CLOSE KNIT: MIGRATION AND APPAREL PRODUCTION IN CENTRAL AMERICA

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EXECUTIVE SUMMARY

Migration from Central America rose significantly in 2019 and 2021, prompting a call to find solutions that address the "root causes" of Central American migration. One potential solution is expanding international trade, especially in the apparel industry. In developing countries, exporting apparel creates jobs, reduces poverty, and contributes to economic growth.

Most apparel trade is organized through global value chains—the interconnected steps from raw materials towards final production and sales. The opportunity to re-orient those global value chains is ripe now due to the recent upheaval in global trade. In 2020 and 2021, the public health measures imposed and later lifted to limit the spread of COVID-19 caused major disruptions for many supply chains, including apparel, and these effects were felt into late 2021. Meanwhile, the increased costs associated with sourcing from China, the largest source of apparel to the U.S., has pushed brands to look elsewhere for investment.

Without changes to the complex and restrictive rules that govern trade between Central America and the United States, the Central American countries that could most use the increased investment in their apparel manufacturing capabilities will miss out on this opportunity. Since the apparel industry is labor-intensive and brings would-be migrants out of agriculture and informal employment into the formal sector, focusing on policies to expand supply-chain-related apparel production in Central America offers tremendous promise for addressing the root causes of migration in Central America.

This report highlights certain policy levers that would enhance apparel-supply-chain-related investment in Central America, including specific changes in trade policy, human resources, and infrastructure that would help address the root causes of migration in Central America.

Key Messages:

- Central American migration is high due to lack of economic opportunity and security concerns.
- Apparel offers significant promise for job creation in Central America.
- Complex and restrictive trade rules are inhibiting investment in apparel production in Central America.
- Specific trade policy changes, including to the rules of origin, are needed to expand investment in Central American apparel production.

- Apparel global value chain restructuring offers additional benefits for the United States as a leader in regional integration.

OVERVIEW

In 2019 and 2021, migration from Central America to the Southwest U.S. border increased dramatically. On May 27, 2021, Vice President Harris announced a Call to Action to the Private Sector to Deepen Investment in Northern Central America (El Salvador, Honduras, and Guatemala) that builds on President Biden's Plan to Build Security and Prosperity in Partnership with the People of Central America. On June 12, 2021 President Biden and G7 leaders launched the Build Back Better World (B3W) partnership. On July 29, 2021, Vice President Kamala Harris released a cover letter describing the U.S. Strategy for Addressing the Root Causes of Migration in Central America. The first pillar of the U.S. strategy is "Addressing Economic Insecurity and Inequality." The United States now seeks the best ways to address the "root causes" of Central American migration. **Restructuring global value chains by changing trade policy and removing barriers to reshoring trans-Pacific investment towards the Americas generally and towards Northern Central America (NCA) in particular should play an important part in achieving these goals.**

International trade creates jobs, lifts people from poverty, and is strongly associated with economic growth. Most international trade occurs within global value chains – the interconnected steps from raw materials towards final production and sales. In 2020 and 2021, global value chains have been disrupted by several major events. On February 24, 2021 the Biden Administration issued an Executive Order on America's supply chains that called for improving the resilience, diversity, and security of America's supply chains. Trade frictions with China, global supply chain disruptions, a rising international push for sustainability in global value chains, and the current migration crisis along the Texas-Mexico border suggest that late 2021 and 2022 provide a unique window of time to reshape U.S. trade policy in ways that would foster economic investment and production in Central America. In particular, supply chain disruptions give Central America a chance to attract foreign investment that can create jobs and economic growth for would-be migrants. As Feinberg (2021) notes, identifying and removing critical barriers in the Americas facilitates the shift of appropriate products, processes, and inputs that had been outsourced to

China, South-East Asia, and South Asia back to the Americas ("Nearshoring").

Historically, the movement of goods and processes to lower-wage countries has been politically contentious in the United States because of fears of job loss in the United States. The recommendations in this report, however, shift jobs from Asia to Mexico, Colombia, and Central America in ways that not only protect U.S. jobs but actually foster job growth in the United States. Since workers in the Americas spend a higher share of their income on U.S. exports than most East Asian workers, the shift in jobs from China to the Americas increases wages and jobs in the United States by increasing the demand for U.S. exports.
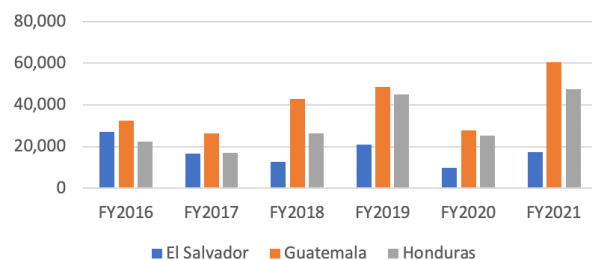
This report has five sections. The first section argues that Central American migration is high due to a lack of economic opportunity. The second shows that apparel offers significant promise for job creation in Central America. In the third section, we show that Central American apparel production has potential for U.S.-led expansion and diversification and compare Central America to Vietnam. Section four contains specific trade policy and investment changes that would expand Central American apparel, including relaxing rules of origin. The fifth section discusses infrastructure, U.S. employment, and other issues related to the debate.

ROOT CAUSES OF CENTRAL AMERICAN MIGRATION

In 2019, the United States experienced a spike in migration of both single adults and families from Central America. In particular, migrants from the northern Central American countries of El Salvador, Guatemala, and Honduras reached record numbers. Although the 2020 COVID-19 crisis coincided with lower migration flows, Figure 1 shows that migration from Guatemala and Honduras surpassed 2019 levels by the second quarter of 2021. Although this level was higher than previous years, over 300,000 people left northern Central American countries per year (Meyer 2021a). In March 2021, President Biden asked Vice President Kamala Harris to lead U.S. efforts to address the "root causes" of Central American migration and created an imperative to find effective strategies to support economic growth in Central America. As Meyer (2021a) notes, "Without improved job creation, however, new workers may be forced to choose between pursuing limited, precarious employment opportunities in the unregulated informal sector or seeking opportunity elsewhere."

Latin America and the Caribbean endured a "growth spurt with equity" in the initial years of the 21st century, experiencing a gross domestic product growth rate of about 4% and significant income growth in the poorest households (Bown, et al. 2017). This prosperity was largely attributed to a demand boom fostered by an increase in the price of exports relative to the price of the region's imports (Bown, et al. 2017). Most of the increase in Latin American exports came from raw materials that fed China's growth. Countries that were closer competitors with China in manufacturing, such as Mexico, had a more difficult time. Central America was caught in the middle. McKinsey & Company classify El Salvador, Guatemala,

Figure 1: U.S. Border Patrol Encounters Single Adults

Notes: Author's elaboration using data from https://www.cbp.gov/newsroom/stats/southwest-land-border-encounters/usbp-sw-border-apprehensions. Beginning in March FY20, U.S. Border Patrol Encounters statistics include both Title 8 Apprehensions and Title 42 Expulsions.

