THE EFFECTS OF TRADE LIBERALIZATION POLICIES ON GENDER INEQUALITY IN CENTRAL AMERICA AND ITS RELEVANCE TO THE TEXTILE AND APPAREL INDUSTRY AND ACADEMY

A Dissertation

Presented to

The Faculty of the Graduate School

At the University of Missouri-Columbia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

By

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May 2022

APPROVAL PAGE

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”Consider it pure joy, whenever you face trials of many kinds, because you know that the testing of your faith produces perseverance. Let perseverance finish its work so that you may be mature, complete, and lacking in nothing.” James 1:2-4

To my partner in prayer and emergency library resources,

thank you for being on this journey with me.

Love you, mama!

ACKNOWLEDGEMENTS

Finding the words to express gratitude for all the support I have received on this journey could be its own separate dissertation. Dr. Ha-Brookshire, we met when I was 20 years old and when you were teaching TAM capstone and leading experiential learning journeys to El Salvador. 11 years, 1 dissertation, and many more trips to El Salvador later, I have learned my greatest lessons in life and in scholarship from you. All that you are is an inspiration. The way you leave positive lasting impacts on your students, with genuine connection and care, all while preparing them for the rigorous professional world, is the example I am guiding my future by. Thank you, Dr. HB, for your consistent belief in me and my abilities. I've said it before and I'll repeat it always because it is my true testimony…you've changed my life for the better, and I will honor the legacy you've built. Thank you to Dr. Norum for the conversation at Flatbranch after the Young Alumni seminar that started it all and for preparing me to be a stronger qualitative scholar. Thank you to Dr. Altman, for allowing me to learn from you at my own pace and being a consistent champion of my growth. I am a better scholar because of you. Thank you to Dr. Zhao and Dr. Youn for graciously agreeing to being on my committee and supporting me every step of the way. Thank you to Dr. Kopot to being my mentor and colleague all wrapped-into-one, I can't wait to continue learning from you and growing with you. To Dr. McBee-Black and Dr. Mestres, thank you for being my friends that I can both cry and laugh with. Nicole, Leona, and Hope, thank you for always making time to chat with me and lend a smile. To my GSA-TAM fam, I'm so proud to be your teammate on this journey. I can't wait to see all the amazing things that y'all will do! To my family and family-like-friends who have prayed for me, fed me, cried with me, encouraged me,

laughed with me, challenged me, forgiven me, celebrated me, and loved on me, I extend the biggest and tightest hug to each of you. We did this thang yall!

For the love of learning,

Cyd

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ABSTRACT

Addressing gender (in)equality issues is a concern in Central America (CA) and a global challenge as measured by the Gender Inequality Index (GII). This study used the Heckscher-Ohlin (1933) theory of international trade and the Becker (2010) theory of economic discrimination to examine the impact of CAFTA-DR and TA trade on gender (in)equality in CA. To achieve this purpose, the study used a mixed-methods research design and had two specific questions: (a) RQ1 - "is the implementation of CAFTA-DR and growth in textile and clothing exports and imports associated with gender (in)equality in CAFTA-DR countries? and (b) RQ2 - "how do textile and apparel manufacturing industry women professionals and academics in El Salvador perceive the changes in gender (in)equality overtime due to CAFTA-DR's implementation".

The findings suggests that the implementation of CAFTA-DR is associated with positive changes in four out of the five areas of gender (in)equality, including maternal mortality rate, adolescent birth rate, women in parliament seats, and labor force participation of women. The findings also suggest that changes in TA import and exports have had varying degrees of positive effect on gender (in)equality across CAFTA-DR countries and across all GII dimensions. Qualitatively, this study found that more women in El Salvador were pursued careers in the TA industry and collaborated with peers to learn the foundational techniques. CAFTA-DR. Overall, the findings supported Heckscher-Ohlin theory of international trade (1933) and Becker's (1957) economic discrimination theory which suggests, as countries develop and trade grows, gender disparities improve overtime. From the findings, scholars might assess how to improve the lives of women working in TA industries by researching how to close the gaps on

(in)equality that impact their at-work and at-home lives as the industry continues to grow and develop.

CHAPTER I: INTRODUCTION

Chapter 1 of this dissertation includes the following sections: (a) the background of the study, (b) the purpose of the study, (c) the significance of the study (d) the guiding research paradigms and assumptions, (e) the organization of the study and (f) definitions of the key terms.

Background of the study

In search for future clothing and textile-related research agendas, researchers ask: "What are the social, economic, political, and cultural effects of global and/or domestic sourcing?" (Ha-Brookshire & Hawley, 2012, p.262). By examining the parallels between international trade policy, gender inequality, and the textile and apparel (TA) sector in Central America, newer research could potentially uncover a response to the above question. In this study, the relationship between the United States (U.S.) and Central America's global textile and apparel (TA) supply chain practices is of interest, especially through the lens of women's lived experiences.

Global Trade Liberalization, CAFTA-DR, and the Global Textile and Apparel Industry

Historically, "the geography of textile and production was strongly linked to trade policy" (Frederick et al., 2015, p.3). The Central American Free Trade Agreement (CAFTA-DR) is one of such trade policies that greatly impacts the TA industry, having its own section (G) within the agreement and 10 supplementary articles (SICE Foreign Trade Information System, 2021). A study on CAFTA-DR policies suggests that there is a robust causal link between trade and the stimulation of growth in an economy (Calderón & Poggio, 2010). In fact, our estimates are not only statistically but

also economically significant Another study suggests that the facilitation of international trade and financial investments associated with CAFTA could reduce the adverse effects of macroeconomic volatility on economic growth (Kose & Rebucci, 2005). According to the U.S. Trade Representative, agreements like the CAFTA-DR help level the playing field for Americans and their investments as they provide investors with access to fair and independent international arbitration (USTR-2007).

Negotiations for CAFTA-DR began in 2003 and was signed by August 2006, to support the development of American jobs and create opportunities for well-paying work as goods flow across borders and are manufactured into final products (USTR, 2020). As a result, the Dominican Republic-Central America FTA (CAFTA-DR) became the first free trade agreement between the United States and a group of smaller developing economies: our Central American neighbors Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, as well as the Dominican Republic. The CAFTA-DR promotes stronger trade and investment ties, prosperity, and stability throughout the region and along our Southern border. (USTR, 2020). The apparel industries of Central America and the Caribbean region are important customers for U.S. cotton and textile producers. In 2005, the Region imported 233,000 bales of cotton (Pan et al., 2008). But more important than a destination for cotton exports, CAFTA countries are the most important customer of the U.S. textile industry. Since 1998, cotton textile exports from the U.S. to the Region have almost doubled. The region currently accounts for 51 percent of all cotton textile exports from the United States (Fadiga et al., 2007).

Gender Inequality and The Textile and Apparel Industry

Gender inequality within the Central American TA industry is also a focus and the dependent outcome variable for this research. This study defines gender inequality through the Gender Inequality Index's three dimensions, reproductive health, empowerment, and labor, and the five indicators, maternal mortality rate, secondary education rate, adolescent birth rate, parliamentary seat representation rate, and labor force participation rate. Addressing gender issues in TA is not only a concern in Central America, but also a global challenge for change and evolution. Workers in the apparel manufacturing industry earn typically low wage and are predominantly female, with especially 90% of garment workers in Bangladesh (nearly 1.5 million female workers) and Cambodia (around 250,000) being young females (Dasgupta et al., 2010). In recognizing this reality, the UN (2020) aims to "adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels" (paragraph 2).

An article from Harvard Business School's (2010) library collection titled, Women, Enterprise, and Society, cited that, throughout the 19th century, women continuously worked in apparel factories, while banding together to demand both better pay and more sustainable working conditions. This notion that sewing is women's dominated industry is still upheld in today's economy. Therefore, it is important to consider the apparel sector as a potential foundation for understanding the working needs of women as apparel manufacturing is one of the largest women employing workforces (Anner, 2019). McAndrews (2012) supports this idea and suggests that women in the apparel industry may face different challenges when managing and crossing their work-

life domains, than women in other female-dominated industries. Examining women in the apparel industry could elude distinctive balance difficulties that may not be easily discovered in other industries (2012, p.25-26). This positionality helps in conveying a message that despite the apparel manufacturing industry may have a huge potential to improve gender inequality, the conversations and requirements for more equitable working experiences and wages are not only still relevant to this day, but also required for additional and immediate attention.

Gaps in the research

This research study exposes two main gaps in the literature. The first gap is that the current research on CAFTA-DR does not often isolate how this policy impacts the textile and apparel industry. The second gap in the literature is that the gender inequality index is not often used as the main measurement of economic change when understanding trade liberalization impacts, also through the lens of the textile and apparel management industry. By focusing on the relationship between a singular trade agreement and its impact on gender inequality as a factor of economic discrimination, from a textile and apparel perspective, the findings have added more specific contribution to the literature.

Purpose of the Study

The purpose of this study was to explore the connections between international trade policy, CAFTA-DR, and gender inequality statistics, as quantified by the Gender Inequality Index (GII). The findings from this study show that influence economics, textile and apparel, and gender study literature by displaying the interdisciplinary

relationships amongst the three key topics. The results have provided insight to economists and international trade policy makers regarding the various impacts of global free-trade agreements as experienced by the citizens of that country. As for the TA industry, this study added to the body of literature that explores the international nature of manufacturing, the sustainability of developing human capital in this industry. Lastly, this added new knowledge to the gender study literature by specifically highlighting women in the research, as women account for over 80% of the global TA workforce, to isolate how international trade policy and working in the Central American TA manufacturing industry impacts their everyday lives.

This research has addressed an intersectional gap in the literature that intentionally studies gender inequality and international trade from a TA specific lens. Therefore, since completion of the analysis, the goal of this dissertation research is to be published and disseminated, primarily in a textile and apparel focused journals to add new value to this literature segment. I intend to segment the data and research from this dissertation to produce articles, abstracts, presentations, and posters for academic conference and government seminars.

Significance of the Study

This study is significant for two main reasons: 1) this study has bridged three disciplines that otherwise may not typically find a connection, economics/policy, textiles and apparel, and gender studies by how and 2) this study sought to hear and understand the voices and narratives of women working in the textile and apparel sector in Central America have the opportunity to be heard.

The significance of the quantitative research which analyzed the textile and apparel export and import trade data to directly connect changes in gender inequality indicators during the years of international trade policy implementation, to determine correlations and potential causations, provide statistical evidence to better understand the impact that free trade policies have on women in Central America. This model is a multivariate regression analysis using panel data. The data was analyzed using STATA/SE-16.

The qualitative research used semi-structured in-depth interviews. The data from the interviews served as supplemental research to further explore the lived experiences of women working in the textile and apparel manufacturing sector in Central America. The study was analyzed and coded by hand using Excel, Word, and color coding for thematic isolation. The objective of the qualitative research was to add depth narrative-based depth to the quantitative statistics from the perspective and voices from the women working in the factories.

Secondly, the qualitative portion of this study aimed to share untold stories of El Salvador's textile and apparel women professionals, academics, and students regarding their perspective of gender equality pre and post CAFTA-DR. The women in this study had the opportunity to provide testimonies to their experiences of being a professional in the Salvadoran TA industry, and in a secure environment, be open and vulnerable regarding their work and personal life. Thirdly, the connection between the three disciplines provided an opportunity for future collaboration with other researchers with more substantive knowledge with each individual discipline. This created an opportunity

for more rigorous research, stronger analysis, and interesting diversity in perspectives for future studies.

Definition of Key Terms

The definition for the key terms used throughout the text are provided below.

CAFTA-DR	The Dominican Republic-Central America F Free Trade Agreement (CAFTA-DR) is the first free trade agreement between the United States and a group of smaller developing economies: our Central American neighbors Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, as well as the Dominican Republic. The CAFTA-DR promotes stronger trade and investment ties, prosperity, and stability throughout the region along the Southern border (USTR, 2022).
Gender Inequality	Unequal treatment or perception of individuals based on their gender. It arises from differences in socially constructed gender roles. Gender systems are often dichotomous and hierarchical; gender binary systems may reflect the inequalities that manifest in numerous dimensions of daily life. Gender inequality stems from distinctions, whether empirically grounded or socially constructed (Lumen, 2021).
Gender Inequality Index (GII)	Measures gender inequalities in three important aspects of human development – reproductive health, measured by maternal mortality ratio, and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status, expressed as labor market participation and measured by labor force participation rate of female and male populations ages 15 years and older. GII…exposes differences in the distribution of achievements between women and men. It measures

	the human development costs of gender inequality (World Health Organization, 2022)
Trade Liberalization	A policy measure in the field of international trade. By implementing this state can control the removal or reduction of restrictions or barriers on the free exchange of goods between nations…either in form foreign capital inflow or in terms of tariff reduction (IGI Global, 2022).

Organization of the Study

This dissertation is divided into five chapters. Chapter 1 represents the introduction, which constitutes the background of the study, purpose of the study, significance of the study, the research assumptions, key definitions, and organization of the study. Chapter 2 of this dissertation provided a literature review, which explained in detail the theoretical framework for this study, defines global trade liberalization, explained the Gender Inequality Index (GII) and all its dimensions and indicators, and analyzed CAFTA-DR by each participating country. Chapter 3 of this dissertation presented the research methods, including the research design descriptions for both quantitative and qualitative portions, clarified the mixed method approach, explained the sample of the study, the data sources acquisition, the data collection process, and the data analysis techniques. Chapter 4 reflected the results of this research post data collection including correlation analyses. The final Chapter 5 summarized the results and of the study and provided a discussion to review the major findings, newly emerged themes, contributions, and implications to the research, and lastly the limitations and suggestions for future research.

CHAPTER II: LITERATURE REVIEW

The following chapter two literature review has provided deeper insight into the structure of global trade liberalization, free trade agreements, specifically CAFTA-DR and its respective countries, and the theoretical framework that supported this dissertation.

Global Trade Liberalization

Global trade liberalization is both multifaceted and dynamic in nature. Since its integration into modern and developing world economies, the process and regulations of exchanging goods and services across country borders have been impacted indefinitely. Within academic and research focused literature, there are various definitions, synonyms for trade liberalization and discussion on perceived advantages and disadvantages of global trade liberalization. To examine trade, trade liberalization, and trade liberalizations distinct differences from total free trade ideologies, a holistic, in-depth understanding of its origin, peer-review accepted theories and definitions, evolution across time and space, and its subjective impact on society are critical to developing a true understanding of these complex constructs.

Traditional definitions of trade describe it as the buying and selling of goods and services or the bartering of goods or services between residents and non-residents of a particular economy (Breinlich & Criscuolo, 2011). A major component of the foundation of trade includes the development of localized commerce metric systems, or currency, to improve the ease and value consistency of traded goods and services. For example, as early as 2005 B.C., the Chinese used shells, knives, and silk as the earliest form of

currency. However, between 221 B.C.-206 B.C., during the Qin dynasty, bronze coins became the standardized form of currency in all of China as mandated by the emperor (Lang, 2015)**.** Therefore, trade in its most basic form, has always been a part of the human experience. While the use of currency to exchange goods was developed later in early history, the concept of trading crops, textiles, and armor to meet the needs and preferences of communities is a long-standing principle in cooperative economics.

International Trade

International trade has been most simply described as the exchange of goods and services across international borders or territories (Karpova et al., 2021) The term globalization, or global economy, is often used to encompass the vastness of international trade (Rees & Hathcote, 2004). This process of globalization is described as a phenomenon that represents the developmental of a globally integrated financial system that has been historically influenced by exchanges between Great Britain, France, and Celtic populations as well as ancient Asian empires including the Genghis Khan reign over Mongolia and its natural resources (Lagos, 2003). International trade has become an increasingly robust economic engine over time in human history, due to innovations in technology and increased skill premium, (Burstein & Vogel, 2017), expansion of world population, (Boamah et al., 2018) and the overall developing sophistication of civilizations and increased consumerism (Giraldo & Jaramillo, 2020). Trade can not only include materials and inanimate goods, but human capital was also a distinctive feature of trade throughout both ancient and modern history up to the 20th century in some countries, predominantly North America (Owen, 1999). Economic scholars suggest,

"international trade is the framework upon which American prosperity rests" (Froning, 2000, p.1).

Trade protectionism vs. Trade liberalism

Throughout the human history, political and economic positions whether trade protectionism or trade liberalism have been in debate. Trade protectionism is defined as "…the sum of government trade policies intended to assist domestic producers against foreign producers in particular industry, by means of raising the price of foreign products, lowering cost for domestic producers, and limiting foreign producers' access to domestic market" (Cheng et al., 2021). Protectionist policies are usually implemented with the goal to improve economic activity within a domestic economy but can also be implemented for safety or quality concerns (Fajgelbaum et al., 2020). Traditional examples of trade protectionism include tariff taxes on imports, quota ceilings on the quantity of foreign products allowed to be sold in domestic markets, currency control systems that can manipulate exchange rates and inflation, and subsidies to domestic producers, commonly through tax breaks (Abboushi, 2010).

Methods of preferred trade protectionism have undoubtedly evolved over time. Where the late nineteenth century preferred taxation as the principal instrument of presumed protectionism, as practiced in both Europe and the Americas, the twentieth standard for protectionism heavily favored quotas (Dormois & Lains, 2006) In more modern history, the United States raised its import tariffs, in 2018, from 2.6% to 16.6% on over 12,043 products amounting to over $300 billion (12.7%) of annual imports to the United States. This drastic shift occurred after a 50-year plight to reduce tariffs and truly operate under the free trade model (Fajgelbaum et al., 2020).

Today, in the US, protectionism is dominating from America first policy, as implemented by the Trump Administration in 2018. Upon tariff increase, many major trade partners began to retaliate by also placing tariffs on all U.S. exports. A monthly panel data study on the U.S. statutory imports on tariffs and its relationship with retaliatory tariffs on U.S. exports from various countries, as provided by the U.S. International Trade Commission (USITC) and the U.S. Census Bureau to better understand this trend. The study found that trade agreements and policies can be heavily influenced by political agendas as the U.S. retaliated against its trading partners by targeting exports that were heavily concentrated in Republican countries (Fetzer & Schwarz, 2021).

While there have been times in early and modern history that support trade protectionism, there is scholarly research that analyzes the benefits of trade liberalism as well. Trade liberalism is also commonly associated with phrase free trade. Economic researchers have defined free trade as "a system in which the trade of goods and services between or within countries flows unhindered by government-imposed restrictions and interventions" (Fouda, 2012, p.351). Types of various interventions include taxes, tariffs, and non-tariff barriers. By removing interventions such as taxes, tariffs, and non-tariff barriers, countries ample in resources including human capital (for working output), agriculture, and various natural resources can exchange goods and services freely with countries, often dominating in capital resources, to produce products at an agreed upon rate and cost, with intent to benefit both economies engaged (Maskus et al., 1994).

The concept of global trade liberalization has been in effect much longer than its nominal acceptance. Ancient Graeco-Roman and Judeo-Christian civilizations,

respectively around A.D. 100, functionally participated in trade liberalization with Indian, Phoenician, and eastern Mediterranean, and Chinese societies via sea exchange to trade goods, predominantly fabrics and spices (Zeiler & Irwin, 1997). Research suggests that, because of the high financial and timeliness costs associated with land travel and trade, the sea provided easy access to various region to allow for trade. These ancient attitudes toward the sea lend insight into some of the earliest recorded thought about the nature and desirability of foreign commerce (Zeiler & Irwin, 1997).

The most notable movement towards trade liberalism is presumed to have occurred between 1815 and 1846, initiated by European countries Great Britain and France (Nye, 1991). However, this movement did not occur without challenges and conflict. Research suggests that "In the vigorous battles over the first attempt at major tax reform in 1856, a number of writers denounced British unwillingness to lower the duties on wine and spirits while vigorously promoting free trade" (Nye, 1991, p.39). Since the French, Spanish, and German did not impose high taxes on "sin" products, the British contradiction in positionality towards taxing wine and spirits, and eventually raw tobacco and cigars, ignited trade preference, political debate between the countries throughout the nineteenth century.

Economists Douglas A. Irwin and John Vincent Nye are renowned for their specialized research, and camaraderie filled debates regarding the history, advantages, and disadvantages of trade liberalism and trade protectionism. In support of trade liberalism, Irwin quotes scholar Harry Johnson by stating, "The protection that freedom of [international] trade is on the whole economically more beneficial than protection…is

one of the most fundamental propositions economic theories has to offer for the guidance of economic policy" (H. Johnson, 1977, p.187) .

In this light, trade liberalism theory has developed overtime into what the Heckscher-Ohlin (H-O) (1913) general equilibrium model considers trade 'openness' (Estevadeordal, 1997)The use of H-O will be analyzed further in this study as the predominate theory for in support of advanced trade liberalism. Meanwhile, the next section discusses free trade agreements which are used by governments to regulate the exchange of goods and services most effectively from one country to another, with the primary intent to improve the economic status of all countries involved. Formally defined, a Free Trade Agreement (FTA) is "an agreement between two or more countries where the countries agree on certain obligations that affect trade in goods and services, and protections for investors and intellectual property rights…" (Barone, 2020).

FTAs throughout history

The United States currently has active FTAs with 20 different countries (USTR, 2020). However, the origin of FTAs did not begin with the United States. The adoption of the concept of free trade was accepted in 1846 by Great Britain (Iliasu, 1971). The world's first FTA was between Great Britain and France in 1860, called the Cobden-Chevalier Commercial Treaty (Iliasu, 1971). The Cobden-Chevalier was analyzed in detail by (Dunham, 1927) and claimed that there were three main components that served as the purpose for this treaty's enactment. By October 1859, conversations sparked the necessity for this treaty which included concern for Britain's $2 million in annuities and the management thereof, the suggestion that these funds should be used to further Anglo-French commercial relations, and finally Cobden's communion with Napoleon III in

which British Chancellor of Exchequer, Gladstone, and statesmen Richard Cobden and Michel Chevalier agreed on a bold measure of financial reform (Dunham, 1927).

With the newness of FTAs entering the economy, there were countries that welcomed its reform and others that rejected the economic change, deeming it as radically objectionable (Chipman, 1965). From the criticisms of this new form of agreement, three principles for management and execution were developed including, "reciprocity in matters of import duties…[then] exclusive advantage [meaning]…each country attempted to obtain from another such concessions as would enable it to compete with advantage over its rivals,…[and] that treatment would be no less favorable than that accorded to any third party", meaning that all countries involved should be treated fairly and equally (Iliasu, 1971, p. 68-69). However, history has shown that many elements of these FTA principles have not always been upheld. The following section will address the history of FTAs in the United States and provide examples of how these treaty principles were either acknowledged or ignored.

The United States' Transition Towards FTA

The progression towards adopting FTAs between the United States and other countries was gradual. Because trade restrictions were relatively new, there were many aspects of such policies that needed continual reform and negotiation. Through the early 20th century, highly restrictive trade was still the dominant trend. An example of highly restrictive trade includes the Smoot-Hawley Tariff Act of 1930, which failed at its goal to increase U.S. manufacturing utilization rates during the Great Depression and the Hoover Administration, which resulted in a decline in private investment from 1930-1932 (Beaudreau, 2017). However, in attempt to reverse the damage done by the Hoover

Administration and the failed tariff act, the Roosevelt Administration, as inspired by Secretary of State Cordell Hull, suggested that tariffs be lowered, and foreign trade agreements be negotiated to assist in recovering the American economy (Destler, 2016). The official new agreement was called the Reciprocal Trade Agreements Act of 1934. This agreement has been notes as a dramatic turning point in American commercial trade policy (Schwob, 2009) which served as the basis of inspiration for the United States official first FTA, the Canada-U.S. Free Trade Agreement (CUS-FTA), with negotiations beginning in 1984, agreed upon in 1987, signed in 1988, and implemented in 1989, under the Reagan Administration and Prime Minister Brian Mulroney (International Trade Law Research Guide at Georgetown Law Library, 2022). The purpose of this agreement was to eliminate all tariffs on trade between the United States and Canada.

United States Current FTAs

Following the CUS-FTA, the North American Free Trade Agreement (NAFTA) superseded the original policy to now include Mexico as a part of the negotiation on January 1, 1994. As per the original agreement solely between the U.S. and Canada, NAFTA also agreed to increase export opportunities between the U.S., Canada, and Mexico through lowering tariffs and devising predictable rules and reductions in many trade barriers. Despite the benefits of free trade, NAFTA has been criticized from the prospective of those in the manufacturing industry, which directly impacts TA. Because of NAFTA, there has been a domestic job loss to the tune of 682,900 positions, with 60.8% of those roles lost within the manufacturing industry (Strachan, 2011). Under NAFTA, TA production has become delocalized, and the Trump Administration has been in the process of renegotiating NAFTA, particularly its policies that impact Mexico and

its economy, since 2018 to reform the trade deal, which is now called the United States, Mexico, & Canada Trade Agreement (USMCA) as of July 1, 2020.

Another FTA currently active in the U.S. is The Dominican Republic-Central America United States Free Trade Agreement, which includes the U.S. and six Central American countries including Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic. CAFTA-DR served as the replacement agreement for the former Caribbean Basin Economic Recovery Act (CBERA), the Caribbean Basin Trade Partnership Act (CBTPA) (and The Generalized System of Preferences (GSP) , CAFTA-DR is described as one of the most controversial free-trade agreements since NAFTA because legislators were concerned with the written language of the agreement, particularly regarding the regulations on labor provisions and how certain sensitive industries such as sugar and textiles (Hornbeck & Cooper, 2011). Former President of Mexico Enrique Pena Nieto (2012-2018) believed that "free trade, far from protectionism, is the path that we should take to make Latin America a thriving actor in the global economy" (Johnson, 2019, p.103). During the Bush Administration, the original CAFTA-DR agreement was signed on August 5, 2004, however after one year of controversial debate and conflict within both houses of the U.S. Congress and the Senate, President Bush officially signed the agreement on July 28, 2005. The policy began its implementation process on March 1, 2006. CAFTA-DR is organized as regional trade agreement, "with all parties subject to the same set of obligations and commitments, but with each country defining its own market and access schedule" (Hornbeck & Cooper, 2006).

US FTAs and The Textile and Apparel Industry

These enacted FTAs by the United States include a section that is solely dedicated to the policies that impact the importing and exporting within Textile and Apparel (TA) industry. An example of this reform includes specific policy within the apparel centered section of NAFTA, and the (USMCA), which states that both NAFTA and the USMCA offer duty-free treatment to Handmade, Traditional Folkloric, or Indigenous Handicraft goods. (Thompson Hine, 2019). However, not all apparel products are duty-free between the U.S., Canada, and Mexico with the new deal. Economists believe that the main difference between the USMCA and its predecessor NAFTA, has to do with the limits for preferential treatment that each country sets for specific categories of non-originating apparel goods that it will import from the other member countries (Jovanovic, 2020).

