increase in U.S. imports from the CAFTA-DR countries (table 1). Nevertheless, U.S. imports from El Salvador and Nicaragua did increase during the period, and U.S. imports from Honduras, the largest CAFTA-DR apparel supplier, remained steady (figure 4). In addition, the data on U.S. imports for the CAFTA-DR region as a whole do show that the liberalized ROOs had a positive effect on U.S. apparel imports entering under the duty preferences from the CAFTA-DR countries. In 2005, 68 percent (\$6.2 billion) of U.S. apparel imports from CAFTA-DR countries qualified for duty preferences under CBTPA, compared with 85 percent (\$8.4 billion) that qualified for duty preferences under CAFTA-DR in 2015 (figure 5). Moreover, in 2015, about 7 percent of the value of U.S. apparel imports under CAFTA-DR entered under the special exceptions to the rules of

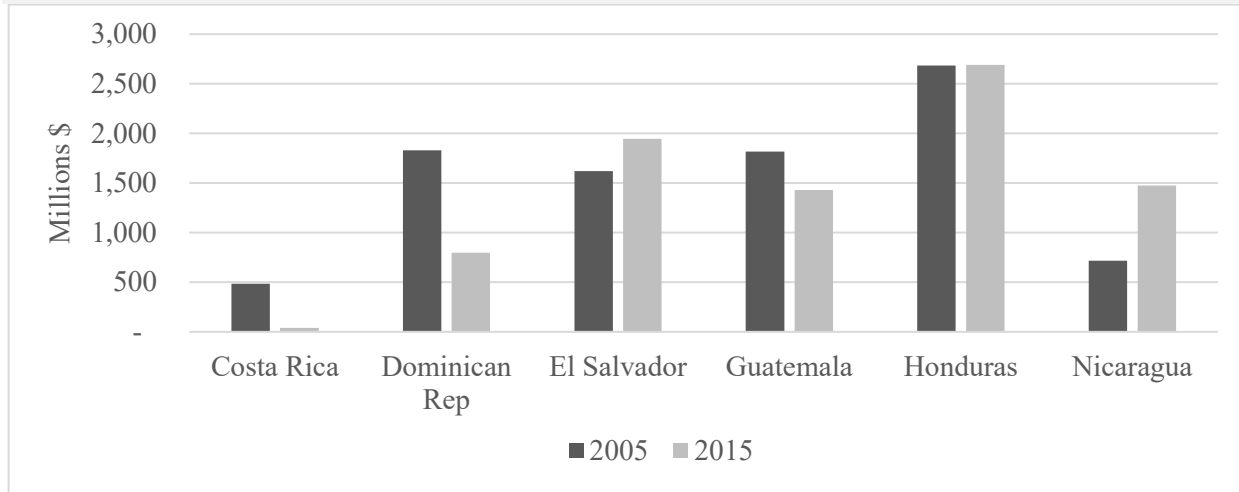
origin allowing the use of third-country yarns and/or fabrics; another 3 percent entered under the special cumulation provisions with Mexico (U.S. Department of Commerce, Office of Textiles and Apparel 2015).