Honduras, and Nicaragua as "laggards" in 1987-2017 GDP growth and cite a lack of market diversification as a key factor (Cadena et al. 2019). While Central America struggles with corruption and violence, a lack of formal-sector jobs creates a powerful "push factor" that drives migration from Central America. While many focus on the fact that homicide rates in Central America are among the highest in the world, Dell et al. (2019) illustrate how lack of economic opportunity can contribute to violence in Latin America. Thus, addressing economic opportunity may help address security concerns, violence, and other push factors.

APPAREL EXPORTS CREATE JOBS

For the last century, most developed countries have followed a broadly similar path towards economic development that moves from agriculture and informality to apparel, to other light manufacturing, to heavy manufacturing, and finally to services. About 30% of Central American workers are in agriculture, but agriculture only contributes about 9% to gross domestic product (ECLAC et al. 2015). Central America

is currently on the nexus of low-wage agriculture, informality, and apparel.

Expanding apparel employment draws workers out of agriculture and informality into formal sector employment. The World Bank report Stitches to Riches? Apparel Employment, Trade, and Economic Development in South Asia outlines how the apparel industry contributes to the social, economic, and policy realms of developing countries. Growing apparel exports increases female labor-force participation (Lopez-Acevedo and Robertson 2016), which is now widely understood to play a key role in economic development. Apparel manufacturing pulls workers away from the informal sector and traditionally labor-intensive agricultural work (Lopez-Acevedo and Robertson 2016). Furthermore, the World Bank report Globalization, Wages, and the Quality of Jobs (Robertson et al. 2009) shows that apparel workers earn more in apparel than they would earn in their most likely domestic alternatives (domestic service and agriculture).

Economically, participation in apparel industries opens developing countries to a plethora of new trade and job opportunities. Bangladesh, India, Pakistan, and Sri Lanka serve as prime examples of the benefits that stem from considerable apparel trade investments with significant portions of each countries global exports in 2012 represented by apparel (Lopez-Acevedo and Robertson 2016). In a study published by the World Trade Organization in 2006, low- and middle-income countries accounted for more than half of world exports in textiles and clothing, demonstrating the comparative advantage developing countries have in apparel (Keane and te Velde 2008). Expanding apparel exports increase the demand for labor, creating formal-sector jobs (Lopez-Acevedo and Robertson 2016). Closer to home, Iakovou and Robertson (forthcoming 2022) argue that rising apparel exports to the United States are associated with lower remittances from the United States, which suggests expanding apparel production abroad creates jobs that keep potential migrants at home— exactly the change necessary to help reduce Central American migration.
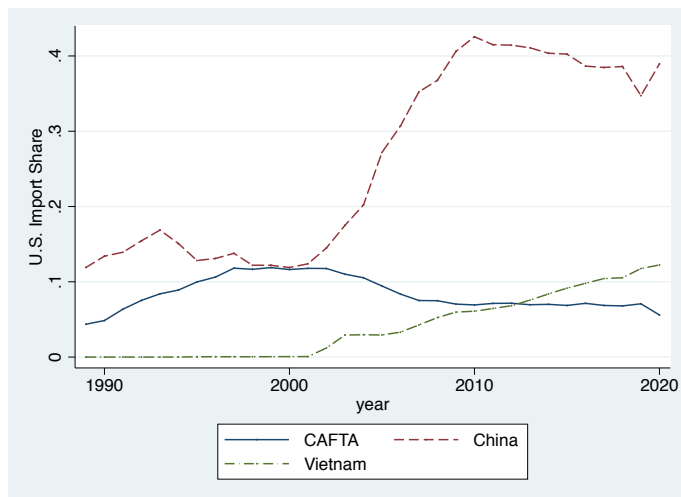
CENTRAL AMERICAN APPAREL EXPORTS NEED TO EXPAND AND DIVERSIFY

Central America has an opportunity to capture production leaving China, but Central America needs to upgrade and expand the volume and range of products produced. Central America is no stranger to apparel production. In 2018, 76% of

U.S. imports from El Salvador were in apparel. In Honduras and Guatemala, apparel made up 55% and 32% of U.S. imports. In contrast, the share of fruits and coffee in U.S. imports was just 13% in Honduras and 2.2% in El Salvador. Guatemala is the only country in this group in which fruits and coffee were a higher share of U.S. imports than apparel. In all countries, apparel plays a critical role in exports, which translates into jobs. Expanding apparel exports goes beyond just increasing the amounts of the current goods that are exported. Central America needs to expand the scope and range of products exported in order to move into higher value-added products. Expanding and upgrading the apparel sector will have a significant effect on employment and wages and, as a result, migration from Central America.

While China and Vietnam's share of U.S. apparel imports expanded, Central America's share has remained constant or fallen (Figure 2). China's share increased sharply since 2001 when it joined the World Trade Organization, but leveled off after the global financial crisis in 2010. Vietnam was able to take advantage of this decline and grew more rapidly after 2010. At the same time, however, Central America's share of U.S. apparel imports was falling or remained constant.

Figure 2: U.S. Apparel Import Share

Notes: Author's elaboration using data from OTEXA. The U.S. import share is the dollar amount of total apparel imports from each region or country divided by the total imported for each year.
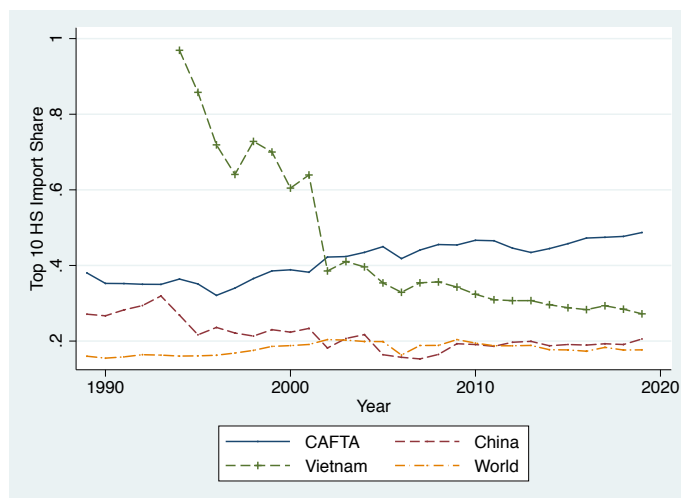
Central America exports are highly concentrated

In addition to a relative lack of growth, Central America exports a relatively small range of apparel products. To illustrate the range of Central American apparel exports, we draw upon

the OTEXA data of U.S. apparel imports by country and by 10-digit Harmonized System (HS) code. The 10-digit HS codes are the most detailed import categories in the OTEXA data. To measure the concentration of U.S. apparel exports by country, we calculate the share of total U.S. imports of the ten highest 10-digit HS categories. This measure is similar to other indices of industry concentration, like the 4-firm concentration index or the Herfindahl-Hirschman index. We calculate this measure for the world (all U.S. apparel sources together), China, Vietnam, and the CAFTA region.