Examples of the TA impacting policies are illustrated within the tables of the agreement. Table 1 illustrates the $40 million cut of cotton and wool exports, which resulted in 1.1 million fewer apparel items allowed into the U.S. from Canada yet reversely allowed for an 11 million apparel item increase allowed into Canada from the U.S as written in the preferential treatment limits. Table 3 expounds upon the new limits of preferential tariff treatment for non-originating cotton or man-made fiber fabrics and made-up goods imported into the U.S., Canada, and Mexico, resulting in a 13 million apparel item increase for Canada, 600,000 apparel item decrease for Mexican imports to the U.S., 1.2 million apparel items allowed from Mexico to Canada and a 7 million apparel item increase of imports allowed into the U.S. Table 5 continues to show the lack of preferential treatment afforded to Mexico as is it explains the 50,000 decrease of non-

originating cotton or man-made fiber spun yarn Mexico will allow from the U.S. as the countries transitioned from NAFTA to USMCA (USTR,2022).

Similarly, the textile and apparel manufacturing industries were directly impacted by the CAFTA-DR agreement. Prior to CAFTA-DR, there were many trade agreements, such as the Multifiber Arrangement which established quota systems to disperse apparel production globally(Rosen, 2020), and The Agreement on Textile and Clothing (ATC) which went into effect January 1, 1995, that were highly restrictive and heavily enforced quotas particularly in textiles and apparel. These two agreements later transitioned into quota-free centered legislation as of January 1, 2005 (Frederick et al., 2015). While textiles are highly competitive in the foreign market, with sophisticated technologies separating countries that can produce goods efficiently and most effectively, apparel production is highly labor intensive, which led to the outsourcing of apparel products overseas to reduce U.S. costs.

The first years of CAFTA-DR did not prove itself profitable within textiles and apparel. Since the textile and apparel products imported from CAFTA-DR countries to the U.S. were traditionally covered by quotas, the removal of these quotas now placed Chinese markets in the dominant producer and highly economically competitive category because labor costs were much lower in Asia (United States International Trade Commission, 2011).

A study analyzing regional trade agreements and export competitiveness highlighted the impacts on Nicaragua's apparel industry post CAFTA-DR implementation (Frederick et al., 2015). This study concluded by stating "regional trade agreements like…DR-CAFTA can be an asset to export growth and employment

generation when they establish a long-term economic relationship based on stable sources of comparative advantage…." (p. 417)

An additional TA marketing and management centered study reviewed strategic planning for the U.S. textile industry in a post-quota era, focusing of speed-to-market in CAFTA-DR countries (Oh & Kim, 2007). This study observed the Ricardo's (1817) theory of comparative advantage (Costinot & Donaldson, 2012; Seligman & Hollander, 1911), when it suggested that the CAFTA-DR policy be amended to focus on, streamlining the rules of origin, expanding the short supply list, and coordinating custom procedures. This study also claims that CAFTA-DR countries represents the only remaining region available that the U.S. market can utilize to achieve speed-to-market advantages over competitors. Newer research on how CAFTA-DR specifically impacts the textile and apparel industry is few and far in between, therefore this study will add to the value of the body of research on this topic.

Trade Liberalization and Gender Inequality

Gender Inequality

While research on specific CAFTA-DR countries and its relationship with trade liberalization are fewer, there are many studies that analyze the impact of trade liberalization on gender inequality from a global perspective, particularly with research focused on Asian countries. Gender inequality is formally defined as the unequal treatment or perceptions of individuals based on their gender that arise from differences in socially constructed gender roles (Wood, 2005). The United Nations Development Program (UNDP) also describes Gender inequality as characteristic of most societies, with males on average better positioned in social, economic, and political hierarchies

based on advantages in capabilities, livelihoods, and personal agency (P. Anand et al., 2009). Gender inequality can be expressed in various manners within society such as relationships household work expectations(van Hooff, 2011), STEM careers and education (Casad et al., 2021) and more.

The dimensions that represent the Gender Inequality Index (GII) are formally categorized as, 1) Health, 2) Empowerment, and 3) Labor Market. The each of these dimensions as indicators which include 1) Maternity Mortality Rate and Adolescent Birth Rate, 2) Female and Male population with at least a secondary education and female and male shares of parliament seats, and 3) Female and male labor force and participation rates. Lastly, each indicator is deduced to a dimension index which include 1) female reproductive health index, 2) female empowerment index and male empowerment index and 3) Female labor market index and male labor market index. After assessing these dimensions, indicators, and indexes, the female gender index and the male gender index are compared to produce the GII.

Gender Inequality and Trade Liberalization

Economist studied the relationship between trade liberalization, gender inequality, and economic development in 18 developing countries, analyzed by time panel from 1993-2017. (Farooq et al., 2019). The results of this study found that there were significant negative impacts on economic development, as quantified by Gross Domestic Product (GDP,) when trade openness was a factor and when there were evident gender inequalities within the access to education in developing countries.

These findings support the hypothesis that there are multiple aspects of gender inequality that can be studied, including wages, education, access to healthcare, and household responsibilities that women may have to face. Each of these factors may have differently affected by trade openness and the results of trade openness are likely to be non-homogenous across the countries and cultures.

FTAs and Gender Inequality

While the broad concept of trade liberalization and gender inequality is frequently studied from economists, research on gender inequality's relationship with specific free trade agreements leaves room for exploration. Jung, Ujehlyi, & Villegas-Sanchez (Juhn et al., 2013) researched the impact of wage imbalances on gender inequality and its relationship with trade liberalization found that, with the reduction of tariffs and increased trade openness, wages and employment for female workers increased in Mexico, specifically because of NAFTA agreement. Filipski and Msangi (2011) researched the effects of CAFTA-DR on women immigrants found that, there were vastly different impacts that the CAFTA-DR had based on the participants region and gender. For examples, while CAFTA-DR might have helped developing urban economies and communities, this policy impacted rural and agriculturally dependent economies negatively. Especially, women and those of Haitian decent did better economically than overall men and those born in the Dominican Republic in terms of maintaining crop production. This research suggests that with CAFTA-DR, more women began to migrate into urban areas in search for new jobs, as provided by growing TA manufacturing plants. However, it also adversely impacted the agricultural industry as fewer workers were

present (Moses & Ammayappan, 2006). Meanwhile, the impact that this migration has had on the GII is still undetermined post CAFTA-DR.

To better assess the impact of CAFTA-DR on each nation's TA industries as well as GII, it is critical to analyze each country involved in CAFTA-DR historically, demographically, its relationship with the gender disparities, as well as its connection to the TA industry. To further investigate these relationships, the next section analyzes the socio-economic and political context of each country within CAFTA-DR.

Measuring Gender Inequality

The dependent variables for this study include Gender Inequality Index (GII) and the GII's five indicators maternal mortality, adolescent birth, parliament representation, educational attainment, and labor market rates will be analyzed individually for this study. This data for the GII came from the most recent UNDP report (2020). These indicators are grouped into their three dimensions reproductive health, women's empowerment, and labor market. GII by country is categorized as having either very high, high, medium, or low human development. For example, in 2019 El Salvador had a GII value of .383, ranked as 85/183, and was categorized as medium human development. Guatemala, Nicaragua, and Honduras also were categorized as medium human development in 2019. In 2019, Costa Rica was the only CAFTA-DR country within the GII's very high human development category with a GII value of .288 and ranking 62/162 (UNDP, 2020). More detailed descriptive statistics are provided in an upcoming section for reference as to how GII impacts each country over time.

This index quantifies the potential loss in human development due to various disparities between men and women, especially regarding achievement. The data that

comprises with values for maternity mortality ration in GII are from World Health Organization (WHO), United Nations Children's Fund (UNICEF), United Nations Populations Fund (UNFPA), the World Bank Group (WBG) and United Nations Populations Division. The data for adolescent birth rates comes from the UN Department of Economic and Social Affairs World Population Prospects. Educational attainment data for GII comes from the UNESCO Institute for Statistics and the Barro-Lee data sets. Parliamentary representation in GII data is from the International Parliamentary Union (IPU) and the labor market participation data is from the International Labor Organization (ILO).

Similarly, to all indexes, GII has strengths and limitations. The GII is strong in determining inequality in relation to gender because it includes the reproductive health disparity as a key variable when measuring empowerment between genders. The GII is also strong because it reveals gender disparities with the labor market while avoiding sex-disaggregated income measures, which are flawed (UNDP, 2020). GII is limited as it is do not capture the breadth and length of all aspects of gender inequality. For example, although parliamentary representation is captured, this value exclude participation at local government and community level involvement. The labor market statistics do not account for the quality of the jobs available. One of the most critical limitations is that this index does not account for unpaid that women usually carry the greater load of including caregiving and housekeeping. Finally, asset ownership, child support, and gender-based violence statistics are not captured within GII due to the limited availability of data. Because each of 6 of the Central American countries represented in this study

have current figures for all indicators within the GII (UNDP, 2020), it is not necessary to calculate each indicator separately.

Even with these limitations, using GII as a measurement system for gender inequality is appropriate for this study as it is the only set of data that quantifies various aspects of gender inequality by country over time. Also, the GII measurement tool is the only gender specific dataset provided by the UNDP, therefore it will be used for this study to address the research question. The following sections are separated into the 3 dimensions and 5 indicators of GII. This study will measure the impact of GII from its individual 5 indicators rather than GII as a whole as the data available for the 5 indicators is more readily available by year than the overall GII statistic.

Analysis of CAFTA-DR by Country

The following section individually analyzes each of the countries within CAFTA-DR by its economic background, its historical and current relationship with the TA industry, and its changes in gender inequality overtime. These countries are included in order of policy implementation date; El Salvador (March 2006), Honduras and Nicaragua (April 2006), Guatemala (July 2006), Dominican Republic (March 2007), Costa Rica (January 2009). (U.S. Custom Borders and Protection, 2014). El Salvador is analyzed the most thoroughly in this research as it is the country where both qualitative and quantitative research will be conducted over the course of 10 months. The review of the additional CAFTA-DR countries will be brief in comparison, covering the most foundational demographics of the country. As a result of CAFTA-DR, TA import within these countries reached $9.01 trillion in 2019 and $8.72 trillion in 2018 (OTEXA, 2020).

El Salvador's Background, TA Industry, and Gender Inequality

On March 1, 2006, El Salvador was the first country to enter CAFTA-DR with the U.S. According to The World Bank (2022) and The U.S. Customs and Border Protection (2014). El Salvador is labeled as the smallest country in Central America with a population of 6.4 million, ranking in the 83rd percentile of the world's most densely populated countries (*CIA Factbook*, 2022) Spanish is the official language, Roman Catholicism is the dominant religion, and 86% of the population ethnically identifies as Mestizo (Ameri-Indian and European descent) (CIA Factbook, 2022).

In more modern history, El Salvador has been a location of continuous political change and civil uprising. In the 20th and 21st century, economically El Salvador has often partnered with the U.S., especially in the Reagan and Bush Administration, to defeat the communist regime. From 1980-1992, El Salvador experiences what was noted as one of the most gruesome and violent [civil] wars in history, claiming over 75,000 lives (Bourgois, 2016). Because of consistent political uproar, over 1.5 million Salvadorians have migrated from El Salvador, namely to the U.S., in search of a more peaceful and more economically advantaged life (World Bank, 2022). Economically, although as of today El Salvador's GDP growth reached 2.3% in 2019, the country has consistently experienced low growth annually, only exceeding 3% twice since the year 2000. Due to effects of COVID-19, the anticipated growth for El Salvador is -4.3 percent in 2020. Although economically El Salvador has experienced challenges, there has been considerate growth regarding better managed peace and democracy since the end of the country's civil war in 1992. El Salvador has also improved its human development outcomes by expanding access to public services such as increased access to healthcare

facilities and access to education, however high school dropout rates remain higher than most Central American countries.

According to El Pais (2020), El Salvador boasts more than 200 TA factories, employing over 70,000 people, of which 80% of these employees include women from ages 18-35. Economically, TA items account for about 30.6% of all of El Salvador's exports (Fashionating World, 2020) equating to over $1.1 billion in exports into the U.S. alone, and it is only expected to grow. Value added special items such as synthetic made jackets and socks are amongst those that have assisted in putting El Salvador in highly competitive rankings regionally. However, the most frequently TA product exported from El Salvador are cotton t-shirts, men's, and boy's
undergarments, cotton sweaters and cotton pullovers (The Central American Group, 2020).

This suggests that low-wage labor, mostly women, is still a dominant source for the TA industry. Companies such as Hanes Brands and Maidenform form have relocated many production plants to Central America (predominately El Salvador and Honduras), making TA assembly for export much easier in these regions.

Regarding the TA industry, throughout CAFTA-DR, The US has imported $1.92 billion TA goods from El Salvador in 2019, $1.96 in billion 2018 (OTEXA, 2020), and $1.97 million in 2017 (World Bank, 2020). Out of these figures, apparel alone accounted for $2.80 billion, US imports from El Salvador in 2019, and $2.57 billion in 2018. Meanwhile, the US exported $1.61 billion worth of TA products in 2019, $1.55 billion in 2018 and $1.50 billion in 2017 respectively to El Salvador (OTEXA, 2020). In apparel

products alone, the US exported $152.45 million in 2019, $188.63 million in 2018, and $174.09 million in 2017 to El Salvador.

Regarding gender inequality, according to results from the Gini coefficient, a "statistical measure of the degree of variation or inequality represented in a set of values, used especially in income inequality" (Dictionary, 2020), El Salvador ranks as one of the most equal countries in Latin America, with a score of .38 as of 2017. Specifically, regarding gender inequality, the Gender Inequality Index (GII) accounts for multiple statistical factors that influence the advancement of women's lives including reproductive health, education, political agency, and labor related data.

According to the CIA Factbook (2022), the average age that a woman becomes a mother in El Salvador is 21 years old (CIA Factbook, est. 2008), the maternal mortality rate is 46 deaths/100,000 live births (CIA Factbook, est. 2017., and the average Salvadoran woman has 2 children (CIA Factbook, 2022). Women's rights activist and advocate Montserrat Arevalo of Mujeres Transformando (Transforming Women) (2017), explains that "…after the age of 35, these [women] workers are no longer profitable for the industry…[and] most of them are young, uneducated, and homemakers"(Arevalo, 2017). El Salvador's greatest gender gap is in the proportion of girls or women that can receive formal education (Bell, 2013). Tertiary education access has been even more difficult to obtain as up to 19% of Salvadoran men have been able to receive tertiary education via trade school, polytechnic college, or 4-year undergraduate University, while only up to 13% of women have been afforded this same opportunity (World Bank, 2012) and only 3.8% of its GDP is dedicated to education expenditure. The following country, Honduras, was the next to implement CAFTA-DR in April 2006.

Honduras' Background, TA Industry, and Gender Inequality

Both Honduras and Nicaragua entered CAFTA-DR in April 2006. Similar to El Salvador, Honduras was once under Spanish rule until the country become an independent nation in 1821. During the 1980s, Honduras became an ally to El Salvador as they warred against leftist guerrillas and helped Nicaragua fight against their Marxist government. Honduras is denser in population than El Salvador, holding over 9.2 million people as of July 2020, with most of its urban inhabitants living within Tegucigalpa, the capital and San Pedro. Respectively 90% of the population Honduran ethnically identifies as Mestizo. Religiously, there is slightly more diversity in denomination as 49% of Hondurans identify as Roman Catholic and 41% as Protestant. Spanish remains the official language for this region.

Economically, Honduras has the highest murder rate in Central America and consistently trends as the second poorest country due to high underemployment and severely unequal distributions of income (CIA Factbook, 2022). Similar to many other Central American countries, historically Honduras has relied on coffee crops and bananas is main exports, but more recently has transitioned into textiles and apparel (woven and knit) and automobile wiring to diversify. Over 65% of the population is living in poverty and Honduras is heavily dependent upon US trade and foreign direct investment to maintain its economy. In terms of education, Honduras spends almost double its GDP in education expenditure, 6%, then El Salvador.

Honduras relationship with the TA industry is robust. According to Asociacion Hondurena de Maquiladoras (2020), Honduras ranks as #1 in t-shirt exports, #2 in sweat-shirt exports, and #3 in cotton shirt exports to the United States. In support of continued

TA production, a new Nike sportswear manufacturing plant, with a $41 million investment, is scheduled to begin operations in January 2021in San Pedro Sula (Central America Data, 2020). Steve Cochran, CEO of Tegra Global, explained in an interview that this new facility"... will be a transformational facility not only for Honduras, but for the entire region and to establish the company and the country as a leading destination in the vanguard and sustainability of textiles and apparel"(Central America Data, 2020). However, the development of this new factory will likely impact Honduran women disproportionately as women make up a large percentage of the Honduran TA workforce as well. (Textile World, 2020).

Regarding the TA industry, throughout CAFTA-DR, The US has imported $2.83 billion TA goods from Honduras in 2019, $2.58 in billion 2018 (OTEXA, 2020), and $397 million in 2017 (World Bank, 2020). Out of these figures, apparel alone accounted for $2.80 billion, US imports from Honduras in 2019, and $2.57 billion in 2018. Meanwhile, the US exported $1.61 billion worth of TA products in 2019, $1.55 billion in 2018 and $1.50 billion in 2017 respectively to Honduras (OTEXA, 2020). In apparel products alone, the US exported $152.45 million in 2019, $188.63 million in 2018, and $174.09 million in 2017 to Honduras. Women working in Honduran TA manufacturing plants experience many of the same concerns as those across Central America. The United Nation's (UN) (2017) reported in an interview by 19-year-old factory worker Maria Gutierrez that the factory manager refused to lower production outputs even after Gutierrez was officially diagnosed with a disability.

With assistance from the UN's Women's Fund for Gender Equality, Gutierrez organized the Honduran Women's Collective (CODEMUH) of TA workers which helped

fight for employment rights within the textile industry as well as bring light to issues such as 46% or textile industry workers showing symptoms of depression and 62% showing symptoms of muscle disorders (UN Women, 2017). In Honduras, although the median age for women for women to give birth is 20 years old and averaging 2 children per woman is consistent with El Salvador, the maternal mortality rate is slightly higher reporting 65 deaths for every 100,000 live births. This higher maternal mortality rate may be related to the overworking of women in factories amongst other variables, which will be analyzed later in this research. The next country, Nicaragua, implemented CAFTA-DR in the same month as Honduras and its demographic profile, relationship with the TA industry, and gender inequality analysis is provided next.

Nicaragua's Background, TA Industry, and Gender Inequality

The CIA Factbook (2022) explains the history of Nicaragua and that this country also declared independence from Spain in 1821 yet did not officially become an independent republic until 1838. Not a stranger to political unrest, in 1979, the Marxist Sandinista National Liberation Front (FSLN) and its leader Daniel Ortega (Saavedra) officially overthrew the Somoza dynasty, which eventually led to Ortega's presidential elections in 2006, 2011, and 2016. In 2018, Ortega seized control over all branches of the Nicaraguan government and heavily suppressed the anti-government protest movement. Nicaragua is 6.2 million in population, about the same population as El Salvador, but geographically is the largest country in Central America. Ethnically, Nicaragua is 69% Mestizo and 17% White. Regarding religion, 50% of the population identifies as Roman Catholic and 33% identify as Evangelical Christian. The country's dominant language is Spanish.

Economically, the CIA Factbook (2022) reports that Nicaragua also ranks as one the poorest country in Central America and the second poorest in the Western Hemisphere, mirroring Honduras in its highly uneven income distribution. The indigenous and agriculturalist populations of Nicaragua are amongst those with the most limited access to healthcare services, impacting overall life expectancy, infant and child mortality, and immunization rates. To escape these conditions, Nicaraguans are more likely to emigrate to Costa Rica, rather than the United States, particularly to harvest crops such as bananas and coffee, but also as political refugees seeking more stable employment. Overtime, the increase in TA exports and manufacturing jobs has contributed to the Nicaraguan economy.

Currently, a combination of both TA and agriculture-based products account for nearly 50% of Nicaraguan exports. Although there was a 4.5% GDP growth in 2017, the difference it made within the economy was insignificant. In 2017, Nicaragua served as the 10th largest overall apparel supplier to the United States. Because of Nicaragua's persistent political and social unrest, businesses have been leery to invest in this country due to fear of the crisis impacting operations (Barrie, 2018). In 2018, companies such as Adidas, Gap Inc, Under Armour, Patagonia, New Balance, and Nike wrote a letter, signed by the Fair Labor Association (FLA) and the American and Apparel & Footwear Association (AAFA) to Nicaraguan President Ortega stating that the state of their country "threatens not only the rights, livelihoods, and physical safety or workers and others, but also the capacity of Nicaragua's industries that export around the world" (2018). This level of in-country uprising is likely to have an impact on the lives of women. Further analysis of this relationship will be examined in the study.

Regarding the TA industry, throughout CAFTA-DR, The US has imported $1.8 billion TA goods from Nicaragua in 2019, $1.63 in 2018 (Otexa, 2020), and $1.21 billion in 2017 (World Bank, 2020). Out of these figures, apparel alone accounted for $1.79 billion US imports from Nicaragua in 2019, and $1.62 billion in 2018. Meanwhile, the US exported $484.17 million worth of TA products in 2019, $463.78 million in 2018 and $335.99 million in 2017 respectively to Nicaragua (Otexa, 2020). In apparel products alone, the US exported $229.83 million in 2019, $228.73 million in 2018, and $159.52 million in 2017 to Nicaragua.

According to the CIA Factbook (2022), Nicaragua suffers from high adolescent birth rates which are a direct result from the lack of job opportunities, perpetuating generational cycles of poverty as well as low educational attainment countrywide. While there is not much direct research on the livelihoods of women, especially those women working in TA factories within Nicaragua, statistics are amongst the worst in the region regarding maternal mortality rates; an average of 198 deaths/100,000 live births (est. 2017). The average age of mother's first birth is 19, and each woman has close to an average of 2 children (1.82) (est. 2020). Nicaragua spends 4.3% of its GDP on education expenditure and 82.8% of its female population is literate. Guatemala was the next country to implement CAFTA-DR and its country profile is as follows.

Guatemala's Background, TA Industry, and Gender Inequality

Guatemala entered CAFTA-DR in July 2006, (UN, 2020). Similar to the aforementioned countries, Guatemala also won its independence from Spain in 1821 and its culture is originally of Mayan descent (CIA Factbook, 2022). Geographically, Guatemala is positioned on what is known as The Ring of Fire, a belt of active volcanoes

and earthquakes, where 90% of the world's earthquakes and 75% of the world's volcanic eruptions occur. The Guatemalan population hosts 17.2 million people as of July 2020 (est.) with 56% of the population identifying as Mestizo and 41.7% identifying as Mayan or indigenous. There is more diversity amongst language in Guatemala as 70% of the population speaks Spanish yet almost 30% of the population speaks a mixture of indigenous Mayan derivative languages including Q'eqchi, K'che, Mam, and Kaqchikel. The three dominant religions include a blend between Roman Catholicism, Protestant, and Indigenous Mayan religions.

As reported by the CIA Factbook (2022), Guatemala struggles with severe poverty similar to its neighboring countries, reporting that more than half of the population lives below the poverty line and 23% of the population lives in what is considered extreme poverty. Guatemala's agricultural sector accounts for 13.5% of its GDP and 31% of its workforce, specializing in sugar, coffee, bananas, and TA, with the U.S being its most dominant export partner to the tune of 33%. As of 2017, the GDP reported a country deficit of 1.7%. Health and human development concerns such as infant, child, and maternal mortality rates, malnutrition, and literacy remain areas of opportunity for Guatemala. Almost half of Guatemala's population ins below the age of 19, making it the youngest country in Latin America. A civil war in Guatemala from 1960 to 1996 increased illegal emigration into both Mexico and the U.S., however the warfare over this period prevented economic growth due to political instability.

Regarding the TA industry, through CAFTA-DR, the US imported $1.43 billion in 2019 and $1.48 billion in 2018, $1.26 billion in 2017 (World Bank, 2020) in TA goods from Guatemala (Otexa, 2020). Out of these figures, apparel alone accounted for $1.41

billion exports in 2019 and $1.46 billion in 2018, (Otexa, 2020). Meanwhile, the US exported $264.73 million worth of TA products in 2019, $297.51 million in 2018 and $297.77 million in 2017 respectively to Guatemala (Otexa, 2020). In apparel products alone, the US exported $133.59 million in 2019, $113.29 million in 2018, and $102.53 million in 2017 to Guatemala.

While more recent literature on the nature of the TA industry in Guatemala is limited, Traub-Werner and Cravey (2002) studies the impacts of spatiality because of trade globalization and solidarity with Guatemala sweatshops. This research found that there are active anti-sweatshop organizations in place to link with manufacturing plant unions to alleviate maltreatment of the workers, however these programs often fail due to poor media coverage and lack of exposure to the true injustices.

One of the most drastic differences in gender related statistics from Guatemala and its neighboring countries is the literacy rates. While the other Central American countries reported gender literacy rates as near equal, there is an 8% gap in how many men and boys are literate in Guatemala (87.4%) than women and girls (76.3%) (CIA Factbook, 2022). Guatemala also only spends 2.8% of its GDP expenditure on education, which is almost half of what Nicaragua spends. As reported in 2015, women in Guatemala are about one year older than other women in Central America when they become mothers, as statistics report mother's mean age at first birth to be 21 years old. The maternal mortality rate in Guatemala is 95 deaths per 100,000 live births, which is about half less than maternal deaths in Nicaragua annually. The average woman in Guatemala has 2.72 children (2017 est.).

Dominican Republic Background, TA Industry, and Gender Inequality

In March 2007, The Dominican Republic implemented CAFTA-DR. Prior to European arrival, indigenous Tainos lived in what was called Hispaniola, one islanded divided into five different territories. (CIA Factbook, 2022). Conquistador and colonizer Christopher Columbus laid claim to Hispaniola in 1492. Between the 1600s and the 1800s, the land became divided by French and Spanish rule, naming the French territory Haiti and the Spanish territory The Dominican Republic. Dominicans officially won their independence from Spain in 1865. The Dominican Republic's current president is Danilo Medina, originally elected in 2012 and was reelected in 2016. The Dominican Republic holds a population of 10.4 million, where over 70% of the population identify as mixed race, or a various combination of Mestizo, Mulatto, Black, and White. Much of the population choose to use the term Indio to self-identify their race. The official language in this country is Spanish and the dominant religions are Roman Catholic (47.8%) and Protestant (21.3%).

Economically, The DR primarily exports sugar, coffee, and tobacco. However, since CAFTA-DR, trade has diversified to include more TA. According to the CIA Factbook (2022), The DR has been one of the fastest growing economics in Latin America for the last 20 years. A new tax reform package issued in November 2012 helped The DR reduces its public debt. However, there is a strong division of class in the DR as the poorest half of the population receives less than 20% of the country's GDP, while the richest of the population receive more than 40%. Tourism is the DR's most prominent industry and revenue source.

