Duke
CENTER on GLOBALIZATION, GOVERNANCE & COMPETITIVENESS
at the Social Science Research Institute

Nicaragua and the Apparel Value Chain in the Americas

Implications for Regional Trade and Employment

Stacey Frederick
Jennifer Bair
Gary Gereffi

March 18, 2014

This research was prepared on behalf of the Nicaragua's National Free Zones Commission (CNZF). The report is based on both primary and secondary information sources. In addition to interviews with firms operating in the sector and supporting institutions, the report draws on secondary research and information sources. The project report will be available at www.cggc.duke.edu.

Acknowledgements

The authors would like to thank all of the interviewees, who gave generously of their time and expertise. Duke CGGC would also like to thank the personnel of CNZF, especially Carlos Zuñiga for assisting us in the collection of relevant data.

Duke University, Center on Globalization, Governance and Competitiveness (Duke CGGC)

The Duke University Center on Globalization, Governance & Competitiveness (Duke CGGC) is affiliated with the Social Science Research Institute at Duke University. Duke CGGC is a center of excellence in the United States that uses a global value chains methodology to study the effects of globalization in terms of economic, social, and environmental upgrading, international competitiveness and innovation in the knowledge economy. Duke CGGC works with a network of researchers and scholars around the world in order to link the global with the local and to understand the effects of globalization on countries, companies and the full range of development stakeholders.

Contents

Executive Summary and Overview 1
(1) The Apparel Value Chain in the Post-Quota Era 3
(2) Mapping the Trade Policy Landscape 6
Dominican Republic-Central America Free Trade Agreement (CAFTA) 6
Haitian Hemispheric Opportunity through Partnership Encouragement (HOPE) 9
Proposed Trans-Pacific Partnership (TPP) 10
(3) Nicaragua's Position in the Global and Regional Apparel Value Chain 11
(4) Making the Connections: Linking Regional Trade and U.S. Employment 21
Export and Employment Profile of the U.S. Textile Industry 21
Nicaragua's Textile Import Profile 25
U.S. Employment Related to Textile Trade with Nicaragua 29
(5) Implications of TPL Expiration and Possible Scenarios for the Future of Nicaragua's Apparel Industry 32
(6) Conclusions 38
References 42

List of Tables

Table 1: U.S. Apparel Imports: Regional & Asian Suppliers by Value ($US Mil), 2000-2012 4
Table 2: U.S. Apparel Imports from Regional Suppliers by Value ($US Mil.), 2000-2012 5
Table 3: Nicaragua's Apparel Industry & Free Zone Import & Export Profile 12
Table 4: Employment in Select Nicaraguan Apparel Firms, 2010 and 2013 14
Table 5: Top 10 U.S. Import Categories from Nicaragua by Value and Year (2000-2012) 15
Table 6: U.S. Trouser Imports from Regional Suppliers by Type, 2012 21
Table 7: Top Five U.S. Textile Export Destinations by Value (2002-2012) 23
Table 8: U.S. Textile Exports to Regional Countries, 2012 23
Table 9: Country Share of U.S. Textile Exports by Type, 2012 24
Table 10: U.S. Fabric and Yarn Manufacturers by Segment & Locations 25
Table 11: Nicaragua's Textile Imports by Type 25
Table 12: Woven Fabric Exports to Nicaragua 28
Table 13: U.S. Textile Mill Employment Related to Exports & Exports to Nicaragua 30
Table 14: U.S. Textile Employment Related to Trade with Nicaragua (2011/2012) 31
Table 15: Nicaragua Apparel Company Groups based on Potential TPL Expiration Impact 34

List of Figures

Figure 1: Textile-Apparel Value Chain 3
Figure 2: Employment in Nicaragua's Apparel Industry (2012) 13
Figure 3: U.S. Imports by Product Categories from Leading Suppliers, 2012 (by Value) 18
Figure 4: U.S. Imports by Product Categories from Regional Suppliers, 2012 (by Value) 19
Figure 5: Woven Fabric Exports to Nicaragua: Asian versus Regional Sources, 2000-2012 28

Executive Summary and Overview: The textile and apparel value chain has changed rapidly in the past decade. In the context of trade liberalization and the phase-out of the global quota regime, textile and garment production has become more concentrated in a smaller set of countries, with Asian exporters such as China, Bangladesh and Vietnam claiming an increasing share of the world import market. At the same time, preferential trade agreements have become more important in maintaining textile and apparel production in the western hemisphere. With the looming expiration of the Tariff Preference Levels (TPLs) granted to Nicaragua under the Central American Free Trade Agreement (CAFTA) and the ongoing negotiation of the Trans-Pacific Partnership (TPP), trade policy is at a critical juncture. This report explores these issues by examining how textile and apparel manufacturers in the Americas are linked to the value chains coordinated by U.S. importers. Our key finding is that all segments of the textile and apparel value chain in the Americas—U.S. yarn and fabric manufacturers as well as apparel producers in the CAFTA region—benefit from measures, such as the TPL one-to-one benefit, that encourage importers to maintain or expand their sourcing in the western hemisphere.

Focusing on Nicaragua, a key contribution of this report is the development of a method to estimate the relationship between U.S. textile employment and U.S. garment imports from Central America. Based on an analysis of U.S. employment and U.S. textile exports by product category (see section four), we find that between 298 and 986 U.S. woven and knitted fabric jobs and approximately 180 jobs in supporting industries are directly related to trade with Nicaragua. The main state trading with Nicaragua is North Carolina, which represents one-half to three-quarters of the jobs (251 to 790), followed by Georgia (127 to 159 jobs) and then South Carolina (39 to 141 jobs).

Our statistical analysis, combined with our firm-level research on company strategies, yields evidence of indirect employment effects as well. Specifically, there are companies importing U.S. yarn in Honduras, which is then later exported to Nicaragua in the form of knitted fabric to be sewn into apparel products such as knit shirts. Therefore, in addition to the U.S. textile jobs that depend on exports to Nicaragua, there are employment impacts in the U.S. manufacturing sector connected to regional trade among the U.S., Honduras and Nicaragua.

Expiration of the current TPLs for Nicaragua will almost certainly cause a contraction in that country's apparel manufacturing sector, although implications will vary depending on the type of apparel (knit or woven).

- Because a substantial percentage of Nicaragua's knit garments are entering the United States under the TPL regime, we expect a moderate to significant contraction of Nicaragua's knit apparel industry should the TPLs expire. Several of the largest employers in the country's apparel sector are Nicaraguan subsidiaries of large, diversified knitwear manufacturers based in Asia. When the TPLs expire, these companies are well-positioned to shift orders to factories located elsewhere in their global production networks.

- Woven apparel products count for a much smaller percentage of Nicaragua's apparel exports and employment. Under the current "one-for-one" regime, Nicaragua's TPL allocation is contingent on its use of U.S.-formed bottom weight fabric. Whether or not woven apparel production remains in Nicaragua when the TPLs expire will depend on: 1) Nicaragua's ability to sustain the production of woven fabric; and 2) the degree to which other regional suppliers of denim and khaki (e.g., U.S., Mexico and Guatemala) are cost-competitive with Asian suppliers.

- Although the woven and knit segments of the industry are largely separate at the manufacturing level (i.e., most factories produce one or the other kind of apparel), from the vantage point of buyers this distinction is less salient. Many retailers and brands sourcing apparel need to procure both types of garments, so if there is a sharp contraction in one segment of the industry, it may cause buyers looking to minimize disruption costs to shift their business elsewhere.

- The consequences of TPL expiration for the U.S. textile industry are unclear. If the TPLs expire, some importers will realign their value chain to comply with the yarn-forward rule of origin. Because the United States is the most competitive producer of yarn and (to a lesser extent) fabrics in the Americas, increased compliance with yarn-forward would benefit the U.S. textile industry. But it is also plausible that the loss of the TPLs will lead importers to shift their sourcing to Asia. If this occurs, upstream production and employment in the U.S. textile sector will be negatively affected.

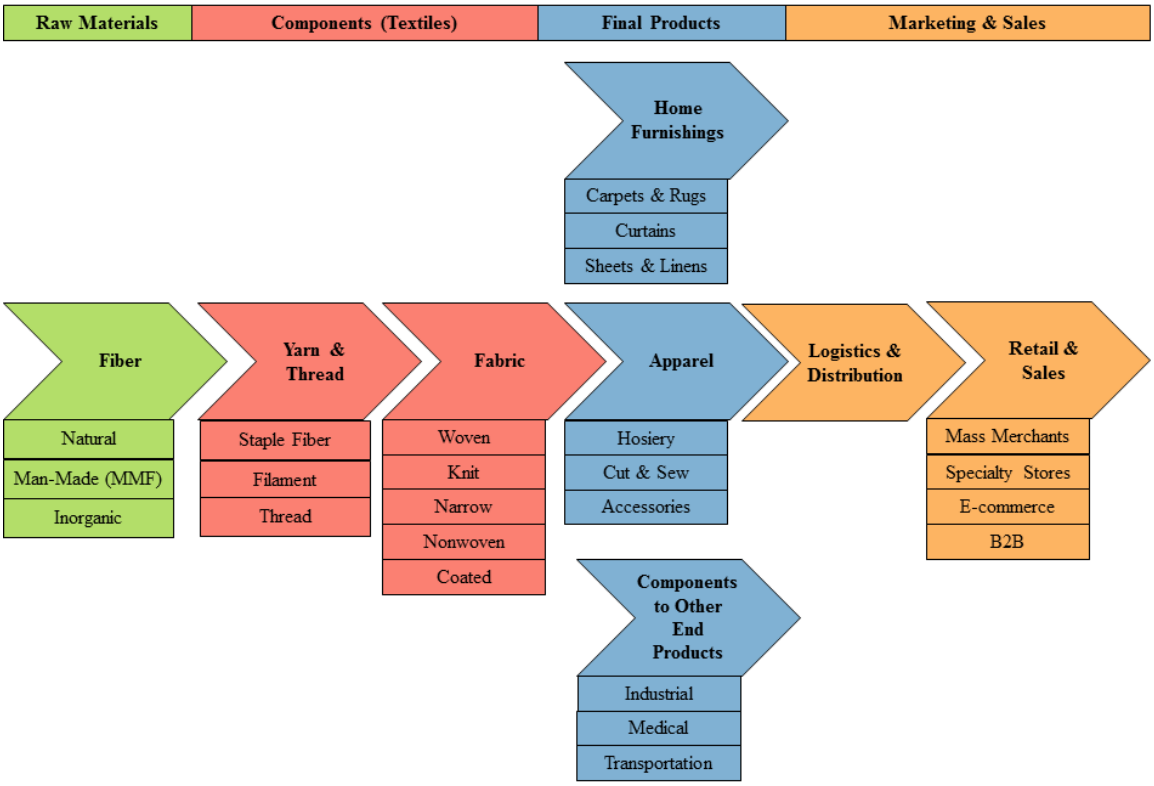
- There is a possibility that a new trade preference will replace the current regime. As of mid-February 2014, two such options have been proposed (the Feinstein and Hagan bills). Either of these proposed bills, should one go forward, may well be modified, and new initiatives may emerge in Congress in the future. However, as currently written the Feinstein bill, which extends the current TPL regime, is much more likely than the Hagan bill to stabilize current employment and production volumes in Nicaragua. The Hagan bill is directed at a small number of importers of woven apparel and would provide no benefit to the knitwear segment of the industry, which generates the bulk of exports and employment.

- Our analysis underscores the importance of advocating for trade policies that encourage the integration of the apparel value chain in the Americas, with an emphasis on employment, trade and investment. A proactive strategy to improve textile and apparel competitiveness is critical not only for the preservation of apparel production in small countries like Nicaragua, but also to maintain a viable textile industry in the United States. If the proposed Trans-Pacific Partnership Agreement is concluded, garments made in Asia are far less likely to contain U.S. inputs than garments manufactured in the hemisphere. Thus, the future of the U.S. textile industry intended for apparel end-uses is closely linked to continued garment production in the Americas, and Nicaragua remains a main source of U.S. apparel imports from the region.

(1) The Apparel Value Chain in the Post-Quota Era

The apparel value chain starts with fibers (natural or man-made), which are used to make two component textile products: yarn and fabric. These, in turn, are inputs for a variety of end products, including apparel, home furnishings and other industrial-use products such as filters, seat belts or disposable medical products. Given our focus on the apparel value chain, we concentrate on those segments of the textile industry that provide components specifically for garments. The apparel value chain is one of the most globally dispersed industries in the manufacturing sector, with dozens of countries playing a role, either in the production of raw materials, such as cotton, and/or in the manufacturing of textiles and apparel.

Figure 1: Textile-Apparel Value Chain



Historically, the geography of textile and apparel production was strongly linked to trade policy. Although this continues to be true, the *way* that trade policy matters is changing. In the past, global garment trade was regulated by a multilateral agreement called the Multi-Fibre Arrangement (MFA), which set quantitative limits (quotas) on the amount of clothing that could be imported from developing countries. These policies provided some degree of protection to textile and clothing manufacturers in developed countries, but they also had the effect of dispersing production globally, since importers managed these restrictions largely by shifting orders across a range of countries according to quota availability. Over a ten-year period beginning in 1995, the quota system was phased-out. With the exception of short-term measures such as transitional safeguards, all quantitative restrictions on imports were eliminated as of January 1, 2005 (Gereffi & Frederick, 2010).

Most experts predicted that the post-MFA liberalization of the global garment trade would result in an even more pronounced shift of textile and apparel manufacturing to Asia, and especially to

China. They also speculated that countries that had relied heavily on the quota system would not be globally competitive in the new environment. While China's export sector did indeed experience significant expansion during and immediately after the phase-out, the pace of growth appears to be slowing. Asia continues to be the most dynamic global region for textile and apparel production, with lower-wage countries such as Bangladesh and Vietnam increasing their market shares, both in Europe and North America. The regional value chain in Asia is highly competitive, with ample amounts of raw material, high-quality textiles, and significant sewing capacity. In addition, many full-package manufacturers based in countries such as China, Hong Kong and South Korea offer design and product development capabilities as well as logistical services. All of these factors account for Asia's growth in the global market, and the region's status as the preferred destination for many companies that seek "one-stop" sourcing (Frederick & Gereffi, 2011).

The apparel value chain's center of gravity in Asia is evident in Table 1, which shows U.S. apparel imports from leading global suppliers. China's $29 billion in apparel exports to the United States in 2012 represented more than one-third of the U.S. apparel import market. While China's exports far outpace those of any other supplier and in absolute terms they increased $5.5 billion between 2009 and 2012, China's growth in U.S. import market share has slowed since 2009. Southeast Asian countries posted significant gains over the past decade. The most dramatic case in this regard is Vietnam. In 2000, Vietnam's exports to the United States were minimal; by 2012, Vietnam's $7.1 billion in exports made it the second largest individual country supplier of apparel to the U.S. market, behind China. At its current rate of growth, the value of Vietnam's exports will soon easily exceed the combined value of exports from all the CAFTA countries.

By contrast, Western hemisphere exporters have seen their exports *decline* in the post-MFA period. The value of Mexico's apparel exports fell by more than a third between 2005 and 2012, while, taken as a whole, the CAFTA region's exports fell by 14%.

Table 1: U.S. Apparel Imports: Regional & Asian Suppliers by Value ($US Mil), 2000-2012

Partner	Value ($US Million)				Share of U.S. Imports (%)				% Change		
	'00	'05	'09	'12	'00	'05	'09	'12	'00-'12	'05-'12	'09-'12
World	**57,232**	**68,713**	**63,105**	**76,811**					**34%**	**12%**	**22%**
China	4,499	15,143	23,503	29,060	7.9	22.0	37.2	37.8	546%	92%	24%
CAFTA-DR	8,973	9,104	6,145	7,797	15.7	13.2	9.7	10.2	-13%	-14%	27%
Vietnam	47	2,725	5,068	7,101	0.1	4.0	8.0	9.2	14918%	161%	40%
Indonesia	2,055	2,875	3,861	4,935	3.6	4.2	6.1	6.4	140%	72%	28%
Bangladesh	2,116	2,372	3,410	4,470	3.7	3.5	5.4	5.8	111%	88%	31%
Mexico	8,413	6,078	3,391	3,696	14.7	8.8	5.4	4.8	-56%	-39%	9%
India	1,786	2,976	2,846	3,041	3.1	4.3	4.5	4.0	70%	2%	7%
Cambodia	808	1,713	1,871	2,534	1.4	2.5	3.0	3.3	213%	48%	35%
Haiti	251	406	513	730	0.4	0.6	0.8	1.0	191%	80%	42%
U.S. Regional	**17,636**	**15,589**	**10,049**	**12,223**	**30.8**	**22.7**	**15.9**	**15.9**	**-31%**	**-22%**	**22%**
Asia	**11,311**	**27,804**	**40,559**	**51,142**	**19.8**	**40.5**	**64.3**	**66.6**	**352%**	**84%**	**26%**
Total Above	**28,947**	**43,392**	**50,608**	**63,365**	**50.6**	**63.1**	**80.2**	**82.5**	**119%**	**46%**	**25%**

Source: OTEXA; Imports by Country by MFA Category: Category 1: All Apparel. Regional includes CAFTA-DR countries, Mexico and Haiti; Asia includes China, Vietnam, Indonesia, Bangladesh, India and Cambodia.