Unlike Central America, China and Vietnam diversified significantly over time. Figure 3 shows the concentration measure for CAFTA-DR countries, China, Vietnam, and the

Figure 3: U.S. Apparel Import Concentration

Notes: This figure shows the share of total U.S. imports by country or region accounted for by the 10 largest-importing HS10 categories. Higher numbers show a higher concentration of U.S. imports. Source: Author's elaboration using data from OTEXA.
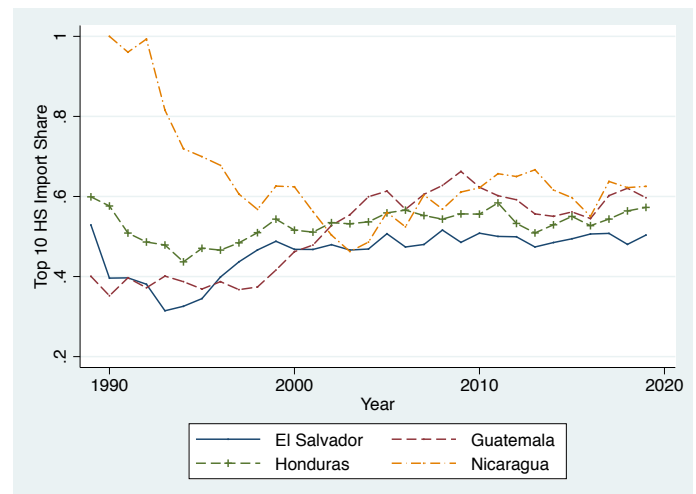
World. Falling measures represent falling concentration (diversification). Based on the imports from all countries taken together, the global export supply has become slightly more concentrated since 1990, but, intuitively, global sourcing remained highly diversified. Vietnam, however, contrasts sharply with the global measure. Starting in the mid-1990s, after nearly a decade of the Doi Moi reforms that laid the foundation for expanding Vietnamese exports, Vietnam produced a very small range of products: nearly all of its production was in ten HS10 categories. Over time, however, the measure of concentration falls showing very significant diversification of Vietnamese exports.

From the early 1990s to the middle of the first decade of the 21st century, China exhibits significant diversification. China's measure falls from roughly 30% of U.S. imports from China falling in China's top ten HS10 categories to less than 20%. Since the mid-2000s, however, as China's exports have become somewhat more concentrated, but never more than 20%. Note that China's concentration has risen since the early 2010s, Vietnam's concentration has fallen, which would be expected if production of some apparel products were shifting from China to Vietnam.

Central American countries, however, are both more concentrated and increase their concentration over time. Figure 3 shows that in the early 1990s, around 30% U.S. imports from Central America were in just ten HS10 categories—more than the world average and more than China. Unlike China and Vietnam, the overall concentration increases over time. From the middle of the 1990s to 2020, Central American concentration increases from about 30% to nearly 50%.

Figure 4 shows the concentration of exports for CAFTA-DR members El Salvador, Guatemala, Honduras, and Nicaragua separately. Like Vietnam, these countries begin the 1990s with increasing diversification (falling concentration), but this trend reverses in the mid 1990s. Since the mid 1990s, all four countries exhibit increasing concentration.

Figure 4: U.S. Apparel Import Concentration by Country
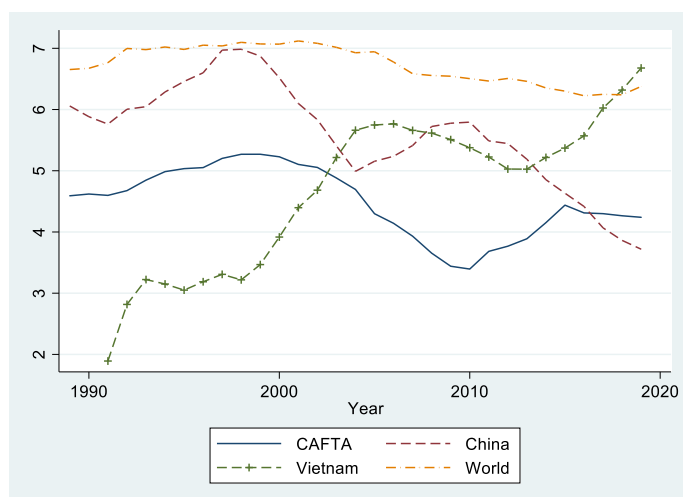

Notes: Author's elaboration using data from OTEXA. This figure shows the share of total U.S. imports by country accounted for by the 10 largest-importing HS10 categories for each country. High numbers show a higher concentration of U.S. imports.

Not only has Central America been limited in scope and quantity, but the value of products are generally low. Figure 5 shows the average unit value of U.S. apparel imports. The unit value is calculated as the total dollar value of imports divided by the square-meter-equivalent, which is a quantity measure developed by OTEXA. Figure 5 shows that the unit value of U.S. apparel imports from Central America grew between 1990 and 2000, but fell precipitously between 2000 and 2010. Although rising between 2010 and 2015, since 2015 Central America's unit values have been falling slightly and did not reach the heights of the late 1990s. For reference, Figure 5 also shows the overall U.S. import average, which is much higher than Central American unit values.

At the same time, Vietnam's unit values have been increasing since the early 1990s. Although falling after the end of the Multi-Fibre Arrangement in 2004, Vietnam's unit values have

Figure 5: Unit Values

Notes: Author's elaboration using data from OTEXA. This figure shows the total value divided by the OTEXA-determined square meter equivalent of U.S. imports from each region or country.

been rising again since the early 2010s. These rising unit values illustrate upgrading and Vietnam's success at moving into higher-value-added products. Note that China's unit values move almost exactly opposite of Vietnam's, again illustrating the shifting of production towards Vietnam.