Regarding the TA industry, through CAFTA-DR the US imported $740 million in TA goods in 2019, $780 million in 2018 from the Dominican Republic (Otexa, 2020). Although the export data provided by Otexa (2020) does not restrict the values of TA exports, direct TA exports report a value of $556 million in 2017 (World Bank, 2020). Out of these figures, apparel alone accounted for $722 million US imports from the Dominican Republic in 2019 and $762 million in 2018. In TA goods, the US exported $548.39 million in 2019, $569.36 million in 2018, and $560.85 million in 2017.

From a gender perceptive, the average age of motherhood for women in The DR is 21.3 years (est. 2013) (CIA Factbook, 2022), the maternal mortality death rate is 95 deaths per 100,000 live births, infant mortality is 20.9 deaths per 1,00 live births, and each woman has about 2.24 children (est. 2020). Scholar Raynolds (2001) studied the gendered differences and social politics within pineapple production plants in the DR. Raynolds found that elements such as creating a fair wage, establishing production quotas, and the organization of labor roles were all heavily gendered and placed through a patriarchal lens. The following country to be discussed is the final CAFTA.

Costa Rica Background, TA Industry, and Gender Inequality

The last to adopt CAFTA-DR was Costa Rica in January 2009. Costa Rica also received independence from Spain in 1821 (CIA Factbook, 2022). Initially, Costa Rican land was not conditioned for well sustained life due to disease from mosquitos, extreme heat, and pirate raiding, however in 1563 the Cartago settlement was founded in cooler and more fertile lands. Costa Rica boasts a population of 5.1 million, where 83.6% of this population identifies as White or Mestizo. The dominant language is Spanish in Costa

Rica, and 71.8% of the population identifies a Roman Catholic and 12.3% as Evangelical or Pentecostal.

According to the CIA Factbook (2022), Costa Rica is economically and politically more stable than many of its Central American neighbors. Nearly 20% of its GDP provides universal actress to education, healthcare, clean water, sanitation, and electricity. This high level of expenditure has positively impacted and reduced infant mortality rates. Costa Rica has sustained economic growth since 2017, where it reached a peak of 3.8%. Costa Rica, because of is stability, consistently attracts the most foreign direct investment directly impacting insurance and telecommunications. Education expenditure for Costa Rica is 7.3% and health expenditure is 7.4% of the GDP. However, Costa Rica is not a utopia. The country still suffers from rising public debt, with poverty buoying between 20-25% for more than 20 years. This has negatively impacted the country's infrastructure due to poor credit ratings.

Regarding the TA industry, throughout CAFTA-DR, The US has imported $22.68 million in TA goods from Costa Rica in 2019, $19.96 million in 2018 (Otexa, 2020), and $36.899 million in 2017 (World Bank, 2020). Out of these figures, apparel alone accounted for $19.81 million US imports from Costa Rica in 2019, and $17.51 million in 2018. Meanwhile, the US exported $174.97 million worth of TA products in 2019, $138.68 million in 2018 and $123.31 million in 2017 respectively to Costa Rica (Otexa, 2020). In apparel products alone, the US exported $31.08 million in 2019, $40.39 million in 2018, and $33.61 million in 2017 to Costa Rica.

Regarding gender related statistics, according to the CIA Factbook (2022), maternal mortality rate is also low with only 27 deaths per 100,000 live births. In Costa

Rica, the average woman has 1.87 children and males, and females are equally literate at 97% of the population for both genders. While the literature on gender and relationship to the TA industry is sparse within the literature, scholar Jose Blanco F. (2014) studied the layers of masculinity and the men's fashion production industry in Costa Rica. Elements of society as determined by social class, education, career roles, access to certain markets, and psychologically ingrained patriarchy served as the foundation for better understand how and why Costa Rican men dressed in the manner they chose.

Descriptive Statistics

Below are the descriptive statistics of each CAFTA-DR country to summarize how textile and clothing imports and exports changed and how GII indicators changed since CAFTA-DR implementation.

El Salvador's Descriptive Statistics – Export, Import, and GII data

El Salvador is the first country to implement CAFTA-DR in March 2006, and subsequently has the longest history for potential changes in trade statistics and gender inequality statistics overtime. In 2006, El Salvador's major export trading partners for textiles and apparel included the United States, Honduras, Germany, Nicaragua. El Salvador's major import trading partners for 2006 were the United States, Honduras, Hong Kong, China, and Guatemala (WIRS, 2021). During the first year of CAFTA-DR, El Salvador exported $1,743,760,000 and imported $1,310,541,450 in TA good worldwide. By 2013, the El Salvador TA worldwide exports increased by 37.32% totaling $2,394,569,510 and the imports increased by 21.15% totaling $1,587,711,750 that year. By 2019, El Salvador's TA worldwide exports amounted to $2,612,470,900,

showing an 9.1 % increase since 2013 and a 49.81% increase since CAFTA-DR implementation in 2006. As for El Salvador's TA imports in 2019, the total amounted to $1,736,753,270, which is an 9.39% increase from 2013 and a 32.52% increase from 2006. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, El Salvador has increased its dollar volume relatively steadily over the years, up to the current available year, 2019. There is possibility of a correlation of this between this policy implementation and the changes in export and import results.

Regarding changes in gender inequality, El Salvador's GII statistics also show interesting trends in the years 2006, 2013, and 2019. The following section will describe how El Salvador ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

El Salvador's HDI is ranked 124 out of 189 countries as of 2019 and categorized as Medium Human Development. In 2019, El Salvador's GII value was .383 and their GII rank was 82 out of 189. The maternal mortality ratio (MMR) for El Salvador was 60 deaths per 100,000 live births in 2006, 50/100,000 in 2013, and 46/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows a steady decline in MMR overtime. El Salvador's adolescent birth ratio (ABR) was 84 (rounded figure) births from teen pregnancies ages 15-19 per every 1,000

women in 2006, 73/1,000 in 2013, and 68/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2006, secondary education rate (SER) for females in El Salvador, as described as a percentage of total pupils enrolled in secondary education, was 50.32% however in 2013 this percentage decreased to 49.89% denoting a small decrease in females attending high school or higher. In 2018, SER did show a small increase from 2013, resulting in 49.36%, however the trend for SER does not show consistency in decline or in increase, suggesting that various economic, environmental, or political factors may have influenced the pattern. Also, for labor force participation ratio (LFR) for women ages 15+ in El Salvador, which is described as all women of this age who supply labor to produce goods and services, was 46.2% in 2006, suggesting that there were more men on average in the labor force than women during this time. In 2013, this percentage rose to 47.59%, and then in 2019 LFR declined to 45.37% (ILOSTAT, 2021). The inconsistencies with this trend suggest that there are factors that are contributing to the rise and decline other than CAFTA-DR's implementation.

The final GII indicator for El Salvador is parliament seat representation (PSR) by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2006, the PSR for women in El Salvador was 16.67%, in 2013 it was 26.19%, and in 2020, it was 33.33%. This steady incline indicates a consistent growth in women participation in parliament seats in El Salvador, through-out the years of CAFTA-DR's implementation and execution. Now that we understand how El Salvador performed, the following section will examine how Honduras' textile and clothing

imports and exports, as well as GII changed through the years of CAFTA-DR implementation and execution.

Honduras' Descriptive Statistics

Honduras was the second country to implement CAFTA-DR in April 2006, and subsequently has the second longest history for potential changes in trade statistics and gender inequality statistics overtime. In 2006, Honduras' major export trading partners for textiles and apparel included the United States, Guatemala, El Salvador, Nicaragua, and Costa Rica. Honduras's major import trading partners for 2006 were the United States, Panama, China, El Salvador, and Guatemala (World Integrated Trade Solution, 2022). During the first year of CAFTA-DR, Honduras exported $30,722,090 and imported $155,424,560 in TA good worldwide. This is inverse to El Salvador's statistics because El Salvador exported more than imported over the years. By 2014, as 2013 data was not available, the Honduran TA worldwide exports decreased by 93.66% totaling $1,948,798 and the imports increased by 33.18% totaling $206,986,940 that year. By 2019, Honduras' TA worldwide exports amounted to $15,833,570 showing an 712.48% increase since 2014 and an 48.46% decrease from CAFTA-DR implementation in 2006. As for Honduras' TA imports in 2019, the total amounted to $300,982,050 which is an 45.41% increase from 2014 and a 93.65% increase from 2006. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, Honduras has experienced irregular change in its dollar volume over the years, up to the current available year, 2019. There is possibility of a correlation of

this between this policy implementation and the changes in export and import results. However, the inconsistent results suggest that other extraneous factors are also in play.

Regarding changes in gender inequality, Honduras' GII statistics also show interesting trends in the years 2006, 2014, and 2019. The following section will describe how Honduras ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

Honduras' HDI is ranked 132 out of 189 countries as of 2019 and categorized as Medium Human Development. In 2019, Honduras' GII value was .423 and their GII rank was 100 out of 189. The MMR for Honduras was 77 deaths per 100,000 live births in 2006, 69/100,000 in 2013, and 65/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows a steady decline in MMR overtime. Honduras' ABR was 98 (rounded figure) births from teen pregnancies ages 15-19 per every 1,000 women in 2006, 79/1,000 in 2013, and 71/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2006, secondary education rate (SER) for females in Honduras, as described as a percentage of total pupils enrolled in secondary education, was 54.73% however in 2013 this percentage decreased to 53.91% denoting a small decrease in females attending high school or higher. In 2018, SER continued to decrease in 2013, resulting in 52.46%. The trend for SER does consistency in decline, suggesting that various economic, environmental, or political factors may have influenced the pattern as well as CAFTA-DR. Also, for LFR for women ages 15+ in Honduras, which is described as all women of

this age who supply labor to produce goods and services, was 40.09% in 2006, suggesting that there were more men on average in the labor force than women during this time (ILOSTAT, 2021). In 2013, LFR was 45.21% in Honduras and in 2019 the percentage rose to 52.26%, which communicates that by this year, there was a greater percentage of women in the workforce than men.

The final GII indicator for Honduras is PSR. by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2006, the PSR for women in Honduras was 23.44%, in 2014 it was 25.78%, and in 2020, it was 21.09%. This inconstancies in this trend indicate that there are factors that impact in women's participation in parliament seats in Honduras outside of the impact of CAFTA-DR's implementation and execution. Now that statistics for Honduras have been analyzed, the following section will examine how Nicaragua textile and clothing imports and exports, as well as GII have changed through the years of CAFTA-DR implementation and execution.

Nicaragua's Descriptive Statistics

Nicaragua was the third country to implement CAFTA-DR also in April 2006, and subsequently shares longest history for potential changes in trade statistics and gender inequality statistics overtime with Nicaragua. In 2006, Nicaragua's major export trading partners for textiles and apparel included the United States, Honduras, Costa Rica, Malaysia, and Costa Rica. Nicaragua's major import trading partners for 2006 were the United States, Honduras, China, El Salvador, and Guatemala (WITS, 2022). During the first year of CAFTA-DR, Nicaragua exported $5,669,980 and imported $59,556,060

in TA good worldwide. This is similar to Honduras as Nicaragua also has greater imports than exports. In 2013, the Honduran TA worldwide exports increased by 23,005.2% totaling $1,310,057,708 and the imports increased by 97.27% totaling $117,483,350 that year. By 2019, Honduras' TA worldwide exports amounted to $1,546,341,120 showing an 18.04 % increase since 2013 and an 27,172.4% increase since CAFTA-DR implementation in 2006. As for Nicaragua TA imports in 2019, the total amounted to $1,515,412,920 which is an 1189.9% increase from 2013 and a 2444.52% increase from 2006. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, Nicaragua has experienced consistent increase in its dollar volume over the years, up to the current available year, 2019. There is possibility of a correlation of this between this policy implementation and the changes in export and import results. However, these results suggest that there may be other extraneous factors that contribute.

Regarding changes in gender inequality, Nicaragua's GII statistics also show interesting trends in the years 2006, 2014, and 2019. The following section will describe how Nicaragua ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

Nicaragua's HDI is ranked 128 out of 189 countries as of 2019 and categorized as Medium Human Development. In 2019, Honduras' GII value was .428 and their GII rank was 101 out of 189. Just one place after Honduras. The MMR for Honduras was 124

deaths per 100,000 live births in 2006, 105/100,000 in 2013, and 98/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows a steady decline in MMR overtime. Nicaragua's ABR was 104 (rounded figure) births from teen pregnancies ages 15-19 per every 1,000 women in 2006, 92/1,000 in 2013, and 82/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2006, secondary education rate (SER) for females in Honduras, as described as a percentage of total pupils enrolled in secondary education, was 52.58% and the available data only goes as far as 2008, which reports the latest SER percentage as 52.55%, which suggests that there are still more women participating in secondary education over men in Nicaragua. Also, for LFR for women ages 15+ in Nicaragua, which is described as all women of this age who supply labor to produce goods and services, was 45.31% in 2006, suggesting that there were more men on average in the labor force than women during this time (ILOSTAT, 2021). In 2013, LFR was 48.54% in Nicaragua and in 2019 the percentage rose to 49.74%, which communicates that by this year, there was a greater percentage of women in the workforce than men.

The final GII indicator for Honduras is PSR. by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2006, the PSR for women in Nicaragua was 15.22%, in 2013 it significantly increased to 40.22%, and in 2020, PSR rose to 47.25%. This over 50% increase in this trend over time likely indicates that there are factors that impact in women's participation in parliament seats in Honduras outside of the impact of CAFTA-DR's implementation and execution. Now that statistics for Nicaragua have been analyzed, the following section will examine

how Nicaragua textile and clothing imports and exports, as well as GII have changed through the years of CAFTA-DR implementation and execution.

Guatemala's Descriptive Statistics

Guatemala was the fourth country to implement CAFTA-DR also in July 2006, and subsequently shares longest history for potential changes in trade statistics and gender inequality statistics overtime with Guatemala. In 2006, Guatemala's major export trading partners for textiles and apparel included the United States, Honduras, Costa Rica, and Nicaragua. Nicaragua's major import trading partners for 2006 were the United States, China, Panama, El Salvador, and Mexico (WITS, 2022). During the first year of CAFTA-DR, Guatemala exported $167,593,660 and imported $430,705,530 in TA good worldwide. In 2013, the Guatemalan TA worldwide exports increased by 816.68% totaling $1,536,297,740 and the imports increased by 208.75% totaling $1,329,810,880 that year. By 2019, Guatemalan' TA worldwide exports amounted to $1,754,941,430 showing an 14.23% increase since 2019 and an 947.14% increase since CAFTA-DR implementation in 2006. As for Nicaragua TA imports in 2019, the total amounted to $133,987,940 which is an 89.92% decrease from 2013 and a 68.89% decrease from 2006. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, Guatemala has experienced consistent increase in its dollar volume over the years, up to the current available year, 2019. There is possibility of a correlation of this between this policy implementation and the changes in export and import results. However, these results suggest that there may be other extraneous factors that contribute.

Regarding changes in gender inequality, Guatemala's GII statistics also show interesting trends in the years 2006, 2013, and 2019. The following section will describe how Nicaragua ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

Guatemala's HDI is ranked 127 out of 189 countries as of 2019 and categorized as Medium Human Development, just one rank higher than Nicaragua. In 2019, Guatemala's GII value was .479 and their GII rank was 119 out of 189. The MMR for Guatemala was 137 deaths per 100,000 live births in 2006, 113/100,000 in 2013, and 95/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows a steady decline in MMR overtime. Guatemala's ABR was 93 (rounded figure) births from teen pregnancies ages 15-19 per every 1,000 women in 2006, 77/1,000 in 2013, and 69/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2006, secondary education rate (SER) for females in Guatemala, as described as a percentage of total pupils enrolled in secondary education, was 47.81%, for 2013 it was 47.56, and for 2018 (latest available data) Nicaraguan SER for women was 47.83%. This suggests that there are still more men participating in secondary education over women in Guatemala and the trend has remained flat throughout the implementation of CAFTA-DR. Also, for LFR for women ages 15+ in Nicaragua, which is described as all women of this age who supply labor to produce goods and services, was 45.31% in 2006, suggesting that there were more men on average in the labor force than women during

this time (ILOSTAT, 2021). In 2013, LFR was 48.54% in Nicaragua and in 2019 the percentage rose to 49.74%, which communicates that by this year, there was a greater percentage of women in the workforce than men.

The final GII indicator for Nicaragua is PSR. by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2006, the PSR for women in Nicaragua was 15.22%, in 2013 it significantly increased to 40.22%, and in 2020, PSR rose to 47.25%. This over 50% increase in this trend over time likely indicates that there are factors that impact in women's participation in parliament seats in Nicaragua outside of the impact of CAFTA-DR's implementation and execution. Now that statistics for Nicaragua have been analyzed, the following section will examine how the Dominican Republic's textile and clothing imports and exports, as well as GII have changed through the years of CAFTA-DR implementation and execution.

Dominican Republic's Descriptive Statistics

The Dominican Republic (DR) was the fifth country to implement CAFTA-DR in March 2007, a full year after the first implementation of El Salvador. In 2007, The DR's major export trading partners for textiles and apparel included the United States, Haiti, Honduras and Thailand. Nicaragua's major import trading partners for 2007 were the United States, China, Panama, and Haiti (WITS, 2022). During the first year of CAFTA-DR, the DR exported $1,337,785,070 and imported $1,159,883,810 in TA good worldwide. In 2013, the DR TA worldwide exports decreased by 16.4% totaling $1,118,377,400 and the imports decreased by 3.29% totaling $1,121,688,080 that year. By 2018 (latest available data), DR's TA worldwide exports amounted to $859,168,490

showing an 23.18 % decrease since 2013 and an 35.78% decrease since CAFTA-DR implementation in 2006. As for Dr's TA imports in 2019, the total amounted to $1,219,432,920 which is an 8.71% increase from 2013 and a 5.13% increase from 2006. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, the DR has experienced consistent increase in its dollar volume over the years, up to the current available year, 2018. There is possibility of a correlation of this between this policy implementation and the changes in export and import results. However, these results suggest that there may be other extraneous factors that contribute.

Regarding changes in gender inequality, DR's GII statistics also show interesting trends in the years 2007, 2013, and 2018/2019. The following section will describe how the DR ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

The DR's HDI is ranked 88 out of 189 countries as of 2019 and categorized as a High Human Development country. In 2019, The DR's GII value was .455 and their GII rank was 112 out of 189. The MMR for the DR was 90 deaths per 100,000 live births in 2007, 94/100,000 in 2013, and 95/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows an increase in MMR overtime, therefore suggesting that there are factors in this country that contribute to growing maternal mortalities after giving birth. The DR's ABR was 104 (rounded

figure) births from teen pregnancies ages 15-19 per every 1,000 women in 2007, 96/1,000 in 2013, and 92/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2007, secondary education rate (SER) for females in the DR, as described as a percentage of total pupils enrolled in secondary education, was 54.07%, 52.12% for 2013, and 51.26% in 2018. The results indicate a slight decline in women attending secondary education. However, the results also suggests that there are still more women participating in secondary education over men in the DR overall. Also, for LFR for women ages 15+ in the DR, which is described as all women of this age who supply labor to produce goods and services, was 40.92% in 2007, suggesting that there were more men on average in the labor force than women during this time (ILOSTAT, 2021). In 2013, LFR was 46.20 % in the DR and in 2019 the percentage rose to 54.27%, which communicates that by this year, there was a greater percentage of women in the workforce than men.

The final GII indicator for the DR is PSR. by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2007, the PSR for women in the DR was 19.66%, in 2013 it increased to 20.77%, and in 2020, PSR rose to 27.9%. This over 50% increase in this trend over time likely indicates that there are factors that impact in women's participation in parliament seats in the DR outside of the impact of CAFTA-DR's implementation and execution. Now that statistics for DR have been analyzed, the following section will examine how the final country, Costa Rica's textile and clothing imports and exports, as well as GII have changed through the years of CAFTA-DR implementation and execution.

Costa Rica's Descriptive Statistics

Costa Rica is the sixth and final country to implement CAFTA-DR in January 2009, and subsequently has the shortest history for potential changes in trade statistics and gender inequality statistics overtime. In 2009, Nicaragua's major export trading partners for textiles and apparel included the United States, Honduras, El Salvador, Nicaragua, and Canada. Nicaragua's major import trading partners for 2009 were the United States, Honduras, China, Colombia, and Mexico (WITS, 2022). During the first year of CAFTA-DR, Costa Rica exported $180,488,440 and imported $342,736,520 in TA good worldwide. In 2014, the Costa Rica's TA worldwide exports decreased by 17.96% totaling $148,076,980 and the imports increased by 59.69% totaling $547,318,820 that year. By 2019, Costa Rica's TA worldwide exports amounted to $128,625,720 showing an 13.14 % decrease since 2014 and an 28.73% decrease since CAFTA-DR implementation in 2006. As for Costa Rican TA imports in 2019, the total amounted to $569,659,850 which is an 4.08% increase from 2014 and an 66.21% increase from 2009. While there are other factors involved in how these import and exports statistics change, including changes in within the in-power political parties and climate, these statistics show that since CAFTA-DR implementation, Costa Rica has experienced consistent increase in its import dollar volume over the years and consistent decreases in export dollar volume, up to the current available year, 2019. There is possibility of a correlation of this between this policy implementation and the changes in export and import results. However, these results suggest that there may be other extraneous factors that contribute.

Regarding changes in gender inequality, Costa Rica's GII statistics also show interesting trends in the years 2009, 2014, 2019 and 2020. The following section will describe how Costa Rica ranks in GII comparatively to the rest of the world, as well as how the individual factors of GII, maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation rates, have changed from 2006 to the data accessible in the most current available year.

Costa Rica's HDI is ranked 62out of 189 countries as of 2019 and categorized as Very High Human Development country. In 2019, Costa Rica's' GII value was .288 and their GII rank was 62 out of 189. Costa Rica is the highest ranking HDI and GII country amongst the CAFTA-DR countries. The MMR for Honduras was 29 deaths per 100,000 live births in 2009, 29/100,000 in 2014, and 27/100,000 in 2017 which is the final year that this statistic was reported according to the provided data. This trend shows a slight decline in MMR overtime. Costa Rica's ABR was 62 (rounded figure) births from teen pregnancies ages 15-19 per every 1,000 women in 2009, 57/1,000 in 2014, and 52/1,000 in 2019. This trend also shows a steady decline in ABR overtime.

In 2009, secondary education rate (SER) for females in Honduras, as described as a percentage of total pupils enrolled in secondary education, was 50.05%, 2014 is 50.24%, and 2018 shows 50.68%. These results suggest that there are slightly more women participating in secondary education over men in Costa Rica. Also, for LFR for women ages 15+ in Nicaragua, which is described as all women of this age who supply labor to produce goods and services, was 46.38% in 2009, suggesting that there were more men on average in the labor force than women during this time (ILOSTAT, 2021). In 2014, LFR was 49.3% in Costa Rica and in 2019 the percentage rose to 51.9%, which

communicates that by this year, there was a greater percentage of women in the workforce than men.

The final GII indicator for Costa Rica is PSR. by percentage, as provided by the Inter-Parliamentary Union (IPU), which represents women in parliaments are the percentage of parliamentary seats in a single or lower chamber held by women. In 2006, the PSR for women in Costa Rica was 36.84%, in 2014 it decreased to 33.33%, and in 2020, PSR rose to 45.61%. This over 50% increase in this trend over time likely indicates that there are factors that impact in women's participation in parliament seats in Costa Rica outside of the impact of CAFTA-DR's implementation and execution.

As the descriptive statistics and correlations between export and import data as well as GII data has been reviewed, the following figures in charts form below reflect the information presented in the text above.

Theoretical Framework for the Study

Now that there is foundational understanding of each country and their relationship to gender inequality the textile and apparel industry, the following theoretical frameworks will better assist in analyzing this relationship between the CAFTA-DR countries, El Salvador, Honduras, Nicaragua, Guatemala, Dominican Republic, Costa Rica and The United States, and the Gender Inequality Index (GII) dimensions, and the economic development of the TA industry as quantified by changes in TA imports and exports throughout the countries. Since CAFTA-DR follows the Heckscher-Ohlin 2x2x2 model for international development and the GII is derived from the Gary Becker Discrimination Theory, for this purpose, the theories (a) Heckscher-Ohlin Factor of

Proportions Theory (1933) and (b) Gary Becker Discrimination Theory (1957) are discussed next to support the research.

Heckscher-Ohlin Factor of Proportions Theory

The Heckscher-Ohlin Factor of Proportions Theory, as originally developed by Eli Heckscher in 1919 and then expanded by his student Bertil Ohlin in 1933, is one of the foremost theories used when assessing international economic development. However, this theory is derived from even earlier roots, the Ricardian Theory of comparative advantage, without which, the basis of the Heckscher-Ohlin model would not exist. David Ricardo is a one of the fathers of classic political economic theory. His most notable theory is the theory of comparative advantage, often called Ricardian Theory, developed in 1812 and revised in 1817 (Costinot & Donaldson, 2012). The theory of comparative advantage is in support of the concept of free trade by its claim that it is more beneficial for countries to export those goods they could efficiently produce and import those they could not. The Ricardian comparative advantage model is explained as free trade between two countries in a one factor world (Seligman & Hollander, 1911).

Ricardian Comparative Advantage (RCA) was then further refined by Heckscher and Ohlin who developed the Factor Proportions Theory (HO-FTP; H-O Model) (1933), still used to explain various natures of international development. Scholars Heckscher (1919) and Ohlin (1933) added new perspectives to the foundation of RCA by claiming the country that is the most abundant in a factor exports the good whose production is intensive in that factor, (P. Krugman, 1995; P. R. Krugman, 1989). The HO-FTP argues that international commerce compensates for uneven distribution of productive resources,

goods, and services (Leamer, 1995). For example, many US multinational entities are abundant in monetary and knowledge capital to invest in technology for other countries (Markusen & Strand, 2009) and Central America is resourceful in agriculture to produce textiles and apparel, human capital, and undeveloped land (Boyce, 1995; Paus, 1995)HO-FTP states that countries produce and export goods that have factors that are in great supply (Pillai, 2016). This concept of factor abundance and intensity is described as relative labor capital endowment ratio for a particular country compared to another country, and the quantity of a given factor required to produce a single unit of a certain good in a country (Langdana & Murphy, 2014). Given the US and Central America are uneven in their factor proportions, it is expected that CAFTA-DR free trade agreement would facilitate international trades, specifical TA input and output, ultimately influencing Central America's economic growth.

HO-FTP Assumptions and Factor Model

While achieving the most effective and equal international trade relationship is challenging, CAFTA-DR, as well as other trade agreements, can customize and aggregate their policies to account for assumptions that do not always apply. According to economists, the HO-FTP model assumes that a) perfect competition is present, b) the same available technologies are present for both countries, c) demand for traded goods is present within both countries, e) when trade is optimized, substitution of a good is equal to the relative factor price, d) and factors for production are mobile across sectors and firms but immobile across countries (Krugman, Obstfeld, & Melitz, 2017). The HO-FTP also often assumes there is a 2x2x2 model in place where there are two countries with

their own agreement, exchanging two goods, and applying two factors of production, i.e., labor and capital. The HO-FTP 2x2x2 factor model is explained below (Antras, 2007).