At the same time that *multilateral* trade liberalization is leading to a global shift in the apparel value chain towards Asia, *regional* trade agreements have become increasingly important in strengthening competitive ties between the United States, the largest apparel market in the world,

and its main trading partners. The North American Free Trade Agreement (NAFTA), which was signed in 1994, and the CAFTA, which was signed a decade later, aimed to improve the competitiveness of the U.S. textile industry and apparel exporters from Mexico and the Caribbean Basin in the face of rapid growth of low-cost apparel exports coming primarily from Asia. Of course, as Table 1 makes clear, regional trade agreements have not managed to stave off increasing import penetration from Asian producers. However, the preferential market access that these agreements provide has clearly moderated the extent of the decline in Mexico, Central America, and the Caribbean.

Overall, the share of the U.S. import market claimed by regional exporters has declined since the phase-out of the MFA. The most dramatic contraction occurred in Mexico (from 14.7% of U.S. apparel imports in 2000 to 4.8% in 2012), but the CAFTA countries have also seen their collective market share decrease, from 15.7% in 2000 to 10.2% in 2012. However, the loss in regional market share belies variation *within* the CAFTA region. The Dominican Republic, Costa Rica, and Guatemala have all seen the value of apparel exports decrease between 2000 and 2012. The dollar value of exports from Honduras and El Salvador increased over this period, although their market share declined. Nicaragua has experienced the most dramatic growth in exports over the same period (302%), albeit from a low base, while Haiti's exports—at $730 million, still quite modest—nearly tripled in value between 2000 and 2012.

Table 2: U.S. Apparel Imports from Regional Suppliers by Value ($US Mil.), 2000-2012

Country	Value ($US Million)				Share of U.S. Imports (%)				% Change		
	'00	'05	'09	'12	'00	'05	'09	'12	'00-'12	'05-'12	'09-'12
World	**57,232**	**68,713**	**63,105**	**76,811**					34%	12%	22%
CAFTA-DR	**8,973**	**9,104**	**6,145**	**7,797**	**15.7**	**13.2**	**9.7**	**10.2**	**-13%**	**-14%**	**27%**
Honduras	2,323	2,622	2,032	2,559	4.1	3.8	3.2	3.3	10%	-2%	26%
El Salvador	1,583	1,619	1,298	1,841	2.8	2.4	2.1	2.4	16%	14%	42%
Nicaragua	336	716	892	1,348	0.6	1.0	1.4	1.8	302%	88%	51%
Guatemala	1,487	1,816	1,103	1,240	2.6	2.6	1.7	1.6	-17%	-32%	12%
DR	2,425	1,849	613	649	4.2	2.7	1.0	0.8	-73%	-65%	6%
Costa Rica	819	482	206	160	1.4	0.7	0.3	0.2	-80%	-67%	-22%
Mexico	8,413	6,078	3,391	3,696	14.7	8.8	5.4	4.8	-56%	-39%	9%
Haiti	251	406	513	730	0.4	0.6	0.8	1.0	191%	80%	42%
Total	**17,636**	**15,589**	**10,049**	**12,223**	**30.8**	**22.7**	**15.9**	**15.9**	**-31%**	**-22%**	**22%**

Source: OTEXA; Imports by Country by MFA Category: Category 1: All Apparel

The regional trade agreements or other preferential programs benefitting the countries in Table 2 provide more than market access. From a value chain perspective, they create critical opportunities for strengthening and integrating various linkages across the entire chain, and thus for increasing North America's competitiveness vis-à-vis Asia. This possibility highlights a dramatic shift in the way that trade policy shapes developments in the textile-apparel value chain. In the past, developed countries used the MFA's quota regime *to protect* domestic manufacturing (chiefly, textile) jobs *by preventing imports from developing countries*. In the post-MFA period, trade policy has the potential *to promote* domestic manufacturing *by strengthening value chain linkages to particular countries*.

Identifying and seizing opportunities for value chain integration is particularly important for the small countries of Central America and the Caribbean, none of which, by themselves, are able to develop the broad and deep apparel value chain that large Asian countries such as Bangladesh, Vietnam, and India—let alone China—already possess, or are in the process of developing.

However, it is also important for the region's most advanced textile-manufacturing country: the United States. Our report views trade policy as an opportunity to deepen value chain integration in the region, and to demonstrate this, we will examine flows between different links in the apparel value chain among regional and non-regional producers of yarn, fabric and apparel.

(2) Mapping the Trade Policy Landscape

Mexico, Central America and the Caribbean countries have long enjoyed preferential access to the U.S. market under a variety of special trade regimes with the United States that encouraged assembly networks (also referred to as *maquila* production). Traditionally, companies in the United States were able to export cut parts of garments to lower-wage countries for assembly and re-import under a regime known as production-sharing, or ''807 production'' (for the numbered clause of the U.S. trade law that governs this type of offshore assembly arrangement). In effect, these programs allowed virtually limitless exports of apparel from regional suppliers—as long as the apparel contained fabric that was cut and/or formed in the United States.

In the 1990s, the 807 production/*maquila* model began to be superseded by new regional agreements. In 1994, NAFTA established free trade among Canada, the United States and Mexico. A key provision of NAFTA, and other free trade agreements, are the rules of origin that govern which products qualify as "originating" within the trade bloc. In the case of NAFTA, any garment assembled in Canada, the United States or Mexico is eligible for duty- and quota-free treatment in another NAFTA market as long as it contains yarn and fabrics produced in any of the signatory countries. The special access to the U.S. market that Mexico enjoyed after NAFTA led to a dramatic increase in Mexico's profile among leading apparel exporters, as well as some investment in new textile mills (Bair & Gereffi, 2001). In the late 1990s, Mexico even briefly eclipsed China as the number one supplier of apparel to the U.S. market. Yet despite NAFTA's success in stimulating intra-regional trade within North America, many U.S. textile producers strongly opposed the agreement, at least initially, because they feared that NAFTA's regional rules of origin would cause garment producers in Mexico to replace U.S.-made textiles with fabrics knitted or woven in Mexico.

Meanwhile, manufacturers in Central America and the Caribbean worried that exclusion from NAFTA would hurt the competitiveness of their garment exports, which unlike Mexico's, were still subject to tariffs. The efforts of the Caribbean Basin countries to secure "NAFTA parity" resulted first in the passage of the United States–Caribbean Basin Trade Partnership Act in May 2000, and finally in the successful negotiation of the Dominican Republic-Central America Free Trade Agreement (hereafter CAFTA), which was concluded in 2004. Although Haiti is not a CAFTA member, it benefits from preferential access to the U.S. market via several different initiatives. Meanwhile, in addition to these regional trade agreements, the United States is currently negotiating the Trans-Pacific Partnership (TPP) with a large number of countries. Each of these current or pending initiatives has implications for the apparel value chain, and their key provisions are summarized below.

Dominican Republic-Central America Free Trade Agreement (CAFTA)

The countries participating in the CAFTA—the United States, Costa Rica, Dominican Republic, Honduras, Guatemala, El Salvador and Nicaragua—ratified and implemented the treaty individually, which meant that it became operative in different member countries at different times. In Nicaragua, CAFTA entered into force in April 2006.

There are several key dimensions of CAFTA that warrant mention here:

Rules of origin: The rules of origin for CAFTA are yarn-forward. This means that CAFTA countries enjoy preferential access to the U.S. market for all apparel that is sewn in a member country from fabric either woven or knit from yarn extruded within the CAFTA region. There are some exceptions to the yarn-forward rule of origin for specific products. For example, wool apparel only needs to be sewn in the region from wool fabric produced in the region in order to qualify as originating.

Tariff Preference Levels (TPLs): Given the lower cost, greater availability, and in some cases better quality of Asian fabrics, an additional provision of CAFTA allows Nicaragua to receive preferential access to the U.S. market for a certain quantity of apparel sewn in Nicaragua from materials that do not meet CAFTA's rules of origin. Nicaragua was the only CAFTA country to receive a significant allocation of these so-called Tariff Preference Levels (TPLs); the maximum amount of non-originating garments that are permitted to enter the United States under the terms of CAFTA is 100 million square meter equivalents (SMEs) per year. The CAFTA also specified that TPLs would be granted for a 10-year period, meaning that they are due to expire at the end of 2014. Costa Rica received a much narrower TPL benefit for specific products (tailored apparel and post-mastectomy swimwear).

The "one-to-one" rule: To ensure a benefit in return for its concession on the TPLs, the United States added an additional condition to the TPLs for trousers made of woven fabrics. This condition is known as the "one-to-one" rule. Under this rule, each shipment of pants made from woven fabrics (either cotton or man-made fiber) that is imported under Nicaragua's TPL allowance must be matched with a shipment of pants made from cotton fabric woven in the United States from yarns extruded in the United States. The quantity of pants subject to the one-to-one rule gradually increased from the first 20 million SMEs in 2006 to the first 50 million SMEs today. Any shortfall in the commitment is then charged against the TPL for the succeeding year, thus reducing the volume of garments made from non-originating fabrics that can be given duty-free access the U.S. market.

Cumulation: The mechanism of cumulation with Mexico and Canada allows garments made in Central America or the Dominican Republic from fabric woven in these countries to qualify as originating under CAFTA. The amount of Mexican- or Canadian-made fabric that can be used in CAFTA-qualifying garments is limited to 100 million SMEs, although the provision allows for the possibility of the cap to be increased to 200 million SMEs, contingent on growth in CAFTA trade volumes.

Commercial Availability Provision (also known as "short supply"): This mechanism allows the apparel and textile industry to petition for duty-free access for garments that do not meet the CAFTA rules of origin on the grounds that the fabric or yarn used in the garment cannot be supplied in the region in an adequate and timely manner or is unavailable from regional suppliers in sufficient quantity.

In 2012, about 78% of Nicaragua's exports by volume to the United States entered the country duty-free under a variety of different special trade regimes: 24% were granted TPLs, and another 53.5% qualified under CAFTA's rules of origin. In terms of dollar value, as opposed to volume (measured as million SMEs), Nicaragua's dependence on TPLs was more pronounced. Non-qualifying apparel receiving TPLs covered 42% of the country's exports to the United States, while just less than 39% of exports qualified as regional under CAFTA's rules of origin. While

still significant, the country's reliance on TPLs has declined somewhat in recent years; in 2009, TPLs covered 47% of Nicaragua's exports by value (compared to 42% in 2012).

Not surprisingly, given Nicaragua's status as the only CAFTA country granted TPLs, the percentage of its exports to the U.S. that qualify as originating in the region is considerably lower than that of other regional exporters. A full 95% of Honduras's exports (by both volume and value) to the United States were imported under CAFTA's rules of origin, and percentages for El Salvador were similar (93% by volume, 94% by value). Guatemala's import profile, on the other hand, is more similar to Nicaragua's; 59% of its exports by volume and 68% by value qualified as originating. Notably, full duty was paid on one-third of Guatemala's exports to the United States (39% by volume and 31% by value).

The looming expiration of Nicaragua's TPLs is creating uncertainty on the part of importers, who are deciding whether and how the elimination of this preference will affect their sourcing decisions, as well as on the part of many manufacturers in the region, who worry that losing duty-free access to non-qualifying textiles will negatively affect their competitiveness and lead to a loss of orders from U.S. buyers. It is important to emphasize that although the TPLs are officially allocated by the Nicaraguan government to specific manufacturers, the use of TPLs is coordinated between manufacturers and their clients; for example, importers may use TPLs as part of a broader sourcing strategy, such as developing a weighted cost for the mix of products they are procuring.

Moreover, the implications of the TPL expiration for *U.S. textile manufacturers* are also unclear. One scenario is that apparel manufacturers in Nicaragua will increase their purchases of U.S. yarns and fabric once they can no longer use TPLs to gain duty-free access to the U.S. market. But it is also plausible that the loss of the TPLs will lead the *clients* of Nicaragua's apparel manufacturers—U.S. buyers and brands—to shift their orders to other countries, causing a contraction in Nicaragua's export sector. The likelihood of this second scenario is increased by the fact that a number of the largest manufacturers in Nicaragua already have factories in Asia that could absorb whatever business is relocated from Nicaragua. If this occurs, upstream production and employment in the U.S. yarn and textile sector will be negatively affected.

To date, two pieces of legislation have been proposed to address the expiration of Nicaragua's TPLs. On June 11, 2013, Senator Diane Feinstein of California introduced the "Nicaraguan Tariff Preference Level Extension Act of 2013" (S.1136), which would extend the current TPL plus one-to-one regime for another ten years. More recently, in December 2013, Senator Kay Hagan of North Carolina introduced the "Extending Incentives for Exporting American Textiles Act of 2013" (S.1883). While the Feinstein bill offers a straight extension of the existing system, the Hagan bill replaces the TPL mechanism with an Earned Import Allowance Program.

Like the one-to-one proviso of the current TPL arrangement, the Earned Import Allowance Program aims to promote the sale of U.S. textiles by granting producers that use fabrics formed in the United States from U.S. yarn an allowance to import an equivalent amount of non-qualifying garments into the United States duty-free. But unlike the TPL plus one-to-one system (which deals retroactively with "shortfalls" by reducing the size of next year's TPL allowance), the Earned Import Allowance Program enforces the matching requirement prospectively. The Allowance to import a non-qualifying garment is granted only after the U.S. fabric is purchased and a credit is deposited into company-specific account controlled by the Office of Textiles and Apparel (OTEXA) at the U.S. Department of Commerce.

The Earned Import Allowance Program envisioned in the Hagan bill differs from the current TPL regime (or its extension, as proposed in the Feinstein bill) in two significant ways. First, it would eliminate any role for the Nicaraguan government in the management of the TPLs. Under the current system, TPLs are controlled by Nicaragua's Free Trade Zone Commission, which allocates them according to a formula designed to pursue specific national economic goals, including job creation and foreign direct investment. In contrast, the Earned Import Allowance Program would be managed by the U.S. government, and allowances would be awarded only to the specific producers that earn them by using U.S.-formed fabric. Second and relatedly, the Earned Import Allowance Program would apply to a narrower range of apparel products—specifically, trousers, breeches and shorts. This means that producers of Nicaragua's leading apparel product—knit shirts—would no longer be able to receive duty-free access for any of their products that do not qualify under the CAFTA. Given CAFTA's yarn-forward rule of origin, this means that all knitted apparel exported to the United States must be made from yarn extruded in the United States or one of the CAFTA countries. In section five of this report, we return to the issue of TPL expiration and provide a more detailed discussion of various scenarios.

Haitian Hemispheric Opportunity through Partnership Encouragement (HOPE)

Since 2000, the U.S. Congress has implemented numerous pieces of legislation to promote Haiti's export-oriented apparel industry. In 2000, Congress granted duty-free access to qualifying apparel exports from Haiti (and other countries in the region) with the passage of the Caribbean Basin Trade Partnership Act (CBTPA). In 2006, the Haitian Hemispheric Opportunity through Partnership Encouragement (HOPE) Act expanded access for apparel exports, which included granting Haiti TPLs for woven garments.

In 2008, the HOPE Act was amended to deepen and extend the benefits created in the initial legislation. The resulting program, known as HOPE II, expanded Haiti's TPL allocation to include knit products, and extended the timeframe for the TPLs. Up to 400 million SMEs of non-originating apparel can enter the U.S. market from Haiti each year (a TPL benefit four times greater than Nicaragua's). Haiti's TPLs are not only larger than Nicaragua's, they are also of longer duration, extending through 2018 instead of 2014.