Upgrading, diversifying, and expanding production is a symptom of economic development. Finding the policy levers that can facilitate diversification will help Central American apparel expand, diversify, upgrade, and create jobs.
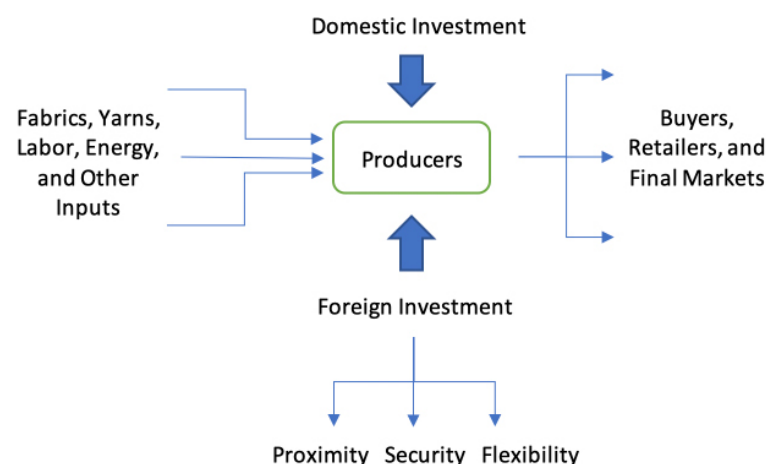
Why does Vietnam outperform Central America?

In 2010, Vietnam was the world's 5th largest apparel producer. In 2018, Vietnam moved up to third place and in 2021 became the world's 2nd largest apparel producer. What explains Vietnam's success relative to Central America?

Like Central America, Vietnam's growth is powered by foreign investment. Foreign investment in particular, and the industry's competitiveness in general, is a function of many factors. Figure 6 illustrates a rough schematic of the apparel industry and illustrates factors that both drive foreign investment and national competitiveness.

Vietnam and Central America have many similarities. They are both members of a range of trade agreements that include yarn-forward rules of origin but nevertheless increasingly rely on Chinese materials. Lu (2021) gives Vietnam and Central America the same competitiveness scores for risk of labor, social, and environmental compliance. Others (Buchanan et al. 2013) also cite problems with corruption, rule of law, and bureaucratic inefficiency that are common in developing countries.

Figure 6: Industry Schematic

The differences between Vietnam and Central America explain differences in investment patterns. Among these, transportation (with a particular focus on ports and access to ports), customs procedures, and electric costs stand out as the most prominent (O'Brien and Associates 2018). Figure 7 shows the average electricity prices for various apparel-producing countries. Costs vary significantly across countries. In particular, China and Vietnam have much lower costs than the

Latin American countries. Among Latin American countries, Mexico's costs are the lowest. Costs in Guatemala and Nicaragua are highest. Reducing electricity costs would help promote private-sector investment in Latin America.

Figure 7: 2021 Electricity Prices by Country

Notes: Author's elaboration using data from globalpetrolprices.com. Data correspond to the second quarter of 2021. All prices are converted to U.S. dollars from local currency per kWh using globalpetrolprices.com exchange rates. Electric prices include the cost of distribution, energy, and all taxes and fees.

Vietnam has lower labor costs and ranks higher in terms of flexibility than Central America (Lu 2021). Local access to lower-cost materials (yarns and fabrics) contribute to flexibility as well as lower production costs. In addition, being close to some of the former leading textile and apparel producers (South Korea, Singapore, Taiwan, Japan, and China) makes Vietnam attractive to a wider range of foreign investment from these countries. Producers with established production networks and leadership teams in or near China have an incentive to keep production relatively close as they shift out of China, again making Vietnam an attractive alternative.

Interestingly, the main advantage that Central America has – proximity to retailers and final markets – seems to play less of a role in production location decisions. Like Central America, Vietnam's main export market has been the United States. Vietnam's growth without having a trade agreement with the United States (the U.S. and Vietnam signed a trade and investment framework agreement in 2007) and distance from the United States suggests that proximity to inputs and established production networks are more important than proximity to end markets. As a result, promoting access to inputs could play a critical role in promoting Central American apparel production.

POLICY CHANGES TO PROMOTE CENTRAL AMERICAN APPAREL

The main U.S. fiscal policy for Central America is the U.S. Strategy for Engagement in Central America. Since FY2016, Congress allocated more than $3.6 billion for the strategy (Meyer 2021b). This funding was partially held back by the Trump Administration to pressure the Central American government to improve security, reduce corruption, support human rights, and other concerns. In 2021, a House Appropriations subcommittee approved the Biden Administration's request for the first $866 million of a $4 billion pledge, but up to 75% of funding going to Central American governments is contingent on those governments meeting anti-corruption, transparency, and democracy standards (Schneider, 2021).

Expanding the volume and range of Central American apparel production would create jobs in Central America. The World Bank report Sewing Success? Employment, Wages, and Poverty following the End of the Multi-fibre Arrangement (Lopez-Acevedo and Robertson 2012) shows that after the end of the Multi-fiber Arrangement, countries that supported apparel upgrading were more likely to expand exports, jobs, and wages. Increasing labor-intensive apparel exports requires other policy changes that facilitate and incentivize private-sector investment. Specifically, to promote diversification and expansion in Central America's apparel sector, the United States, Mexico, Colombia, and Central America need to coordinate in several policy areas. Changing trade rules can be one of several policy tools to encourage greater foreign investment, including human resources, finance, and infrastructure.

Trade Rules

East and South-East Asia leveraged international economic integration through global value chains to successfully promote regional economic development. Japan led this "Flying Geese" model with a combination of trade and investment. Following a similar model in the Americas, led by the United States and Mexico, would help shape global value chains for sustained economic development that addresses the root causes of Central American migration. Lu (2021) finds that international buyers are increasingly struggling to find alternatives to production in China, which is consistently plagued by tariff concerns, human rights concerns in the Xinjiang Uygur Autonomous Region, and rising wages. Central

America has both advantages and disadvantages. The main advantages are proximity to the United States (low time and transportation costs) and sustainability. One of the leading disadvantages is restrictive Rules of Origin found in trade agreements that cover the region.

Overview of Key Trade Agreements: CAFTA-DR, and US-Colombia TPA, and USMCA

One way to promote investment and expand apparel production in Central America is to identify ways to harmonize trade rules within existing trade agreements, including CAFTA-DR, the US-Colombia TPA, and the USMCA. Perhaps the most relevant is the Central America-Dominican Republic Free Trade Agreement (CAFTA-DR), which became effective in El Salvador, Honduras, and Nicaragua in 2006 and Guatemala in 2007. Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Dominican Republic, and the United States are parties to the agreement (Office of the United States Trade Representative 2004). From the United States perspective, CAFTA-DR was designed to cultivate "Made-In-America" jobs, strengthen workers' rights and conditions, and create opportunity for growth and stability in the region. At the time, CAFTA-DR was expected to increase market opportunities for U.S. yarn, fabric, apparel, and footwear manufacturers, superseding the unilateral Caribbean Basin Trade Partnership Act by providing duty-free market access for U.S. yarn and fabric (International Trade Administration 2009), but may also have created incentives that limited expanding, diversifying, and upgrading Central American apparel production. As discussed below, the yarn forward rules of origin are very restrictive.