Trade between two countries *(H* and *F)* ----------(1)

Employing two factors *(K* and *L)*----------(2)

To produce two goods (*A* and *B*) ----------(3)

HO Model in the International Trade Literature

The HO model has been widely used and accepted with economics research. The main objective of the HO model is to find imbalances in economic equilibrium between countries and mathematically pinpoint a preferred balance of resources through more effective trade. Edward Leamer (1995) supports this assumption by stating that the HO factor proportions theory of comparative advantage allows for international commerce to compensate for the "uneven geographic distribution of productive resources" (Leamer, 1995, p. 1; Jones, 1993) and that HO-FTP is "extraordinarily useful pedagogically, politically, and empirically" (Leamer, 1995, p.3).

Researchers Bardhan (1965) and Oniki and Uzawa (1965) studied the how economic trends were impacted as after specialization was introduced within open trade using the HO model for analysis. Then (Stiglitz, 2015) studied the HO model through a Marxist lens, where are labor income is consumed and all capital income is saved. Later, Chen (1992) studied the contributors to long term equilibrium between the two countries based on the HO model, under the assumption that both countries produce goods, finding that with even positive trade there is a continuum of steady states amongst the countries, which means equilibrium is not likely to be achieved. Baxter (Baxter, 2015) considered the same research as Chen (1992) but included a variable in which the tax rates differed

between countries to assess potential long-term equilibrium analyzed by the HO model. Then Brecher et al. (2002) studied similar economic equilibrium research but considered variables where technology differed between countries, using the HO model, finding similar results that long-term and consistent economic equilibrium is unlikely. These studies were conducted under the assumption that one of the traded factors was a consumed good and the other traded factor was an invested good.

More recently, Bajona and Kehoe (2010) analyzed the HO model while considering the impact that trade openness had on divergence and convergence of income within poorer countries. Their study found two major results; 1) the largest determinant in differences for income divergence or convergence within poorer countries is the initial capital investment per worker, and 2) countries achieving factor price equalization in one time does not assure factor price equalization for future time periods.

Literature Challenging HO-FTP Effectiveness

The HO-FTP model creates two strong assumptions that are highly limiting. The first limitation is that relatively capital or labor abundant countries will export capital- or labor-intensive commodities and that trade possibilities are strongest between two countries that have different factor endowments. Economists and scholar (Subasat, 2016) offered a critical assessment of the HO model, based on these two assumptions, and aimed to challenge its validity as well as empirical relevance, using terms such as "simple" and "theoretical weakness" to justify his claims. Subasat views HO as an alternative to Ricardian comparative advantage rather than a simply an expanded derivative.

Directly challenging Leamer (1984;1995), claiming that Leamer's research only offered broad generalization on the HO-FTP model that appeared self-evident, Subasat quotes scholar Leontief by referencing the Leontief paradox (Leontief, 1953) which contradicts the validity of the factor intensity assumption. The Leontief paradox claims that "developing countries have increased trade among rather than between themselves since the 1960s" (p. 151), which this claim attempts to reject the HO model for true international economic growth and equilibrium theories. Subasat also challenges Bliss (1989) and Wood (1994) by stating "there is no [clear] evidence of factor price equalization" (p.152). Focusing on the empirical flaws, Subasat claims that he and other researchers including, Gaston and Trefler (1995) believe that the factor endowment theory has been rejected repeatedly and it "performs horribly, [and the theory] correctly predicts direction of factor service trade about 50 percent of the time" ((Gaston & Trefler, 1995)

Economists O'Rourke (2019) also studied the economic history and challenges of globalization and found research that support the idea that "the general equilibrium nature of the Heckscher-Ohlin models makes it extremely hard to bring it to the data. Given that the model's predictions refer to economy wide return factors, one has only one observation per year to work with (Goldberg & Pavcnik, 2007). Similarly, in 1996, O'Rourke, Taylor, and Williamson (O'Rourke et al., 1996)conducted a panel regression with seven countries and 8 time periods, and found that, although the research was theoretically consistent with econometric testing by using the HO model, it was difficult to test long-run HO model effectiveness. This claim was also supported by researchers Autor, Dorn, and Hanson (Autor et al., 2013) when they studied the relationship between

Chinese import competition and US regions between 1990 and 2007. Focusing on regional impact "circumvent[s] the degrees-of-freedom problem, [which is] endemic to estimating the labor market consequences of trade" (Autor, Dorn, & Hanson, 2013, p. 2124).

The challenging research exposes flaws with the HO-FTP model by explaining that factors that influence economic equilibrium are broad and dynamic, therefore all factors cannot be accounted for within a single timeframe. Also, while economic equilibrium may be achieved at one point in time while analyzing certain factors, this equilibrium is not constant and likely will change in the future based on shifts in variables that influence climate, agriculture, government, endowment, and more.

The review of the literature of HO-FTP determined that is mathematically and theoretically useful in understanding the economic relationship between two countries, investing two different factors, while trading two goods. HO-FTP has been studied in relationship with a variety of variables to determine the most appropriate outcome for the most consistent long-term factor equalization, as previously mentioned, including specialization, technology, and initial capital endowment. In this research study, HO-FTP will be analyzed in relationship with the dimensions of the Gender Inequality Index (GII) to 1) assess the influences of trade openness on the GII dimensions and 2) to assess the influences of changes in GII dimensions on trade equilibrium overtime.

Therefore, after reviewing the literature, this study will continue to use the HO model because other scholars support the notion that there is not different model that is presently better than HO, (Bowen et al., 1986) therefore researchers should continue using the HO-FTP model as a base formulaic understanding of international economic

equilibrium, international trade theory. Because of these limitations, this results within this study should be consumed critically and with caution.

Model used in this study

For this research study, the HO-FTP both the production model and the factor model are used as a reference point to understand the importance of international free trade, as implemented by CAFTA-DR, however the actual model used has been re-configured to best fit the needs of this study.

Gary Becker's Theory of Discrimination

Now that we have an understand of our foundational theory, HO-FTP model, the secondary supportive theory which best explains the relationship between economics and discrimination and is also the foundational theory for the Gender Inequality Index (GII) is the Gary S. Becker Theory of Discrimination (DT) (1957). This theory also is appropriate for this study as it focuses on more economic impacts of discrimination. In is widely used text, *The Economics of Discrimination,* Gary S. Becker (1957) has been cited by over 12,000 scholars (Blau & Kahn, 2017; Ehrenberg et al., 2021; Färe et al., 1985; Oaxaca, 1973).

Becker Theory of Discrimination (DT) Assumptions and Model

According to economists Autor (2003) economic models on discrimination are divided into two major classes. These classes are competitive models and collective models. Competitive models are described as models that individually maximize behavior that may include discrimination and collective models have groups that act collectively against each other (p.2). The Becker Theory of Discrimination (DT) is

categorized as a competitive model, and this classification supports the perspective of this study, which focuses on gender, as individual (as defined by either man or woman) are individually maximizing their behavior that may include discrimination towards the other individual group.

The model that supports the DT quantified in the following manner.

$Y = XB + (infinity)\ Z + e$ ---------- (4)

In this model, Y represents the quantifiable factor that changes based on the presence of potential discrimination, for example wages, education rate, or employment rates. X represents pre-market discrimination or expectations of future discrimination B can represent an intermediary factor that influences Y and X, for example, production of technology, marital status, etc., and Z is a component of perceived social value, in which this research uses the term 'productivity' to describe it.

Theory of Discrimination in the International Trade Literature

Social scientists Black and Brainerd (2016) studied the impact of globalization on gender discrimination, used the Becker theory of economic discrimination (1952) for theoretical support. Similar to the proposed research in this study, Black and Brainerd (2004) studied gender discrimination within manufacturing industries. By analyzing imports as a share of GDP in relationship with median wages for both men and women from 1960 to 2005. This study was conducted under the two assumptions that 1) wage discrimination against women does indeed exist and 2) increase of imports within an industry is a result of increased competition, however this increase is exogenous to changes in the gender wage gap. This study found firms with more market power, due to increased international trade which has also increased global market competition, can

afford to continue discriminatory practices for much longer than firms in markets earning little to zero economic profits. Therefore, the lower market power a firm or country has economically, the more likely the reduction in discriminatory practices, specifically within wages and the employment of women.

There is also research on the relevance of Becker's TD (1957) on social discriminatory topics such as gender expression and sexuality within lesbian, gay, bisexual, and transgendered communities (Badgett et al., 2019) and their economic development and mobility. This study found that based on discriminatory practices, LBGT individuals faced higher rates of physical, psychological, and structural violence, including workplace discrimination in the form of reduced wages, and reduced opportunities for employment.

Literature Challenging Becker Theory of Discrimination

As with all theories, there are limitations. (Ikeda, 2018) studied the nature and limits of Becker's TD and questioned its ability to capture the true nature of both prejudice and discrimination holistically. Ikeda (2018) challenges that the Becker TD does not leave room for the possibility of genuine error in discriminatory choices, or a concept termed as "taste-based prejudice", therefore the TD does not have total explanatory power. Taste based discrimination as separate from statistically measured discrimination is supported by Ewens et. al, (Ewens et al., 2014) in the literature. Becker's TD (1957) largely focuses on labor, capital, and outputs, which are economically centered. Stigler and Becker (1997) address their theory of discrimination ignoring the need to consider tastes by claiming "one does not argue over tastes for the

same reason that one does not argue over the Rocky Mountains – both are there, will be there next year, and are the same to all men" (pg.76).

Furthermore, many scholars challenge the effectiveness of TD when understanding complex constructs such as race relations also criticize the claim that Becker's TD is universally applicable and argues that it is more of a social science theory rather than a true economics-based theory (Cain, 1986; Schmitz, 2017; Willborn, 1984). Therefore, the researcher must exercise caution when reviewing TD results in relationship with international trade economic equilibrium models as these two relationships have not yet been studied together. Even with the potential limitations for this TD theory and the HO-model to explain the relationship between international trade economic equilibrium and economic discrimination this study, I believe that TD best fits the need for this model when studied alongside the HO framework.

Gender Inequality Index

The Gender Inequality Index (GII) (2010) is the most common gender perspective economic discrimination model and is widely adopted by the United National Development Program (UNDP). According to the World Health Organization (WHO) GII is formally defined as a "composite measure reflecting inequality achievements between men and women in three major dimensions: reproductive health, empowerment, and labor market" (WHO, 2021). While there are many similar indexes including the Gender Equality Index (Dilli et al., 2019), The Standard Index of Gender Equality (Audette et al., 2019) The Global Gender Gap Index (Hausmann et al., n.d.) The Relative Status of Women Index (Dijkstra & Hanmer, 2011). The European Gender Equality

Index (Bericat, 2012) and many others oftentimes calibrated towards the needs of the country in which the index originated. In its first year (2010), the HDI reported estimated the GII for 138 countries.

To measure and monitor key disparities in human development, the UNDP (Gaye et al., 2010) conducted an in-depth analysis of the GII and how it will used to quantify these disparities and specifically highlights any economic disadvantages present for women by country. Originally, the GII stemmed from two previous indexes, The Gender-Related Development Index (GDI) (UNDP HDR, 1995), which was mostly used as an overall assessment of well-being and The Gender Empowerment Measure (GEM) (UNDP, HDR1995) (Schüler, 2007) which was most useful in political lobbying sectors, both introduced by the UNDP. But in 2010, the GII was developed to address the key concerns of the previous indexes to include indicators that measure educational attainment (which is measured by literacy rate and school enrollment), economic and political participation, and reproductive health issues (Busse & Spielmann, 2006). The association-sensitive welfare indices ((Seth, 2009) also served as a foundation for the development of this index. The GII is measured harmonically (across genders) and geometrically (across indicators).

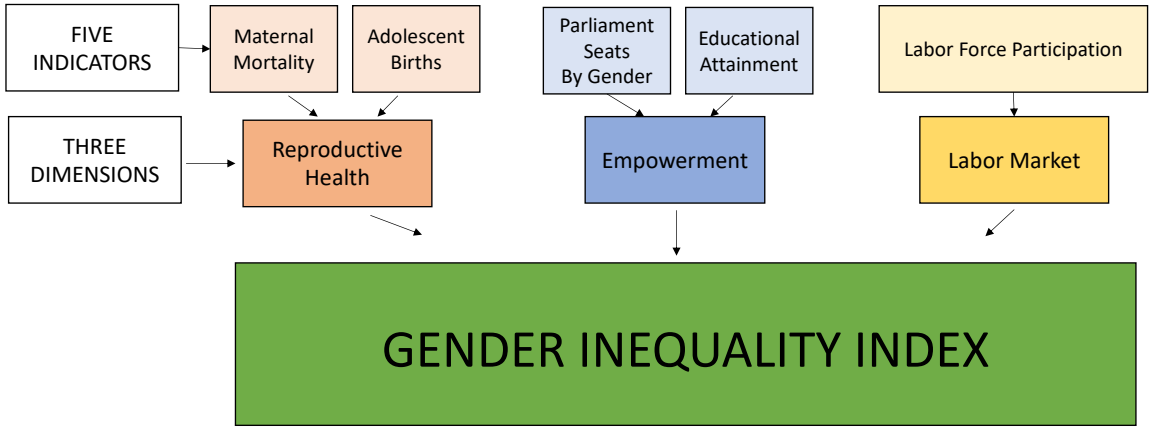
Categorized by dimensions and indicators are ranked in order of their relative weight within the model. The three dimensions for GII are as follows; 1) Reproductive Health, 2) Empowerment, 3) Labor market. Each dimension has associating indicators. The correlating indicators for 1) Reproductive Health are 1a) Maternal Mortality and 1b) Adolescent Births. The dimensions for 2) Empowerment are 2a) Parliament

Representation and 2b) Educational Attainment. The third indicator 3) Labor Market has the indicator 3a) Labor Force Participation.

Gender Inequality Index Model

Each of these indicators and dimensions comprises the model that represents the Gender Inequality Index, as shown in Figure 2.1. below. This model is derived from The United Nations (2010).

Figure 2.1. Gender Inequality Index Model



Measuring GII

The three dimensions of GII, which are reproductive health, empowerment, and the labor market are all measure differently according to WHO. While this study will not individually calculate how the GII is measured, as these figures are previously provided by the UNDP therefore calculation is not required. Further explanation of how each individual GII indicator is calculated is explained in detail in the methods section.

GII in Supporting Literature

Literature supports the use of GII as a measurement of gender inequality in comparison to solely using the Human Development Index (UNDP, 1990), which also looks a country's achievements in health, education, and incomes, similarly to the GII, however when observed from a gendered perspective, the HDI does not equitably capture the development experiences of all humans (S. Anand & Sen, 2010), Kim and Kim (Kim & Kim, 2014) studied the GII and its relationship with Healthy Life Expectancy (HLE) at birth in 148 countries, specifically focusing on the indicators e) labor force participation and c) secondary education. This study found that c) education attainment and 3) labor force participation has significant latent effects on HLE at birth, therefore countries with higher HLEs, the overall impact gender inequality is smaller as compared to countries with lower HLEs, most specifically due to higher c) educational attainment and e) labor force participation in women.

Additionally, Brinda, Rajkumar, and Enemark (Brinda et al., 2015) studied each dimension and indicator of the associations between the Gender Inequality Index and child mortality rates across all 138 represented countries. This regression modeled study found that women in low- and middle-income countries (LMICs) suffer significantly from gender inequality ($p < .0001$) and that the GII was positively associated with neonatal and children under five mortality rates, suggesting that in order to drastically reduce child mortality rates, policies should extend beyond medical interventions and prioritizing women's rights.

Challenges in GII Literature

The GII is relatively new index (Brinda et al., 2015). There is much literature that references the nuances of measurement within the GII and explains it as a "a difficult endeavor – in part because of conceptual complexities and deficient data…[and] some aspects do not readily lend themselves to quantitively measurement" (Gaye et al., 2013, p.363). Especially the highly conceptual term, empowerment, has been deemed as highly subjective in terms of quantifying and measuring (Benería & Permanyer, 2010) According to the UNDP (2010), there are three major challenges that remain with how the GII measures women's status and well-being. The first is that there is a lack of gender relative disaggregated data for many important qualifiers for women's status and well-being. Secondly, while measures are available for many countries, there are countries that are not included in which gender issues are a large concern regarding health, labor, and empowerment. The third concern is that the time series data for indicators are challenging to come by or unavailable all together. This third concern is the most important challenge for this proposed study because it is a time-series data analysis and there might be lack of data for certain time or year.

Therefore, after reviewing the literature, even with the challenges and truly quantifying all complex concepts of gender inequality, according to the UNDP (2010), this index is the most widely accepted and currently used to best assess the economic, health, and education disadvantages that women experience by country.

Model used in this study

This study was designed following the structure of the five GII dimensions, developed by the United Nations, to construct the model. The figures to determine the

value of each dimension of GII were pre-calculated and offered by The World Bank data, therefore when this study was designed, no additional calculations were necessary.

Gaps in the literature and Research Questions

After reviewing the literature on trade liberalization and free trade, researchers found two significant gaps in the literature. The first gap is that newer research on how CAFTA-DR specifically impacts the textile and apparel industry is few and far in between, therefore this study will add to the value of the body of research on this topic. These findings support the hypothesis that there are multiple aspects of gender inequality that can be studied, including wages, education, access to healthcare, and household responsibilities that women may have to face. Each of these factors may have differently affected by trade openness and the results of trade openness are likely to be non-homogenous across the countries and cultures.

The second gap is that while the broad concept of trade liberalization and gender inequality is frequently studied from economists, research economic discrimination's relationship with specific free trade agreements, such as CAFTA-DR leaves room for exploration. By focusing on the relationship between a singular trade agreement and its impact on economic discrimination, the potential findings will add a more specific contribution to the literature.

The third gap in the literature is an opportunity to study how gender inequality relates to the trade liberalization policies and economic discrimination. By looking at CAFTA-DR through a gendered lens, researchers can better assess truer impacts of textile and apparel factory workers as more than 80% of these workers identify as women (UNDP, 2020).

To fill these gaps, the study employed two theories and one index model. The two theories are the Heckscher-Ohlin Factor of Proportions Theory (HO-FPT) (1953) and the Gary Becker Economics of Discrimination Theory (1957). The Index model is the Gender Inequality Index (2010) developed by The United Nations. The HO-FPT is expected to help researchers to explore economic changes that occur because of international trade and understanding of variables impact the changes in economic inequality. This theory does not offer solutions to the dilemma of economic inequality

Therefore, after reviewing the literature, even with the challenges and truly quantifying all complex concepts of gender inequality, according to the UNDP (2010), this index is the most widely accepted and currently used to best assess the economic, health, and education disadvantages that women experience by country.

The purposes of the study were, therefore, to understand the relationship between 1) International trade globalization, specifically CAFTA-DR and its impact on the Gender Inequality Index within the textile and apparel manufacturing industry and 2) How textile and apparel manufacturing industry professionals and academics perceive the changes in Gender Inequality overtime because of CAFTA-DR's implementation. Formally, the study proposes 2 research questions:

> RQ1: Is the implementation of CAFTA-DR associated with gender inequality, as quantified by the Gender Inequality Index indicators maternal mortality rate, adolescent birth rate, secondary education enrollment percentage, parliamentary seat representation, and labor force participation) within the textile and apparel manufacturing industry, as described by textile and clothing import and export growth?

RQ2: How do textile and apparel manufacturing industry professionals and academics perceive the changes in Gender Inequality overtime due to CAFTA-DR's implementation?

CHAPTER III. RESEARCH METHOD

Mixed Methods Research

This study used a mixed-methods research (MMR) design, quantitative dominant approach and analyzed the relationship between gender inequality index indicators and textile and apparel import and export statistics between the years of CAFTA-DR implementation. The mixed methods approach is a combination of using both quantitative and qualitative statistics to analyze and observe a research question or set of research questions (Schoonenboom & Johnson, 2017). MMR is considered a third methodology and is frequently used in social science research (Doyle et al., 2009b). According to Creswell (1999) research is not restricted by traditional approaches to data collection, but it can be guided by a foundation of enquiry that underlies the research activity itself Messner and Creswell (Meissner et al., 2011). An MMR design is comprised of at least one qualitative and at least one quantitative research component, including data collection, analysis, and techniques of inference with the purpose of expanding the breadth and depth of understanding a study and answer a research question (R. B. Johnson et al., 2007).

Historically, MMR, which was originally called mixed research, was used within 20th century by cultural anthropologists and fieldwork sociologists (Doyle et al., 2009a; Halcomb & Hickman, 2015; R. B. Johnson & Onwuegbuzie, 2016a, 2016b). The term official term mixed methods research (MMR) wasn't adapted until the late 1980s (Doyle et al., 2009b). A pragmatists approach considers that both quantitative and qualitative methodology, when used simultaneously useful Sahin and Öztürk, (2019). Some scholars believe that MMR is a hybrid method that can be a bridge between the two traditional

methods by eliminating any distinctions or contradictions between the original two paradigms (R. B. Johnson & Onwuegbuzie, 2004) However, the purpose of MMR is not to dissect the philosophical or methodological differences between quantitative or qualitative research but to bring these two methods together from a pragmatist approach to answer one or more research questions completely.

Modern government, health, and public policy research has also used MMR (Chow et al., 2010; Samarasinghe & Strickert, 2013; Weaver-Hightower, 2013). A study employed MMR to better understand impacts of crucial social problems on public education, public health, and gender inequality in four different case studies (Hesse-Biber, 2020). These case studies included research questions to better understand how qualitative inquiry enhanced the understanding of health-related decisions at the primary care level, how a feminists approach impacts MMR with Nightingale's hybrid methodology (2003), how MMR understandings the care policies for cancer patients with advanced disease (Schroepfer, 2007) and how immigration health services can be addressed in Latinx communities (Byhoff et al., 2020). Therefore, although there are criticisms to MMR, this study agrees with the Creswell and Plano Clark (2011) that MMR can be useful to further answer our research questions more completely rather than simply using one method approach because the goal of this research is to determine the similarities and differences between the quantitative and qualitative results.

However, while combining qualitative and quantitative methods to explore a research question in more detail may seem like an all-inclusive approach, at times MMR can be limited. Many scholars have criticized the true quality of mixed-methods research, debating if the research questions are clarified further and if the studies have been

evaluated sufficiently (Barnat et al., 2017; Heyvaert et al., 2013; O'Cathain et al., 2010) However, to address these limitations, the researcher's best approach is to draw inferences from the entirety of the study, rather than individually analyzing the qualitative and quantitative component separately (Bryman, 2014). But analyzing the results collectively and determining correlations between qualitative and quantitative data, MMR research can gather new inferences and potentially add newly emerged findings to the literature.

Specifically, in this study, I took two steps: (a) quantitative research for difference in difference research design [Step 1] and (b) qualitative interview research designs [Step 2]. The next section describes each in depth.

Step 1: Quantitative Analysis: Trade Data Analysis

Multivariate Regressions with Panel Data

Many scholars have analyzed research using multivariate regressions with panel data ranging from topics that include executive compensation in China, analyzing the Tehran Stock Exchange, and assessing the middle- and high-income classes public debt (Chamberlain, 1982; Gao & Cowling, 2019; Heydari et al., 2021; O'Cathain et al., 2010; Sinha et al., 2011). Panel data is described as observations that are repeated over time, gathered from the same individuals or units, at different points of time (Finkel, 1995). The purpose of the multivariate regression models are to establish relationships between more than one dependent variable, or outcomes of interests, and multiple independent variables. There are many benefits to using a multivariate model in social science research because the quasi-experimental data provides new findings between the control groups studied in the field, outside of qualitative research. The 5 outcome variables for

this study included the dimension of GII: maternal mortality rate, secondary education enrollment*, adolescent birth rate, women in parliament seat representation, and labor force participation. The independent variables included textile and apparel exports and imports, military expenditure, healthcare expenditure, vulnerable female employment, and foreign direct investment.

Sensitivity Testing in Multivariate Regressions with Panel Data

With this multivariate regression models, sensitivity tests were important to determine the degree to which the values of the independent variables, textile and apparel export and imports, affect the dependent variables, all 5 GII indicators. Sensitivity tests also were important to analyze the uncertainty in the output within a model, with a goal to increase the understanding of how inputs and outputs interact (Ashley & Parmeter, 2020; Hussain, 2008). This study used correlation and VIF sensitivity tests, along with comparing the models with different reference years and a different reference country to check for any significant changes in the output.

To ensure that this regression has a good model-fit and measure for the impact of the moderating variable, sensitivity tests were required. Research suggests that if all the independent, dependent, and moderator variable can all be measured on a numerical scale, it is common practice to test for the sensitivity of the interaction variable (Allison, 1977). Sensitivity tests also helped determine any potential errors in the model design and help determine the robustness of the model, and locate any multicollinearity within the variables so that the model can be simplified (A Ashley & F Parmeter, 2020).

Limitations Multivariate Regressions with Panel Data

While multivariate regressions using panel data is a formidable research design, there are limitations. One limitation of these models is there can be challenges in interpretation, require large data samples, and have the possibility of high standard errors. An additional limitation for multivariate regressions is that the results do not determine cause and effect between the variables studied. Multivariate regressions also assume that the model is linear and there is heteroskedasticity within the variables (Alexopoulos, 2010). Therefore, the researcher considered the following research question for the quantitative portion of this study.

Quantitative Research Question

> RQ1: Is the implementation of CAFTA-DR associated with gender inequality, as quantified by the Gender Inequality Index indicators maternal mortality rate, adolescent birth rate, secondary education enrollment percentage, parliamentary seat representation, and labor force participation) within the textile and apparel manufacturing industry, as described by textile and clothing import and export growth?

The term ‘clothing’ rather than ‘apparel’ is used in this context because this is how the data from the World Integrated Trade Solutions (WITS) reports the statistic (The World Bank, 2013; WITS, 2022). For additional support of this study, the researcher considered the following hypotheses for each gender inequality indicator.

Hypotheses

Maternal Mortality Rate

H1a: Maternal Mortality Rate in CAFTA-DR countries decreases following CAFTA-DR implementation.

H1b: As textile exports increase in CAFTA-DR countries, Maternal Mortality Rate decreases.

H1c: As textile imports in CAFTA-DR countries increase, Maternal Mortality Rate decreases.

Adolescent Birth Rate

H2a: Adolescent Birth Rate in CAFTA-DR countries decreases following CAFTA-DR implementation.

H2b: As textile exports in CAFTA-DR countries increase, Adolescent Birth Rate decreases.

H2c: As textile imports in CAFTA-DR countries increase, Adolescent Birth Rate decreases.

Secondary Education Enrollment for female pupils

H3a: Secondary Education enrollment for female pupils in CAFTA-DR countries increases following CAFTA-DR implementation.

H3b: As textile exports in CAFTA-DR countries increase, secondary education enrollment for females increases.

H3c: As textile imports in CAFTA-DR countries increase, secondary education enrollment for females increases.

Parliamentary Seat Representation

H3a: Parliamentary Seat Representation for women in CAFTA-DR countries increases following CAFTA-DR implementation.