In addition to expanding market access for Haitian exports via TPLs, HOPE II also created an Earned Import Allowance Program (EIAP) similar in form to the one that the Hagan bill proposes for Nicaragua.[1] Originally, the EIAP was based on a "3-for-1" ratio, meaning that Haitian producers could receive a credit to export one SME of non-qualifying fabric for every three SMEs of U.S.-formed fabric contained in already-exported garments. Because the program was virtually unused, the ratio was changed from 3-to-1 to 2-to-1 as part of the Haiti Economic Lift Program (HELP) Act, which was passed by Congress in 2010. Initially, this change still appeared insufficient to incentivize use of the EIAP among exporters in Haiti. During the first nine months of 2011, Earned Import Allowances covered only $350,000 worth of apparel, or less than 1% of Haiti's garment exports. However, a study conducted by the U.S. Government Accountability Office in 2012 found that the value of exports under the EIAP increased to nearly

[1] Since December 2008, a 2-for-1 Earned Import Allowance Program for woven bottoms manufactured in the Dominican Republic has been in effect. Assessments from both Dominican and U.S. observers suggest that the program has been ineffective in stemming the pronounced and prolonged contraction of the Dominican garment sector (see, for example, USITC Publication 4340, July 2012; http://www.usitc.gov/publications/332/pub4340.pdf).

$18 million during the first nine months of 2012, representing 4% of the value of apparel imported from Haiti during this period (U.S. GAO, 2012).

Proposed Trans-Pacific Partnership (TPP)

The Trans-Pacific Partnership (TPP) is a free trade agreement currently being negotiated by 12 countries on four continents. Although considered a regional (Pacific Rim) trade initiative, the TPP would create a far more geographically expansive trade bloc than any existing agreement. The nations currently participating in the TPP negotiations are Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam. In addition to its geographic scope, the TPP is the first major trade agreement with significant implications for the apparel value chain that has been negotiated since the full-phase out of the quota regime in 2005.

As of March 2014, the status of the TPP and more so the precise content of any future agreement, remains unclear. As in other trade agreements, provisions governing trade in textile products will be sensitive to negotiate, given that lower-cost countries with competitive apparel sectors (in this case, Vietnam) will prioritize market access for their garment exports, and others (especially Mexico, which already enjoys access to the U.S. market under NAFTA) will be concerned about preserving their existing textile and apparel sectors from the increased competition. Regional exporters, including Mexico, the CAFTA countries, and Haiti, as well as various exporters in Africa and Asia that benefit from existing trade agreements with the United States, joined with the U.S. textile industry to create the Textile and Apparel Alliance for TPP (TAAT) in early 2012.[2] The TAAT is advocating: 1) a more gradual timeline for reducing tariffs on U.S. imports from TPP members; 2) trade rules that do not disadvantage private firms competing with subsidized state-owned enterprises; and 3) a strong yarn-forward rule of origin (TAAT 2012). Although the U.S. administration has repeatedly maintained that all future trade agreements will include a yarn-forward rule of origin, uncertainty remains regarding related issues such as the process for exempting non-originating inputs that are deemed to be in "short supply" within the TPP region.

In contrast to the position staked out by TAAT, U.S. importers of apparel would prefer an agreement with more flexible rules of origin. Instead of a yarn-forward rule, which would grant duty-free access only to garments made from yarn knitted or extruded in the TPP region, a so-called single transformation or tariff shift rule would require only that the garment be produced (e.g., knitted to shape or sewn) in a TPP-signatory country in order to qualify as originating. For the last several years, this position has been advocated by the TPP Apparel Coalition, which includes a number of different industry associations including the American Apparel and Footwear Association and the National Retail Federation.[3]

What makes the TPP such an important and controversial agreement from the vantage point of the textile and apparel industry is the participation of Vietnam, which already boasts a relatively mature apparel industry. Of the approximately 3,200 establishments in Vietnam's textile and apparel sector in 2009, a full 75% were garment factories (Staritz & Frederick, 2012).[4] On the apparel side, U.S. manufacturers such as Hanesbrands and Fruit of the Loom have subsidiaries in

[2] The group's formation and purpose are described in the letter of introduction TAAT sent to U.S. Trade Representative, Ambassador Ron Kirk, in February 2012: www.ncto.org/Newsroom/Ltr-2012-0229--TAATKirkIntroletter.pdf.
[3] For additional information, see www.tppapparelcoalition.org.
[4] From pg. 479; statistic is based on data from the Vietnam Textile and Apparel Association (VITAS)

Vietnam, while many others, including Levi's and VF, source from independent suppliers in the region.

Although Vietnam lacks the kind of diverse and well-developed textile base found in neighboring China, the sector is a strategic priority for the Vietnamese government. The Ministry of Trade and Industry has pledged to increase fabric production to 2 million metric tons, and to expand significantly its manufacture of synthetic fiber. Vinatex currently controls 60% of the country's textile capacity, and is making regular investments in the sector. In 2013 alone, Vinatex expected to invest $476 million in a combination of projects to expand production of yarn and apparel. Vietnam's textile sector also receives significant foreign investment from other Asian countries, including Japan, South Korea, Taiwan, and China. In contrast, U.S. investment in Vietnam's textile sector has been rather limited. The International Textile Group's Cone Mills Corporation participated in a joint venture in Vietnam involving both a textile mill (producing twill fabric) and a sewing facility (making twill trousers)—both of which are no longer operational.

Exports of U.S. yarn and textiles to Vietnam are negligible, at only $63 million in 2012 (OTEXA, 1989-2012). While yarn-forward rules of origin could hypothetically generate increased demand for U.S. inputs among Vietnamese apparel manufacturers, the more likely medium-term scenario is that Vietnam will develop its own domestic textile base, fueled by investment from other Asian countries looking to take advantage of Vietnam's lower costs and market access under the TPP.

(3) Nicaragua's Position in the Global and Regional Apparel Value Chain

A number of key issues in the trade policy landscape are still evolving. Without question, developments such as the expiration (or extension) of the TPL, or the successful conclusion of the TPP negotiations, will impact the apparel value chain, both globally and in the Americas. However, in order to predict the nature of this impact, it is critical to understand the current status of the industry, both in Nicaragua and in the CAFTA region more broadly. In 2010, the Center on Globalization, Governance & Competitiveness (CGGC) at Duke University conducted a study of the apparel industry in Nicaragua.[5] This report provided a benchmark that we use in assessing how Nicaragua's industry has been developing over the past several years. Specifically, we ask: Is Nicaragua's position in the apparel value chain changing? In particular, is there evidence that Nicaragua has succeeded in expanding or upgrading its industry in terms of the range of apparel items produced, the type of capabilities utilized, and/or the kind of buyers that are sourcing from the region? To what degree is Nicaragua competing head-to-head for import market share with other exporters in the region and/or globally? Finally, what is the status of value chain integration in Nicaragua and within the region? Specifically, is Nicaragua forging links between its apparel manufacturers and textile producers elsewhere in the region?

To answer these questions, we analyzed three types of information: 1) data from the Nicaraguan National Free Trade Zone Commission (CNZF) that allow us to look at trends in employment within the sector at the factory level to get a sense of where growth or contraction is occurring; 2) interviews with manufacturers producing in Nicaragua and/or buyers sourcing from Nicaragua

[5] The final version of this study, which was commissioned by U.S. Agency for International Development / CARANA and the National Free Zones Commission (CNZF/Government of Nicaragua), can be found here: www.cggc.duke.edu/pdfs/2010-12-20_Gereffi_Bair_Nicaragua-apparel-report.pdf

and other countries in the Americas and Asia; and 3) disaggregated trade data showing trends at the product level. In this section, we use these types of data to discuss three issues in turn: 1) Nicaragua's progress in upgrading its industry; 2) its profile vis-à-vis other exporters in the Americas and in Asia; and 3) the degree to which its competitiveness may be enhanced by a more regionally integrated supply chain.

Recent Evolution of Nicaragua's Apparel Industry

Nicaragua's apparel industry has continued to grow since 2010. In 2012, Nicaragua's free trade zone sector hosted 71 establishments dedicated to the production of textiles and apparel, which represented 43% of the total number of establishments in the country's export sector (compared with 60% in 2007).[6] Of these, 26 companies focused on knitted apparel, 19 on woven apparel (three of which were engaged in woven apparel finishing), seven produced knit and/or woven apparel, eight engaged in screenprinting, and five were involved in trim (thread, embroidery and labels) (see Figure 2). On the textile side, there was one woven fabric finisher (an importer of greige goods that finishes the fabric into twill for pants), one knitted fabric mill slated to open in 2013, and one idle woven fabric manufacturing plant (though this facility was poised to resume production at the time of writing) (Bair & Gereffi, 2013a, 2013b; CNZF, 2012).[7] In 2012, these factories employed 70,687 people—a historic high for Nicaragua—and generated more than two-thirds (68%) of employment in the country's free trade zones (CNZF, 2013a, 2013b).

Table 3: Nicaragua's Apparel Industry & Free Zone Import & Export Profile

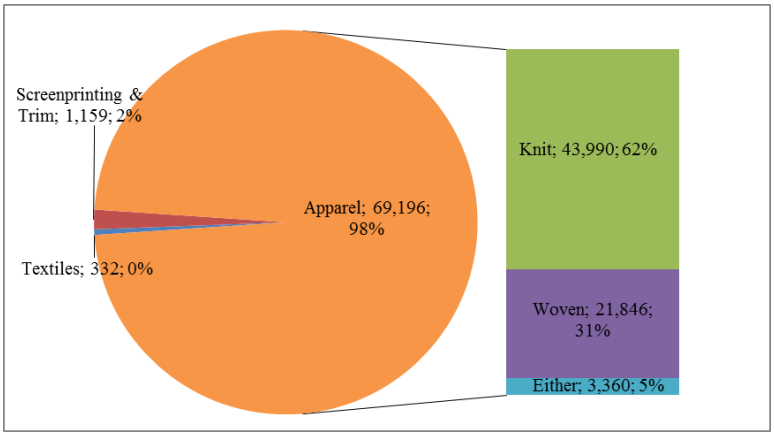
	2002	2004	2006	2008	2010	2012	2013 (Nov)	2002 – '12 % Change
Establishments	35	54	71	70	74	71*	60*	103%
Employees	32,220	40,940	61,532	50,712	59,681	70,687	69,817	119%
T&A Imports ($US Million)	257	407	550	771	687	871	--	239%
T&A Exports ($US Million)	322	485	698	762	1,013	1,368	1,426	326%
T&A Share of All Free Zone Imports	96.1%	92.2%	85.0%	63.6%	65.3%	57.6%	--	
T&A Share of All Free Zone Exports	92.7%	81.3%	77.9%	61.4%	64.4%	58.8%	--	

Source: (CNZF, 2013a); data for 2013 is preliminary; (*) official statistics report 71, however 11 did not have employment or exports in 2012.

[6] Official statistics report 71; however 11 did not report employment, exports or value-added in 2012.

[7] The plant in question, Cone Mills' denim plant, was sold in October 2013 to the Honduras-based manufacturing group, Grupo Karim. Grupo Karim plans to develop integrated operations for woven apparel in Nicaragua, which will complement the company's existing strengths as a vertically-integrated manufacturer of knit apparel.

Figure 2: Employment in Nicaragua's Apparel Industry (2012)



Sources: (CNZF, 2010-2013, 2013a)

In order to determine if the growth in employment is being driven by a particular set of firms, we used data from CNZF to update factory-level employment for the 28 companies interviewed in earlier studies. Table 4 shows the results of these comparisons. Companies with significant employment growth are highlighted in green, while companies highlighted in red registered sizable losses in employment. We found that the most significant employment gains have occurred in establishments manufacturing knit apparel. In employment terms, this segment continues to be the mainstay of the sector. In 2013, the three largest companies employed more than 18,529 workers. Of the two factories that registered declines in employment, both were engaged in the manufacture or finishing of woven bottoms.

Table 4: Employment in Select Nicaraguan Apparel Firms, 2010 and 2013

Firm ID	Products	Ownership	Emp. 2010/2011	Emp. 2013 (Nov)	Emp. % Change
K1	Knit intimates	USA	1,300	933	-28%
K2	Knit tops	USA	1,100	1,270	15%
K3	Knit (MMF) athletic wear	USA or Honduras	1,400	2,146	53%
K4	Knit tops	Korea	5,200	6,794	31%
K5	Knit T-shirts & underwear	Canada	5,500	5,725	4%
K6	Knit tops and bottoms	Korea	5,600	4,808	-14%
K7	Knit tops	Hong Kong	700	783	12%
K8	Knit tops	USA	1,250	1,202	-4%
K9	Knit athletic wear	Korea	2,100	3,384	61%
K10	Knits W&G, mostly tops	Korea	2,777	4,194	51%
K11	Knits M&B (polo & T-shirts)	Honduras	680	701	3%
K12	Knit shirts, some underwear	El Salvador or Nicaragua	1,075	1,126	5%
K13	Knit sportswear and caps	USA	330	753	128%
K14	Knits	Korea	1,250	1,890	51%
W1	Woven pants	Mexico or Nicaragua	3,900	0	-100%
W2	Woven pants, mostly twill	USA	2,500	2,735	9%
W3	Pants for uniforms	USA	1,200	2,212	84%
W4	Woven pants (twill)	USA	1,600	1,994	25%
W5	Woven pants (twill, denim)	Mexico/USA JV	1,600	1,777	11%
W6	Woven pants, mostly denim	USA	2,000	2,323	16%
W7	Woven bottoms, denim & twill	USA	800	1,257	57%
W8	Woven pants, mostly denim	USA	1,100	1,623	48%
W9	Finish/launder pants	Mexico	1,100	1,470	34%
W10	Woven bottoms	Taiwan	1,200	1,604	34%
W11	Men's woven shirts	Taiwan	3,000	2,867	-4%
W12	Uniforms	Trinidad & Tobago	200	0	-100%
W13	Uniforms	USA	1,000	960	-4%
T1	Finish twill fabric	Taiwan	265	231	-13%

Source: Fieldwork conducted by the authors in 2010 and 2011 and CNZF data for November 2013.

Companies with employment growth greater than 30% are highlighted in green; companies highlighted in red registered losses greater than 30%. Companies designed by a "K" in the firm ID column make "knit" products, and those designed by a "W" make woven goods.

Nicaragua's aggregate export profile is consistent with these firm-level employment data. Knit shirts and trousers account for 87% of Nicaragua's total exports to the United States, up from 75% in 2000. The larger of these two categories is knit shirts, with 58% of the total. The single largest export product is cotton knit shirts for women and girls (W&G), which alone accounts for more than a quarter of the country's clothing exports (up from 12% in 2000).

Overall, the share of knit shirts in Nicaragua's export profile has more than doubled over the last 12 years, whereas the share of trousers has been on the decline. Indeed, knit shirts and woven trousers have almost reversed positions among leading apparel categories between 2000 and 2012. The relative importance of trousers in Nicaragua's export profile has fallen sharply, from 53% in 2000 to 29% in 2012. Between 2005 and 2012, exports of W&G trousers have also fallen in value terms, while the value of men's and boys' trousers increased over the same period. Since this period more or less overlaps with the one-to-one matching requirement for bottom weight fabric (which went into effect in 2006), the lackluster performance of trouser exports since 2005

may reflect the effects of the one-to-one provision on Nicaragua's competitiveness in this product niche.

The majority of U.S. apparel imports from Nicaragua are cotton-based (71%). While still relatively small, the share of MMF products has grown 534% between 2000, when they were 18%, and 2012, when they represented 29% of U.S. imports.