Other agreements, including the US-Colombia TPA and the USMCA are also relevant for achieving regional integration. The United States-Colombia Trade Promotion Agreement entered into force on May 15, 2012 to eliminate tariffs and trade barriers between the United States and Colombia. Notably, US-Colombia TPA contains effective anti-circumvention measures which place procedural safeguards that help to prevent transshipment and circumvention of the rules of origin (Office of the United States Trade Representative 2012). The United States-Mexico-Canada Agreement, or USMCA, entered into force on July 1, 2020 as a renegotiation of the North American Free Trade Agreement. USMCA emphasizes the insulation of American workers with rules on automotive manufacturing, agriculture, the protection of U.S. intellectual property, and new chapters that cover digital trade, anti-corruption, and protections and support for small and medium sized enterprises. USMCA differs notably from NAFTA in that

it increases the de minimis level from 7% to 10%, does not require viscose rayon fiber and filament and visible linking fabric to originate within the preferential trade region, modifies tariff preference levels, and enhances customs cooperation and verification provisions for textile and apparel products (International Trade Administration 2020, Office of the U.S. Trade Representative 2020).

Harmonization of Trade Agreements without Renegotiation

Rules of Origin (RoO) are the terms within trade agreements that define production that qualifies for the benefits of the trade agreement. While necessary to prevent transshipments from countries outside the trade agreement, RoO can be set in a way that can offset, or negate, the other benefits of the agreement (Cadot and de Melo 2007). Trade agreements may allow for modifications of Rules of Origin by administrative action (e.g. see Article 5.2 of the WTO Agreement on Rules of Origin). The Rules of Origin in each of the three numerated trade agreements include stipulations for originating goods that outline the criteria that must be met in order for a good to receive lower tariffs. Appendix 1 describes the relevant provisions of key trade agreements in detail.

Yarn forward (YF), institutionalized within U.S.-negotiated free trade agreements with NAFTA in 1994, stipulates that all production stages for textiles and apparels must occur within the free trade agreement or preference region in order to qualify for tariff-free treatment. These production stages for textiles begin with yarn (whether extruded filament or spun), continue with fabric (woven, knit, etc.), and finish with processes like dyeing, printing, and stain resistance to name a few. Finished product stages include the cutting and sewing necessary for apparel, home furnishings, or technical textiles. YF seeks to insulate U.S. textile and apparel manufacturers within the trade agreement preference region, bolstering the value-add manufacturing processes, incentivizing investment in upstream textile manufacturing, and shutting out "free riders" who could potentially benefit from exporting textile components into the trade region for duty-free export to the United States (National Council of Textile Organizations, 2019).

In examining the rules of origin in the USMCA, CAFTA-DR, and US-Colombia trade agreements, all fibers, fabrics, and apparel goods classified under chapters 50 through 63 of the United States Harmonized System Code are initially subject to the Yarn Forward rule. US-Colombia additionally includes goods

of Chapter 42 and 94 of the Harmonized System, and, USMCA includes Chapter 96.19.

Subsequent policies allow for exceptions. All goods classified as the aforementioned chapters in the Harmonized System that are seeking preferential tariffs are subject to the obligations outlined in YF, unless they fall under special provisions that impart exceptions to the YF Rule of Origin. These rules include:

- **De Minimis**: Found in Article 3.3 of US-Colombia, Section G Article 3.25 of CAFTA-DR, and Article 6.1 of USMCA, the "De Minimis" exception provides that a good may still be subject to preferences within the trade agreement as long as no more than 10% of its materials contain non-originating materials that do not satisfy the rules of origin.

- **Short Supply List:** Found in Annex 3.25 of CAFTA-DR, Annex 3-B of US-Colombia, and a topic that requires special review and consultation by all parties and subsequent trilateral agreement to modify, as stipulated in Article 6.4 of USMCA, a trade agreement's "Short Supply List" allows for fibers, yarns, and fabrics deemed to be in short supply within the countries party to the agreement to be (1) sourced externally and (2) still receive duty preference.

- **Regional Cumulation:** This mechanism found in Article 3.4 of US-Colombia, which has yet to be fully implemented, and within Appendix 4.1-B of CAFTA-DR which came into effect in 2008, allows for "…materials that are goods of countries in the region…" to be "…counted for purposes of satisfying the origin requirement…" CAFTA-DR's cumulation provision relates solely to chapter 62 of the Harmonized System and incorporates only Mexico and Canada. The Dominican Republic lost its eligibility to participate in this provision in 2012. This exception to YF, if broadly implemented in Central and America, would allow for a comprehensive regional integration (Rooney 2021).

- **Cut and Assemble or Cut and Sew:** Built into the specific rules of origin for each good in Annex 4-B of USMCA and outlined in Annex 4.1 of CAFTA-DR in Notes 3 and 4, Cut and Assemble allows for a good to be considered originating if it is "…cut or knit to shape, or both, and sewn or otherwise assembled in the territory of one or more of the Parties…"

- **Fabric-Forward:** Built into the specific rules of origin for each good in Annex 4-B of USMCA and applied to specific products of CAFTA-DR and US-Colombia, fabric-forward allows for yarn in the initial stages of production to be sourced from anywhere.

These exceptions allow parties to the agreement to import components from outside the trade agreement preference region. Interested parties can appeal to the [Committee for the Implementation of Textile Agreements](#) (CITA) to add products to the list of unrestricted quantities to the Annex 3.25 of the CAFTA-DR agreement, for example. CITA added two-way stretch polyester/rayon/spandex twill weave fabric in 2017 (https://www.federalregister.gov/documents/2017/05/10/2017-09430/determination-under-the-textile-and-apparel-commercial-availability-provision-of-the-dominican).

There is concern, however, that technology, fashion, and consumer demand may move more quickly than the administrative review process. In 2007, the Short Supply Petition process was described as having a 30-44 business day timeframe, which does not include preparation of the petition and the due diligence period in which petitioners collect information about domestic production capacity.

Lu (2021) reports that about 90% of U.S. apparel imports that fall under the CAFTA-DR agreement follow the yarn forward tariff shift. The remaining 10% fall under either cumulation or short supply. The 90 percent make up a small set of all of the potential apparel that could be produced in Central America. As shown elsewhere, this 90 percent that Central America produces is highly concentrated in low-vaue-added products. Expanding the yarn-forward rule would allow Central America to ugrade and diversify. There is clearly a demand within Central America. Lu (2021) reports survey results that show that 21% of respondents source from CAFTA-DR countries without claiming the CAFTA-DR duty-free benefits. Furthermore, Lu (2021) suggests that Central American producers generally fall into two groups. The first are those that understand CAFTA-DR. The other group includes generally small and medium producers for whom the CAFTA-DR provisions are less understood. It is possible that the complicated terms and list of exceptions represent an administrative burden that is too costly for small and medium enterprises and, as such, limits the ability of the Agreement to promote job growth.