Figure 3 U.S. imports of apparel from the world: Share by country or region



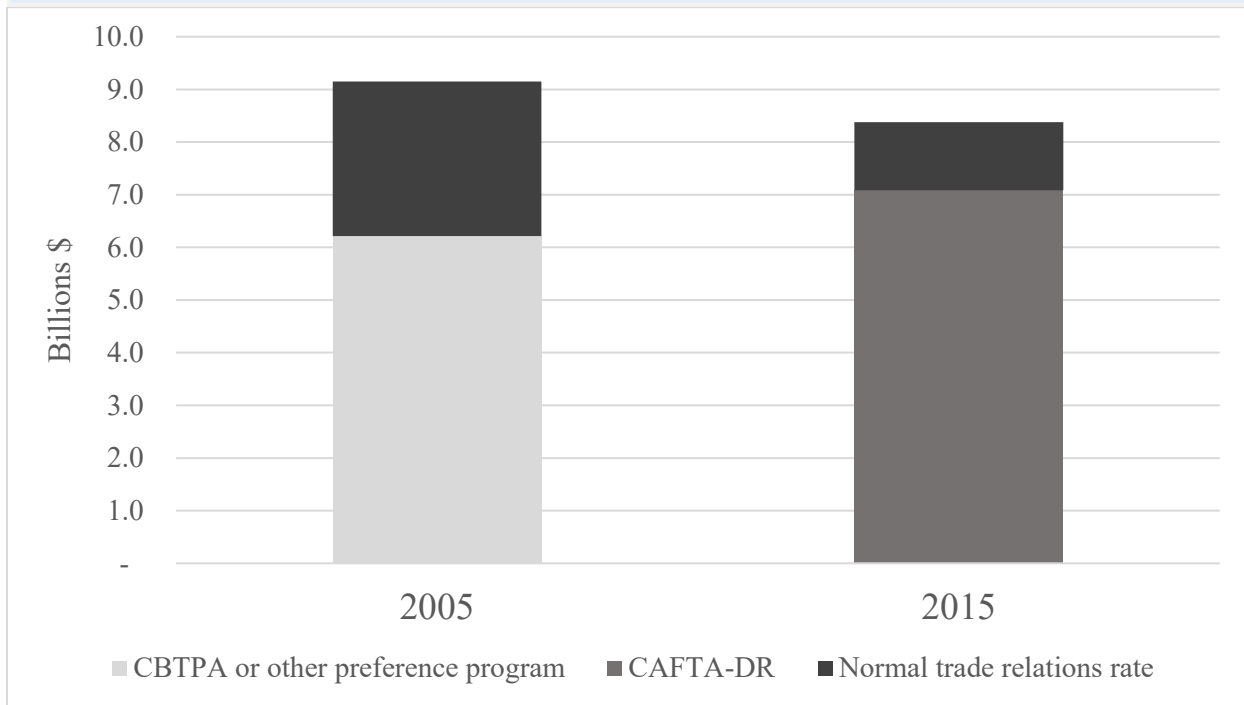
Source: U.S. International Trade Commission Dataweb.

Figure 4 U.S. imports of apparel from the CAFTA-DR countries



Source: U.S. International Trade Commission Dataweb.

Figure 5 U.S. Imports of Apparel from CAFTA-DR countries by import program



Source: U.S. International Trade Commission Dataweb.

The dichotomy illustrated with the aforementioned U.S. apparel import data demonstrate the difficulty of quantifying the effects of changes to the ROOs, because a number of other factors influence trade in textiles and apparel. In particular, the elimination of global quotas on textiles and apparel under the Agreement on Textiles and Clothing (ATC) increased global competition for access to the U.S. market, especially for apparel.⁷ The elimination of quotas resulted in lower-cost apparel in the U.S. market, mostly due to increased imports of apparel from China.⁸ As U.S. buyers did not have to plan their sourcing based on quota availability, they could choose to import from any country, resulting in consolidation of suppliers and increased efficiencies in their sourcing. In figure 1 above, it is apparent that the share of U.S. imports of apparel from China increased significantly in the first five years following the removal of quotas. Other factors also affected U.S. textile and apparel trade patterns during the time period considered. On December 29, 2006, Vietnam was granted permanent NTR status,⁹ and in January 2007, Vietnam joined the World Trade Organization. U.S. imports of apparel from Vietnam more than quadrupled from 2005 to 2015. In addition to these major developments, there are numerous other factors that can affect U.S. trade in textiles and apparel, including such factors as infrastructure for building new plants and transporting goods in supplying countries, as well political stability and the business environment in supplying countries. Still other factors affecting trade include supplier relationships and overall economic trends.

⁷ USITC, *Economic Impact of Trade Agreements*, 2016, 54–55, 62.

⁸ The United States maintained safeguard quotas on selected imports from China through 2008.

⁹ Vietnam was granted unconditional normal trade relations (NTR) status by the United States through a Presidential Proclamation signed by President Bush on December 29, 2006. <https://2001-2009.state.gov/r/pa/ei/bgn/4130.htm>.

Conclusions and Future Research Agenda

ROOs determine which products may enter under duty preferences, and they can vary considerably across specific trade preference programs and FTAs. As such, the degree to which they can impact trade and alter trade flows and supply chains cannot be understated but can also be difficult to fully comprehend and predict. This paper illustrates how one can examine the trade effects of different ROOs, independent of other factors that may affect trade. Using the example of ROOs for apparel under CAFTA-DR compared with those under CBTPA, the paper shows how changes to the ROOs can alter trade patterns and influence which parties can benefit under an FTA. Under scenario 1, which mimicked the actual ROO changes that took place in CAFTA-DR compared with CBTPA, U.S. exports of textiles to the CAFTA-DR and to the world overall increased by less than 2 percent. However, under ROOs that were less liberal in scenario 2, U.S. exports of textiles to the CAFTA-DR countries increased by more than 8 percent, although the increase in U.S. exports to the world remained under 2 percent. Looking at actual trade data for the period, U.S. exports to the region increased by 6 percent overall, more than scenario 1 but less than scenario 2. Similarly, for apparel, under scenario 1, U.S. imports from CAFTA-DR increased by 43 percent while imports from the world as whole increased by less than 2 percent. However, under scenario 2, U.S. imports of apparel from CAFTA-DR increased by 35 percent while imports from the world increased by less than 2 percent. Examining actual trade data, U.S. apparel imports from the CAFTA-DR region declined, although the share and value of U.S. apparel from the region claiming preferential treatment increased. This anomaly shows how difficult it is to predict and isolate the effects of ROOs, because other factors can influence trade flows. The magnitude of the removal of quotas and subsequent reshuffling of global apparel chains explains the divergence in the modeling results and observed trade. Had the removal of quotas not occurred, actual observed U.S. apparel imports might have been closer to the modeling results.