Table 5: Top 10 U.S. Import Categories from Nicaragua by Value and Year (2000-2012)

MFA Description	MFA Category	Value ($US Million)				Share of All Apparel (%)		Years in Top 10 or % Change
		2000	2005	2010	2012	2000	2012	
Textiles & Apparel	0	336	716	1,018	1,349			
Apparel	**1**	**336**	**716**	**1,017**	**1,348**			302%
W&G Knit Shirts: Cotton	339	42	153	292	358	12%	27%	'00-'12
M&B Knit Shirts: Cotton	338	28	69	163	210	8%	16%	'00-'12
M&B Trousers: Cotton	347	103	176	146	226	31%	17%	'00-'12
M&B Knit Shirts: MMF	638	--	--	74	152	--	11%	'07-'12
W&G Trousers: Cotton	348	66	106	78	84	20%	6%	'00-'12
M&B Trousers: MMF	647	5	35	37	63	2%	5%	'00-'12
W&G Knit Shirts: MMF	639	3	12	41	62	1%	5%	'00-'12
M&B Woven Shirts: Cotton	340	29	23	28	38	9%	3%	'00-'12
Bras; Body Support: MMF	649	25	41	--	21	7%	2%	'00-'12
M&B Other Coats: MMF	634	--	--	23	21	--	2%	'10-'12
Underwear (Knit): Cotton	352	--	--	46		--	--	'10
M&B Woven Shirts: MMF	640	17	16	--	--	1%	--	'00-'07
W&G Trousers: MMF	648	4	26	--	--	5%	--	'00-'07
Top 10 Share of Total						**96%**	**92%**	--
Cotton & MMF Knit Shirts		73	78	570	782	22%	58%	966%
Cotton & MMF Trousers		178	210	275	391	53%	29%	119%
Knit Shirts & Trousers						**75%**	**87%**	366%
Cotton Apparel	31	271	561	764	957	81%	71%	253%
MMF Apparel	61	62	151	253	391	18%	29%	534%

Source: OTEXA; Top 10 categories in 2000, 2005, 2010 and 2012. Trousers: breeches and shorts. Woven represented by "non-knit." (--) indicates category was not in the top 10 in the given year or not applicable.

Product Upgrading

Within the apparel industry, the unit values of products and product categories vary significantly. A rank ordering of the product categories from the highest to lowest relative unit values in 2012 is: coats, formalwear, woven shirts, trousers, knitted shirts and intimate apparel.[8] Within the knitted shirt category, MMF-knitted shirts had higher unit values than cotton knitted shirts ($45/dozen compared to $35/dozen) in 2012, and MMF-knitted shirts have been around $10 more per dozen since at least 2005 ($43/doz. compared to $33/doz.).

Nicaragua, and the CAFTA region as a whole, is primarily competing in lower unit value segments of the chain (knitted shirts and intimate apparel). Nicaragua's shift to a higher overall share of MMF-knitted shirts is an indication that the country has moved towards higher value products. However, as Table 5 shows, MMF-knitted shirts continue to represent a modest percentage of total knit shirts.

[8] Based on data from OTEXA for 2012; only includes products measured in dozens.

While the unit values of apparel exports vary *across* product categories, significant variation can also exist *within* a particular category. For example, although knit shirts generally have low unit values, this category includes both basic cotton t-shirts that retail for $10, and replica jerseys for professional sports team uniforms with a wholesale price of $30. The higher wholesale price for the jersey would reflect not only a more expensive fabric, but also a more complex production process and comparatively more needlework (e.g., embroidery).

Although the vast majority of Nicaragua's knitwear exports consist of basic commodity garments, it is encouraging in terms of product upgrading that two of the companies that registered sizable increases in employment between 2010 and 2013 produce more complex types of sportswear for brands such as Under Armour and Adidas. As opposed to volume discount stores such as Walmart, these brands offer a greater variety of products for which speed to market is important. Servicing such clients is an important opportunity for Nicaragua, given Central America's proximity to the United States. In addition, a few of the higher-end brands sourcing from Nicaragua have not relied as extensively on TPLs for their exports. Although the quantities that are currently being produced for these clients are minimal compared with the high-volume retailers such as Walmart and Target, they represent a potential growth opportunity for the post-TPL era.

End-Market Diversification

Over the course of Nicaragua's history as an apparel exporter there has been minimal evidence of export diversification. In 1992, 99.5% of Nicaragua's apparel exports went to the United States. Twenty years later, 95.6% went to the United States (UNSD, Various).[9]

Backward Linkages and Expansion beyond Apparel Assembly

There are several categories of industry-specific backward supply chain linkages and subcontracting opportunities in the apparel industry. These include: (1) direct raw material inputs (e.g., fabric and yarn); (2) apparel trim and accessories (e.g., buttons, zippers, thread, elastic, labels, hangers); (3) non-essential inputs such as packaging (e.g. cartons and poly bags); (4) capital equipment and machinery parts manufacturers or suppliers; and (5) subcontractors that perform a portion of assembly or finishing activities on behalf of another firm (e.g., sewing, embroidering or screen printing) (Staritz & Frederick, 2014).

The most important backward linkage is to the textile sector, since fabrics are the most expensive input into apparel production and the quality of the textiles is directly related to the quality of the final product. However, in contrast to apparel production, textile production is more capital-, skill- and scale-intensive, and therefore developing backward linkages from apparel to textiles is a challenge for many garment-exporting countries. A rather large apparel sector, locally or regionally, is generally required to attract investment in fabric production, particularly in the woven segment (Staritz & Frederick, 2014).

Compared with other CAFTA countries, Nicaragua's textile industry is underdeveloped; the allocation of TPLs to Nicaragua was in recognition of this fact, with the intention that Nicaragua would use the TPL period to attract investors and develop its textile industry. These plans were complicated by the economic crisis that began in 2008. Nicaragua did succeed in attracting investment from U.S.-based International Textile Group's Cone Mills Corporation, which built a woven textile mill in Nicaragua. However, this mill was shuttered less than two years after it inaugurated operations in 2008. The facility was recently purchased by Honduras-based Grupo

[9] Apparel defined as HS 61 and HS 62 as reported.

Karim, a vertically-integrated knit apparel manufacturer that is looking to expand into the woven apparel market. As noted above, Nicaragua also has a textile finishing facility, which converts imported greige goods into twill fabric. However, because some of the fabric that is finished in this facility contains non-originating yarn, fabric purchased from this facility does not necessarily qualify as originating under CAFTA's yarn-forward rule of origin.

Another avenue for upgrading the value-added in Nicaragua's apparel industry is by extending beyond apparel assembly the types of activities performed locally. Although we identified a few factories that have added activities, the number of establishments and workers in supporting industries, such as trim and screenprinting, remains modest. Between 2007 and 2012 employment in these activities in Nicaragua increased by 16%, but the size of the industry is small at 1,145 employees in 2012 (CNZF, 2013a, 2013b). Few locally owned subcontractors or apparel manufacturers have emerged in the country, either as factory owners or partners in joint ventures with foreign-owned firms, suggesting limited knowledge-related spillovers.

Industrial Relations and Labor Climate

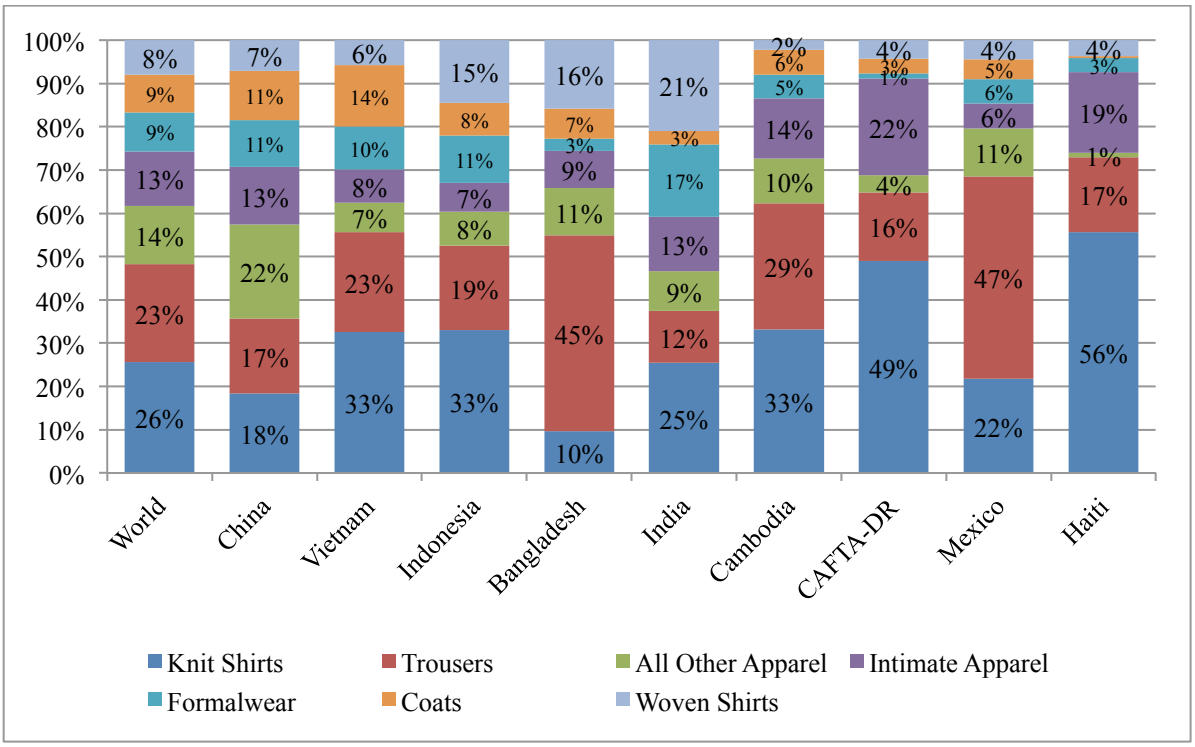
In 2010 and 2011, when conducting research for our earlier report, industry stakeholders in Nicaragua expressed confidence that the country's relatively favorable industrial relations environment, as exemplified by the Tripartite Commission, was a significant advantage that distinguished Nicaragua from its competitors. Our follow-up research cast some doubt on this interpretation. Specifically, in two interviews U.S. importers expressed concern that the Tripartite Commission, as it currently functions, is not doing all it can to facilitate open and constructive dialogue among all stakeholders.

The centerpiece of the three Tripartite Agreements that have been negotiated and signed by the Commission is the schedule for pre-determined minimum wage increases. To be sure, these schedules create greater certainty regarding labor costs. This facilitates medium-term planning for manufacturers and their clients, which may, in turn, help attract or consolidate apparel production in Nicaragua. At the same time, an excessive focus on the wage issue also sends the signal that the industry is staking its competitiveness on a strategy of minimizing labor costs. This perception may be reinforced by a lack of adequate progress on other components of the Agreement, such as the housing program and the subsidized commodities that are to be made available to workers, as well as other recent developments on the labor front, including changes in the administration and interpretation of the country's labor law and reports of freedom of association violations. In short, while the country's industrial relations climate still compares favorably with many of its regional and global competitors, there is mixed evidence regarding the degree to which the Tripartite Commission is helping Nicaragua's manufacturers take the "high road" to competitiveness.

Nicaragua's Export Performance in Comparative Perspective

Nicaragua's export profile is similar to that of the CAFTA region as a whole. Knit shirts account for almost half (49%) of apparel exported to the United States from the CAFTA countries. The only major supplier in Asia or the Americas with a higher concentration in that product category is Haiti (56%). Overall, the CAFTA countries are less focused on trousers than their competitors in Southeast Asia; while only 16% of CAFTA's exports are trousers, the corresponding percentages for Bangladesh, Cambodia and Vietnam are 45%, 29%, and 23%, respectively. Asian suppliers (especially India, Bangladesh and Indonesia) also supply more of the woven shirts imported into the United States, while the CAFTA countries and Haiti are relatively more important producers of intimate apparel (Figure 3).

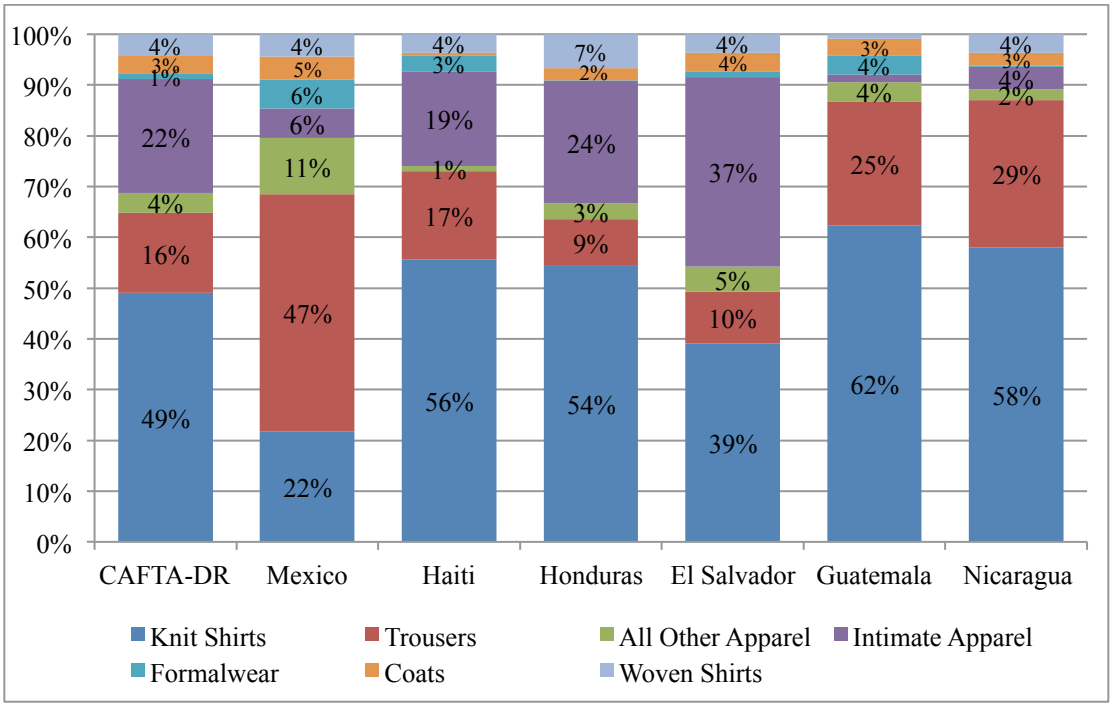
Figure 3: U.S. Imports by Product Categories from Leading Suppliers, 2012 (by Value)



Source: OTEXA; Imports by Country by MFA Category (by Value); product categories collectively represent all U.S. apparel imports by the listed countries. CAFTA-DR: El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica and the Dominican Republic.

Within the CAFTA region, Nicaragua has an exceptionally high dependence on its chief export category, knit shirts (58% of total apparel exports to the United States). As Figure 4 shows, Guatemala, Haiti and Honduras have similar figures (62%, 56% and 54% respectively). El Salvador and Honduras, both of which boast relatively well-developed knitting capabilities, are strong in knitted shirts as well as intimate wear (specifically, underwear and hosiery). Among the region's exporters, Mexico's export profile is the most diversified. It is far more focused on trouser production than other hemispheric exporters—pants account for almost half of Mexico's apparel exports—but it also produces formalwear (6%), intimate apparel (6%), coats (5%), and other apparel (11%).

Figure 4: U.S. Imports by Product Categories from Regional Suppliers, 2012 (by Value)



Source: OTEXA; Imports by Country by MFA Category by value; product categories collectively represent all U.S. apparel imports by the listed countries. CAFTA-DR: El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica and the Dominican Republic.

Nicaragua's reliance on knit shirts has increased over the course of the last decade. From a regional perspective, this growth appears to be coming largely at the expense of other regional exporters. Between 2005 and 2012, U.S. imports of knit shirts from the CAFTA region plus Mexico and Haiti declined by 5%. However, at the country-level, Nicaragua and Haiti collectively registered an increase in exports of 133% over that same period, while imports from Mexico, Guatemala, the DR, El Salvador and Costa Rica declined by 29%. Haiti's increase in exports of knit shirts occurred during the second half of this period. Between 2009 and 2012, the rate of change in Nicaragua's knitted shirt exports was much slower (48%) than it was between 2005 and 2009 (124%). These trends provide insight into the rapidity with production can shift between countries.

Value Chain Integration in the Americas: Implications for Nicaragua

Developing countries confront a number of challenges in establishing backward linkages between apparel production and textile (yarn and fabric) manufacturing. Because a textile mill uses far more energy than a sewing factory, the cost and reliability of electricity is a more important factor than labor costs. While government policies and investments (for example, in alternative energy sources) can make a country a more attractive site for textile production, such changes do not come quickly or easily. Over the medium- to long term, Nicaragua's efforts may well result in the consolidation of fabric production in Nicaragua. However, because many importers have complex needs in terms of fabric finishes, it is not realistic that the future of Nicaragua's apparel industry can be fueled entirely by a *domestic* textile base.