Proposals

Expanding the range of Central American apparel production would create jobs in Central America. The World Bank Report [Sewing Success? Employment, Wages, and Poverty Following](#)

[the End of the Multi-Fibre Arrangement](#) (Lopez Acevedo and Robertson 2012) shows that after the end of the Multi-Fibre Arrangement, countries that supported apparel upgrading were more likely to expand exports, jobs, and wages. Feenstra and Markusen (1994) show how access to new inputs, or a wider range of available inputs, contributes to economic growth. Elliott (2016) explains the importance of "simple and flexible" RoO in trade agreements in order to facilitate trade and promote economic growth. In the North American Free trade agreement, the restrictive RoO were associated with falling U.S. imports of materials from East Asian countries (Conconi et al. 2016). De Melo and Portugal-Perez (2014) found that after the United States relaxed the RoO for African countries, both volume and diversity of production increased.

In order to increase private investment, expand apparel manufacturing, and create more employment opportunities in Central and Latin America, the following changes in language to the Rules of Origin in the three trade agreements could be implemented. These include the expansion of:

1. The Short Supply List mechanism as a short-term opportunity and increase the amount of goods subject to this provision

2. The Cut and Sew rules of origin as a long-term opportunity to additional products to attract new sourcing

3. Cumulation as a long-term opportunity that incorporates all apparel and all CAFTA-DR parties, the allowance for use of fabrics from all U.S. preference agreement partners, and eliminates caps for sub-limits on goods

4. The Fabric Forward rules of origin as a long-term opportunity to extend product coverage to other fibers

Human Resources

A second obstacle to deeper integration falls under the broad heading of human resources. Human resource concerns include the lack of local skills, support services, and key inputs. For example, the lack of skilled production workers, engineers, and qualified machinery repair personnel was cited as a significant concern by O'Brien and Associates (2018). Human resource concerns also include labor compliance with national laws and international labor standards. Identifying the unique compliance concerns in Central America is necessary for shaping policies (such as Better Work and the USMCA "rapid response" program) that can effectively address Central America's unique concerns.
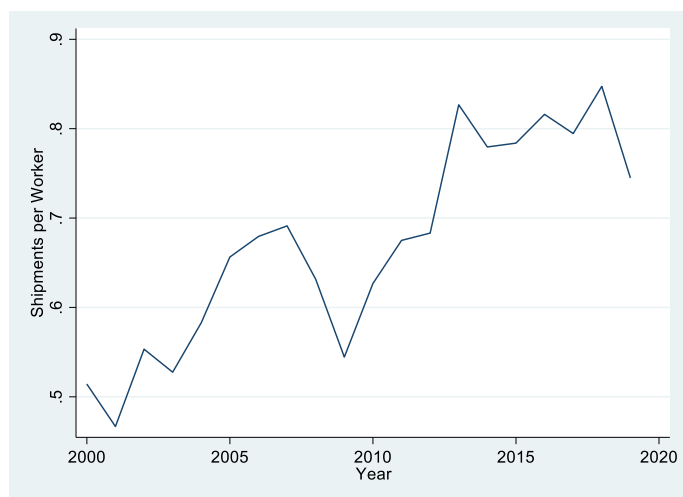
RELATED ISSUES

U.S. Textile Employment & Exports

Since 2010, the U.S. textile sector has experienced rising investment and rising exports. The sector has also shifted according to the United States' comparative advantage in capital and technology intensive products. When the NAFTA and CAFTA-DR were negotiated, the United States was experiencing potential and actual competition from China. Over the 1990-2010 period, China's role in the international economy, technological change, and strategic investments have contributed to important changes in the U.S. textile industry. The U.S. textile industry has changed in three important ways since 2000.

First, textile industry employment has fallen dramatically. Figure 8 shows the change in the textile employment as a share of total U.S. employment over time. Although the rate of decline has slowed since 2010, total employment in 2019 is about half of the 2010 level (as a share of total employment). Appendix 2 contains tables that describe these patterns in more detail. For example, the first table in Appendix 2 illustrates the decline using U.S. Census Bureau data. Examination of the Economic Census data from 1997, 2002, 2007, 2012, and 2017 demonstrates a steady decline in U.S. textile and apparel employment across the board with sectors experiencing an average 70% decline in employment numbers from 1997 to 2017.

While some of the decline is due to competition, production and exports have not fallen as much as employment and in many cases increased while employment was falling. The increase in exports with falling employment is consistent with rising productivity and automation. Figure 9 shows the rising U.S. textile shipments per worker over time. The increase in shipments per worker might be due to rising productivity or capital investments in the sector and is consistent with the shift towards more sophisticated products, such as nonwovens (such as filters and absorbent materials) and sophisticated industrial materials. At least one report notes that the U.S. textile industry is focused on innovation as a survival strategy (Freund et al. 2018) and that the shifts towards capital and technology-intensive textile products is the result of international economic specialization from comparative advantage (Chi et al. 2005). In other words, the U.S. textile sector is moving away from apparel-based fabrics towards more advanced industrial products.

Appendix Table 2 shows the change in nominal exports by 2-digit HS codes using data from COMTRADE. Table 2 shows that exports of cotton (HS52) increased consistently. Exports of nontreated fabrics (HS2 60) rose from 1998 to 2008, but fell back to 1998 levels by 2018. In contrast, exports of treated or industrial fabrics (HS59) increased consistently between 1998 and 2013 before falling slightly in 2018. The contrast between these two reflects the upgrading that has occurred in the United States because the industrial fabrics are more capital and technology intensive.

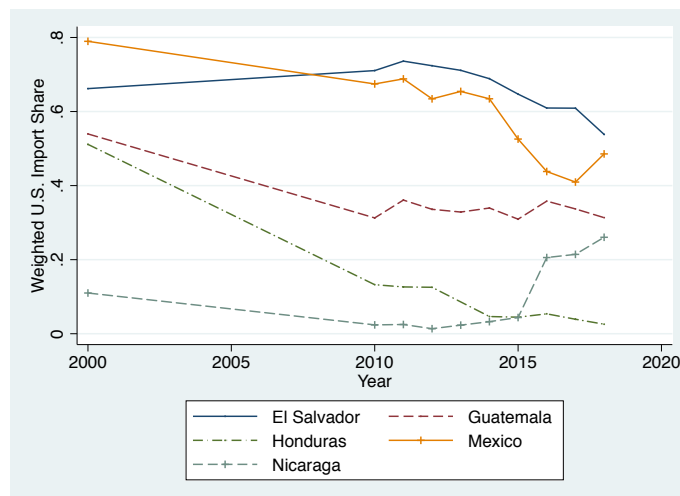**Figure 9: U.S. Textile Shipments per Worker**

Notes: Author's elaboration. Figure shows the total textile shipments divided by estimated total U.S. textile employment. Total textile shipments are from the "m3-mf" file from the U.S. Census Bureau's "Business and Industry" data found at (https://www.census.gov/econ/currentdata/datasets/index). Textile sector shipments used here are the sum of shipments from categories 13S ("Textile Mills") and 14S ("Textile Products"). Textile sector shipments are divided by estimated total textile employment using person-weight-inflated employment counts from IPUMS data based on the U.S. population Census and the American Community Survey (Ruggles et al., 2021).