This paper also shows how it is possible to disaggregate the results of ROO changes by separating the tariff effects, which are influenced by ROO changes, from the ROO changes themselves. In scenario 1, we saw that by separating the tariff and ROO effects, the increase in U.S. textile exports to CAFTA-DR countries resulting from the tariff effect was almost completely offset by the decrease in U.S. textile exports from the ROO effect. Further, by separating the effects, it was possible to examine the effects attributable to different ROOs. For example, in scenario 1, the largest ROO effect is attributable to provisions in the CAFTA-DR that permit the use of third-country yarns and fabric. This did in fact, correspond to what we observed in the trade data, as U.S. imports of apparel entering under provisions allowing non-U.S. inputs increased, and CAFTA-DR imports of textile inputs from the region, Mexico, and other third countries grew in tandem.

While it has its limitations, modeling can be a useful tool in considering ROO changes for new or amended FTAs or preference programs. However, there are numerous other factors exogenous to the ROOs that affect trade. This analysis of the tariff and ROO effects on U.S.-CAFTA-DR trade in textiles and apparel during 2005–15 did not consider any other economic developments that impacted trade. Because of this, the comparison of simulated trade effects to observed trade changes revealed differences. Further work in this area might explore how to incorporate other factors that could influence trade into the model.

Bibliography

- Aguiar, Angel, Badri Narayanan, and Robert McDougall. "An Overview of the GTAP 9 Data Base." *Journal of Global Economic Analysis* 1, no. 1 (2016): 181–208.
<http://dx.doi.org/10.21642/JGEA.010103AF>.
- Banco Central de Honduras. "Industria de Bienes para Transformacion y Activades Conexas, Anos 2005–18." https://www.bch.hn/actividad_maquiladora.php.
- Bureau van Dijk, Orbis Crossborder Investment database.
- Corong, Erwin L. Thomas W. Hertel, Robert McDougall, Marinos E. Tsigas, and Dominique van der Mensbrugge. "The Standard GTAP Model, Version 7." *Journal of Global Economic Analysis* 2, no. 1 (2017): 1–119. <http://dx.doi.org/10.21642/JGEA.020101AF>.
- Davis, Rachael S. "Spotlight on Honduras." *Textile World*, February 19, 2019.
<https://www.textileworld.com/textile-world/features/2019/02/spotlight-on-honduras/>.
- Financial Times, fDiMarkets database.
- Harrison, W. Jill, and K.R. Pearson. "Computing Solutions for Large General Equilibrium Models Using GEMPACK." *Computational Economics* 9, no. 2 (1996): 83–127. <https://link.springer.com/article/10.1007/BF00123638>.
- Hertel, Thomas W., ed. *Global Trade Analysis: Modeling and Applications*. Cambridge: Cambridge University Press, 1997. <https://www.gtap.agecon.purdue.edu/resources/download/7684.pdf>.
- Husband, Laura. "Parkdale Mills to build new yarn spinning facility in Honduras." *Just Style*, December 13, 2021. <https://www.just-style.com/news/parkdale-mills-to-build-new-yarn-spinning-facility-in-honduras/>.
- IHS Global Markit. Global Trade Atlas database. Retrieved from <https://connect.ihs.com/gta/standardreports>.
- Todaro, Mike. "Honduras: Textile Focused," *Textile World*, July 19, 2018.
<https://www.textileworld.com/textile-world/2018/07/honduras-textile-focused>.
- U.S. Department of Commerce, Office of Textiles and Apparel. "U.S. Imports Under Free Trade Agreements By Group," 2015. Retrieved from <https://otexa.trade.gov/msrpoint.htm>.
- U.S. International Trade Commission Dataweb database. Retrieved from <https://dataweb.usitc.gov/>.
- U.S. International Trade Commission. *Economic Impact of Trade Agreements Implemented Under Trade Authorities Procedures, 2016 Report*, 2016, 54–55, 62.
<https://www.usitc.gov/publications/332/pub4614.pdf>.