For this reason, a critical question to ask is whether Nicaragua's apparel industry can be strengthened by developing links with textile producers elsewhere in the *region*. Several Nicaraguan knitwear manufacturers import fabric produced in Honduras. As long as the fabric

made in Honduras is knitted from U.S. yarn, these garments qualify for duty-free access to the U.S. market when they are exported from Nicaragua. We also learned that one large manufacturer of knit apparel in Nicaragua is currently building a yarn-spinning mill in Costa Rica—a country that has pursued hydroelectric power and offers competitively-priced electricity. This company will be exporting the yarn spun in its Costa Rican facility to Guatemala, where it will be knitted into fabric, which will be cut and sewn into knit apparel in Guatemala, Haiti, and Nicaragua.

When compared with other CAFTA countries, a larger share of Nicaragua's apparel exports to the United States do not qualify as originating under CAFTA. This is not surprising. Because Nicaragua is the only country to receive the TPL benefit that permits duty-free entry of non-qualifying garments, its apparel exports contain more knitted fabric from non-regional suppliers than El Salvador or Honduras. In 2012, Honduras received around 79% of its knit fabric from regional sources, including the USA (53%) and El Salvador (18%).[10] El Salvador received 85% of knit fabric from regional sources (USA, 70% and Guatemala, 16%).[11] In contrast, Nicaragua only received an estimated 41% of fabric from regional suppliers. However, other countries in Central America are ahead of Nicaragua in terms of developing regional supply chains. If the TPLs are not extended, manufacturers in Nicaragua will need to work with buyers to develop supply chains that comply with the yarn-forward rule of origin, as have their counterparts in other CAFTA countries.

Developing regional supply chains for woven apparel is more challenging because, other than the United States, the CAFTA region lacks a well-developed textile base for woven fabrics. One exception to this general rule is Mexico, which has several textile mills that produce bottom-weight fabric used in trousers. Although Mexico is not a member of CAFTA, the cumulation agreement between Mexico and the CAFTA countries allows garments sewn in Central America from Mexican-formed bottom weight fabric to qualify for duty-free market access. Our earlier research suggested that manufacturers in Nicaragua have made little use of the cumulation provision, but if the TPLs are not extended, this may become a more attractive option for companies manufacturing pants. Manufacturers of knit apparel are unable to use the cumulation provision since it is limited to woven bottom-weight fabric.

The products manufactured within the CAFTA region require a wide variety of textiles. This is true even for a single product category, such as woven trousers. Table 6 shows that most of the trousers manufactured in Nicaragua (17% of total apparel, and well over half of all trousers) are for men and boys (M&B). Like Nicaragua, Mexico and Haiti are predominately making M&B cotton pants. Honduras is also making M&B trousers, but primarily of MMF. In contrast, most of Guatemala's trouser production is for women and girls (W&G), from both cotton and MMF and El Salvador is moving towards a profile similar to that of Guatemala.

Overall, these import data suggest that apparel manufacturers in the CAFTA countries looking for qualifying fabric not only have to find fabric woven in the region from yarn extruded in the region; they also require particular kinds of woven fabric, depending on the specific style of pants they are making. For this reason, some apparel manufacturers will simply be unable to find the materials they need (or that their clients demand) within the region. In such a case, short

[10] Based on exports of HS 60 from the world and individual countries to each CAFTA country in 2012

[11] In contrast receives an even larger share of knitted fabric from Asia than Nicaragua. China, Korea & Hong Kong provide Guatemala with 73% of its knitted fabric imports, as compared with only 27% from the U.S. and El Salvador (UNSD, Various).

supply petitions to permit use of non-originating materials may be the only viable option and should be pursued aggressively.

Table 6: U.S. Trouser Imports from Regional Suppliers by Type, 2012

Types	Value ($US Million)						Share by Category (%)					
	NIC	GUA	HON	El SAL	MEX	HAI	NIC	GUA	HON	El SAL	MEX	HAI
M&B	289	89	191	90	1,429	93	74%	29%	82%	48%	83%	73%
W&G	102	215	43	98	296	34	26%	71%	18%	52%	17%	26%
Cotton	310	138	61	59	1,483	81	79%	45%	26%	31%	86%	64%
MMF	81	160	173	127	191	41	21%	53%	74%	68%	11%	33%
Total	**391**	**304**	**234**	**188**	**1,730**	**126**						

Source: OTEXA; U.S. Imports by Country & Value by MFA Categories: 347, 348, 647, 648, 447, 448 & 847

(4) Making the Connections: Linking Regional Trade and U.S. Employment

This section turns to one of the most critical questions for evaluating the future of the region's textile and apparel sector, and especially for understanding how its trajectory will be shaped by trade policy. We examine how the relationship between U.S. textile producers and regional apparel manufacturers affects domestic textile sector employment in the United States. We outline our findings in three subsections: (1) an overview of the U.S. textile sector; (2) an examination of U.S. textile exports to Nicaragua (and yarn exports to Honduras); and (3) our estimates of U.S. textile jobs that are dependent on regional apparel sourcing.

Export and Employment Profile of the U.S. Textile Industry

The textile industry's main products are yarn and fabric. Yarn (and sewing thread) is composed of intertwined natural or man-made fibers. Yarn, in turn, is either knitted or woven into textile fabrics to make a final product. The main fabric types include:

- Woven (NAICS 31321): woven fabrics are composed of two sets of yarns interlaced at perpendicular angles to form fabrics that only stretch at diagonal angles. Woven fabrics are used to make many types of apparel including pants/trousers, shirts and blouses and uniforms, as well as other end-use products such as upholstery and home furnishings (curtains and sheets).
- Narrow (NAICS 31322): narrow fabrics are generally less than a foot in width and are made by weaving, knitting or braiding fibers or yarns with an edge to prevent unraveling. Narrow fabric products include elastics, labels or fabric covered yarn and thread.
- Knit (NAICS 31324): there are two main types of knitted fabric: weft or circular knitted, and warp or flat knits. Knitted fabric is used to make apparel products such as t-shirts, hosiery, socks and undergarments.
- Nonwoven (NAICS 31323): fabrics made from fibers without producing yarn. Fibers are bonded or interlocked by mechanical, chemical or thermal means to form a fabric. Nonwoven fabrics are only used in the apparel industry to make some types of interfacing, but are not used to produce the main outer fabric.
- Coated or finished fabrics (NAICS 3133): fabric that has been coated (laminated, varnished, waxed and rubberized). Coated fabrics are largely used in industrial products or for performance apparel.

U.S. textile employment has declined significantly over the last decade, but exports have remained relatively stable. Thus, U.S. textile productivity per worker has gone up. Textile exports are largely dependent on exports to NAFTA and CAFTA countries. U.S. textile employment is concentrated in five to seven states, with Texas being the primary fabric exporter and North Carolina the primary exporter of yarn.[12] North Carolina is also the largest exporter of fabric to Nicaragua.

In 2011, the U.S. textile industry (based on NAICS 313) employed 119,970 people with a total production value (measured as value of shipments) of $31.4 billion and exports of $9.5 billion (U.S. Census Bureau, 2011a; USITC, 1995-2012b). For the overall textile industry, 30% of the total value of production was exported, but this varied considerably among segments. For example, 80% of production was exported for knitted fabric compared to 22% exported for nonwoven fabric (Table 14).

U.S. Textile Export Destination Trends (2002 – 2012)

The top U.S. export destinations of fabric have remained fairly steady over the last decade, with the exception of China replacing the Dominican Republic as the fifth most significant destination. The top 2012 export destinations for all fabric types in 2012 were Mexico, followed by Canada, Honduras, China and El Salvador (Table 7).

U.S. yarn and thread (NAICS 3131) exports were $1.9 billion in 2012. The top destinations for yarn include Honduras with nearly 50%, followed by the Dominican Republic, Mexico, El Salvador and China. Honduras, the Dominican Republic and El Salvador were main destinations for fabric exports in 2002, but now focus on importing yarn, indicating they have developed a capable fabric manufacturing base within their countries over the last decade.

[12] Some exports from Texas may represent consolidation of shipments rather than the state of manufacturing.

Table 7: Top Five U.S. Textile Export Destinations by Value (2002-2012)

Export Country	All Textiles			Fabric			Yarn[13]		
	Share of US Exports (2002)	Share of US Exports (2012)	Change (2002-2012)	Share of US Exports (2002)	Share of US Exports (2012)	Change (2002-2012)	Share of US Exports (2002)	Share of US Exports (2012)	Change (2002-2012)
Mexico	36%	32%	6%	36%	34%	-9%	20%	11%	75%
Honduras	9%	14%	79%	9%	5%	-46%	25%	49%	521%
Canada	16%	12%	-11%	16%	15%	-9%	24%	--	-42%
DR	8%	6%	-11%	9%	--	-67%	--	17%	875%
China	--	5%	273%	--	5%	201%	--	6%	4,559%
El Salvador	5%	--	13%	5%	4%	-19%	6%	7%	309%
Guatemala	--	--	-17%	--	--	-40%	7%	--	-2%
Top 5	**74%**	**69%**		**75%**	**63%**		**82%**	**90%**	
Nicaragua	0.4%	1%	303%	0.4%	2%	313%	0.2%	0.04%	-18%
Total Values	**$7.6 B**	**$9 B**	**+18%**	**$6.23 B**	**$5.85 B**	**-6%**	**$0.6 B**	**$1.95 B**	**+222%**
Definition	NAICS: 313			NAICS: 3132			NAICS: 3131		

Source: (U.S. Census Bureau, 2002-2012b)

(--) indicates country was not in the top five; NAICS 3133 included in "All Textiles" but not shown in table.

The tables below provide an overview of U.S. yarn and fabric exports. These data, showing *U.S. fabric exports to regional suppliers*, is consistent with the country-level product profiles in Figure 3 above, which show *U.S. garment imports from regional suppliers*. For example, Table 8 indicates that Mexico—a country whose main apparel export is woven trousers—imports nearly ten times more U.S. woven fabric ($930 million) than the next largest regional importer (Honduras, with $99 million). El Salvador imports a significant amount of knit fabric to fuel its two leading export categories, knit shirts and intimate wear. Honduras is the largest regional importer of yarn, which is processed in that country's knitting mills into fabric and some knit to shape garments.

Table 8: U.S. Textile Exports to Regional Countries, 2012

Textile Category (NAICS Code Equivalents)	U.S. Exports ($US Million) to						
	Nicaragua	Guatemala	El Salvador	DR	Honduras	Mexico	World
Woven (31321)	57	55	16	74	99	930	2,030
Narrow (31322)	18	5	11	19	38	291	839
Nonwoven (31323)	0	2	1	36	57	422	1,912
Knit (31324)	29	61	226	55	101	363	1,063
Coated (31332)	1	3	2	15	9	671	1,100
Fabric Total	**105**	**126**	**255**	**199**	**303**	**2,677**	**6,944**
Finished Yarn & Thread (3131)	1	40	144	330	952	212	1,946
Unprocessed Yarn (31331)	0	44	0	1	5	15	115
MMF (32522)	1	11	63	20	48	334	2,760
Yarn & Thread Total	**2**	**95**	**207**	**352**	**1,005**	**561**	**4,821**
Textile Grand Total	**107**	**221**	**462**	**550**	**1,308**	**3,238**	**11,765**

Source: (U.S. Census Bureau, 2002-2012a); data is based on HS codes correlated to NAICS

[13] The value of the U.S. yarn/thread export industry (and resultantly the size of the textile industry) varies considerably depending on how it is defined. The value of U.S. exports ranges from $2 billion in 2012 (based on the equivalent of NAICS code 3131) to over $5 billion when including MMF filament yarn, tow and un-carded staple fibers (NAICS 32522) and other specialty and industrial yarns in HS Chapter 56. Yarns included within the "NAICS 3131" definition are the most important for the CAFTA countries.

As Table 9 illustrates, regional importers are significant markets when it comes to these leading products. Mexico absorbs 46% of total U.S. woven fabric exports, El Salvador accounts for 21% of total U.S. knit fabric exports, and Honduras receives just under half of the finished yarn and thread exported by the United States. Tables 8 and 9 also reveal that, among CAFTA countries, Guatemalan imports of U.S. textiles are particularly modest, receiving only 2% of fabric and yarn exports from the United States.

Table 9: Country Share of U.S. Textile Exports by Type, 2012

Textile Category (NAICS Code Equivalents)	Country's Share (%) of U.S. Exports (based on U.S. Total)					
	Nicaragua	Guatemala	El Salvador	DR	Honduras	Mexico
Woven (31321)	3%	3%	1%	4%	5%	46%
Narrow (31322)	2%	1%	1%	2%	5%	35%
Nonwoven (31323)	0%	0%	0%	2%	3%	22%
Knit (31324)	3%	6%	21%	5%	9%	34%
Coated (31332)	0%	0%	0%	1%	1%	61%
Fabric Total	**2%**	**2%**	**4%**	**3%**	**4%**	**39%**
Finished Yarn & Thread (3131)	0%	2%	7%	17%	49%	11%
Unprocessed Yarn (31331)	0%	39%	0%	1%	5%	13%
MMF (32522)	0%	0%	2%	1%	2%	12%
Yarn & Thread Total	**0%**	**2%**	**4%**	**7%**	**21%**	**12%**
Textile Grand Total	**1%**	**2%**	**4%**	**5%**	**11%**	**28%**

Source: (U.S. Census Bureau, 2002-2012a); data is based on HS codes correlated to NAICS
Note: these six countries collectively accounted for 50% of U.S. textile exports in 2012.

Textile production in the United States is concentrated in the south and southeast (see Table 10). In 2012, the main U.S. exporters of fabric were Texas (19%), followed by North Carolina (10%), California (7%), Georgia (7%), Tennessee (5%), South Carolina (5%), Virginia (5%) and Kentucky (3%) (U.S. Census Bureau, 2002-2012a). North Carolina is the leading state for yarn exports, representing 30% of the U.S. total in 2012, followed by Tennessee (19%), Virginia (16%), South Carolina (9%) and Georgia (7%). Tennessee and Virginia are primarily engaged in producing synthetic and artificial yarn (95% and 88% of exports, respectively, in 2012) that are largely exported to non-regional countries, including China (31%), Belgium (8%) and Indonesia (6%).

A number of specific connections between regional apparel exporters and particular textile-producing states are also notable. For example, Honduras receives over half of its yarn from North Carolina (59% of total yarn & thread sector exports in 2012), followed by Alabama (18%) and South Carolina (12%). Texas sends an overwhelming majority of its woven fabric (90%) to Mexico.

Table 10: U.S. Fabric and Yarn Manufacturers by Segment & Locations

Company Name	Segments	U.S. Locations
Denim North America	Woven (Denim)	Columbus, GA
Mount Vernon Mills	Woven (Denim & Non-Denim)	HQ: Mauldin, SC; Denim: Triton, GA; Non-Denim: Alto, GA
Galey & Lord/Swift Galey	Woven (Denim & Non-Denim)	Society Hill, SC
Plains Cotton Cooperative Association (PCCA) • Yarn/Denim: American Cotton Growers (ACG)	Woven (Denim) Yarn Cotton	Yarn & Denim: Littlefield, TX Cotton Sales: Lubbock, TX Cotton Warehouses: TX (4), OK (2), KS (1)
International Textile Group (ITG)	Woven (Denim & Non-Denim)	NC (1 denim, 1 non-denim,1 finishing) & SC (1 finishing)
Hamrick Mills	Woven (Non-Denim)	Gaffney, SC
Alice Manufacturing	Woven (Non-Denim)	Easley, SC
Inman Mills	Woven (Non-Denim)	Inman, SC
Central Textiles	Woven (Non-Denim)	Central, SC
Wade Manufacturing	Woven (Non-Denim)	Wadesboro, NC
Schneider Mills	Woven (Non-Denim)	Taylorsville, NC
McMurray Fabrics	Woven (Non-Denim)	Aberdeen, NC
Milliken	Woven (Non-Denim)	
Contempora Fabrics	Knit	Lumberton, NC
Hornwood Inc.	Knit	Lilesville, NC
Alamac American Knits	Knit	Lumberton, NC
SG Knits	Knit	Los Angeles, CA & NC
E&J Textile Group (Johnester Knitting, E&J Dye House & Textiles Unlimited)	Knit (circular); Assembly	Los Angeles, CA
Swisstex Direct	Knit	Los Angeles, CA (1)
Darlington Fabrics	Knit (warp)	Rhode Island (2)
Parkdale Mills	Yarn (Ring spun; Open-end)	NC (13), VA (5), SC (3), TN (1), GA (1) & AL (1)
Frontier Spinning	Yarn (Open-end)	NC (4)
Gildan	Yarn (Open-end)	NC (1), GA (1)
Unifi	Yarn (MMF/Synthetic)	NC (7)
Buhler	Yarn (Open-end)	GA (1)
Swift Spinning	Yarn (Ring spun)	GA (2)

Note: Non-denim indicates production of broadwoven fabrics for apparel end-uses

Nicaragua's Textile Import Profile

Nicaragua's textile imports were at least $743 million in 2012.[14] Nicaragua's two main textile imports are knitted and woven fabrics, collectively accounting for 89% of textile imports in 2012 (60% and 29% of textile imports, respectively) (UNSD, Various).