Appendix Table 2 shows that cotton exports have increased consistently. Appendix Table 3 shows that, in 2018, more cotton was exported to China and Vietnam than Mexico and Central America. In contrast, knitted or crocheted fabric is more likely to be exported to Mexico and Central America. Treated or industrial fabrics are largely exported to Mexico and to a lesser extent to China. Over time, Mexico's imports from the United States have fallen. Figure 10 shows the weighted U.S. import share of total textiles (fabrics and materials) for Mexico, El Salvador, Guatemala, Honduras, and Nicaragua. The exception to the generally downward trend is Nicaragua, whose U.S. exports increased significantly after the end of the tariff preference levels (TPLs) in 2014. While some predicted that the end of TPLs would significantly harm

Nicaragua's garment industry (Frederick et al. 2015), Nicaragua's garment industry continued to thrive and switched to importing more U.S. fabric. The consequence, however, was the Nicaragua switched from relatively high-valued products towards lower value-added products. In other words, the end of TPLs seems to have moved Nicaragua away from diversification and away from upgrading.

Figure 10: Weighted U.S. Share of Total Fabric and Materials

Notes: Author's elaboration based on data from COMTRADE. Total HS4-digit imports used as weights. HS4 categories include 5201, 5203, 5204, 5205, 5206, 5207, 5208, 5209, 5210, 5211, 5212, 5402, 5403, 5404, 5405, 5406, 5407, 5408, 6001, 6002, 6003, 6004, 6005, and 6006.

In particular, Appendix Table 4 shows the share of all U.S. HS60 exports over time that went to seven key apparel exporting countries. Over time, both China and Vietnam become more important markets for the United States. After the end of TPLs in Nicaragua, Nicaragua goes from being a negligible market for the United States to receiving just over 18% of all U.S. exports of Knitted or Crocheted Fabrics. In 2018, 73.66% of U.S. HS60 exports went to Mexico, El Salvador, Guatemala, Honduras, and Nicaragua. In contrast, the share of Special Fabrics (HS59) going to Mexico increase significantly over time. The share going to China and Vietnam increased consistently since 1998 as China and Vietnam upgraded their own textile production. Nicaragua's share increases in 2018 after the TPLs, but remains less than 1% of the total U.S. market.

The main message is that China, Vietnam, and the United States are upgrading their textile and apparel production. Central America's production remains somewhat more stagnant. A vision of regional integration with directed upgrading would support Central America's long-term

economic development. Supporting upgrading in the United States coupled with integration in with Central America could increase wages in both regions.

Avoiding Trade Frictions with China

The trade war between the United States and China that began in 2018 continues into the Biden administration. The United States imposed tariffs on solar panels and disputes included semiconductors, automobiles, steel, aluminum, and Chinese purchase targets established under the phase one agreement signed in late 2019 (Bown & Kolb 2021). Furthermore, rising wages in China due to economic upgrading passed Mexican wage levels between 2000 and 2010 and are now considered to be significantly higher than Mexican wages (and, by extension, higher than Central American wage levels) (Szmigiera 2021). When COVID-19 broke out, production began to shift from China to Mexico (Blackman 2020). Overall, conditions in 2021 are well-suited for policies to facilitate shifting production from China to Mexico, Colombia, and Central America.

Security and Sustainability

On February 24, 2021, President Biden issued an executive order on America's supply chains that clearly lays out the need for increased security and sustainability in U.S. supply chains (The White House, Executive Order on America's Supply Chains, 2021). Production in China offers some advantages, but also comes with risks. For example, in July 2021, the U.S. Senate introduced a bill that prohibits apparel production from China's Xinjiang region (Just Style 2021). Apparel exports from Latin America surged in mid-2021. Supporting nearshoring back to the Americas, including Mexico, Colombia, and Central America, addresses these risks by leveraging proximity, better international relations, similar infrastructure and legal frameworks, and existing trade agreements. The new generation of "deep" trade agreements provides a framework that facilitates cooperation on security and sustainability. Lu (2021) shows that Central America scores higher in survey-reported perceptions of labor compliance and environmental sustainability.

Central American countries could potentially offer an enticing alternative for brand and social conscious businesses for several reasons. First, the United States has signed free trade agreements (FTAs) with several Central American and Latin American countries which include labor provisions within the actual text of the agreements. These agreements have been found to be positively associated with increased labor inspections (Dewan and Ronconi 2018). Second, Central American states have social institutions and civil societies that create an environment more amenable with labor compliance compared to major apparel producing countries in Asia and Africa. Finally, Central America's proximity to the United States presents an opportunity for growth and integration that's not possible with more geographically distant countries.

CONCLUSIONS

A lack of economic opportunity is one of, if not the, main drivers of Central American emigration. Apparel offers significant promise for job creation in Central America because it is a labor-intensive industry and matches the current level of Central American economic development, which is characterized by widespread low-wage agricultural and informal employment. To expand Central American apparel employment, Central American apparel production needs to expand and diversify. Specific trade policy and investment changes are needed to expand Central American apparel, including relaxing rules of origin, expanding the "short supply" lists, facilitating cumulation, and addressing shortages of skills and low-cost electricity. Apparel Global Value Chain restructuring offers additional benefits for the United States as a leader in regional integration, including rising wages and exports in the United States, improved supply chain security, and supporting better working conditions for workers in apparel's global value chains.

Appendix 1: Relevant Details of U.S. Trade Agreements

Delineated in Article 4.1 of CAFTA-DR and US-Colombia and Article 4.2 of USMCA with largely the same language, a good is considered originating if it is:

> "...wholly obtained or produced entirely in the territory of one or more of the Parties...it is produced entirely in the territory of one or more of the Parties and each of the non-originating materials used in the production of the good undergoes an applicable change in tariff classification specified in [the associated annexes] or the good otherwise satisfies any applicable regional value content or other requirements specified in [the associated annexes] and the good satisfies all other applicable requirements of [the Rules of Origin]; or it is produced entirely in the territory of one or more of the Parties exclusively from originating materials"

The "originating" classification for textiles and apparel, however, goes a step further, with each agreement relying heavily on the United States' use of the yarn-forward (YF) rule of origin.

The YF provision is explicated with language like Rule 1 of Annex 3-A of US-Colombia and Note 2 of CAFTA-DR, which states:

> "A textile good of Chapters 50 through 60 of the Harmonized System shall be considered originating if it is wholly formed in the territory of one or more of the Parties from:
>
> > (a) one or more fibers and yarns listed in [the Short Supply List]; or

> > (b) a combination of the fibers and yarns referred to in subparagraph (a) and one or more fibers and yarns originating under this Annex.