H3b: As textile exports in CAFTA-DR countries increase, Parliamentary Seat Representation for women increases.

H3c: As textile imports in CAFTA-DR countries increase, Parliamentary Seat Representation for women increases.

Labor Force Participation Rate

H4a: Labor Force Participation Rate for women in CAFTA-DR countries increases following CAFTA-DR implementation.

H4b: As textile exports in CAFTA-DR countries increase, Labor Force Participation Rate for women increases.

H4c: As textile imports in CAFTA-DR countries increase, Labor Force Participation Rate for women increases.

Hypotheses for Main Effects

The main effect hypotheses for this study followed the guidelines from Jaccard and Jacoby (Jaccard & Jacoby, 2019), in their theory construction and model-skills building text. Specifically, this study analyzed the impact of trade volume (TA imports and exports) and the implementation of free trade agreements (CAFTA-DR) on GII (Gender Inequality Index) or social improvement statistics.

Proposition 1

1. Examining the effect of TA export and imports on the Gender Inequality Index/social improvement statistics
2. Examining the effect of CAFTA-DR on the Gender Inequality Index/social improvement statistics

H1: The impacts of TA trade volume and free trade agreements (main effects) on GII or social improvement statistics improve overtime when free trade agreements implemented. Therefore, TA trade volume and countries that have implemented free trade agreements are likely associated with a positive relationship between TA trade volume and GII. This suggests that in countries with free trade agreements, TA trade volume will have higher rates of improvement overtime, and GII will have higher rates of improvement overtime.

H2: The impact of TA trade volume and free trade agreements (main effecst) on GII or social improvement statistics decline in improvement when free trade agreements are not implemented. Therefore, gender inequality (GII) or other social improvement statistics are associated with TA trade volume, when a free trade agreement is not implemented, and these countries are likely associated with a negative relationship for TA trade volume and GII. This suggests that in countries without free trade agreements, TA trade volume will have lower rates of increase overtime, and GII will have lower rates of improvement overtime.

There is presently an abundance of available literature that analyzes the relationship between trade volume, gender inequality/social statistics, and trade agreements (Bahri, 2020; Juhn et al., 2013; Rice, 2010). More specifically, for developing countries, research suggests there is a positive relationship between FTA

implementation and the increase of both trade volume and gender/social improvement statistics (Juhn et al., 2014).

Model Structure

The empirical model serves to directly link the indicators of gender inequality ratios with CAFTA-DR country textile import and export dollar values over time. While there are economic studies that analyze gender inequality as a barrier to overall economic growth, as described by GDP, this study specifically analyzes the association between changes in gender inequality, free trade policy implementation, and changes in textile and clothing import and exports. The following section will explain the calculation for the quantitative model. The dependent, independent, and control variables in the model are also described below and then followed by in-detail explanations of how each variable is calculated, harmonized, aggregated, useful in empirical research. In total, the study will examine, 5 dependent, 2 independent, and 10 control variables.

Data Sources

For this part of the study, the primary data sources include the World Integrated Trade Solution (WITS) and the World Bank. However, each specific indicator retrieves its data, not only from the World Bank, but also from secondary sources that are accessed by the World Bank. For example, the World Bank retrieves their data from the International Labor Organization (ILO) for labor participation ratios. The International Parliamentary Union (IPU) reports data for parliament seat representation ratios. The United Nations Population Division reports data for secondary education ratios. The UNESCO Institute for Statistics for adolescent birth ratios, the World Health

Organization, (WHO), the United Nations Children Fund, and the World Bank Group report data for maternal mortality ratios. This is further explained in detail in the dependent variable and the descriptive statistics sections below. The next section will in detail explain the dependent variables for this study.

Research Instruments

The data for the textile and clothing exports and imports are aggregated and classified using the Harmonized System (1988/1992) and the Standard International Trade Classification (SITC) Revision 2. These results are also communicated in constant dollar values. GII is a measure within the Human Development Index (HDI), as reported by the United Nations for 162 countries as it measures the human development costs of gender inequality (UN, 2021). The data for overall GII is reported irregularly from the United Nations Development Program (UNDP), however, the five individual indicators are all reported annually by the World Bank. The aggregation method for these indicators is communicated as a weighted average. A country's rank in GII is either categorized as being Very High Human Development, High Human Development, Medium Human Development, or Low Development Human Development. GII value ranges from 0-1. Countries with values closer to 1 represent having a higher level of gender inequalities. Maternal mortality and adolescent birth rate are quantified and described in terms of ratios out of either, for example Maternal Mortality Rate is 1 maternal death for every 100,000 live births and adolescent birth rate is 1 teen pregnancy per every 1,000 women ages 15-19 years old. Secondary education by gender (females) is described as a percentage of total pupils enrolled in secondary education. Any percentage over 50% communicates a greater presence of that enrolled gender that year, in that country.

Quantitative Data Analysis

The quantitative data analysis process consisted of data collection from The World Integrated Trade Solutions (WITS) for the trade volume statistics and the World Bank for all gender inequality related statistics. Research data was organized by country and by year of CAFTA-DR implementation into an excel spreadsheet for ease-of-use in the STATA-SE/16 program. The researcher will conduct five multiple regression models to examine the influence of CAFTA-DR on the relationship between TA trade volume and GII dimensions.

Table 3.1 Variables Legend

Dependent Variables	
MaMR	Maternal Mortality Rate
ABR	Adolescent Birth Rate
WIPS	Women in Parliament Seat Percentage
SER	Secondary Education Rate
LFPR	Labor Force Participation Rate
Independent Variables	
TCE	Textile and Clothing exports out of CAFTA-DR countries
TCI	Textile and Clothing imports into CAFTA-DR countries
countryid	Individual Country Indicator
t	Year/time
Control Variables	
HCE	Health Care Expenditure per GDP
FDI	Foreign Direct Investment
MilExpend	Military Expenditure
VulFemEmp	Vulnerable Female Employment

Dependent Variables

Dimension 1: Reproductive Health.

Indicator 1: Maternal mortality ratio.

The maternal mortality ratio (MaMr) is a modeled estimate that is measured by 1 death per 100,000 live births, and the data is available from year 2001 to 2017. This research study elected to use the modeled estimate data because this dataset shows no gap in years and reports the most recent statistics to date. The modeled estimate MMR ratio explains the number of women who dies from pregnancy related causes while pregnant or within 42 days or pregnancy termination. This statistic is estimated using a regression model using available national MMR data socioeconomic information. This study includes women between the ages 15-49 and non-AIDS positive. This modeled estimate data is aggregated by WHO, UNICEF, UNFPA, The World Bank Group, and the United National Population Division. MMR is also an indicator that is a Sustainable Development Goal Indicator for monitoring maternal health worldwide. This statistic is limited the methodology used in previous calculations for these figures has changed overtime, therefore historical results are not comparable. Overall, maternal mortality ratios have an unknown level of reliability, as there are many other factors that contribute to mortality for pregnant women of this age demographic. This statistic is collected annually and is a time-series data set. To collect this data, household surveys including demographic and health surveys, were petitioned to ask respondents about the survivorship of female family members. The primary drawback of this statistics is that the MMR estimates can be years outdated, making the results unsuitable for monitoring rapid recent changes. Also, many errors occur in the measurement of this statistic including death misclassifications and flaws in vital registrations systems.

Indicator 2: Adolescent fertility rate.

The adolescent fertility ration (AFR) has a modeled estimate of 1 birth per 1,000 women ages 15-19 years old. This data is aggregated by weighted average from the United Nations Population Division, World Population Prospects. World Bank data provides statistics for this ratio as early as 1960 and up to 2019. This statistic is also a Sustainable Development Goal Indicator. The main limitation of this statistic is that there is often no empirical information of age-specific fertility rates available, therefore a modeled estimate is provided to estimate that potion of births by adolescents. Systems such as the vital registration systems in countries prove useful, however in countries where this statistic does not exist, fertility rates are usually based on extrapolations from trends observed in census reports from previous years.

Dimension 2: Women's Empowerment.

Indicator 3: Secondary Education Pupils, (% of female).

The data by country for secondary education pupils (% of female) is modeled by female pupils as a percentage of total pupils at secondary level, including enrollment in both public and private schools. These data are collected annually. The original data is provided by UNESCO Institute for Statistics and is current up to February 2020. The data is aggregated through a weighted average and is classified based on the World Bank Group's fiscal year 2021. There are limitations is this data which including the limitations in assessing gender parity. The ratio of females to males in secondary education enrollment rates provides a population adjusted measurement of gender parity. These data are calculated by dividing the total number of female students at the same level of education by the total enrolment at the same level and multiplying this figure by 100. All

data were mapped to the International Standard Classification or Education (ISCED) to ensure the comparability of education programs at the international level.

Indicator 4: Proportion of Seats Held by Women in National Parliaments.

The proportion of seats held by women in national parliaments, or simply parliament seat representation (PSR) is modeled in percentage estimates. This reflects women in parliaments as the percentage of parliamentary seats in a single or lower chair that is held by women. The calculation is derived by dividing the total number of seats occupied by women by the total number of seats available in parliament in this country. These seats may be filled by election, nomination, appointment, indirect election, or rotation of members. These statistics are available from World Bank data and aggregated using a weighted average by the Inter-Parliamentary Union (IPU, 2020). The years that this data set is available are from August 1998 to October 2020. This data is also collected annually. This statistic is limited because the number of countries analyzes varies with the suspensions and or dissolutions of parliaments. According to the World Bank, information can be difficult to obtain on an election-by-election basis. This statistic does not account for the cases in which no parliament data is available.

Dimension 3: Labor Market.

Indicator 5: Labor Force Participation Rate.

The labor force participation rate (LFPR) by gender is reported in percentages and is a modeled International Labor Organization (ILO) estimate, measuring the percentage of males and females within the population over the age of 15 years old and under the age of 64 within the workforce. This age group is considered economically active, which is

described as all people (women) who supply labor to produce goods and services for a time. This data is provided by the World Bank and aggregated by weighted average and harmonized from the ILO Statistics database. Data for LFPR from World Bank is available as early as 1990 and through 2019. These ILO statistics were compiled from labor force surveys, being the most comprehensive source for internationally comparable labor force rates, and census reports, which are often limited based on the questions that narrowly focus on the economic characteristics of individuals. Therefore, calculations may return either over or under calculated.

Independent Variables

Textile and Clothing Imports.

The term textile and clothing (TC) is used here rather than textile and apparel (TA) because that is how the World Integrated Trade Solutions (WITS) defines their statistics. TC imports in this study are calculated by the share of total merchandise imports accounted for by the product in a given year. The WITS retrieves this statistic from the United Nations Statistic Database (UNSD) Comtrade. The classification for this statistic is harmonized using the Harmonized System, 1988/1992, using the Standard International Trade Classification (SITC) Revision 2. The valuation of imports includes cost, insurance, and freight.

Textile and Clothing Exports.

TC exports is calculated as the share of total merchandise exports accounted for by TC products in a given year. The WITS retrieves this statistic from the United Nations Statistic Database (UNSD) Comtrade. The classification for this statistic is harmonized

using the Harmonized System, 1988/1992, using the Standard International Trade Classification (SITC) Revision 2. The valuation of export includes freight on board (FOB).

Control Variables

All control variables are also gathered from available World Bank data and their supplementary sources. The control variables are described below. These control variables were chosen to enhance the overall validity of the study. The control variables are health care expenditure, vulnerable female employment, military expenditure, and foreign direct investment. The control variables, as provided by The World Bank (2021), are described in detail below.

Health Expenditure (as a percentage of GDP).

Health care expenditure (HCE) was chosen as a control variable for this study because women on average have different and often more costly healthcare needs than men, and this statistic could shed light on how the country values healthcare, and its potential gender disparities. HCE is expressed as a percentage of Gross Domestic Product (GDP) for 2019, and it includes all healthcare goods and services consumed by the country within the year. These data do not include capital health expenditures such as stocks of vaccines for emergencies or outbreaks. The data derives from the World Health Organization Global Health Expenditure database and is aggregated as a weighted average annually. The framework System of Health Accounts (2011) prepares this statistic and tracks all health spending over defined periods of time to generate

comprehensive data which can contribute to evidence based policymaking. These data are collected annually.

Military Expenditure (% of GDP).

Military expenditure was decided as an important factor of study as many of the Central American countries have a history of high political turmoil, internal conflicts that require military action, and varying relationships with the U.S. and other countries that can affect peace within the region. Military expenditure and as a percentage of GDP as defined by The World Bank with data provided from the Stockholm International Peace Research Institute (SIPRI) and the North Atlantic Treaty Organization (NATO). The SIPRI data includes two types of estimates which apply to all countries: a) figures from most recent years for adopted budgets and revised budget estimates, and b) the deflator used for the latest year in the series. Data were also collected from defense white papers, government responses to questionnaires sent by SPIPRI an, UNODA, or the Organization for Security and Co-operation in Europe. These data include all current and capital expenditures on the armed forces, including peacekeeping forces, defense ministries, and paramilitary forces. These expenditures also include military and civil personnel, including retirement pensions of military personnel and social services, as well as any military aid in expenditures from the donor country. The ratio of military expenditure is calculated in domestic currency at current prices and for calendar years. These data are rough indicators of the portion of natural resources used for military activities and of their burden on the economy. There are limitations in the data for some countries are based on partial or uncertain data or rough estimates. Oftentimes, countries may be reluctant to divulge military related information. Factors such as perceptions of country vulnerability

and risk, historical and cultural traditions, the length of the borders that need defending, the quality of the relations with neighboring countries, and role of armed forces are considered when comparing military expenditure by country.

Vulnerable Female Employment (% of female employment, modeled estimate).

Vulnerable female employment was selected as a control variable for this study as many of the women working in CAFTA-DR countries have been restricted to vulnerable employment options due to limited opportunities to achieve higher education which can led to formal work and the state of the economy within their respective country. Vulnerable employment, as defined by the World Bank, describes individuals who are a) self-employed without any hired employees and b) contributing family workers, generally unpaid or indirectly compensated. These two groups are considered the most economically vulnerable and the most likely to experience poverty. The vulnerably employed are least likely to have formal work arrangements, social protection, safeguards against economic shocks, and insufficient savings. These factors could indicate weak development, little job growth, and large rural economies. These data are derived from the International Labor Organization, ILOSTAT database with the latest data retrieved on January 29, 2021. These data were harmonized to ensure comparability across countries overtime by accounting for differences in data sources, scope of coverage, methodology, and other country specific factors. The sources include labor force surveys and household surveys, which were then supplemented by official estimates and census reports.

Foreign Direct Investment (net inflows, % of GDP, 2019).

Foreign direct investment (FDI) was selected as a control variable for this study because foreign direct investment is a statistic that influences social and economic changes in countries. If GDP and GII are correlated, the researcher is interested in learning if FDI and GII are correlated as well. FDI is calculated as the net inflows of investment to acquire lasting management interest (10% or more of a voting stock) in an enterprise operating economy. Its sum includes equity capital, reinvestment earnings, long-term capital, and short-term capital. The source of this data is the International Monetary Fund (IMF), International Financial Statistics, and the Balance of Payments (BoP) databases which include the World Bank, International Debt Statistics, and OECD GDP estimates. The results are reported annually, and the data is based on the sixth edition of the IMF's BoP manual and is only available from 2005 and onward. FDI is also an important factor of study as it aims to establish lasting interest in a country or investment enterprise, often including warehouses and manufacturing facilities.

Final Research Model

The final five research models include one model for each DV. Each models has two independent variables and 4 control variables. The following five models serve as the main research models for the research question 1.

RQ1: Is the implementation of CAFTA-DR associated with gender inequality, as quantified by the Gender Inequality Index indicators maternal mortality rate, adolescent birth rate, secondary education rate, parliamentary seat representation, and labor force participation) within the textile and apparel manufacturing industry?

Below are the models used in this research. There are five models total, representing the 5 GII dimensions as the outcome variables. The models are identical with the exception of the secondary education enrollment model. This model excludes the year 2003, as all countries were missing data for this statistic within that year. This model also excludes Nicaragua, as this country consistently showed missing data throughout the years compared to the other countries.

Maternal Mortality Rate: $MaMR = \beta 0 + \beta 1 TAExports + \beta 2 TAImports + ibES.country + ib2006.year + VulnerableEmp + Military\ Exp + ForeignDirectInvestment + HealthExp + e(sample)\ variable + e.$

Adolescent Birth Rate: $ABR = \beta 0 + \beta 1 TAExports + \beta 2 TAImports + ibES.countryib2006.year + VulnerableEmp + Military\ Exp + ForeignDirectInvestment + HealthExp + e(sample)\ variable + e.$

Secondary Education Enrolment: $SEE = \beta 0 + \beta 1 TAExports + \beta 2 TAImports + ibES.country + ib2006.year + VulnerableEmp + Military\ Exp + ForeignDirectInvestment + HealthExp + if!\ year = 2003 + if country = 6 + e(sample)\ variable + e.$

Women in National Parliament Seats Percentage: $WIPS = \beta 0 + \beta 1 TAExports + \beta 2 TAImports + ibES.country + ib2006.year + VulnerableEmp + Military\ Exp + ForeignDirectInvestment + HealthExp + e(sample)\ variable + e.$

Labor Force Participation Rate by Women: $LFPR = \beta 0 + \beta 1 TAExports + \beta 2 TAImports + ibES.country + ib2006.year + VulnerableEmp + Military\ Exp + ForeignDirectInvestment + HealthExp + e(sample)\ variable + e.$

Now that Step 1: quantitative research methods have been explained, the following section will explain Step 2: qualitative research methods. This includes an explanation of the in-depth interview process, the sample framework, participant demographics, interview questions, and data analysis.

Step 2: Qualitative Research: In-depth Interviews

The following section provides and overview of the qualitative portion of this mixed-methods study. The research question formulated for the qualitative portion is…

RQ2: How do textile and apparel manufacturing industry professionals and academics perceive the changes in Gender Inequality overtime due to CAFTA-DR's implementation?

By answering this qualitative question, researchers discovered new findings that either compare or contrast to the statistic results from the quantitative data analysis. This qualitative question provided narratives to support or reject the lived-experience validity as determined by the statistics.

To answer this question qualitatively, semi-structured in-depth interviews were utilized to gather data. The predominant theory to support this section is the Gary Becker Theory of Economic Discrimination (Becker, 2010), as gender inequality is a component

of economic discrimination. Therefore, the 5 GII indicators, maternal mortality rate, adolescent birth rate, secondary education enrollment of female pupils, women's parliamentary seat representation rate, and labor force participation rate of women guided the formulation of the interview questions.

In-depth Interviews

The primary method of data collection for the qualitative portion of this study was in-depths. In-depth interviews were important to this study because the researcher asked intensive questions to a small number of individual participants to explore their perspective on how gender inequality is influencing their lives while working in the Central American TA industry (Guion et al., 2011). The qualitative approach to the in-depth interview was phenomenological. Phenomenology is credited to scholar Edmund Husserl (Husserl, 2013). Husserl's goal for phenomenology was to explore a "rigorous and unbiased study of things as they appear in order to arrive at an essential understanding of human experience and consciousness" (Dowling, 2007). The purpose of the in-depth interviews was to explore and better understand the essential truths or essence of an individual's lived experience without interjection and external framing. The phenomenological approach believes that "knowledge and understanding are embedded in our everyday world". Furthermore, as the researcher approached the in-depth interviews through a phenomenological lens expose that there are a wide range of possible lived experiences in the world, how these experiences can be described, and that language is intentional in communicating these experiences to enhance understanding. To support this interview style, open-ended research questions are provided below. Additionally, the interviews were separated into three categories, a) experiences prior to

the global pandemic, b) experiences during the year of the global pandemic during quarantine, and c) experiences post-quarantine, while working in a pandemic society.

Limitations of In-Depth Interviews

While in-depth interviews are useful, there are limitations. In-depth interviews are known to be time consuming to conduct, transcribe, translate, if necessary, organize, analyze, and reports. These interviews require a high level of skill and experience in formulating the questions appropriately and asking the questions in a way to get the most well-rounded responses from the participants. The method of this data collection could result in different responses, i.e. over the phone vs. in person data collection results can vary based on participant and interviewer comfortability. Additionally, it is important that the interviewer is careful to remove as much bias as possible from the questioning process to not interfere with the participants natural responses to questions.

Study Participants

For this study, the method of purposive sampling was employed. Purposive sampling allowed the researcher to select from participants that meet a selected criteria relevant to the RQ2. Therefore, the sample chosen for this study reflect women who are working in and/or an academic that studies the Salvadoran TA manufacturing industry. A selected portion of the participants who have worked in the Salvadoran TA manufacturing industry prior to the year of 2006 were asked additional interview questions to better understand their perspective on how the TA industry has changed for women over time since the implementation of CAFTA-DR. The job levels of these participants ranged from operators, business owners, professors, government officials, or

any other people with the experiences in the nation and the industry before and after CAFTA-DR. The personal lives of the women participants are diverse; however, they are qualified for this study by being an active participant in growing El Salvador's TA industry.

After approval from the Institutional Review Board (IRB), I recruited 13 women between the ages of 18 – 60 who have worked in El Salvador's TA industry within the same framework discussed above, whether in a manufacturing plant, business ownership, or academy between the years of 1991 to 2021. These years were chosen because they reflect 15 years pre-CAFTA-DR implementation in El Salvador and 15 years post-CAFTA-DR implementation in El Salvador for a balanced study. This time frame allowed for women to have memories of working in El Salvador's TA industry prior to CAFTA-DR and may have insight as to have GII indicators have changed over time. The women recruited for this study worked in small, medium, and large sized businesses as well as universities in El Salvador to gain a holistic perspective.

The participant showed that the women were between the ages of 21 and 56 years old and have worked in the TA factories for as little as one year or up to 30 years. These women were either currently pregnant in the factory or had up to 3 children. The lowest level of education obtained was through the 2nd grade and the highest level was a master's degree in engineering. The women served in technical roles such as fabric cutter and machine operator, but also in supervisory roles and as entrepreneurs in their own businesses. The 3.1 table below provides a visual representation of the demographic characteristics provided above.

Table 3.2 Participants Demographic Characteristics

Demographic Characteristics of Participants (N=15)

Participant[1]		Age	Years in TA	Position	Children	Edu
Worked in TA Industry Prior to CAFTA-DR						
1	Paula	40	18 Years	Engineer/ University Professor	0	Masters (received this year)
2	Clara	40		Engineer/ University Professor	1	Bachelors
3	Marcia	56	30 years	Fabric Cutter	2+	Elementary
4	Rita	48	23 years	Whole Garment Assembler	3	4th Grade
5	Bianca	45	23 years	Whole Garment Assembler	2	Elementary
6	Liliana	40	15 years	Production Supervisor, Quality Supervisor, Now works in a new industry	2	Bachelors
7	Celena	55	27 years	Quality and Packing	2+	2nd grade
8	Marisa	55	34 years	Executive Director and Accountant	2+	High School
9	Victoria	44	1 year	Operator	1	9th Grade
10	Noemi	36	15 years	Assembly	2	High School
Worked in TA Industry Post CAFTA-DR						
11	Elisabeth	22	4 years	Fabric Cutter	Pregnant Baby #1	High School
12	Yesenia	34	12 years	Administrative Assistant (Reviews Exports)	0	Bachelors
13	Arecely (Celena's Daughter)	21	3 years	Crafts and Delivery	0	High School

14	Lucia	45	11	Designer and Business Owner	2+	Bachelors
15	Erika	32	11	Director of Marketing	0	Bachelors

Data Collection

Prior to the collection of this data, approval was received from Institutional Review Board (IRB) because this study worked with human participants. All participants were asked to provide verbal and signature informed consent prior to being included in this study. The interviews were conducted in Spanish, transcribed in Spanish, and then translated to English. When collecting the data I used two forms of recording, cell phone and tape recorder, to capture the data. I have a professional proficiency in Spanish language and can communicate and interpret effectively with interview participants.

Table 3.3 shows the interview protocols in English, and Table 3.4 shows them in Spanish. These questions were also checked by first-language Spanish speaker and engineer at Universidad Católica de El Salvador, Patricia Quintana for language and grammatical accuracy.

Table 3.3. Interview Questions in English

RQ2: How do textile and apparel manufacturing industry professionals and academics perceive the changes in Gender Inequality overtime due to CAFTA-DR's implementation?	
	GI/D in El Salvador: Describe traditional gender roles and expectations in ES and how they have changed over time since working in the TA industry, since the implementation of CAFTA-DR in 2006. Describe what gender roles were like for you growing up in ES. Describe what gender roles are like in

	current day ES. Describe how you feel about the differences in TA careers and life opportunities from men and women in ES. Describe how differences in available opportunities have impacted your life as a woman. Describe what your experiences were as a woman working in the ES TA industry prior to the 2020 Covid-19 pandemic. Describe what your experiences were as a woman working in the ES TA industry during the year of 2020 Covid-19 pandemic. How was your life impacted? Describe what your experiences are now as a woman working in the ES TA industry since the pandemic has now become a daily part of your working life and everyday life? Describe how being a woman impacted your time in quarantine at the onset of the global pandemic.
Gendered Perspectives	Describe what it means to you to be a woman living ES? What does it mean to be a woman professional working in the TA industry in ES? What are some good things of being a woman living in ES? Describe any challenges that women TA professionals face?
Maternal Mortality Rate (MMR)	**MaMR in El Salvador:** Describe the role of the mother in ES families and how this role has changed overtime, since 2006 to now. Describe how the passing of a mother impacts both life and work of a woman working in ES TA industry. Describe how families function with mothers absent in ES. Describe how ES families process the passing of a mother. Describe the change in responsibility for children in the even that a mother passes in ES. How does this change impact a woman's work schedule and opportunities within the TA industry? Describe what your everyday experiences were like as mother a prior to the 2020 Covid-19 pandemic.

	Describe what your experiences were as mother during the year of 2020 Covid-19 pandemic. How was your life impacted? Describe what your experiences are now as a mother since the pandemic has now become a daily part of your working life and everyday life? Describe how motherhood impacted your time in quarantine at the onset of the global pandemic.
Adolescent Birth Rate (ABR)	**ABR in El Salvador:** Describe the life of a teen mom in ES. Describe the life of a teen mom working in ES TA industry both before and after CAFTA-DR in 2006. Describe the life of a child of a teen mom in ES. Describe how teen moms provide for themselves in ES. Describe the emotions from family when a teen becomes pregnant in ES. Describe the social expectations and feelings when a teen becomes pregnant in ES.
Women in Parliament Seats Percentage (WIPS)	**WIPS in El Salvador:** Describe how you feel when you see more women running for political office in ES. Describe the changes you've seen in ES since more women have become involved in political office from 2006 to now, since CAFTA-DR. Describe how the specific programs that women in political office in ES promote. Describe how those programs have changed over time since 2006, what have you noticed? Describe what you think the future of ES will look like with more women in political office. Describe what you think the future of ES's TA industry will look like with more women in political office.