Table 11: Nicaragua's Textile Imports by Type

[14] This includes the value of textile exports to Nicaragua as reported by other countries in 2012 from UNCOMTRADE and the value of fabric from Honduras that incorporates U.S. yarns. The value of textile imports may be as high as the value reported from the DGA for imports by free zones of $834 million in 2012 (DGA, 2012).

Main Categories/ Types	Value ($US Million)			Share of Total Textiles (%)		
	2011	2012	2012*	2011	2012	2012*
Fabric Total	**655**	**600**	**728**	**98%**	**98%**	**98%**
Knit	368	321	449	55%	52%	60%
Woven	248	219	219	37%	36%	29%
Narrow	24	43	43	4%	7%	6%
Coated	11	13	13	2%	2%	2%
Nonwoven	4	4	4	1%	1%	1%
Industrial	0	0	0	0%	0%	0%
Yarn & Thread Total	**15**	**15**	**15**	**2%**	**2%**	**2%**
Thread	11	11	11	2%	2%	1%
MFA Yarn (32522)	2	3	3	0%	0%	0%
Yarn	2	2	2	0%	0%	0%
Unprocessed Yarn	0	0	0	0%	0%	0%
Total Textiles	**671**	**616**	**743**			

Source: UNCOMTRADE; HS as Reported; aggregation of exports to Nicaragua from specific countries. Retrieved 12/1/13. Note (*): alternative that includes Honduras' fabric exports to Nicaragua that use U.S. yarn.

In 2012, Nicaragua represented 1.2% of U.S. textile exports. Yarn exports to Nicaragua are trivial (0.04%), and their value has declined by 18% between 2002 and 2012 (U.S. Census Bureau, 2002-2012b). However, indirect yarn exports (i.e., yarn knitted or woven in other CAFTA countries into fabric that is assembled in Nicaragua) are more significant (see below). The main U.S. textile export to Nicaragua is fabric, totaling $106 million in 2012. Nicaragua represented 1.2-1.5% of U.S. fabric exports in 2012.

While still a relatively small market for the United States textile industry, fabric exports to Nicaragua have increased by 313% over the last decade. This growth reflects the success of Nicaragua's apparel exports under CAFTA and the incentives created by the "TPL plus one-to-one" provision. Moreover, Nicaragua is a leading market for U.S. manufactured denim. In 2011, 98% of U.S. textile exports to Nicaragua were fabrics (NAICS 3132), of which 65% was broadwoven fabric (NAICS 31321), 27% were knitted fabric (NAICS 31324) and 6% were narrow fabrics (NAICS 31322). On the state side, four states[15] were responsible for the majority of these exports, starting with North Carolina (51% of exports), followed by Georgia (15%), South Carolina (5%) and California (6%).

In addition to Nicaragua's direct textile imports from the United States, it also imports yarn indirectly via knitted fabrics produced in Honduras from U.S. yarn. Unlike Nicaragua, the majority of Honduras' textile imports consist of yarn, as opposed to fabric. In 2012, over 90% of the nearly $1 billion of yarn Honduras imported came from the United States. In the same year, Honduras was the second most significant supplier of knitted fabrics to Nicaragua, providing an estimated 28% of the total value. Although it is difficult to determine the precise quantity, a portion of the yarn exported from the U.S. to Honduras is later sent to Nicaragua in the form of knitted fabric, where it is sewn and exported as a knit garment.[16]

[15] According to state-level export data, Florida is the third largest exporter to Nicaragua and represented 9% of U.S. textile exports in 2011. However the majority is likely due to consolidation rather than manufacturing as there is not a U.S. shipment value available for Florida in 2011.

[16] This would require an estimate of the value of yarn produced domestically in Honduras, the share that is exported versus being consumed in fabric production, and estimates of knit and woven fabric exports and domestic consumption.

Knit Fabric: Input for Nicaragua's leading export product, knit shirts

According to data from Nicaragua's free trade zone commission (CNZF), Honduras was the main Central American supplier to Nicaragua, and in 2012 exported at least $127 million in knitted fabric to Nicaragua (CNZF, 2013a).[17] However, data are not available for Honduras in UNCOMTRADE, and data are only available from CNZF for Honduras for 2012, so figures presented from years prior to 2012 are likely underrepresented, as they do not include Honduras.

Knitted fabric exports to Nicaragua were $449 million in 2012, with Asian countries accounting for over half of the value (59%). The main Asian countries include China (33%), South Korea (21%) and Hong Kong (5%), and the main regional sources were the U.S. (6%), Honduras (28%), Guatemala (4%) and El Salvador (2%).[18]

In 2012, the U.S. exported $29 million in knitted fabric to Nicaragua, accounting for 6% of Nicaragua's knitted fabric imports and 2.7% of all U.S. knitted fabric exports (U.S. Census Bureau, 2002-2012a; UNSD, Various; USITC, 1995-2012a). The main U.S. states exporting knitted fabrics to Nicaragua are North Carolina (53%) and California (27%) (U.S. Census Bureau, 2002-2012a).[19] It appears that two or three apparel companies in Nicaragua account for all U.S. exports to Nicaragua.

In 2012, twelve companies in Nicaragua imported knitted fabrics that incorporated U.S. yarns from three CAFTA-DR countries for a total value of $143 million (CNZF, 2013). Honduras was the main supplier, accounting for 89% of the total value, followed by El Salvador (8%) and Guatemala (3%). Trade is highly concentrated in terms of value and firms, with one company accounting for 73% of the total value of fabric exports and imports. The number of U.S. yarn suppliers to CAFTA fabric exporters to Nicaragua is also highly concentrated, with two companies accounting for 89% of the total value (CNZF, 2013).

Woven Fabric: Input for Nicaragua's second most significant export product, trousers

In 2012, Nicaragua imported $219 million in woven fabric, which represented 36% of Nicaragua's textile imports (UNSD, Various). Not surprisingly, given the fact that companies using TPLs are supposed to use matching amounts of U.S.-made bottom weight fabric, half of the woven fabric exports to Nicaragua are from Asia and the other half are from regional sources (Table 12). The main countries in 2012 from Asia were China (35%), Pakistan (8%) and Hong Kong (6%), and the main regional sources were the U.S. (26%), Mexico (16%), Guatemala (3%) and El Salvador (2%).

[17] Value of $127 million only includes exports that incorporate U.S. yarn; the total value including non-U.S. yarn may be higher.

[18] The value is based on data from UNCOMTRADE; HS as Reported 6001-6006 & 5804 exports from World (Aggregate) to Nicaragua (retrieved 12/1/13) and data from CNZF on Honduras.

[19] Washington is the third largest state (14%) however it did not have data for value of shipments in 2011. The value reported from Washington either (1) actually represents exports that originated in California, or (2) exports coming from Washington, but the overall value of shipments was too low to be reported in the ASM data.

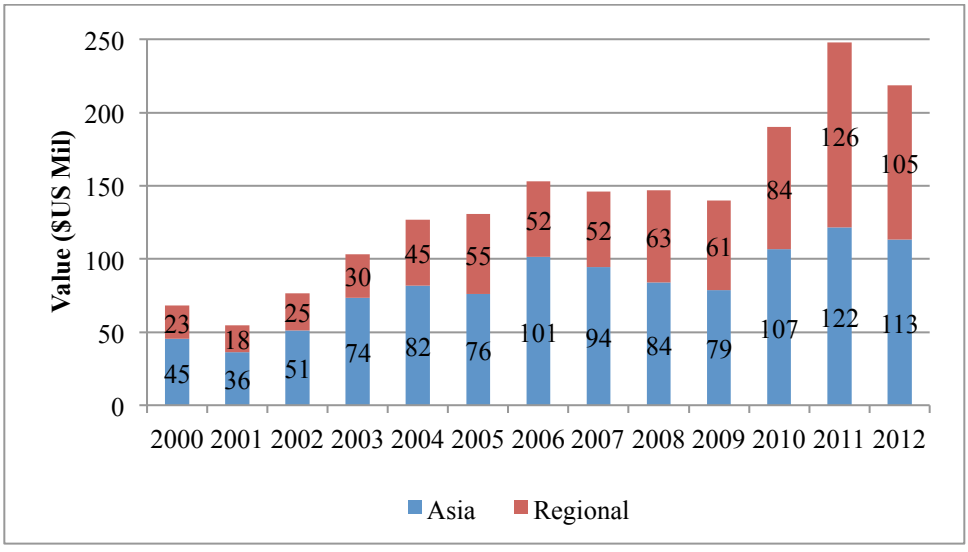
Table 12: Woven Fabric Exports to Nicaragua

Year	Value ($US Million)			Share (%)	
	World	Asia	Regional	Asia	Regional
2000	69	45	23	66%	33%
2001	55	36	18	66%	33%
2002	77	51	25	66%	33%
2003	104	74	30	71%	29%
2004	128	82	45	64%	36%
2005	131	76	55	58%	42%
2006	155	101	52	65%	33%
2007	146	94	52	64%	35%
2008	147	84	63	57%	43%
2009	140	79	61	56%	44%
2010	190	107	84	56%	44%
2011	248	122	126	49%	51%
2012	219	113	105	52%	48%
% Change (2000-12)	220%	150%	362%		

Source: UNCOMTRADE; HS as Reported; exports from specific countries to Nicaragua; Retrieved 12/1/13
Note: Asia includes China, Pakistan, Hong Kong, India, Malaysia, Vietnam, Indonesia, South Korea & Thailand. Regional includes the USA, Mexico, El Salvador, Guatemala, the Dominican Republic, Panama, Costa Rica, Honduras and Canada.

Nicaragua's imports of woven fabric reflect the "one-to-one" proviso of the TPLs granted to Nicaragua under the CAFTA. Although the value of Nicaragua's regional imports was equivalent to or exceeded that of Asian imports during one of the years included in Table 13 (2011), the percentage of regional imports has, for the most part, held steady since the implementation of CAFTA. The lack of perfect equivalence between regional and non-regional suppliers reflects the fact that the matching requirements for the "one-to-one" rule are based on volume (SMEs), while Table 13 reports the value of imports. Figure 5 provides a graphical representation of the same data. The lengthening segments of red in the bar graph show the increased use of regional (mostly, U.S.-formed) fabric compared to Asian sources.

Figure 5: Woven Fabric Exports to Nicaragua: Asian versus Regional Sources, 2000-2012



Source: UNCOMTRADE; HS as Reported; exports from specific countries to Nicaragua; Retrieved 12/1/13

In 2012, eleven companies accounted for the majority of Nicaragua's woven apparel exports. One company focuses on woven shirts and the remaining ten companies produce woven pants, including twill/khakis, uniforms and jeans. Whereas knitted fabric is more likely to come into Nicaragua through another Central American country, woven fabric comes directly from the United States or through Mexico. In 2012, the export value of woven fabrics from the United States to Nicaragua was $57 million, which represented 26% of Nicaragua's woven fabric imports. Nicaragua accounted for approximately 2.8% of all U.S. woven fabric exports (U.S. Census Bureau, 2002-2012a; UNSD, Various; USITC, 1995-2012a). Behind the United States, Mexico is the second largest regional supplier of woven fabrics to Nicaragua. Some of the woven fabric manufacturers in Mexico include Kaltex, Nien Hsing, Tavex and North Carolina-based International Textile Group (ITG).

North Carolina is the primary exporter of woven fabrics to Nicaragua with an export value of $29 million in 2012, representing half of all U.S. woven fabric exports to Nicaragua. The other top states include Georgia at $18 million (12% of U.S. total), New York (11%), Florida (10%), South Carolina (8%) and Texas (5%) (U.S. Census Bureau, 2002-2012a).

To summarize, the key findings that emerge from the analysis of trade flows dissecting the textile-apparel connection in Nicaragua are:

1) Nicaragua imports more than half of its fabric from Asian suppliers. This is a higher percentage than other regional garment exporters, such as Honduras, El Salvador, and Mexico. However, this higher dependence on Asian inputs is not surprising since, unlike the other countries, Nicaragua enjoys TPLs that permit the country to use non-qualifying fabrics for a portion of its production.
2) The degree of Nicaraguan dependence on non-originating fabrics is worrisome in light of the looming expiration of the TPLs. Of the two U.S. legislative proposals currently pending, only the Feinstein bill extends Nicaragua's TPL preference for knit products. The Earned Import Allowance included in the Hagan bill is limited to woven apparel, meaning that knit garments containing non-originating fabrics (including fabric knit in the region from yarns extruded in Asia) would not qualify for duty-free access to the U.S. market.
3) Nicaragua's strongest connection to the U.S. textile industry is with mills located in North Carolina, which is the leading provider of both woven and knit fabrics to Nicaragua. Furthermore, because North Carolina is the largest producer of yarn to Honduras, and some of the yarn imported by Honduras is knit into fabric that is then shipped to Nicaragua for assembly, Nicaragua also has an indirect connection to North Carolina's textile industry. In the next subsection, we turn to the employment implications of these connections.

U.S. Employment Related to Textile Trade with Nicaragua

In order to estimate the number of U.S. jobs related to textile exports to Nicaragua, two strategies were used. The first method utilizes a dataset constructed by the U.S. Census Bureau to estimate export-related manufacturing employment. However this dataset presents trade patterns for the textile industry as a whole, and this may mask the actual trade patterns of the three main segments (yarn, fabric and finishing) and the types of fabrics within these segments (e.g., woven, knit and nonwoven fabrics). A second method was therefore created to try to take into account these differences.

The first method mentioned above is based on data from the Exports from Manufacturing Establishments (EFME) (2011) tables produced by the U.S. Census Bureau, combined with state-level export data from TradeStats Express (2011) (see Appendix for additional details). This strategy takes the export-related employment numbers for the U.S. textile industry (NAICS 313) and bases employment estimates on the share of U.S. and state-level exports to Nicaragua. The EFME data set includes estimates for the value of manufactured exports and related employment. Export estimates include both "direct" exports (exports manufactured in the U.S. and consumed in foreign markets) and supporting shipments (intermediate goods and services required to manufacture exported goods), and estimates state and national totals for related employment for the manufacturing sector.

The EFME estimated direct export-related employment by multiplying the total employment of each industry in each state (from the ASM, 2011) by the ratio of the estimated total value of exports for that industry in that state (ASM & U.S. Census, 2011) to total shipments for that industry in that state (ASM, 2011) (U.S. Census Bureau, 2011b). According to the EFME, there were 40,500 U.S. jobs related to exports of textile mills (NAICS 313). Of these, 62% or 25,100 were related to direct exports and 38% were related to supporting shipments (U.S. Census Bureau, 2011b).

In 2011, Nicaragua's imports represented 1.2% of U.S. exports from textile mills. Assuming the share of jobs related to exports mirrors the share of the value of shipments for exports, approximately 480 total jobs are related to trade with Nicaragua. Of these, over half are from North Carolina (251 jobs) and over a quarter are from Georgia.