> The originating fibers and yarns referred to in subparagraph (b) may contain up to ten percent by weight of fibers and yarns that do not undergo an applicable change in tariff classification set out in this Annex. Any elastomeric yarn contained in the originating yarns referred to in subparagraph (b) must be formed in the territory of one or more of the Parties."

US-Colombia, in rules 2 through 4 of Annex 3-A, and CAFTA-DR, in Notes 2 through 4 of Annex 4.1, continue outlining the YF requirements for receiving the "originating" label with specific rules for fabric and apparel production.

USMCA differs slightly in its language in that the textile and apparel rules of origin are included on a product-by-product basis within Annex 4-B of the agreement, incorporating and explicating the requirements necessary for the "originating" classification for each chapter and subchapter of the appropriate Harmonized System chapters. Rules of origin include fiber forward, yarn forward, fabric forward, and cut-and-assemble rules for specific products. Notably, USMCA does not require viscose rayon fibers and filaments to originate from the trade region (International Trade Administration, 2020).

Appendix 2: Tables

The Economic Census Bureau uses the North American Industry Classification System (NAICS) to organize and structure its data for each sector with codes ranging from two to six digit based on specificity (NAICS Association 2018). Textile and apparel sectors fall under NAICS 31 and 32. For the purpose of identifying pertinent sectors in concordance with

HS codes 50 through 63 highlighted in USMCA, CAFTA-DR, and US-Colombia, however, the four-digit NAICS level provides the most comprehensive information for manual comparison of the two coding systems, since there exists no easy conversion metric between HS and NAICS codes.

Appendix Table 1: U.S. Employment in Selected Textile Sectors over Time

NAICS Code	Label	1997	2002	2007	2012	2017
3131	Fiber, yarn, and thread mills	83,172	62,560	40,994	24,464	22,061
3132	Fabric Mills	217,848	142,308	73,451	49,353	44,109
3133	Textile and fabric finishing mills	91,802	64,196	43,456	29645	26,417
3141	Textile furnishings mills	125,531	101,910	75,879	51639	50,858
3149	Other textile product mills	108,773	81,423	71,493	61331	55,056
3151	Apparel knitting mills	106,121	51,011	20,454	12495	10,685
3152	Cut and sew apparel manufacturing	555,946	264,557	135,052	83810	65,544
3159	Apparel accessories and other apparel manufacturing	55,262	27,882	13,469	8152	7,833
3161	Leather and hide tanning and finishing	15,317	8,909	4,467	3510	3,436
3169	Other leather and allied product manufacturing	28,132	16,354	16,567	11192	11,110
325130	Synthetic dye and pigment manufacturing	16,922	14,880	12,824	9064	8,163
325220	Artificial and synthetic fibers and filaments manufacturing	41,887	23,478	16,576	13664	136,07

Notes: Author's elaboration using data from the U.S. Economic Census, various years. Harmonized System codes from the referenced trade agreements were collected from Descartes Customs Info's database and cross referenced with NAICS classifications. Employment data for 1997 are collected from an assortment of industry specific reports published between 1997 and 1999 from the U.S. Department of Commerce Economics and Statistics Administration. Employment data for 2002, 2007, 2012, and 2017 are collected from tables titled "Manufacturing (NAICS Sector 31-33)".

Appendix Table 2: Total U.S. Textile Exports by HS2 Code

HS2	Description	1998	2003	2008	2013	2018
51	Wool	0.134	0.129	0.204	0.099	0.076
52	Cotton	3.971	4.691	6.352	7.586	7.784
54	Man-made Filaments	2.245	2.020	1.826	1.865	1.589
55	Man-made Staple Fibers	1.565	1.550	2.093	2.470	1.883
57	Carpets and Floor Covering	0.862	0.752	1.109	1.098	0.842
59	Treated or Industrial Fabrics	1.373	1.536	1.689	1.867	1.828
60	Fabrics, Knitted or Crocheted	0.618	0.770	1.240	1.003	0.613

Notes: Author's elaboration using data from COMTRADE. Data are in billions of nominal U.S. dollars calculated as the sum of all countries importing from the United States in each HS2 category.

Appendix Table 3: U.S. Exports of Main Textile Materials and Products in 2018

HS2	Description	China	Viet Nam	Mexico	El Salvador	Guatemala	Nicaragua
51	Wool	24.51%	0.42%	22.97%	3.87%	0.22%	0.00%
52	Cotton	14.21%	19.22%	9.89%	2.45%	1.66%	0.95%
54	Man-made Filaments	7.79%	0.32%	26.48%	4.36%	3.42%	0.59%
55	Man-made Staple Fibers	8.47%	2.21%	19.99%	5.07%	1.43%	4.91%
57	Carpets and Floor Covering	2.25%	0.04%	13.76%	0.10%	0.41%	0.07%
59	Treated or Industrial Fabrics	6.40%	0.74%	43.42%	0.27%	0.17%	0.59%
60	Fabrics, Knitted or Crocheted	1.84%	0.67%	38.22%	12.19%	5.14%	18.11%

Notes: Author's elaboration based on data from COMTRADE. The data represent the share of U.S. exports to the world going to each country in each HS2-digit industry in 2018.

Appendix Table 4: Special Fabrics (HS59) Imports from the United States

Reporter	1998	2003	2008	2013	2018
China	1.50%	3.86%	5.32%	5.82%	6.40%
El Salvador	0.13%	0.14%	0.33%	0.24%	0.27%
Guatemala	0.14%	0.50%	0.29%	0.21%	0.17%
Honduras	0.10%	0.06%	n.a.	n.a.	0.05%
Mexico	21.70%	38.97%	32.87%	45.79%	43.42%
Nicaragua	0.03%	0.01%	0.02%	0.03%	0.59%
Viet Nam	n.a.	0.14%	0.30%	0.53%	0.74%

Notes: Author's elaboration based on data from COMTRADE. Data represent each country's reported imports from the United States divided by the sum of reported imports from the United States by all countries found in COMTRADE for each year.

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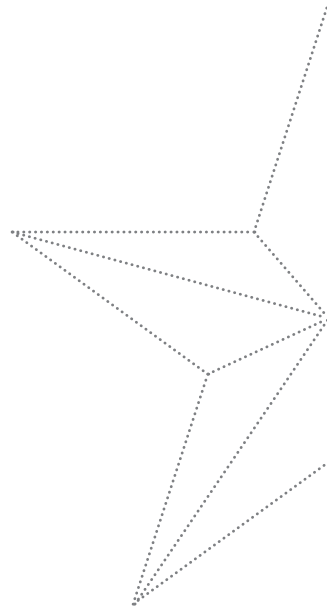
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