Secondary Education Rates (SER)	**SER in El Salvador:** Describe how having access to higher education has impacted your life as woman? Describe how access to education is different for men and women in El Salvador. Describe the life of a woman who has graduated high school in ES. Describe the life of a woman who has graduate college in ES. Describe what you think the future of ES will look like with women and girls having more access to higher education. Describe what your access to and dreams for education was like prior to the 2020 Covid-19 pandemic. Describe what your access to education was like the year of 2020 Covid-19 pandemic. How was your life impacted? Describe what your access to and dreams for education was like since the pandemic has now become a daily part of your working life and everyday life? Describe how your level of education impacted your time in quarantine at the onset of the global pandemic.
Labor Force Participation Rate (LFPR)	**LFPR in El Salvador:** Describe how your job search experience was as a woman seeking a job/career in textiles and apparel and how these experiences have changed over time since working in the TA industry. Describe how soon women and girls begin to work outside of the home in ES. How does going to work as a woman in ES impact your life? Describe your life as a woman working in the ES TA industry. Describe your dream career. Describe your feelings about your dream career. Describe everyday working life was like prior to the 2020 Covid-19 pandemic. Describe what your everyday working life was like the year of 2020 Covid-19 pandemic. How was your life impacted? Describe what your everyday working life is like since the pandemic has now become a daily part of your working life

	and everyday life? Describe how working in a TA factory impacted your time in quarantine at the onset of the global pandemic.

The following Table 3.2 represented the same questions above, translated Spanish. The researcher is a non-native Spanish speaker and requested assistance from university professor and engineer Patricia Quintana, based out of the Universidad Católica de El Salvador.

Tabla 3.4: Preguntas de Investigación en español

Conceptos Centrales de la teoría frontera y las preguntas de investigación: Gary Becker	**Preguntas para abordar cada concepto:**
RQ2: ¿Cómo perciben los profesionales y académicos de la industria textil y de la confección los cambios en la desigualdad de género con el tiempo debido a la implementación del CAFTA-DR?	
Desigualdad/Discriminación de Genero (GI/D)	**GI/D en El Salvador:** Describir los roles y expectativas de género tradicionales en ES. Describe cómo fueron los roles de género para ti cuando creciste en ES. Describe cómo son los roles de género en la ES actual. Describe cómo te sientes acerca de las

Perspectivas de genero **Índice de Mortalidad Materna (MMR)** **Tasa de Natalidad Adolescente (ABR)**	diferencias en oportunidades de hombres y mujeres en ES. Describe cómo las diferencias en las oportunidades disponibles han impactado tu vida como mujer. Describa cuáles fueron sus experiencias como mujer que trabajaba en la industria de ESTA antes de la pandemia Covid-19 de 2020. Describa cuáles fueron sus experiencias como mujer que trabajaba en la industria de ESTA durante la pandemia de Covid-19 del año 2020. ¿Cómo fue impactada tu vida? Describa cuáles son sus experiencias ahora como mujer que trabaja en la industria de ESTA desde que la pandemia se ha convertido en una parte diaria de su vida laboral y cotidiana. **Genero en general:** ¿Qué piensas sobre las cuestiones de género en ES? ¿Qué significa ser mujer en ES? ¿Una mujer profesional en ES? ¿Cuáles son algunas de las cosas buenas de ser mujer? ¿Cuáles son algunos de los desafíos que aún enfrentan las mujeres profesionales? ¿Qué opinas de todas estas preguntas en términos de industrias de texto y confección? Describe cómo eran tus experiencias diarias como madre antes de la pandemia de Covid-19 de 2020. Describe cuáles fueron tus experiencias como madre durante la pandemia de Covid-19 del año 2020. ¿Cómo fue impactada tu vida? Describa cuáles son sus experiencias ahora como madre desde que la pandemia se ha convertido en una parte diaria de su vida laboral y cotidiana. **MMR en El Salvador:** Describe el papel de la madre en las familias de ES. Describa cómo funcionan las familias con madres ausentes en ES. Describe cómo las familias de ES procesan el

Representación de Escaños en el Parlamento (PSR) **Tasas de Educación Secundaria (SER)** **Tasa de Participación en la Fuerza Laboral (LFPR)**	fallecimiento de una madre. Describa quién se hace responsable de los hijos en el caso de que una madre fallezca en ES. **ABR in El Salvador:** Describe la vida de una madre adolescente en ES. Describe la vida de un hijo de una madre adolescente en ES. Describe cómo las madres adolescentes se mantienen a sí mismas en ES. Describe las emociones de la familia cuando una adolescente queda embarazada en ES. Describe las expectativas y sentimientos sociales cuando una adolescente queda embarazada en ES. **WIPS in El Salvador:** Describe la vida de una madre adolescente en ES. Describe la vida de un hijo de una madre adolescente en ES. Describe cómo las madres adolescentes se mantienen a sí mismas en ES. Describe las emociones de la familia cuando un adolescente se convierte. Describe cómo te sientes cuando ves a más mujeres postularse para cargos políticos en ES. Describe los cambios que has visto en ES desde que más mujeres se han involucrado en cargos políticos. Describa cómo promueven los programas específicos que promueven las mujeres en cargos políticos en ES. Describe cómo crees que será el futuro de los EE con más mujeres en cargos políticos. **SER in El Salvador:** Describe cómo el tener acceso a la educación superior ha impactado tu vida como mujer. Describa cómo el acceso a la educación es diferente para hombres y mujeres en El Salvador. Describe la vida de una mujer que se graduó de secundaria en ES. Describe la vida de una mujer que se graduó de la universidad en ES.

	Describe cómo crees que será el futuro de los ES con mujeres y niñas teniendo más acceso a la educación superior. Describa cómo era su acceso y sus sueños a la educación antes de la pandemia Covid-19 de 2020. Describa cómo fue su acceso a la educación en el año de la pandemia Covid-19 del año 2020. ¿Cómo fue impactada tu vida? Describa cómo era su acceso y sus sueños a la educación desde que la pandemia se ha convertido en una parte diaria de su vida laboral y cotidiana. **LFPR in El Salvador:** Describe cómo fue tu experiencia en la búsqueda de empleo como mujer que busca un trabajo o una carrera en el sector textil y de la confección. Describa qué tan pronto las mujeres y las niñas comienzan a trabajar fuera del hogar en ES. ¿Cómo impacta tu vida trabajar como mujer en ES? Describe tu vida como mujer que trabaja en la industria de ESTA. Describe la carrera de tus sueños. Describe tus sentimientos sobre la carrera de tus sueños. Describa la vida laboral diaria como antes de la pandemia Covid-19 de 2020. Describa cómo era su vida laboral diaria en el año de la pandemia de Covid-19 de 2020. ¿Cómo fue impactada tu vida? Describa cómo es su vida laboral diaria desde que la pandemia se ha convertido en una parte diaria de su vida laboral y cotidiana.

Qualitative Data Analysis

After the qualitative data collection was completed, the audio recordings from the in-person interviews were downloaded and secured in a password protected file, in a folder, on the researcher's personal laptop. The interview data will be transcribed, hand-

coded, and clustered to group similar newly emerged themes, after being transferred from a Word and Excel documents. In compliance with The University of Missouri's IRB regulations, the identities of all interview participants were replaced with pseudonyms.

Pulling Methods All Together

After the data was collected, the researcher looked all data and the results holistically. The strategies for putting all together would be to triangulate and reflect on how both the quantitative and the qualitative results can be analyzed cohesively.

Data Triangulation of Mixed Methods

The process of data triangulation as a validation strategy in this research was showcased both the quantitative and the qualitative methods: 1) difference-in-difference, multiple regression, and interaction models and 2) in-depth interviews. The goal of using these multiple methods resulted in different types of data to provide cross-data validity checks (Patton, 2017). Each method added a more balanced layer of understanding to tell a complete narrative and connect major themes from different mediums. Triangulation in mixed methods research was important to not only look at the differences or agreements within the qualitative or quantitative data, but rather an integration of the two results to determine a singular finding (Mertens & Hesse-Biber, 2012).

Categorizing Results in Relation to the Covid-19 Pandemic

This dissertation research was conducted in a time where many factors of the global apparel supply chain have changed since the onset of the global Covid-19 pandemic in January 2020. Many factories were required to shut down until new protocols were designed to ensure safety of employees and the sanitization of products

(Amit, 2020). The receipt of materials were halted due to immediate mandates on trade restrictions due to global health concerns (Gjoni, 2020; Kalogiannidis, 2020; Panigrahi et al., 2020). Additionally, many TA industry employees, predominantly women, did not have access to work for extended periods of time (Ajayi et al., 2020). To best analyze the influences of the pandemic on women working the Salvadoran TA industry, the triangulation process of this study will include the categorize the quantitative and qualitative data by a) years before 2020, prior to the Covid-19 pandemic, and qualitatively, the researcher will also categorize interview data into b) during the first year of the pandemic and c) 2021 and later during the pandemic. These categories for the qualitative data encouraged participants to share their living and working experiences as a woman in the TA industry during the initial year of the Covid-19 pandemic and the year following.

Researcher's Reflexivity

Reflexivity was employed as important strategy throughout the process of completing the interviews with research participants. Reflexive research challenges the researcher to take constant stock of their actions, words, and role during the entire research process and to intentionally scrutinize their behavior just as critically as the research data is being criticized (Mason, 2017). As an ethical standard, it is important for the researcher to "be aware of all of the potential influences and is able to step back and take a critical look at his or her own role in the research process… [to improve] the quality and validity of the research [by] recognizing the limitations of the knowledge produced…" (Guillemin & Gillam, 2004).

Therefore, I, the researcher, recognized my biases, past experiences, and limitations of knowledge and perspective while I conducted the interviews and intentionally position myself as the lesser informed and the participant as the subject matter expert to collect the data with as minimal interference as possible.

CHAPTER IV. RESULTS AND ANALYSIS

Chapter IV includes (a) descriptive and demographic statistics of the quantitative and qualitative study sample, (b) multiple regression analysis and results from the trade and gender inequality quantitative data, (c) qualitative results analysis, and (d) triangulation of mixed quantitative and qualitative results analysis.

Results of Step 1: Quantitative Analysis

Descriptive Statistics of Gender Inequality Index Indicators

GII Dimension 1: Reproductive Health.

Indicator 1: Maternal Mortality Rate.

The modeled estimate data for MMR in El Salvador from the World Bank and is reported from years 2000 to 2017. The trend is a consistent declining, with the exception a small increase between 2000 and 2001, indicating that fewer mothers are dying from pregnancy related causes. Specifically, the statistics show a decline from 75 maternal deaths in 2001 to 46 maternal deaths in 2017 in El Salvador. This research study elected to use the modeled estimate statistics from MMR in El Salvador because there are no missing data reported. However, the World Bank does also report MMR from a national estimate. The national estimate report also shows an overall downward sloping trend however there are significant increases from year to year. The overall results still indicate a decline in maternal deaths caused by pregnancy over time.

The modeled estimate data for MMR in Honduras reports a similar trend as El Salvador with a consistent downward trend from years 2000-2017. There is a steady decline in pregnancy related deaths in Honduras, starting at 85 deaths per 100,000 live births in 2000, this statistic declined to 76 deaths per 100,000 live births in 2006, the year

of CAFTA-DR implementation, and by 2017 this statistic has decreased to 65 deaths per 100,000 live births. This down trend indicates that Honduras has improved health conditions for pregnant women to prevent maternal mortality.

The modeled estimate data for MMR in Nicaragua also reports a downward sloping trend overtime from years 2000 to 2017, however conditions for pregnant women in Nicaragua statistically showed higher deaths than El Salvador and Honduras. In 2000, Nicaragua reported 162 maternal deaths per 100,000 women, in 2006 this statistic decreased to 124 maternal deaths per 100,000 live births, and by 2017 there were 98 maternal deaths per 100,000 live births. This indicates, that similar to the previous countries, that Nicaragua has improved healthcare for expectant mothers' overtime since the year 2000.

The modeled estimate data for MMR in Guatemala reports results similarly to that of Nicaragua, also showing a downward sloping trend in maternal mortality rates from 2000 to 2017. There are 161 maternal deaths per 100,000 live births in 2000, this statistic decreased to 137 maternal deaths per 100,000 live births in 2006, and by 2017 Guatemala reported 95 maternal deaths per 100,000 live births. This trend indicates that healthcare for expectant mothers has improved overtime in Guatemala since the year 2000.

The modeled estimate for MMR in the Dominican Republic reports contradictory statistics when compared to its neighboring countries. From the years 2000 to 2017, the Dominican Republic shows an upward sloping trend of increased maternal mortality. In the year 2000, the DR reflected 80 maternal deaths per 100,000 live births, by 2006 this statistic increased to 86 maternal deaths per 100,000 live births, and in the year 2017, the DR reported 95 maternal deaths per 100,000 live births. This indicates that the DR is the

only Central American country that has not improved access to maternal healthcare to prevent rises in maternal mortality overtime since the year 2000.

The modeled estimate for MMR in Costa Rica mirrors the prior countries that show an overall downward sloping trend in maternal mortality rates between the years 2000 and 2017. In the year 2000, there were 40 reported maternal deaths per 100,00 live births, by 2006 there were 35 maternal deaths per 100,000 live births, and in 2017 the World Bank reported 27 maternal deaths per 100,000 live births.

Indicator 2: Adolescent Birth Rate.

Adolescent fertility rates in El Salvador have consistently declined over time according to the World Bank Data. By the end of the civil war in 1992, 101 per 1,000 adolescent females were reported as pregnant. By the initiation of CAFTA-DR in 2006, 84 per 1,000 adolescent females reported as pregnant and as of 2019, 68 per 1,000 adolescent females were reported as pregnant in El Salvador. This indicates that overtime, teen pregnancy in El Salvador has declined over the past 50 years, including the time of CAFTA-DR implementation from 2006 and onward.

The modeled estimate data for ABR in Honduras reports a similar trend as El Salvador with a consistent downward trend from years 1960 to 2019. There is a steady decline in adolescent birth rate in Honduras, starting at 116 deaths per 100,000 live births in 2000, this statistic declined to 98 deaths per 100,000 live births in 2006, the year of CAFTA-DR implementation, and by 2019 this statistic has decreased to 71 deaths per 100,000 live births. This down trend indicates that Honduras has improved conditions to reduce their amount of teen

The data for ABR in Nicaragua also reports a downward sloping trend overtime from years 1960 to 2019. In 1960, Nicaragua reported 178 adolescent births per 100,000 women, 2000, the figure decreased to 118 adolescent births per 100,000 live births, in 2006 this statistic decreased to 104 adolescent births per 100,000 live births, and by 2019 there were 82 adolescent births per 100,000 live births. This indicates, that similar to the previous countries, that Nicaragua has improved conditions to reduce the amount of teen pregnancy overtime.

The data for ABR in Guatemala also reports a downward sloping trend overtime from years 1960 to 2019. In 1960, Guatemala reported 158 adolescent births per 100,000 women, in 2000, adolescent births per 100,000 live births decreased to 112, 2006 this statistic decreased to 93 adolescent births per 100,000 live births, and by 2019 there were 69 adolescent births per 100,000 live births. This indicates, that similar to the previous countries, that Guatemala has improved conditions to reduce the amount of teen pregnancy overtime.

The data for ABR in the Dominican Republic, while overall is showing a downward trend between the years of 1960 and 2019. The Dominican Republic reported 167 adolescent births per 100,000 women, in 2000, adolescent births per 100,000 live births decreased to 108, 2006 this statistic decreased to 105 adolescent births per 100,000 live births, and by 2019 there were 92 adolescent births per 100,000 live births. This indicates, that similar to the previous countries, that the Dominican Republic has improved conditions to reduce the amount of teen pregnancy overtime.

The data for ABR in the Costa Rica, while overall is showing a downward trend between the years of 2000 and 2019. In 2000, Costa Rica reported 123 adolescent births

per 100,000 women and in 2006 this statistic decreased to 65 adolescent births per 100,000 live births, and by 2019 there were 52 adolescent births per 100,000 live births. This indicates, that similarly to the previous countries, that the Dominican Republic has improved conditions to reduce the amount of teen pregnancy overtime.

Overall teen pregnancies have reduced overtime in CADTA-DR countries and various economic factors have been put in place to maintain this improvement in gender inequality. The next GII dimension that will be analyzed is women's empowerment, which includes secondary education (percentage of female pupils enrolled) and the percentage of females within the labor force.

GII Dimension 2: Women's Empowerment.

Indicator 3: Secondary Education (% of female pupils).

While there is reporting for the actual GII dimension, secondary education attainment, there is much missing data and inconsistencies. This study elected to examine secondary education enrollment of female pupils as an alternative option as more data is available with fewer missing years. The secondary education as described by percentage of female pupils as compared to males in El Salvador shows complete data from 1998 to 2018. There is sparse data available starting as early as 1970. In 1973, the lowest enrollment rate for females in secondary education was 44.12%. Starting in the year 2000, young women reflected 49.18% of the pupils enrolled in secondary education. By 2006, this percentage increased to 50.32%, however shortly after there was a small decline back to 49.32% in 2011. By 2018, 49.36 of students enrolled in secondary education in El Salvador were females. This suggests that the percentage of young women enrolled in secondary education is relatively stable overtime and increasing at a

slow pace. This suggests that the overall access to secondary education for young men and women is about equal, in El Salvador according to these statistics.

The data for females enrolled in secondary education for Honduras is most consistent starting from year 2006 to 2017 with the year 2009 missing in the available data. reports a similar trend as El Salvador with a consistent downward trend from years 2000-2017. These data are contradictory to the data in El Salvador as Honduras shows a consistent downward trend on females enrolled in secondary education overtime. For example, in 2006, 54.73% female students were enrolled in secondary education compared to males, whereas, by 2017, this number decreased to 52.46%. While the percentage of females enrolled is higher in Honduras than in El Salvador, Honduras is decreasing overtime while El Salvador is increasing. This suggests that Honduras may have experienced economic or cultural factors that required for young women to be outside of secondary education and potentially in the workforce throughout the years.

The data for Nicaragua is incomplete, with multiple gaps and no further data past 2008 and therefore was removed from the observations in this study. The researchers decided to continue with this variable as all other alternatives provided heavily inconclusive data for multiple countries. Therefore, the statistic secondary education by percentage of female pupils compared to males remained the best option.

The data for secondary education by percentage of female pupils enrolled compared to men for Guatemala is complete from years 2000 to 2017, with the exception of year 2003. These data show a relatively flat trend overtime. In 2000, there were 46.86% of young women enrolled in secondary education compared to men, by 2006 this percentage increased to 47.81%, with the highest recorded year in 2008 with 48.25%. By

2017, these data were 47.79%, which is just slightly lower than 2006. These results suggest, similarly to El Salvador, he overall access to secondary education for young men and women is about equal.

Data for the Dominican Republic reflecting the percentage of female students enrolled in secondary education compared to men is mostly complete from years 2004 to 2017, with the exception of years 2001, 2003, and 2006. The overall trend for these data is a slight decline in female enrollment in secondary education overtime compared to males. There were 54.75% more females enrolled in secondary education in 2000 compared to males. This percentage decreased to 52.5% by 2009, and 51.43% in 2017. These data are similar to the patterns seen in Honduras. While the percentage of females enrolled in secondary education is higher than males in the Dominican Republic as compared to El Salvador and Nicaragua, the there is a decrease in this percentage overtime. This suggests that there is possibly more males enrolling in secondary education in the Dominican Republic or fewer females each year due to a variety of economic and cultural circumstances.

The data for females in Costa Rica enrolled in secondary education compared to males is almost complete from years 2000 to 2017 except for year 2003. The trend in Costa Rica is relatively flat for this statistic showing 50.81% in 2000, 50.07% in 2006, a lowest point of 49.8% in 2007, and ending with 50.61% in 2017. This trend mimics the country Nicaragua with similar percentages and patterns. Therefore, the data suggests that enrollment in secondary education regarding gendered differences is relatively stable overtime, with both males and females having equal access to secondary education.

Indicator 4: Proportional of Seats Held by Women in National Parliament.

The data for the proportion of seats held by women in national parliament for El Salvador is complete from years 2000 to 2020. The trend shows a stairstep pattern over time with increases and decreases throughout the years, however ultimately resulting in an overall increase within 1997 and 2020. For example, there national parliament seats held by women was 15.48% in 1997, 9.52% in 2000, 16.67% in 2006, and 33.33% by the year 2020. This suggests that considerable effort have been made to increase the representation of women in government roles in El Salvador overtime.

The data for the proportion of seats held by women in national parliament for Honduras is relatively complete from years 2000 to 2020, with missing years from 2012, 2013, and 2017. The trend also shows a stairstep pattern over time with increases and decreases throughout the years. For example, there national parliament seats held by women was 9.38% in 1998. There was a considerable increase between years 2004 and 2005 where this rate went from 5.47% to 23.44%. The rate reduced to 21.09% by the year 2020. This suggests that considerable effort has been made to increase the representation of women in government roles in Honduras overtime, especially in the early 2000s. These efforts to increase female representation in national parliament have remained consistent through today.

The data for the proportion of seats held by women in national parliament for Nicaragua is relatively complete from years 2000 to 2020, with 2001 as a missing year. The trend shows a steady increase of female representation in parliament overtime. For example, there national parliament seats held by women was 10.75% in 1997. There was a considerable increase between years 2000 and 2002 where this rate went from 9.68% to 20.65%. The rate increased again by the year 2011 to 40.12%. By the years 2020,

Nicaragua boasts the highest percentage of female parliament representation of 47.25%. This suggests that considerable effort have been made to increase the representation of women in government roles in Nicaragua overtime, in both the early 2000s and around 2010. These efforts to increase female representation in national parliament have remained consistent through today.

The data for the proportion of seats held by women in national parliament for Guatemala complete from years 2000 to 2020 with no missing data. The trend shows a steady increase of female representation in parliament overtime. For example, there national parliament seats held by women was 12.5% in 1997. While there was a decrease in female representation in 1999, down to 7.08%, that remained relatively flat through 2006, 8.23%, by 2007, this rate increased again to 12.03%. The next significant increase was between 2018, 12,67% and 2019/2020, 19.38%. This suggests that considerable effort have been made to increase the representation of women in government roles in Guatemala overtime, in both the early 2000s and around 2010. These efforts to increase female representation in national parliament have remained consistent through today.

The data for the proportion of seats held by women in national parliament for Dominican Republic are complete from years 2000 to 2020 with no missing data. The trend shows a steady increase of female representation in parliament overtime. For example, there national parliament seats held by women was 11.67 % in 1997, 16.11% by 2000, 19.66% by 2006, 20.77% by 2015, and a considerable increase to 26.84% in 2016, with final data showing 27.9% in 2020. This suggests that considerable effort have been made to increase the representation of women in government roles in the Dominican

Republic overtime. These efforts to increase female representation in national parliament have remained consistent through today.

The data for the proportion of seats held by women in national parliament for Costa Rica is complete from years 2000 to 2020 with no missing data. The trend shows a steady increase of female representation in parliament overtime, with a slight decrease between years 2014 and 2017, that recovered in 2018. For example, the national parliament seats held by women was 15.79 % in 1997, 19.3% by 2000, a significant increase to 35.09% in 2002, by 2006, 38.6%, a decrease to 33.33% in 2014, and an all-time high of 45.61 from 2018 to 2020. Costa Rica mirrors Nicaragua with close to 50% of parliament seats being held by women. This suggests that considerable effort have been made to increase the representation of women in government roles in the Costa Rica overtime. These efforts to increase female representation in national parliament have remained consistent through today.

GII Dimension 3: Labor Market.

Indicator 5: Labor force participation rate of females (ages 15-64).

For El Salvador, the data for the percentage of female participants in the labor force compared to men is complete from years 2000 to 2019 with no missing data and shows a stair step pattern that overall increases overtime. For example, the percentage of females engaged in the formal labor market was 41.89% in 1990, 48.06% in 2000, 49.18% in 2006, 51.19% in 2013, and down to 49.28% in 2019. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime.

For Honduras, the data for the percentage of female participants in the labor force compared to men is complete from years 2000 to 2019 with no missing data and shows a stair step pattern that overall increases overtime. For example, the percentage of females engaged in the formal labor market was 45.8% in 1990, 46.72% in 2000, a decline of 41.66% in 2006, 49.77% in 2014, and up to 54.28% in 2019. Honduras currently has more females active in the formal labor market than men as of the most recent available data. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime in Honduras.

For Nicaragua, the data for the percentage of female participants in the labor force compared to men is complete from years 2000 to 2019 with no missing data and shows consistent increase overtime from 1995 and onward. For example, the percentage of females engaged in the formal labor market was 37.92% in 1990, 34.86% in 1995, 39.87% in 2000, a 47.11% in 2006, 53.27% in 2017, and slightly down to 52.86% in 2019. Similarly, to Honduras, Nicaragua also currently has more females active in the formal labor market than men as of the most recent available data. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime in Nicaragua.

For Guatemala, the data for the percentage of female participants in the labor force compared to men is complete from years 1990 to 2019 with no missing data and shows a staggering pattern with distinct increases and decrease overtime. For example, the percentage of females engaged in the formal labor market was 39.86% in 1990, up to 43.93% in 2004, to 48.57% in 2012, down to 40.92% in 2015, an slight increase to

42.45% in 2019. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime in Guatemala.

For the Dominican Republic, the data for the percentage of female participants in the labor force compared to men is complete from years 1990 to 2019 with no missing data and shows consistent increase overtime. For example, the percentage of females engaged in the formal labor market was 37.6% in 1990, 43.03% in 2000, a 44.57% in 2006, up to 58.49% in 2019. Similarly, to Honduras and Nicaragua, the Dominican Republic has also currently has more females active in the formal labor market than men as of the most recent available data. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime in the Dominican Republic.

For Costa Rica, the data for the percentage of female participants in the labor force compared to men is complete from years 1990 to 2019 with no missing data and shows consistent increase overtime with a stairstep pattern of growth. For example, the percentage of females engaged in the formal labor market was 35.33% in 1990, 45.96% in 2000, a 47.11% in 2006, and 58.3% in 2019. Similarly, to Honduras, Nicaragua, and the Dominican Republic, Costa Rica also currently has more females active in the formal labor market than men as of the most recent available data. These data suggest that more efforts to increase the participation of women in the labor force have been successful overtime in Honduras.

Now that there is a better understanding of how the independent variables have performed overtime, the following section will summarize the impact of the control variables from a regional perspective.

Descriptive Statistics of Control Variables

Foreign Direct Investment (net inflows as a % of GDP).

CAFTA-DR countries have experienced declines in foreign direct investment (FDI) from the years 2000 to 2020, and the datasets are complete for all countries. Guatemala experienced an increase in FDI inflows, increasing from -4.08% in 2000 to 1.1% in 2020. In 2011, Nicaragua experienced the highest percentage of FDI contributions from net inflows of GDP compared to other CAFTA-DR countries, which as 9.58%. The second highest FDI investment by percentage of net inflows of GDP was El Salvador in 2007, which was 9.11%. The most recent data shows that FDI investment for CAFTA-DR countries in 2020 is 3.4% in Costa Rica, 1.44% in Nicaragua, .99% in Honduras, 1.21% in El Salvador, 3.11% in the Dominican Republic, and 1.1% in Guatemala. These data suggest that CAFTA-DR countries might have become more independent overtime, reducing the need for increased FDI, due to the CAFTA-DR trade agreement.