Table 13: U.S. Textile Mill Employment Related to Exports & Exports to Nicaragua

Geography	Export Related Employment ('000)	Share of State's Exports to Nicaragua (%)	Export Related Employment Related to Nicaragua (Actual Values)			State's Share of U.S. Total
			Total	Direct Exports	Supporting Shipments	
USA	**40.5**	**1.2%**	**481**	**298**	**183**	
North Carolina	8.9	2.8%	251	178	73	52%
Georgia	5.8	2.2%	127	66	61	26%
South Carolina	4.4	0.9%	39	25	14	8%
California	2.6	1.0%	26	12	14	5%
New York	0.9	2.2%	20	11	9	4%
Top 5	**22.6**		**463**	**291**	**172**	**96%**

Sources: Export Related Employment is from the EFME (U.S. Census Bureau, 2011b);
Export data is based on NAICS code 313 (Textile Mills) for 2011 from (U.S. Census Bureau, 2000-2012).

Given the degree of concentration of trade between the United States and Nicaragua in terms of both products and states, an alternative (method #2) was also developed that takes into account the production and export trends for the individual types of fabric using a similar process to the one followed in the EFME survey. The first step in the process was to calculate the share of the total value of shipments represented by exports for the United States by six-digit NAICS codes for the year 2011 (three-digits are used in the EFME). The results showed a great deal of variation of export dependence between fabric types, ranging from a high of 80% for knitted fabric (31324) to a low of 2% for textile and fabric finishing (31331). Next, the number of employees related to exports (based on the exports share of shipments) was calculated for each

six-digit NAICS code. Based on the results of this process, approximately 36,500 textile jobs are directly related to exports with the largest share (68%) coming from the fabric segment.[20]

The number for export-related employment was created by taking a state's employment at the six-digit NAICS level for 2011 and multiplying it by the share of the U.S. industry's shipments that were exported in 2011. In the case of broadwoven fabric, this share was 43% and for knitted fabric it was 80%. Next, the share of a state's fabric exports to Nicaragua by fabric category in 2012 were multiplied by the employment number created in the first step.[21] These numbers were added together to generate an estimate for the top five main states exporting to Nicaragua. The total value of exports from these five states in these three fabric categories accounted for 80% of the export value to Nicaragua in 2012 (U.S. Census Bureau, 2002-2012a).

Using this method, an estimated 986 jobs are directly related to trade with Nicaragua in these five states, of which 717 are in North Carolina. When the indirect employment related to supporting shipments for these five states is added (172 employees), the total U.S. direct and supporting employment is 1,158.

Table 14: U.S. Textile Employment Related to Trade with Nicaragua (2011/2012)

State	Export-Related Employment (2011)			Share of State's Exports to Nicaragua			Employment Related to Exports to Nicaragua			
	Industry (NAICS)			Industry (HS)(2012)						
NAICS Code	Woven (31321)	Narrow (31322)	Knit (31324)	Woven (31321)	Narrow (31322)	Knit (31324)	Woven (31321)	Narrow (31322)	Knit (31324)	Total
Industry Exported	43%	76%	80%							
NC	2,331	1,164	2,835	15%	2%	12%	344	24	349	**717**
SC	2,976	684	--	3%	6%	--	85	41	--	**127**
GA	2,593	71	43	3%	36%	4%	71	26	2	**98**
CA	217	335	521	0%	0%	4%	0	0	22	**23**
NY	238	241	187	9%	0%	0%	21	0	0	**21**
Total Direct Employment							**522**	**92**	**372**	**986**

Sources: (U.S. BLS, 1990-2012; U.S. Census Bureau, 2002-2012a, 2011a; USITC, 1995-2012b)
U.S. Shipments (2011): ASM Statistics for Industries (2011) (NAICS 6-Digit); State-Level: Employment (NAICS 6-Digit) BLS QCEW; USA Trade Online: State-Level Exports by HS codes (2012); U.S. Exports (2011): USITC Dataweb. Share of Industry Exported is based on U.S. Shipments and Exports at the six-digit NAICS level.

In the U.S. textile industry, the fabric industry is concentrated in the southeastern United States. However, several firms have factories in multiple U.S. states and the state-level export data may represent the point of consolidation rather than of origin (i.e., the location from which production is shipped versus the location where it takes place), so the exact employment impacts by state are estimates based on the best available state-level data. Employment effects will be concentrated in North Carolina, South Carolina and Georgia, but the relative importance of these states may differ (see Appendix A for more information on these issues).

There are also U.S. textile workers indirectly dependent on textile trade with Nicaragua through U.S. yarn exports to other Central American countries and Mexico that are processed into fabric in these countries and exported to Nicaragua. The first step in this process would be to determine the direct number of U.S. textile workers dependent on yarn exports to each individual country in

[20] See Appendix A for details of the method.
[21] In order to get state-level export data by specific types of fabric, NAICS codes were correlated to HS codes.

2012 using the same process used for Nicaragua. Next, information on domestic production of yarn, the share of yarn exported versus domestic consumption, and the share of each country's global fabric exports to Nicaragua would need to be calculated. Unfortunately, this process cannot be completed using publicly available data due to a lack of trade data and domestic production and consumption data for Honduras. However we have created an estimate for this indirect employment using a combination of publicly available trade, production and employment data and proprietary data provided by CNZF (Box 1).

Box 1: Estimate of Indirect U.S. Yarn Employment based on Exports to Honduras

Using a combination of publicly available trade, production and employment data and proprietary data provided by CNZF, we can also provide an estimate on the number of U.S. jobs in the yarn industry related to yarn exported to Honduras, which is later exported to Nicaragua in the form of knitted fabric. In 2012, the U.S. exported $952 million in yarn to Honduras (U.S. Census Bureau, 2002-2012a). In 2012, Honduras exported $127 million in knitted fabric composed of U.S. yarn to Nicaragua (CNZF, 2013a). Of the total value of knitted fabric, 60% is estimated to represent the value of yarn ($76 million) (CNZF, 2013a). Based on 2011 data, 32% of U.S. yarn production is exported, and there were 29,000 jobs in the industry, so around 9,200 jobs were export-related (U.S. BLS, 1990-2012; U.S. Census Bureau, 2002-2012b, 2011a; USITC, 1995-2012b). If we assume that 8% of U.S. yarn exported to Honduras is re-exported in the form of knitted fabric to Nicaragua, there are approximately 360 U.S. yarn jobs related to U.S. exports to Honduras that end up in Nicaragua as knitted fabric. However, one company with a regional production network embedded in North and Central America is responsible for nearly 90% of this trade between the three countries, and we do not anticipate this company will shift their production network out of this region if the TPL expires.

(5) Implications of TPL Expiration and Possible Scenarios for the Future of Nicaragua's Apparel Industry

In this section, we look more in depth at the possible scenarios for the future of Nicaragua's industry by examining the 20 largest apparel companies (by employment) in Nicaragua. As of November 2013, this set of companies employed 80% of the sector's employees and accounted for 87% of exports.[22]

We have categorized these companies into six groups based on what we consider to be the most likely impact of TPL expiration, assuming that no additional trade preference is given to Nicaragua above and beyond the CAFTA rules. We then ask whether the Feinstein (TPL extension) or Hagan (Earned Import Allowance) bills may produce different outcomes.

Table 15 presents the top 20 employers in Nicaragua's apparel industry based on employment data from November 2013. Half of these companies are primarily engaged in the knitwear sector and half are in the woven segment. The companies have been separated as such and within each sector divided into three groups:

- Red: these companies appear to be highly dependent on TPL benefits and will likely leave Nicaragua if the TPL provision expires. This category accounted for **24%** of Nicaragua's employment in 2013.
- Yellow: caution; these companies use TPLs, yet several have increased employment and exports in recent years and have other regional manufacturing locations. Further research is needed on a case by case basis, but we estimate that roughly half of these companies

[22] This is based on a total employment number of 69,817 and exports of $1,426 million.

may leave or reduce production in Nicaragua. This category accounted for **32%** of Nicaragua's employment in 2013.

- Green: these companies will most likely stay in Nicaragua. They may use some TPLs, but this is not the focal point of their investment in Nicaragua as they have established regional production networks or long-term investments in Nicaragua. This category accounted for **25%** of Nicaragua's employment in 2013.

Based on these categories, employment in Nicaragua's 20 largest companies may be reduced by as much as **50%** post-TPL benefits. Given that the top 20 companies account for 80% of Nicaragua's employment, this would be equivalent to a contraction of **40%** for the entire textile and apparel industry.

Table 15: Nicaragua Apparel Company Groups based on Potential TPL Expiration Impact

Co.	Product	Ownership	Emp. 2013 (Nov)	Fabric Source	Main Client (%)	Other Production Locations
Gp.1						Employment & Export Share: **18% & 23%**
1	Knit shirts (80%)/pants	Korea	4,808	Asia (60%); Honduras (40%)	Target (60%)	Honduras, Vietnam, Indonesia
3	Knitwear, mostly shirts	Korea	4,194	Asia (100%)	Walmart (50%)	Guatemala, Vietnam, Indonesia
2	Knit shirts/pants	Korea	3,384	Asia (70%); Honduras (30%)	Adidas (50%)	Guatemala, Vietnam, Indonesia, Cambodia, Philippines
Gp.2						Employment & Export Share: **19% & 28%**
4	Knit tops	Korea	6,794	Asia; regional	Target (52%)	Guatemala, Haiti, Vietnam, Indonesia, Cambodia
5	Knit shirts	Korea	2,742	N/A	N/A	N/A
6*	Knit & woven garments	Taiwan	2,156	Asia	North Face	N/A
7*	Knit shirts	Korea	1,890	Guatemala	Talbot's (45%)	Indonesia
Gp.3						Employment & Export Share: **15% & 20%**
8	Knitwear; underwear	Canada	6,927	Honduras (100%; U.S. yarn)	N/A	Honduras (textiles/sewing), DR (textiles/sewing), Haiti (sewing subcontractor), USA (yarn), Bangladesh (textiles/sewing)
9*	Athletic wear	USA	2,146	El Salvador and Honduras (U.S. & Asian yarn)	Under Armour (80%)	Honduras
10	Knit shirts	USA	1,270	USA and Honduras (U.S. & Asian yarn)	Walmart (50%)	U.S. (knitting)
Gp.4						Employment & Export Share: **10% & 6%**
11	Woven pants	USA	2,735	USA, Mexico, China	Dickies (>50%)	N/A
12	Woven bottoms (uniforms)	USA	2,212	USA (50%), China (50%)	Cintas	None
13	Woven pants (twill)	USA	1,994	USA; Asia	Levi's (80%)	None
Gp.5						Employment & Export Share: **12% & 7%**
14	Woven pants (denim & twill)	USA	2,323	USA	JCP (55%)	Mexico, Bangladesh (subcontractor)
15	Woven pants (denim & twill); shirts	Mexico/USA JV	1,777	USA, Mexico, Asia	Levi's (33%)	El Salvador, Mexico & Columbia
16	Woven pants (denim & twill)	USA	1,623	USA (50%); Asia (50%)	N/A	Mexico, Honduras (owned); Cambodia, Bangladesh, Pakistan (contractors)
18	Contract launderer (pants)	Mexico	1,470	N/A	VF (100%)	Mexico
17	Woven pants	USA	1,257	USA (50%), China (50%)	JCP (40%)	Honduras
Gp.6						Employment & Export Share: **6% & 3%**
19	Woven shirts	Taiwan	2,867	Asia (100%)	N/A	None
20	Woven pants	Taiwan	1,604	Asia	JCP (40%)	Cambodia

Sources: fabric sources, production locations and main client (Bair & Gereffi, 2013a; Gereffi & Bair, 2010) and company websites; employment data (CNZF, 2010-2013); Notes: JCP: JC Penney; (*) indicates company is producing garments from MMF or more complex garments.

Knitted Apparel

Knitted apparel manufacturers are the largest employers in Nicaragua's apparel industry. Unlike the woven apparel manufacturers, the current "one-to-one" TPL regime does not impose any obligations on these companies to use qualifying fabric. Under the current system, knitwear manufacturers have been allocated TPLs by the Free Trade Zone Commission, and our firm-level interviews revealed that a majority of the exporters relied on TPL for some portion of their production (typically about 30-35%).

Groups 1 and 2: Asian-Owned, Multinational Manufacturers

Seven of the knit apparel producers in Nicaragua are subsidiaries of Asian firms. Several are Korean-owned companies that have sewing facilities 1) in Nicaragua, 2) in at least one other country in the CAFTA region, and 3) in Asia. They primarily produce fairly basic knitted apparel for large mass merchant retailers including Walmart, Target, Kohl's and JC Penney. Most of the raw materials they use are imported from Asia, and as such, this set of companies has been heavily reliant on TPLs. When the TPLs expire, these companies will pursue one or more of the following strategies: (1) stay in Nicaragua and forego duty-free access to the U.S. market for goods that contain non-originating materials; (2) stay in Nicaragua and replace Asian inputs with qualifying fabrics sourced from the CAFTA region, including the U.S.; (3) relocate to (or in the case of one company in this group, expand in) Haiti, which will continue to benefit from TPLs for non-qualifying knit fabrics; (4) consolidate operations to other facilities in the CAFTA region; or (5) shift activities from the CAFTA region to Asian facilities to take advantage of lower labor costs and proximity to textile suppliers.

Three of the largest knitwear companies have production facilities elsewhere in the region (Guatemala or Honduras) and also have factories in Vietnam. In our view, companies with operations in Vietnam have a higher likelihood of shifting manufacturing away from Nicaragua and the CAFTA region, particularly if the TPP goes forward. We have highlighted in red the three companies in Table 16 whose continued presence in Nicaragua we believe to be at risk following the expiration of the TPLs. The three manufacturers comprising *Group 1* accounted for **18%** of employment and **23%** of Nicaragua's textile and apparel exports in 2013.

The four companies in *Group 2* are also Asian-owned. We classify these companies as "at risk" for considerable contraction or relocation based on the fact that they also have a significant level of reliance on TPLs. For three of these four companies, we lack sufficiently detailed information regarding other production locations and sourcing strategies to make a confident prediction. However, we would consider these companies less likely to contract or close in a post-TPL environment because they have developed (or are in the process of developing) regional supply chains for textiles, and/or they have a somewhat different product mix than companies in group one, which may allow them to better weather the loss of the TPL benefit. These four manufacturers accounted for **19%** of employment and **28%** of Nicaragua's textile and apparel exports in 2013.

Group 3: North American-Owned, Mostly Regional Manufacturers

The parent companies of our *Group 3* firms are located in North America. They have sewing facilities in Nicaragua and Honduras and the majority of their textiles come from the CAFTA region (predominately Honduras) and the United States. These three companies accounted for **15%** of employment and **20%** of Nicaragua's textile and apparel exports in 2013.

The companies in Group 3 already produce under regular CAFTA rules of origin, and are not as reliant on TPL benefits as knit manufacturers in Groups 1 and 2. However, all but one of the companies in this group that we interviewed for our prior study used TPLs at that time. Importantly, this included several firms with knitting operations in Honduras that were using non-originating yarn from Asia. When the TPLs expire, these companies will either (1) stay in Nicaragua, or (2) consolidate operations in the CAFTA region. The second option would negatively affect Nicaragua's apparel industry in the form of declining exports and employment, but under either scenario, there will be a minimum impact on the U.S. textile industry since these companies are already purchasing U.S. yarn.

Finally, at least three of the top ten knitwear companies are producing more complex knitwear products (companies are designated with an asterisk (*) in the table). To the degree that this product profile may make them less sensitive to small differentials in raw material prices, they have a higher likelihood of maintaining production in Nicaragua, especially if proximity to the U.S. market is also a factor for their clients. Some of these companies require particular kinds of synthetic yarns that may be difficult to find in the region. For this reason, regardless of whether TPLs are extended, Nicaragua should be making more aggressive use of CAFTA's short supply mechanism, perhaps establishing a subcommittee within the Free Trade Zone Commission that can work with firms to develop short supply petitions that reflect their needs.

From the vantage point of U.S. employment, knitwear companies remaining in the region after the expiration of the TPLs will increase their purchases of U.S. inputs, and thus support U.S. yarn exports and jobs in the upstream links of the value chain. Although this is possible for companies in either of the groups identified above, increased U.S. regional sourcing is a more likely scenario for those in Group 2. However, it is unclear that these increased purchases would offset the negative consequences of contraction caused by the loss of the TPL benefit.

Woven Apparel

Compared with the knitwear companies described above, manufacturers of woven apparel (with one exception) have more regionally focused production networks. They are more likely to stay in Nicaragua and/or the region, although the limited availability of cost-competitive woven fabrics produced in the Americas will continue to be a challenge. The fortune of these companies may be affected by the performance of the reopened Cone Denim mill, if some of the fabric produced there is marketed instead of converted into garments by the mill's owner, Grupo Karim.