Vulnerable Female Employment.

CAFTA-DR countries have experienced slight declines in vulnerable female employment from the years 2000 to 2019 and the datasets are complete for all countries. Costa Rica consistently has the lowest rates of vulnerable female employment ranging from 20.55% and 21.55% from 2000 to 2019. The Dominican Republic has the second lowest rate of vulnerable female employment ranging from 28.05% in 2000 to 27.54% in 2019. Honduras and Guatemala are consistently the two countries with highest rates of vulnerable female employment, ranging from 55.72% (2000) to 46.24% (2019) in Guatemala and 52.14% to 48.59% in Honduras. That leaves El Salvador and Nicaragua in

the middle with El Salvador having between 45.57% (2000) and 43.45% (2019) and Nicaragua showing 47.17% (2000) and 45.31% (2019) rates of vulnerable female employment. This suggests that overall, CAFTA-DR countries are taking steps to reduce vulnerable female employment overtime, while providing opportunities for more secure and formal work.

Military Expenditure.

Overall, military expenditure has declined over time in 3 out of the 5 CAFTA-DR countries, and Costa Rica reports no military expenditure between the years of 2000 to 2019. The two countries with the highest level of military expenditure are Honduras, 1.62% in 2019 which is an increase from .73% in 2000, and El Salvador, 1.17% in 2019, which is an increase from .84% in 2000. The two countries with the lowest levels of military expenditure are Nicaragua .61% in 2020, a slight decrease from .78% in 2000 and Guatemala, .47% in 2019, a decrease from .92% in 2000. The Dominican Republic is in the middle with a .69% military expenditure by 2019, which is a decline from 2000, standing at 1.03%. As the data for military expenditure is quite different for each CAFTA-DR country, this suggests that the need for military security is varies by the political state of each induvial country and is not determined by the region.

Healthcare Expenditure.

The trends for healthcare expenditure in CAFTA-DR countries show varying degrees of change overtime between the years of 2000 and 2019. The countries with the highest rates of healthcare expenditure by 2019 are Nicaragua, 8.40%, which is an increase from 5.24% in 2000 and Honduras, 7.28%, which is an increase from 6.27% in

2000. The countries with lowest level of healthcare expenditure by 2019 are the Dominican Republic, 6.21% which is an increase from 4.88% in 2000, and Guatemala, 5.93%. which is about flat from 5.4% in 2000. El Salvador is in the middle with a healthcare expenditure of 7.17% by 2019, which is a decrease from 8.93% in 2000. These statistics suggest that healthcare expenditure is highly unique to each country's needs and can vary based on many factors.

Descriptive Statistics of Independent Variables

Textile and Clothing Exports from CAFTA-DR Countries to the U.S.

All CAFTA-DR countries, except for Costa Rica, have increased, their percentage of TA exports to the U.S. from 2000 to 2017. For example, in 2005, 79.84% of exports from El Salvador to the U.S. were TA products, the highest recorded percentage to date across all other countries. Notably, this is the year before the CAFTA-DR agreement was impacted, therefore potential pre-policy effects could have impacted this increase. The countries that consistently have the highest percentage product share for total TA exports to the U.S. are El Salvador and the Dominican Republic from 2000 to 2018. Additionally, although their percentages of TA exports are increasing, Nicaragua consistently exports the lowest percentages of TA goods to the U.S., ranging from .86% in 2000 to 11.34% in 2017. Costa Rica experienced the most drastic change in TA exports overtime as their percentage decreased from 13.28% in 2000 to .79% in 2017. These datapoints suggest that overall, the impact of CAFTA-DR had a positive effect on the TA exports from Central America to the U.S., excluding Costa Rica. It is possible that Costa Rica has redirected their resources to producing different goods such as coffee and other agricultural products.

Textile and Clothing Imports from the U.S. to CAFTA-DR Countries.

TA imports from the U.S. to CAFTA-DR countries have remained relatively consistent across countries and overtime. El Salvador remains the country with the highest TA imports from the U.S., which was as high as 88.53% in 2000 and as low as 69.86% in 2008. The country with the lowest TA import percentage from the U.S. compared to other CAFTA-DR countries is Costa Rica, which was as high as 27.01% in 2000 and as low as .89% in 2018, suggesting the Costa Rica has placed its efforts in other trade products instead of TA goods, likely based on their comparative advantage. By 2005, Guatemala's TA imports from the U.S. also declined overtime, ranging from 57% in 2000 to 32% by 2018. Nicaragua consistently ranged from 46% (2018) to 57.6% (2000) in TA import product share. The Dominican Republic, while mostly between the 40% and 55% range from 2000 to 207, experienced a trend of consistent lows from 2008 ,23.28%, down to 16.35% by 2018. This suggests that overall, the U.S. is reducing its TA product imports to CAFTA-DR countries, except for El Salvador.

Additional Control Variables Considered.

In this study, other control variables were considered including gross domestic product (GDP), gross national income (GNI), adult female literacy rates, contraceptive prevalence, research and development inflows, and domestic violence and sexual abuse rates. However, after performing the regression models for each GII dimension, there was high multicollinearity between many of the controls and the outcome variables, particularly from GDP and GNI. Also, much of the data for these variables, provided from the World Bank had data missing from multiple years. The researchers attempted to use rounded averages on the controls with many missing data points, however decided to

ultimately search for the most complete data sets possible instead and use these controls for the regression models.

The following section will provide a more in-depth look into the means and standard deviations for each outcome, independent, and control variable as provided in Table 4.1.

Each of the 6 CAFTA-DR countries contribute yearly observations. In order to examine how the implementation of CAFTA-DR overtime, I used year and country fixed effect dummy variables in the model. This allowed the researchers to observe the sign changes in the coefficients more easily and assess if years had any impact on the dependent variables. The observation numbers below vary depending upon which years were included in the regression model, based on the availability of the data for each dependent variable. For example, maternal mortality rate had years 2000 to 2017 available, adolescent birth rate, labor force participation rate, and women in parliament seat percentage had years 2000 to 2018, and secondary education enrollment had years 2000 to 2018 available, except for 2003, and also excludes Nicaragua due to missing data from this country.

Table 4.1 Means and Standard Deviation

Variable	Observations	Mean	St. Dev.
GII Dimensions			
Maternal Mortality Rate	108	83.44	35.90
Adolescent Birth Rate	114	86.79	16.65
Secondary Education Enrollment	90	50.75	2.24
Women in Parliament Seats	111	22.46	10.98
Labor Force Participation	114	47.18	4.02
Trade Data			
TA Exports	108	24.31	24.82

TA Imports	114	46.49	24.98
Control Variables			
Healthcare expenditure	114	6.90	1.20
Military expenditure	114	.68	.41
Vulnerable Female Employment	114	40.86	12.12
Foreign Direct Investment	114	4.11	2.65
Countries			
El Salvador	114	.50	1.12
Honduras	114	.83	1.87
Nicaragua	114	1.0	2.25
Guatemala	114	.67	1.49
Dominican Republic	114	.33	.75
Costa Rica	114	.17	.37
CAFTA-DR Region	114	3.5	1.72

Sensitivity Tests: Correlation Matrix and VIF

This study performed three sensitivity tests to better understand how the independent and dependent variables related to each other. These tests included a a) correlation test, b) a variance inflation factor (VIF) test, and c) attempting various regression models with different controls, reference years, and reference countries. The first example in the table below is the correlation test. The results show that TA Imports are highly correlated with military expenditure ($r = .73$) and with vulnerable female employment ($r = .75$). Maternal mortality rate ($r = .62$) and women in parliaments seats ($r = -.55$) are also correlated with vulnerable female employment. Women in parliament seats ($r = .55$) and labor force participation rates by women ($r = .57$) are moderately correlated with foreign direct investment. Regarding how the controls correlate, military expenditure and vulnerable female employment are also moderately correlated ($r = .60$).

These results highly suggest that vulnerable female employment consists of many factors that relate to various economic outcomes in Central America. Table 4.2 below provides the correlation matrix.

Table 4.2 Correlation Matrix

	TA Exports	TA Imports	ABR	MaMR	WIPS	SEE	LFPR	FDI	Mil Exp	Health Exp	VFM
TA Exports	1.00										
TA Imports	0.40	1.00									
ABR	-0.12	0.43	1.00								
MaMR	-0.10	0.24	0.73	1.00							
WIPS	0.02	-0.48	-0.57	-0.52	1.00						
SEE	-0.35	0.06	0.37	-0.08	0.19	1.00					
LFPR	0.11	-0.25	-0.46	-0.48	0.63	-0.02	1.00				
FDI	-0.19	-0.24	-0.16	-0.33	**0.55**	**0.57**	0.32	1.00			
MilExp	0.27	**0.73**	0.34	0.19	-0.38	0.33	-0.08	-0.16	1.00		
HealthExp	0.15	0.01	-0.19	-0.09	0.21	-0.05	0.16	0.11	0.04	1.00	
VFM	0.20	**0.75**	0.41	**0.62**	**-0.55**	-0.18	-0.35	-0.28	**0.60**	0.07	1.00

* The boldened figures indicate a correlation greater than, > .5
*TA Exports – Textile and Apparel Exports
*TA Imports – Textile and Apparel Imports
*ABR = Adolescent Birth Rate
* MaMR – Maternal Mortality Rate
* WIPS – Women in Parliament Seats
* SEE – Secondary Education Enrollment
*FDI – Foreign Direct Investment
*Mil Exp – Military Expenditure
*Health Exp – Healthcare Expenditure
*VFM – Vulnerable Female Employment

Variance Inflation Factor (VIF)

The next sensitivity tests performed were VIF analyses for each model. As a rule of thumb, VIF results that are higher than 10 are considered highly correlated. The purpose of a VIF test is to measure the strength of the correlation between the explanatory variables in a regression model. Out of the VIF results for the GII models,

the secondary education enrollment of female pupils' model measured at a 12.62, and all other models, although were close to 10, remained between 9.49 and 9.66. By findings controls that lower the VIF score, as close as possible to 1, would help in developing a more model with weaker correlations between the variables.

Alternative Models: Reference Year, Reference Country, Controls

This study also examined how Costa Rica as a reference country, as it was the last country to implement CAFTA-DR in 2009, and years 2005, 2007, and 2009 impacted the regression models. The researchers also attempted how each chosen control variable impacted the model one at time, and different variations of two to three controls together to determine their effects on the regression model. After running these models, the scholars decided that the complete model would have with all controls, using El Salvador and 2006 as the reference year, as it was the first country to implement CAFTA-DR in 2006, as the baseline for observing change in the dependent variables overtime.

Step 1: Regression Model Results

Below are the interpretations for each regression model and their statistically significant results for TA exports, TA imports, each CAFTA-DR country, the CAFTA-DR implementation timeline, and the control variables, healthcare expenditure, military expenditure, vulnerable female employment, and foreign direct investment.

Maternal Mortality Rate Results

Hypotheses H1a, H1b, and H1c: Maternal Mortality Rate (MaMR).

H1a, H1b, and H1c: All supported

Interpretations.

TA Exports: For each one percentage point increase in TA Exports, maternal mortality rate in CAFTA-DR countries decreases by -.20 percentage points, accounting for year, country, and controls.

TA Imports: For each one percentage point increase in TA Imports, maternal mortality rate decreases in CAFTA-DR countries by -.768 percentage points, accounting for year, country, and controls.

Country.

Costa Rica: For every one percentage rate change in maternal mortality rate within CAFTA-DR countries, Costa Rica's maternal mortality rate decreases by -42.98 percentage points, accounting for year, country, and controls.

Guatemala: For every one percentage rate change in maternal mortality rate within CAFTA-DR countries, Guatemala maternal mortality rate increases by 19.05 percentage points, while accounting for year, country, and controls.

Nicaragua: For every one percentage rate change in maternal mortality rate within CAFTA-DR countries, Nicaragua's maternal mortality rate increases by 42.98 percentage points, while accounting for year, country, and controls.

CAFTA-DR/Years.

These results are for the maternal mortality rate model which examined the years 2000 through 2017, while accounting for year, country, and controls. In 2000-, and one-year post CAFTA-DR in 2007, the sign on the coefficients for year are all positive, but

the gradient shows consistent decline. The years 2000 and 2001 are the only statistically significant years prior to CAFTA-DR, both having positive coefficients, but still decreasing overtime (2000, $\beta = 12.57$ p $= .008$) and (2001, $\beta = 9.46$, p $= .048$). In 2009, maternal mortality rate has its first statistically significant negative coefficient year, ($\beta = -14.87$, p $= .001$). Maternal mortality rate not only continues to have double digit declines from 2009 through 2017, but these decreases are also all statistically significant. For example, (2010, $\beta = -16.18$, p $= .000$), (2015, $\beta = -18.78$, p $= .000$), and (2017, $\beta = -22.51$, p $= .000$). This pattern suggests that the years after CAFTA-DR, starting at 2009, fewer mothers were dying due to childbirth related issues at a rapidly declining rate.

Controls.

Vulnerable female employment: For every one percentage point increase in Vulnerable female employment, maternal mortality rate in CAFTA-DR countries increases by 1.66 percentage points, while holding 2006 and El Salvador constant.

Foreign Direct Investment: For every one percentage point increase in FDI, maternal mortality rate in CAFTA-DR countries decreases by 2.12 percentage points, while holding 2006 and El Salvador constant.

Adolescent Birth Rate Results

Hypotheses H2a, H2b, and H2c: Adolescent Birth Rate (ABR)

H2a: Supported, H2b and B2c: Not Supported

Interpretations.

CAFTA-DR: These results are for the model for adolescent birth rates, (ABR), which examined the years 2000 through 2017, while accounting for year, country, and controls. Prior to CAFTA-DR, from 2000 to 2002, the coefficients for adolescent birth rate are negative, yet declining, and statistically significant, ($2000, \beta = 11.32$, p = .000), (2001, $\beta = 9.23$, p = .000) and (2002, $\beta = -6.57$, p = .002). There is a clear gradient in decline in teen pregnancies overtime since CAFTA-DR and in 2009, this model has a negative coefficient that is statistically significant ($2009, \beta = -6.36$, p = .003). The decline in adolescent births remains statistically significant from 2009 to 2018, with the lowest teen pregnancy year for CAFTA-DR countries being 2017 ($\beta = -14.73$, p = .000). This pattern suggests after 2006, when CAFTA-DR was implemented, the year's show a consistent decline in teen pregnancy that remains negative and statistically significant.

Country.

Costa Rica: For every one percentage rate change in adolescent birth rates within CAFTA-DR countries, Costa Rica's adolescent birth rates decrease by -13.46 percentage points, while accounting for year, country, and controls.

Dominican Republic: For every one percentage rate change in adolescent birth rates within CAFTA-DR countries, the Dominican Republic's adolescent birth rates increase by 27.62 percentage points, while accounting for year, country, and controls.

Honduras: For every one percentage rate change in adolescent birth rates within CAFTA-DR countries, Honduras' adolescent birth rate increases by 13.31

percentage points, while accounting for year, country, and controls.

Nicaragua: For every one percentage rate change in adolescent birth rates within CAFTA-DR countries, Nicaragua's adolescent birth rates increase by 18.82 percentage points, while accounting for year, country, and controls.

Controls.

Vulnerable female employment: For every one percentage point increase in Vulnerable female employment, adolescent birth rates in CAFTA-DR countries increases by .51 percentage points, while accounting for year, country, and controls.

Foreign Direct Investment: For every one percentage point increase in FDI, adolescent birth rates in CAFTA-DR countries decreases by -1.04 percentage points, while accounting for year, country, and controls.

Military Expenditure: For every one percentage point increase in military expenditure, adolescent birth rates in CAFTA-DR countries decreases by 11.12 percentage points, while accounting for year, country, and controls.

Secondary Education Enrollment Results

Hypotheses H3a, H3b, and H3c: Secondary Education Enrollment (SEE).

H3c: Supported, H3a and H3b: Not Supported

Interpretations.

TA Imports: For every one percentage point increase in TA Imports, secondary education enrollment for female pupils in CAFTA-DR countries increased by.04 percentage points, while accounting for year, country, and controls.

Country.

Dominican Republic - For every one percentage point change in secondary education enrollment within CAFTA-DR countries, the Dominican Republic's secondary education enrollment increases by 4.03 percentage points, while accounting for year, country, and controls.

Nicaragua - For every one percentage point change in secondary education enrollment within CAFTA-DR countries, Nicaragua's secondary education enrollment increases by 5.83 percentage points, while accounting for year, country, and controls.

CAFTA-DR.

These results are not statistically significant from the years 2000 to 2018.

Controls.

Vulnerable female employment: For every one percentage point increase in Vulnerable female employment, secondary education enrollment of female pupils in CAFTA-DR countries decreases by -.072 percentage points, while holding 2006 and El Salvador constant.

Women in Parliament Seats Results

Hypotheses H4a, H4b, and H4c: Women in Parliament Seats (WIPS).

H4a and H4b: Supported, H4c: Not Supported

Interpretations.

TA Exports: For each proportional percentage point increase in TA Exports, the rate of women in national parliament seats in CAFTA-DR countries increased by .088 percentage points, while accounting for year, country, and controls.

Country.

Costa Rica: For each one proportional percentage point change in the rate of women in national parliament seats within CAFTA-DR countries, Costa Rica's the rate of women in national parliament seats increases by 49.24 percentage points, while accounting for year, country, and controls.

Dominican Republic: For each one proportional percentage point change in the rate of women in national parliament seats within CAFTA-DR countries, the Dominican Republic's the rate of women in national parliament seats increase by 21.01percentage points, while accounting for year, country, and controls.

Nicaragua: For each one proportional percentage point change in the rate of women in national parliament seats within CAFTA-DR countries, Nicaragua's the rate of women in national parliament seats increase by 15.91 percentage points, while accounting for year, country, and controls.

CAFTA-DR:

These results are for the proportion of women in parliament seats model (WIPS) which examined the years 2000 through 2018, while accounting for year, country, and controls. From 2000 to 2007, the coefficients from WIPS in CAFTA-DR countries is negative, and these results are statistically significant from 2000 to 2003, $(2000, \beta =$

-8.27p $= .007$), (2001, $\beta = -6.67$, p $= .043$), (2002, $\beta = -6.34$, p $= .035$), and (2003, $\beta = -5.68$, p $= .049$). There is a clear gradient in increase overtime since CAFTA-DR and in 2011, this model has a positive coefficient that is statistically significant ($2011, \beta = 6.57$, p $= .038$). The increases in women in parliament seats remains statistically significant from 2011 to 2018, with the highest women in parliament seats year for CAFTA-DR countries being 2017 ($\beta = 13.72$, p $= .000$). This pattern suggests after 2011, 5 years after CAFTA-DR was implemented, the year's show a consistent increase in women participating in leadership roles in government that remains positive and statistically significant.

Controls.

Vulnerable female employment: For each one proportional percentage point increase in Vulnerable female employment, the rate of women in national parliament seats in CAFTA-DR countries increased by .424 percentage points, while accounting for year, country, and controls.

Labor Force Participation Rate Results

Hypotheses H5a, H5b, and H5c: Labor Force Participation Rate (LFPR).

H5a: Supported

H5b and H5c; Not Supported

Interpretations.

TA Exports: For each one percentage point increase in TA Exports, the rate of women participation in the labor force in CAFTA-DR countries decreased by -.035 percentage points, while accounting for year, country, and controls.

Country.

Costa Rica: For each one percentage rate change in the rate of women participation in the labor force within CAFTA-DR countries, Costa Rica's the rate of women participation in the labor force increases by 12.93 percentage points, while accounting for year, country, and controls.

Dominican Republic: For each one percentage rate change in the rate of women participation in the labor force within CAFTA-DR countries, the Dominican Republic's the rate of women participation in the labor force increases by 6.68 percentage points, while accounting for year, country, and controls.

Guatemala: For each one percentage rate change in the rate of women participation in the labor force within CAFTA-DR countries, Guatemala's the rate of women participation in the labor force decreases by -11.16 percentage points, while accounting for year, country, and controls.

Honduras: For each one percentage rate change in the rate of women participation in the labor force within CAFTA-DR countries, Honduras' the rate of women participation in the labor force decreases by -7.87 percentage points, while accounting for year, country, and controls.

Nicaragua: For each one percentage rate change in the rate of women's participation in the labor force within CAFTA-DR countries, Nicaragua's the rate of women participation in the labor force decreases by -4.24 percentage points, while accounting for year, country, and controls.

CAFTA-DR.

These results are for the for the percentage of women participating in the labor force model (LPFR) which examined the years 2000 through 2018, while accounting for year, country, and controls. From 2000 to 2005, the coefficients from WIPS in CAFTA-DR countries is negative, and these results are only statistically significant in the year 2000 ($2000, \beta = -2.96, p = .041$). There is a clear gradient in increase overtime since CAFTA-DR and in 2011, this model has a positive coefficient that is statistically significant ($2011, \beta = 3.16$, p $= .034$). The increases in women participating in the labor force remained statistically significant from 2011 to 2018, with the year for women participating in the labor force in CAFTA-DR countries being 2016 ($\beta = 6.76$, p $=$ $.000$). This pattern suggests after 2011, 5 years after CAFTA-DR was implemented, the year's show a consistent increase in women participating in the Central American labor force, and these results remains positive and statistically significant the longer that CAFTA-DR is in effect.

Controls.

Vulnerable female employment: For each one percentage point increase in Vulnerable female employment, the rate of women in the labor force in CAFTA-DR countries increased by .597 percentage points, while accounting for year, country, and controls.

Military expenditure: For each one percentage point increase in military expenditure, the rate of women in the labor force in CAFTA-DR countries

increase decreased by -.260 percentage points, while accounting for year, country, and controls.

A summarized report of the hypotheses results, and the regression output are provided in tables 4.3 and 4.4 table below.

Table 4.3 – Hypotheses and Results

Hypotheses	MaMR	ABR	SEE	WIPS	LFPR
Ha (Year/ CAFTA-DR)	Supported (see table)	Supported (see table)		Supported (see table)	Supported (see table)
Hb (TA Exports)	Supported .000***			Supported .012*	
Hc (TA Imports)	Supported .000***		Supported .014*		Supported .034*

*p < 0.05, **p<.01, ***p<.001
*TA Exports/Imports- Textile and Apparel Exports/Imports
*MaMR – Maternal Mortality Rate
*ABR – Adolescent Birth Rate
*SEE – Secondary Education Enrollment
*WIPS – Women in Parliament Seats
* LFPR – Labor Force Participation Rate

Below, is table 4.4 which shows the complete regression output. The table contains all dependent, independent, and control variables, with each CAFTA-DR countries and years from 2000 to 2018. For each variable, the table includes the coefficient, the p-value significance level, and the standard error.