Group 4: US-Owned, Single Location Twill Bottom Manufacturers

Established between 1993 and 2000, the U.S.-owned companies in *Group 4* were among the first to begin producing in Nicaragua's free trade zones. They do not have a manufacturing presence anywhere but Nicaragua, and several migrated to Nicaragua after already producing elsewhere in the region, including the Dominican Republic and Honduras. Their customers include Cintas, Dickies and Levi's. Under the "one-to-one" matching corollary of the current TPL regime, these manufacturers use textiles from the United States and China, though they also purchase some twill fabric that is finished in Nicaragua (which may also require TPL, depending on the origin of the yarn). The three companies in this group accounted for **10%** of employment and **6%** of Nicaragua's textile and apparel exports in 2013, and employment in these firms has been relatively stable over the last several years. As indicated by the green highlighting in Table 16, we predict that these companies will likely stay in Nicaragua.

Group 5: Regional Jean & Twill Manufacturers

These companies have facilities in Mexico or Honduras and primarily came to Nicaragua between 2007 and 2009. They produce jeans and twill bottoms for Levi's, Walmart and JC Penney. Consistent with the current "one-to-one" plus TPL program, about half of the fabric they sew is imported from China, with the remainder coming from the U.S. (and a negligible amount from Mexico). The five companies in *Group 5* accounted for **12%** of employment and **7%** of Nicaragua's textile and apparel exports in 2013. When the TPL expires, these companies will (1) stay in Nicaragua; (2) shift production to Mexico or Honduras; or (3) outsource manufacturing in Asia. The fact that these companies continue to have production in relatively higher-cost countries, such as Mexico and Honduras, may indicate that they are somewhat less cost-sensitive, as they are either currently paying duty on trousers made in those countries from non-originating fabric or are able to find regional suppliers of fabrics.

Group 6: Asian-Owned, Single Locations

These two companies in *Group 6* procure all textiles for their woven apparel (pants and shirts) from Asia. They account for **6%** of employment and **3%** of Nicaragua's textile and apparel exports in 2013. When the TPL ends, they will likely leave Nicaragua.

From the vantage point of U.S. employment, the elimination of the "one-to-one" TPL regime may cause a decline in purchases of matching U.S. bottom weight fabric, and thus a decline in U.S. textile employment. Given that CAFTA permits cumulation of Mexican-formed fabric, the expiration of the TPLs may trigger more aggressive efforts to identify Mexican textile suppliers.

How would the passage of currently proposed U.S. legislation extending a preference to Nicaragua affect these scenarios? Among the two options that have been put forward, the Feinstein bill, if passed and implemented, would probably prove most effective in stabilizing the Nicaraguan apparel industry. It is the one most likely to ensure that companies in Groups 1 and 5 in particular continue to maintain significant production volumes in Nicaragua. Because any extension of this benefit would be temporary, the long-term viability of the industry would depend on using the breathing room created by a second phase TPL to support the development of the Nicaraguan textile base and/or aggressively pursue options for value chain integration in the Americas.

Since the Hagan bill would replace the current TPL mechanism with an Earned Import Allowance Program only for garments of bottom weight fabric, it will have no impact on the knitwear manufacturers that generate the bulk of Nicaragua's garment exports and employment. Theoretically, it could provide some relief to manufacturers of woven bottoms, and therefore help stabilize employment in Groups 3, 4 and 5. However, the structure of the earned import program—which requires companies to first purchase U.S.-formed fabric and receive the credit for that purchase before a non-qualifying garment will be allowed duty-free access to the U.S. market —will be challenging for actors in the supply chain to manage. With the exception of one Nicaraguan subsidiary of a U.S. based multinational, the factories producing woven trousers in Nicaragua are contractors that fill orders for U.S. brands. Given the reality of modern-day sourcing, it is doubtful that the Hagan bill will have any sizable effect on the Nicaraguan apparel industry. For this reason, the Feinstein bill would provide far more benefit to a greater number of importers and producers.

(6) Conclusions

Nicaragua's apparel sector will almost certainly decline if no action is taken to extend the TPL benefit. Though it is not possible to determine the precise extent of this contraction, it may well be sufficient to arrest the progress that Nicaragua has made in developing its apparel value chain in recent years, and it will certainly result in a loss of critically needed jobs and export revenue.

For both Nicaragua and the United States, the implications of the TPL expiration will vary depending on the type of apparel (knit or woven). The knitted apparel industry is much more important to Nicaragua in terms of exports and employment; knits represent at least 58% of exports to the United States, and knitted apparel firms employ roughly twice as many people as the woven segment. We anticipate contraction of Nicaragua's knit apparel industry, since a number of manufacturers in this segment are subsidiaries of large, diversified companies based in Asia, and thus are well-positioned to shift orders to factories located elsewhere in their global networks. On the other hand, several knit manufacturers have expanded production in Nicaragua, and the region's textile base for knit fabrics is more developed than that for woven fabric. Whether or not knitted apparel firms will remain in Nicaragua if the TPL benefits expire will depend on whether the company is embedded in the Central American region (in terms of their production network and their buyers) and the relative difference in price to produce the same item in Nicaragua versus other countries.

The relative importance of the woven apparel industry in Nicaragua in terms of exports has declined compared to the growth of the knitted apparel industry (53% of exports in 2000 versus 29% in 2012). Furthermore, overall employment in the woven segment appears to have stagnated in the last few years, and at the firm-level, some producers have experienced sharp declines. Whether woven apparel producers remain in Nicaragua will likely depend on: (a) the success of the textile plant that was built by Cone Mills and recently sold to Grupo Karim from Honduras; (b) the change in the cost of woven fabrics without the tariff preference (i.e. the cost of textiles from Asia); and (c) the existing production network of the firms.

A key contribution of this report is the development of a method to estimate the number of U.S. textile jobs related to exports to specific countries by both state and product category. Based on our analysis, we estimate that between 298 and 986 woven and knitted fabric jobs are directly related to trade with Nicaragua and approximately 180 additional jobs from supporting industries. Within the United States, employment and exports related to trade with Nicaragua are concentrated in three main states: North Carolina, Georgia and South Carolina. North Carolina represents between half and three-quarters of this total. Our firm-level research also suggests there is indirect U.S. employment related to yarn exports to CAFTA countries (predominately Honduras) that is later exported to Nicaragua in the form of knitted fabric to be sewn into apparel products, such as knit shirts. Thus, if the Nicaragua's knit apparel industry were to contract dramatically upon the expiration of the TPLs, it may well result in a decline in U.S. yarn exports to the region.

Any extension of the TPLs will be temporary, and their availability does not, in and of itself, increase Nicaragua's competitiveness. Their most important function has been incentivizing sourcing from Nicaragua as a way to put the country on the "map" and thereby make foreign brands and manufacturers aware of the advantages—beyond the TPLs—that Nicaragua has to offer. Accordingly, we would emphasize the importance of seizing and amplifying opportunities created by existing regional trade agreements. Specifically, CAFTA is already providing regional

exporters with market access that benefits them vis-à-vis Asian competitors. While the TPP negotiations, if successful, may extend duty-free access to qualifying goods from Vietnam, Nicaragua and the other CAFTA countries still have the advantage of proximity to the U.S. market.

All stakeholders throughout the apparel value chain—the brands and retailers importing apparel, textile and clothing manufacturers, governments, workers and labor unions—have a shared interest in developing a globally competitive textile and apparel industry close to the world's single largest-country market. Our research for this report confirms that the brands and retailers coordinating global sourcing networks are increasingly aware of the need to align value chains regionally. This imperative reflects not only regulatory factors, such as the rules of origin in preferential trade agreements, but also the reality of increasing production costs in Asia and the increased premium placed on flexibility and consumer-responsiveness. Working with lead firms in the apparel value chain, both to create and strengthen different links in the chain, and to develop relationships among them, is necessary to ensure the long-term viability of apparel production in the Americas, and thus Nicaragua's place within it.

Appendix A

Two Methods to Estimate U.S. Export Share of Shipments & Employment Calculations

Method #1: U.S. Exports from Manufacturing Establishments (EFME)

- The data used to generate these estimates has gone through a detailed process to correlate all data at the establishment level and to calculate the FOB value of exports rather than use the FAS value.
- The export data is from undisclosed information collected as part of the ASM. This export data was compared and the totals were reconciled to match the U.S. foreign trade data to account for under-reporting and to calculate FOB values.[23]
- Employment data reflects the total of the respondents to the ASM, and does not match the BLS data for 2011 (approx. 15,000; ASM is 13% higher).
- The EFME calculation includes a measure for supporting shipments employment.

Method #2: U.S. Calculation of Textile Export-Related Shares & Employment

- The export value is FAS (USA Trade Online & USITC) rather than FOB, which is the valuation methodology, used in the value of shipments data. For this reason, the export value is likely overstated by the amount of transportation charges.
- An average employment number was used to help to reconcile the differences between the BLS number (closer to the population) and the ASM number (based on survey data). The shipment data is based on a sample whereas the trade data is based on the population.
- The trade data is based on all product exports that correlate to the given NAICS codes from the Schedule B; the value of shipments data is based on the products sold from establishments with a given NAICS code.
- *State-Level Employment Estimates*
    - The state-level estimate assumes that the overall industry's share of exports at the U.S. level is similar for all states.
    - State-level exports are based on the origin of movement which is typically the state from which the merchandise starts its journey to the port of export. However, when shipments are consolidated, the state of origin represents the consolidation point.[24]
    - The state level employment estimates use the supporting shipments employment data from the EFME.

[23] www.census.gov/foreign-trade/Press-Release/ft900_index.html
[24] www.census.gov/foreign-trade/aip/elom.html

Appendix B

Interviews Conducted for the Current Study

Date	Location	Type of Respondent
October 7, 2013	By phone	U.S. Fabric Manufacturer
October 11, 2013	North Carolina	U.S. Yarn Manufacturer
October 11, 2013	North Carolina	U.S. Fabric Manufacturer
October 12, 2013	North Carolina	U.S. Yarn Manufacturer
October 12, 2013	North Carolina	Industry Association
December 4, 2013	Washington D.C.	Industry Consultant
December 4, 2013	Washington D.C.	U.S. Government Official
December 4, 2013	Washington D.C.	U.S. Congressional Office
December 4, 2013	Washington D.C.	U.S. Government Staff
December 4, 2013	Washington D.C.	Industry Association
December 4, 2013	Washington D.C.	U.S. Congressional Office
December 5, 2013	Washington D.C.	Industry Consultant
December 5, 2013	Washington D.C.	Industry Association
December 5, 2013	Washington D.C.	Industry Consultant
December 9, 2013	By phone	Apparel Buyer/Importer
January 24, 2013	By phone	U.S. Government Staff
January 29, 2014	Colorado	Industry Association
February 3, 2014	By phone	Apparel Buyer/Importer
February 12, 2014	By phone	Non-U.S. Apparel Mfr.
March 12, 2014	By phone	Apparel Buyer/Importer
March 17, 2014	By phone	Apparel Buyer/Importer

References

Bair, J., & Gereffi, G. (2001). Local clusters in global chains: the causes and consequences of export dynamism in Torreon's blue jeans industry. *World Development, 29*(11), 1885-1903.

Bair, J., & Gereffi, G. (2013a). Better Work in Central America: Assessing the Opportunities for Upgrading in Nicaragua's Apparel Sector *Capturing the Gains Working Paper 17*.

Bair, J., & Gereffi, G. (2013b). Chapter 11: Towards Better Work in Central America: Nicaragua and the CAFTA Context: ILO.

CNZF. (2010-2013). Nicaragua Firm-Level Textile & Apparel Data (Confidential). Managua, Nicaragua: Comisión Nacional de Zonas Francas (CNZF).

CNZF. (2012). National Free Zones Commission Industrial Directory Nicaragua: 2011-2012. Managua, Nicaragua.

CNZF. (2013a). Estadisticas del Sector Textil-Vestuario. Managua, Nicaragua.

CNZF. (2013b). Evolución en Zonas Francas 2007-Junio 2013. Managua, Nicaragua.

DGA. (2012). ZONA FRANCA: Saldo Comercial por Sección y Capítulo del SAC - Enero - Diciembre 2012. Retrieved December 15, 2013, from Dirección General de Servicios Aduaneros (DGA) http://www.dga.gob.ni/Estadweb/WEB_ENERO_DICIEMBRE_2011_2012.pdf

Frederick, S., & Gereffi, G. (2011). Upgrading and Restructuring in the Global Apparel Value Chain: Why China and Asia are Outperforming Mexico and Central America. *International Journal of Technological Learning, Innovation and Development, 4*(1/2/3), 67 - 95.

Gereffi, G., & Bair, J. (2010). Strengthening Nicaragua's Position in the Textile-Apparel Value Chain: Upgrading in the Context of the CAFTA-DR Region. Durham, NC: Center on Globalization, Governance & Competitiveness (CGGC).

Gereffi, G., & Frederick, S. (2010). The Global Apparel Value Chain, Trade and the Economic Crisis: Challenges and Opportunities for Developing Countries *World Bank Policy Research Working Paper 5281*. Washington, DC.

OTEXA. (1989-2012). Export Market Report. Retrieved September 30, 2013, from U.S. Department of Commerce, International Trade Administration (ITA), Office of Textiles & Apparel (OTEXA) http://otexa.ita.doc.gov/scripts/exphist.exe

Staritz, C., & Frederick, S. (2012). Part 2: Summaries of the Country Case Studies on Apparel Industry Development, Structure and Policies. In G. Lopez-Acevedo & R. Robertson (Eds.), *Sewing Sucess? Employment, Wages and Poverty following the End of the Multi-fibre Arrangment* (pp. 211-497). Washington, DC: The World Bank.

Staritz, C., & Frederick, S. (2014). Chapter 7: Sector Case Study - Apparel. In T. Farole & D. Winkler (Eds.), *Making Foreign Direct Investment Work for Sub-Saharan Africa: Local Spillovers and Competitiveness in Global Value Chains* (pp. 209-244). Washington, DC: The World Bank.

U.S. BLS. (1990-2012). Quarterly Census of Employment and Wages (QCEW). Retrieved September 26, 2013, from U.S. Department of Labor, Bureau of Labor Statistics (BLS) http://www.bls.gov/cew

U.S. Census Bureau. (2000-2012). TradeStats Express™ - State Export Data (NAICS Codes). from Presented by the Office of Trade and Industry Information (OTII), Manufacturing and Services, International Trade Administration, U.S. Department of Commerce http://tse.export.gov/TSE/TSEReports.aspx?DATA=SED

U.S. Census Bureau. (2002-2012a). USA Trade® Online: U.S. Import and Export Merchandise Trade Statistics: State Exports by HS Commodities. Retrieved November 2013, from U.S. Census Bureau, Foreign Trade Administration (FTD) https://usatrade.census.gov

U.S. Census Bureau. (2002-2012b). USA Trade® Online: U.S. Import and Export Merchandise Trade Statistics: State Exports by NAICS Commodities. Retrieved September 26, 2013, from U.S. Census Bureau, Foreign Trade Division (FTD) https://usatrade.census.gov

U.S. Census Bureau. (2011a). Annual Survey of Manufactures (ASM): General Statistics: Statistics for Industry Groups and Industries. http://www.census.gov/manufacturing/asm/index.html

U.S. Census Bureau. (2011b). Exports from Manufacturing Establishments: Methodology & Data Tables. www.census.gov/manufacturing/exports/index.html

U.S. GAO. (2012). Follow-up on the Haiti Earned Import Allowance Program" (GAO-13-219R). Publicly Released: Dec 14, 2012. U.S. Governmental Accountability Office (GAO). Available at www.gao.gov/assets/660/650911.pdf.

UNSD. (Various). United Nations Commodity Trade Statistics Database (UNCOMTRADE). Retrieved September 29, 2013, from United Nations Statistics Division (UNSD), http://comtrade.un.org

USITC. (1995-2012a). USITC Dataweb: U.S. Total Exports (HTS). Retrieved November 2013, from United States International Trade Commission (USITC) http://dataweb.usitc.gov

USITC. (1995-2012b). USITC Dataweb: U.S. Total Exports (NAICS Codes). Retrieved November 2013, from United States International Trade Commission (USITC) http://dataweb.usitc.gov