Table 4.4 Multivariate Regression with Panel Data Output

Models	**Maternal Mortality Rate**			**Adolescent Birth Rate**			**Secondary Education Enrollment**		
Variables	Coef		SE	Coef		SE	Coef		SE
Trade									
TA Exports	-.20	***	.052	0.01		0.01	-0.02		0.02
TA Imports	-.77	***	.188	0.04	**	0.02	-0.01		0.09
Controls									
Health Exp	.55		.627	-0.09		0.05	-0.03		0.29
Mil Expend	-1.64			-0.82		0.44	-11.12	***	1.94
FDI	1.66	***	.369	-0.07	**	0.03	0.51	**	0.17
VFE	-2.11	***	.521	0.07		0.05	-1.05	***	0.24
Countries									
El Salvador	**(Reference)**			**(Reference)**			**(Reference)**		
Costa Rica	-42.97	**	13.92	0.91		1.19	27.62	***	4.57
Dominican Rep	16.61		9.87	4.03	***	.84	-2.80	.42	3.41
Guatemala	19.05	**	7.41	-0.11		0.64	13.31	***	2.26
Honduras	-6.94		4.89	5.83	***	0.47	18.82	***	2.30
Nicaragua	42.39	***	4.98	(Omitted Variable)			27.62	***	4.57
Year									
2006 (-6)	12.57	**	4.61	11.32	***	2.13	11.32	***	2.14
2006 (-5)	9.46	*	4.71	9.23	***	2.18	9.23	***	2.18
2006 (-4)	3.53		4.54	6.57	**	2.10	6.58	**	2.10
2006 (-3)	1.70		4.38	(Omitted Variable)			4.91	**	2.03
2006 (-2)	4.33		4.27	4.91	**	2.02	3.19		1.97
2006 (-1)	1.94		4.14	3.19		1.97	1.41		1.92
2006	**(Reference)**			**(Reference)**			**(Reference)**		
2006 (+1)	0.68	0.878	4.41	1.14		1.91	0.52		2.04
2006 (+2)	-6.77	0.117	4.28	0.52		2.04	-1.52	**	1.98
2006 (+3)	-14.87	**	4.44	-1.52		1.97	-6.37	***	2.05
2006 (+4)	-16.72	***	4.53	-6.36	***	2.05	-8.23	**	2.10
2006 (+5)	-11.42	**	4.76	-8.23	***	2.09	-6.97	**	2.20
2006 (+6)	-16.30	**	5.00	-6.96	***	2.20	-8.20	***	2.31
2006 (+7)	-16.18	**	4.71	-8.20	***	2.31	-9.62	***	2.18
2006 (+8)	-13.55	**	4.77	-9.62	***	2.18	-9.34	***	2.21
2006 (+9)	-18.78	***	4.81	-9.33	***	2.20	-11.70	***	2.22
2006 (+10)	-19.54	***	4.92	-11.69	***	2.22	-13.01	***	2.28

2006 (+11)	-22.51	***	4.90	-13.00	***	2.27	-14.73	***	2.27
2006 (+12)	(Omitted Variable)			14.73	***	2.26	-13.37	***	2.86
Constant		**			***			***	
Adjusted R-sq.		0.963			.952			.963	
Obsv.		106			76			108	

*p < 0.05, **p<.01, ***p<.001
*El Salvador – Reference country
* 2006 – Reference year
*TA Exports – Textile and Apparel Exports
*TA Imports – Textile and Apparel Imports
*ABR = Adolescent Birth Rate
*MaMR – Maternal Mortality Rate
*WIPS – Women in Parliament Seats
*SEE – Secondary Education Enrollment
*FDI – Foreign Direct Investment
*Mil Exp – Military Expenditure
*Health Exp – Healthcare Expenditure
*VFM – Vulnerable Female Employment
*Obsv - Observations

Regression results continued

Models	Women in Parliament Seats			Labor Force Participation Rates		
Variables	Coef		SE	Coef		SE
Trade						
TA Exports	0.09	**	0.03	-0.03	*	0.02
TA Imports	0.19		0.12	0.03		0.06
Control Variables						
Health Exp	0.69		0.41	-0.26		0.19
Mil Exo	5.91	*	2.99	-2.54		1.29
FDI	0.42		0.24	0.60	***	0.11
VFM	0.59		0.34	0.14		0.16
Countries						
El Salvador		**(Reference)**			**(Reference)**	
Costa Rica	49.24	***	9.19	12.93	**	4.29
Dominican Rep	21.01	**	6.48	6.68	*	3.04
Guatemala	2.62		4.84	-11.15	***	2.27
Honduras	2.40		3.17	-7.87	***	1.51
Nicaragua	15.91	***	3.22	-4.25	**	1.53
Year						
2006 (-6)	-8.27	**	2.99	-2.96	*	1.42
2006 (-5)	-6.67	*	3.23	-2.40		1.45
2006 (-4)	-6.35	*	2.95	-2.49		1.40
2006 (-3)	-5.69	*	2.84	-1.85		1.35
2006 (-2)	-5.26		2.77	-2.20		1.31
2006 (-1)	-8.27	**	2.99	-1.08		1.28
2006		**(Reference)**			**(Reference)**	
2006 (+1)	-1.68		2.68	1.36		0.94
2006 (+2)	-1.51		2.86	1.32		0.91
2006 (+3)	1.14		2.77	1.37		0.75
2006 (+4)	2.30		2.90	1.40		1.39
2006 (+5)	2.78		2.97	1.47	**	3.16
2006 (+6)	6.57	*	3.11	1.54	**	5.42
2006 (+7)	7.18	*	3.26	1.45	***	4.86
2006 (+8)	6.55	*	3.15	1.47	***	6.13
2006 (+9)	7.50	*	3.12	1.48	***	5.95
2006 (+10)	8.36	*	3.16	1.52	***	6.76
2006 (+11)	11.51	**	3.23	1.51	**	5.93
2006 (+12)	13.72	***	3.22	1.90		5.07
Constant		*			***	
Adj. R-squared		.831			.683	

Observations	105	108

*p < 0.05, **p<.01, ***p<.001
*El Salvador – Reference country year
* 2006 – Reference year
*TA Exports – Textile and Apparel Exports
*TA Imports – Textile and Apparel Imports
*ABR = Adolescent Birth Rate
* MaMR – Maternal Mortality Rate
* WIPS – Women in Parliament Seats
* SEE – Secondary Education Enrollment
*FDI – Foreign Direct Investment
*Mil Exp – Military Expenditure
*Health Exp – Healthcare Expenditure
*VFM – Vulnerable Female Employment

Summary of Step 1 Results:

First, maternal mortality rate shows significant decrease between the years of 2009 ($\beta = -14.87, p = .001$) and 2017 ($\beta = -22.51, p = .000$) in the CAFTA-DR region. Increases in TA exports ($\beta = -.204, p = .000$) and imports ($\beta = -.768, p = .000$) are also correlated with statistically significant decreases in maternal mortality. This finding suggests as the years continue to progress after CAFTA-DR's implementation, and as the TA industry continues to develop, fewer mothers in Central America are at risk of dying in childbirth. Second, this study found that increases in TA imports ($\beta = .041, p = .014$) are correlated with increases in female students enrolled in secondary education. Third, this study also found that there is an association between increases in TA exports ($\beta = .088, p = .012$) and CAFTA-DR implementation from 2011 ($\beta = 6.57, p = .038$) to 2018 ($\beta = 13.47, p = .001$) on the rising rate of women holding seats in national government in CAFTA-DR countries. Fourth, CAFTA-DR impacted the labor force participation rate significantly with an increase of employed women from 2011 ($\beta = 3.16, p = .034$) to 2018 ($\beta = 5.07, p = .009$). Fifth, since CAFTA-DR teen pregnancy rates significantly decreased from 2009 ($\beta = -6.36, p = .003$) to 2018, ($\beta = 13.37, p = .000$). However,

reduction in adolescent birth rates were not significantly correlated with changes in TA exports nor imports. The results for CAFTA-DR reflect a fixed effect timeline that mirrors 6 years before and 12 years after CAFTA-DR implementation. Therefore, the CAFTA-DR results are correlated with the time periods in the study, not indicating that CAFTA-DR directly caused these effects.

Now that the quantitative results have been provided, the following section will present the qualitative interview results and along with participant demographic characteristics. An analysis of how women working in the textile and clothing manufacturing sector in El Salvador describe their perception of changes in gender inequality dimension over time is provided.

Results of Step 2: Qualitative Analysis: In-depth Interviews

This section discussed the interpretation of the qualitative data to explore RQ2. Overall, the study results had for major themes which include, a) maternal duty, b) career first, children later c) education and career dreams realized, and d) collaborative networking opportunities. The results for each theme are analyzed in detail, along with their corresponding interview data below.

Theme 1: Maternal Duty

The theme maternal mortality rate did not seem to have been directly impacted by CAFTA-DR nor COVID-19, from the perspective of Salvadoran women. However, the qualitative interpretation of the renaming of this theme "maternal duty" is to resonate more clearly with the participants. The purpose of renaming this maternal influence relates to the experience of a household when a mother is present, vs. when a mother is

absent. More specifically, which tasks are well-managed vs. neglected, depending on the presence and influence of a mother in the home. The literature confirms that the average age that a woman becomes a mother in El Salvador is 21 years old (CIA Factbook, est. 2008), therefore this level of responsibility and duty to children and a husband starts relatively early in their lives. In Grovijahn's (1990) article, Grabbing Life Away from Death: Women and Martydom in El Salvador, described Salvadoran women as "Mothers of the People" and "the experience that most accurately reflects women's reality in El Salvador is survival" (p. 21). "Women experience the agony of lived martyrdom in a number of ways…They are the one left to care for the sick and wounded. They endure the disappearances of husbands…" (p.21). The literature also suggests that "maquiladora's women workers of peasant origins earn some revenue to be shared with their families for improving their welfare and living standards (Vargas-Hernandez, 2011, p.258). This research reiterates that idea that a maquiladora mother's role is not only essential to the family but to the community as well.

Although the concept of maternal mortality, or mother's dying in childbirth, did not resonate with the interview participants, the response from women working the factories overwhelmingly reiterated that a lack of a mother's presence in the home as a caretaker and as a provider for the home financially would be a significant loss to the family unit. Participants Veronica, Evelyn Maritsa, and Lula express their perceptions of how their roles as mothers have added an additional layer of responsibility to their lives, even more so than their male partners, that can often be heavy, but inevitably necessary for the function of the family.

Marcia, who is the eldest of the participants, appears to be the most accepting of the responsibilities of a working mother as she expressed:

"Sí, pesadito pero son cosas que la obligación de un hogar lo tiene que ir a hacer, ¿Verdad? Sí, sale cansadito uno, pero la obligación de la casa siempre tiene que fluir."[translation: "Yes, it is a bit heavy, but the obligation of a home must be done, right? Yes, you left tired from work, but the obligation of the house always must flow."]

Rita, a 48-year-old assembly worker, also expressed the changes in a mother's duty and responsibility to the family as the children age:

Sí, siento que ha habido mucho cambio porque cuando los niños son más pequeños, cuando vienes a trabajar es más difícil. Pues hay que dejarlo todo hecho, y cuando son viejos, vienes, y solo los dejas, y agarran sin necesidad de que estés presente. [translation: Yes, I feel that there has been a lot of change because when the children are younger and while you are working it is more difficult. When they are older, they grab what they need without the need for you to be present."

A friend of Marcia, Elisabeth, a 22-year-old, fabric cutter, also expressed how the additional responsibility of caring for a home extends to having to care for a husband as well, not just the children. However, she also accepts this reality as 'this-is-just-how-life-is':

...ha sido un gran cambio porque estando con mamá, papa es diferente las cosas y ya tener el compromiso del esposo, la casa y todo eso, sale uno cansado y todo pero igual hay que ir a hacer las cosas en la casa para el día a día ir luchando." [translation: The thing is, it is different and having the commitment of the husband, the house and all that,

you end tired up but still, you must go to do things at home for the day to day to keep on fighting."]

This study also found that the COVID-19 pandemic directly and negatively impacted the perception of maternal duty for the participants.

Lucia, 44, a designer and business owner, tells stories of two women who suffered greatly by the loss of a grandmother and a sister from COVID-19, and how it impacted their lives:

"La Ale perdió a su hermana, la Naty perdió a su abuelita, o sea te estoy hablando de personas muy cercanas, entonces el reto de seguir adelante y de seguir dando cuando tú estás en duelo es bien difícil, ¿sabes? Y de liderar en duelo y yo estando en duelo, muchas veces no podes dar lo que no tienes…" [translation: Al lost her sister, Naty lost her grandmother. I'm talking about people who are very close to you, so the challenge of moving forward and continuing to give when you're in mourning is very difficult, you know? And from leading in a state of mourning and me being in mourning, many times you can't give what you don't have."]

Theme 2: Education first, Children later (Teen Pregnancy)

The original dimension for this theme in GII was Adolescent Birth Rate or teen pregnancy. Throughout the interviews, there was no need to change the wording of this dimension as it was understood by the participants. The result of the Step 1 in this study shows that CAFTA-DR has impacted teen pregnancy in El Salvador as teen pregnancy rates have been falling. The results of this study do not show a correlation between teen pregnancy and the COVID-19 pandemic in El Salvador.

The major theme that arose from the interview data regarding the GII dimension Adolescent Birth Rate was that more women are choosing to pursue their education and careers prior to beginning a family than before, resulting in a decline in teen pregnancy rates. This opportunity is a significate improvement women's lives in El Salvador because teen pregnancy can be a dangerous experience for the young girls in El Salvador. Statistics show that teen moms in El Salvador have a higher propensity to be victims of sexual and domestic abuse, have reduced access to educational opportunities, and limitations in career development and/or advancement (Boren Project, 2018).

However, teen pregnancy, and the dangers associated with it, is still prevalent in El Salvador, as expressed by, Paula, a 40-year-old, Professor and Engineer expressed:

"Oh sí. Los números son muy altos, deberías verlos, muy altos. Bueno, de hecho esta semana hubo noticias de una niña en "Jucotepeque" que supuestamente se suicidó pero ya lo están investigando como un feminicidio porque los expertos forenses descubrieron que la niña había abortado un mes antes...entonces creen que la niña fue asesinada por su padrastro o algo así. Entonces, estas son situaciones que ocurren y no puedo decir nada más porque es real." [translation: "Oh yeah. The numbers are very high, you should see them. In fact this week there was news of a girl in "Jucotepeque" who supposedly committed suicide, but they are already investigating it as a femicide because forensic experts discovered that the girl had had an abortion a month before…so they think the girl was murdered by her stepfather or something. So, these are situations that occur, and I can't say anything else because it's real."]

Paula's narrative denotes how the shame, social stigma, and religious pressures of teen pregnancy in El Salvador can be fatal for some young women. This is supported in the literature that El Salvador is one of the Central American countries that is "considered to have a serious problem with teen pregnancy" and because of repressive abortion laws which state that a women can be sentenced up to 8-years in prison after an abortion, many women, especially teens, are seeking to terminate pregnancies in unsafe ways (Park, 2017, p.182). A study from the Boren Project (2018) suggests that teen girls as young as 12 are pressured to start families in El Salvador, which can lead to fewer career and educational opportunities over the course of a young woman's lifetime.

Similarly, Victoria, a 38-year-old, former garment worker/current janitor also shares her perception of the life of a teen mother in El Salvador:

Bueno, para una adolescente es muy difícil porque una adolescente no puede desempeñarse como una mujer adulta, y a veces no le dan trabajo en ningún lado y cómo va a mantener a su hijo. Casi siempre los maridos, los hombres que han dejado embarazadas a estas chicas no las cuidan, sino que siempre las dejan solas con el embarazo y ya. [translation: Well, for a teenager it's very difficult because a teenager can't perform at work like an adult woman, and sometimes they don't give her a job anywhere and how is she going to support her son. Almost always the husbands, the men who have impregnated these girls do not take care of them, but always leave them alone with the pregnancy and that's it."]

Given this context, any decline in teen pregnancy can be a real benefit from CAFTA-DR. After all, more women were able to get a full-time job outside of informal

work, such as selling foods and handmade crafts in markets, or working in the agricultural industry which can be physically taxing and ostracized from mainstream society. This access to more jobs, particularly in the textile and apparel manufacturing sector, subsequently all these women to gain more access to education, and therefore, young women now have a "choice" to not to get pregnant.

Lucia, a 45-year-old designer and entrepreneur, confirms these sentiments by expressing:

"Por ejemplo, las mujeres con las que trabajo que están en zonas rurales, la expectativa o aspiración de una niña es aprender a leer y escribir, ir a la escuela, a la escuela. Una vez que saben eso, a lo que aspiran es a volver a casa y convertirse en madre en algún momento. Como digo, no tiene nada de malo ser madre, es lo más bonito que le puede pasar a cualquiera, pero es por elección porque tú lo eliges, no porque sea tu única aspiración en la vida". [translation:] "For example, the women I work with who are in rural areas, the expectations or aspirations of a girl is to learn to read and write, to go to school. Once they know that, what they aspire to is do is to come home and become a mother at some point. As I say, there is nothing wrong with becoming a mother, it is the most beautiful thing that can happen to anyone, but it is by choice because you choose it, not because it is your only aspiration in life."

In rural areas of El Salvador, many opportunities to for women who are mothers of families is non-existent, such as the opportunity to develop yourself or be able to improve your quality of life. Difficulties to advance arise because these women are often quite isolated from the places where the greatest regional or accessible developments are located. So, if these women want to access a better job, they must migrate to the nearest

major city, for example, San Salvador, oftentimes to perform domestic or janitorial services. Furthermore, for the women that truly desire to change their outlook on life, many opt to migrate to the United States in search of a better future. Statistics report that "Between 200 and 300 Salvadoran people try to emigrate to the United States every day" (Washington Post, 2018). Specifically for El Salvador, migration has consistently increased from 2002 to present day, signifying that fleeing El Salvador is still viable option for many when seeking better opportunities (World Bank, 2022). The impact of CAFTA-DR shows that because more women are at work and have better opportunities, the thought of starting a family is now secondary in importance.

In this light, Yesenia, a 34, Communications and Exports Professional/Administrative Assistant, stated:

Porque generalmente las mujeres suelen casarse y tener hijos a una edad muy temprana. Por ejemplo, yo tengo 34 años, y no estoy casada ni tengo hijos, porque decidí hacerlo para terminar mi carrera, entonces creo que es un poco más difícil. En cuanto al trabajo creo que también es difícil, sobre todo en ese ámbito que siendo mujer no te toman muy en serio como los hombres. Entonces, creo que cuesta mucho posicionarse, pero se puede lograr. Al final, las acciones son las que cuentan. [translation: "Because generally women tend to marry and have children at a very early age. For example, I am 34-years-old, and I am not married or have children, because I decided not to do so in order to finish my career, so I think it is a little more difficult. Regarding work, I think it is also difficult, especially in that area that being women, they don't take you very

seriously like men. I think it costs a lot of a women position herself for success, but it is achievable. In the end, actions are what count."]

Overall, the dimension of adolescent birth rate/teen pregnancy is impacted by the implementation of CAFTA-DR as more women can pursue lives outside of the home now that easily accessible work is available. Overall, this theme of "education first and children later" did not seem affected by the COVID-19 pandemic.

Theme 3: Educational Dreams Realized

The theme Educational Dreams Realized is derived from the GII dimension Secondary Education Rate as an important dimension of gender equality measure. The interview data showed that results from this study found that CAFTA-DR created a greater level of impacted access to education for women, and their children, in El Salvador. Overall, 5 out of 15 participants shared that CAFTA-DR, and its subsequent work availability, crated additional access to education for women and their children.

Literature from UNICEF echoes the participant responses from the study by suggesting that, girls who receive education are more likely to marry later and conceive fewer children which benefits their health and their education (PRB, 2021). Although many of the more senior women in this study have not completed high school degrees, they are hopeful for their futures and the future of other young women in El Salvador. Whether they are from formal or on-the-job training for personal advancement.

On an individual level, Marcia and Angelica shared how their jobs gave themselves or their children to get education. Marcia is a 56-year-old fabric cutter at a woman owned children's apparel factory who has worked here for 30 years. Because of

her job stability, she was able to send one of her children to college, and another is also on track to apply for college after high school graduation as well. Marcia stated…

"Bueno, uno quiere lo mejor para nuestros hijos, que se eduquen. Tengo una sola hija que estudió y gracias al Señor se ha ido adelante. Ya tiene dos hijos, pero ahí va. Las otras chicas solo terminaron el bachillerato, aunque ya tienen hijos, yo siempre estoy esperando que salgan adelante y quiero poner un buen ejemplo en casa para que sigan haciendo lo mismo en su hogar." [translation: "Well, we all want the best for our children, that they be educated. I have only one daughter that studied and thank the Lord that she has gone ahead. She already has two children. The other girls only graduated from high school, and they already have children. I am always waiting for them to get ahead, and I want to set a good example at home so that they continue doing the same in their home."]

Angelica, a 22-year-old fabric cutter, finished high school and is hopeful for college in the future.

"Ya estoy pensando en entrar a la universidad para buscar nuevas oportunidades, verdad. Para tener un futuro mejor. Soy joven y necesito estas nuevas oportunidades. Gracias a Dios que mis gerentes en esta empresa están muy conscientes de todo eso y puedo ver como Dios me ayuda." [translation: "I'm already thinking about getting into university to look for new opportunities, right. To have a better future. I'm young and I need these new opportunities. Thank God that my managers at this company they are very aware of all that and I can see how God helps me."]

On a professional level, Yesenia and Liliana have explained how they were able to advance their careers to management positions because the education opportunities facilitated by economic growth from CAFTA-DR.

Yesenia, 34, Communications and Export Professional stated:

"*Creo que una mujer que no tiene acceso a la educación generalmente es explotada laboralmente, porque conozco muchos otros casos donde las jornadas son realmente largas, agotadoras y no se respeta el día de descanso que debe tener todo empleado. Yo creo que una mujer educada sabe…la palabra correcta no es pelear, sino defender sus derechos y los derechos que le tiene que dar la empresa, y tienes la facilidad en algún momento si no estás de acuerdo con tu trabajo, puedes cambiar de trabajo. Es difícil para una mujer que no tiene acceso a la educación, lo hace por la necesidad económica que le genera no estar preparada. Entonces sí, hay un gran vacío en las empresas que se aprovechan de la falta de educación de muchas mujeres."* [translation: "I think that a woman who does not have access to education is generally exploited for labor, because I know of many other cases where the hours are really long, exhausting, and the day of rest that every employee must have is not respected. I believe that an educated woman knows how to… the correct word is not to fight, but to defend her rights and the rights that the company must give her, and you have the facility at some point if you do not agree with work, you can change jobs. It is difficult for a woman who does not have access to education, she does so because of the economic need by not being prepared. So yes, there is a huge gap in companies that take advantage of the lack of education of many women."]

Similarly, Liliana, 40-year-old, former apparel factory manager, highlights the role of education in her career development:

"*Si, la verdad mi nivel de estudios me dio la oportunidad de crecer y como les expliqué comencé en un nivel bajo, siempre a cargo de personas, pero no muy bien pagado, bueno con mi título me dieron muchas oportunidades de crecer y ya me ofrecieron otro tipo de puestos gerenciales, actualmente tengo un puesto gerencial, tengo a mi cargo casi 140 personas."* [translation: "Yes, the truth is that my level of education gave me the opportunity to grow. I started at a low level, always in charge of people but not very well paid. With my degree, they gave me many opportunities to grow and they already offered me other types of managerial positions, currently, I have a managerial position, I am in charge of almost 140 people."]

These sentiments echo Hammond (1998) in his text "Fighting to Learn: Popular education and guerilla war in El Salvador" that prior to CAFTA-DR women in El Salvador were "lacking education, political power, and confidence in their capacity to act" leaving them with "a deep sense of inferiority" (p.7). But since the implementation of CAFTA-DR in 2006, more women have begun college courses and graduated, which inevitably increases sense of self-worth, confidence to change their life, and are more politically informed. Therefore, the dimension of secondary education rate directly connects to the theme that women in El Salvador can realize their educational dreams since the implementation of CAFTA-DR.

While there were changes in how children needed to be educated for maquiladoras during the pandemic, which increased responsibility in the home, COVID-19 did not directly impact access to higher education. The following section will analyze

the results for Women in Parliament Seats, which has been translated to women in positions of power in the textile and apparel sector.

Theme 4: Networking and building communities are changing the TA Workforce for the better

The fourth and final theme found in this research is an extension of the fifth GII dimension, Labor Force Participation rate. This theme has been interpreted to describe how networking across peer groups creates opportunity to increase the TA workforce, especially for women in El Salvador. By networking across, especially for TA specific roles, women in El Salvador are now able to build professional communities and disrupt traditional gender roles by establishing careers that positively influence their lives. As reiterated from the literature review, the research suggests that with the implementation of CAFTA-DR, more women began to migrate into urban areas in search for new jobs, as provided by growing TA manufacturing plants (Abrahamson, 2016). These women have also started to grow both informal and formal professional communities, unions, and support groups within the maquilas to help get access to textile jobs, learn valuable technical skills to perform specific roles, and to maintain friendships in both good and bad times throughout their TA career experiences (Domínguez et al., 2010).

For example, it was very common to find women employees in the factory who found their current jobs through their family members or friends. Finding a job was one thing, however, these women shared that they are building the network and communities together, as well as advocating the elderly otherwise would not have had a job opportunity.

Elisabeth, a 22-year-old, fabric cutter, who has been working in this factory since her high school graduation expressed her gratitude for her coworkers as she was able to enter the TA industry and learn on the job from their expertise:

"Bueno, al principio me costó porque estaba buscando trabajo y no lo encontraba. Al final lo encontré aquí, la señora Martita me dio la oportunidad y entré por una tía que también trabaja aquí. He aprendido a llevar el ritmo de trabajo, porque no conocía todo el mundo de la costura… gracias a Dios con las compañeras que me han enseñado." [translated: "Well, at first it was difficult for me because I was looking for job and I could not find it. In the end, I found it here, Mrs. Marisa gave me the opportunity and I entered through an aunt who is also working here. I have learned to keep pace with work, because I did not know the whole world of sewing… thank God with the coworkers that have taught me."]

For Bianca, she was especially grateful for her connections with Marisa, the factory owner, who looked past her age to help provide her an opportunity to earn and take care of herself.

"Hay empresas que ya no contratan a una mujer con la vejez, y aquí, gracias a Dios, [Marisa] me dio trabajo ya hasta con mis años. Busqué en varios lugares y me dijeron que a mi edad [ya no podía trabajar." [translated: "There are companies that no longer hire a woman with old age, and here, thanks to God, Mrs. Marisa gave me work, even with my age. I looked in various places and they told me that at my age, [I couldn't work] anymore."]

These networking and building communities activities were even more important during the COVID 19 pandemic. The participants also expressed how the TA industry pivoted and since the onset of COVID-19 and also shared about the emotional and communal support they received from each other to help get through hard times. This is an extension of the cooperative and collaborative communities that have been developed for women since the late 1990s in Central America, as reiterated from the literature review. The sewing cooperative project built in January 1997 in Nicaragua consisted of taking 400 families, particularly focusing on women and children, and creating a building that with a childcare facility next door, allowing the women to work and sew together without feeling distanced from each other or their babies (Crabtree, 1998).

Angelica, 22-years old, 3 years in the industry with a high school diploma expressed:

"Sí, se han implementado reglas para usar una máscara permanente, estar lejos de las personas, no estar demasiado cerca, manejar a un metro de distancia, el lavado de manos es la regla aquí… Nadie quiere irse o enfermar a todo el personal, entonces hay cambios y han sido cambios para mejor. A la gente también le gusta que era un momento para concentrarse y decir "ok, esto lo he estado haciendo mal en mi vida, en mi trabajo, es hora de [tratar a las personas] bien, porque no sabes cómo van a ser las cosas". ir en la vida. Empezamos a hacer las paces con todos, [trabajamos] en armonía y también aprovechamos las oportunidades que tenemos aquí [en la fábrica]. Volvimos al trabajo y como si la vida se hubiera vuelto un poco más fácil para nosotros. No del todo fácil porque hay recaídas y enfermedades, pero gracias a Dios que

el trabajo nos ayuda mucho… para poder compartir [nuestras experiencias] con otras personas." [translation: "Yes, rules have been implemented to wear a permanent mask, to be away from people, not to be too close, to stand a meter away, and frequent hand washing is the rule here…No one wants to leave or make all the staff sick, so there are changes and they have been changes for the better. People also like that it was a moment to focus and say "ok, I've been doing this wrong in my life, in my work, it's time to [treat people] well, because you don't know how things are going to go in life. We started making peace with everyone, [we] work in harmony and also take advantage of the opportunities we have here [at the factory]. We went back to work and as if life has become a little easier for us. Not entirely easy because there are relapses and illnesses but thank God that the work helps us a lot…to be able to share [our experiences] with other people."]

Lucia, a designer and factory owner with almost 20 years of experience in the TA industry reiterates how she re-enforced a collaborative in her company since the pandemic. Lula expressed…

Somos gente, gente haciendo o representando o cuidando ciertas áreas de la empresa, y por la pandemia yo les dije, pues vamos a borrar esas líneas que tú aquí, yo allá, borramos ahorita y colaboramos todos en lo que podemos colaborar." [translation: "We are people, representing or taking care of certain areas of the company, and because of the pandemic I told them, well, let's erase those power lines, we can erase them right now and we all collaborate in what we can."]

Summary of Step 2

In summary, out of the five GII dimensions, the qualitative analysis only showed four significant thematic findings. The missing dimension in qualitative results was Women in Parliament Seats and the participants did not show that they have a strong relationship to or awareness of the female presence in local governments. However, for maternal mortality, which has been interpreted as maternal presence and duty, the qualitative findings show that the presence of a working mother in a Salvadoran home is the backbone that keeps the family supported. Covid-19 had the most dramatic impact on mothers being able to confidently care for families as the stress of doing at-home schooling and time-off from work was taxing on the family unit. For the second dimension, Adolescent Births, teen pregnancies have decreased in El Salvador and because of CAFTA-DR, more job opportunities for women have been created, more women are prioritizing careers and education over having a family due to access to more opportunities. The third dimension Secondary Education Enrollment which increased since CAFTA-DR were a strong focal point for women's empowerment in El Salvador. It is the access to education that provides them professional development and networks to seek other careers outside of the textile industry is desired. The fifth dimension but the fourth theme is Labor Force Participation, which thematically emphasized how the growing and collaborative nature of women working in the Salvadoran TA industry is providing longevity and support within the women's careers. This theme was also impacted by the COVID-19 pandemic; however, the participants recant positive stories of how togetherness and collaboration is what got them through the hard times. The

following section will review the results of both Step 1 and Step 2, a mixed method analysis.

Overall Results of Mixed-Method Analysis

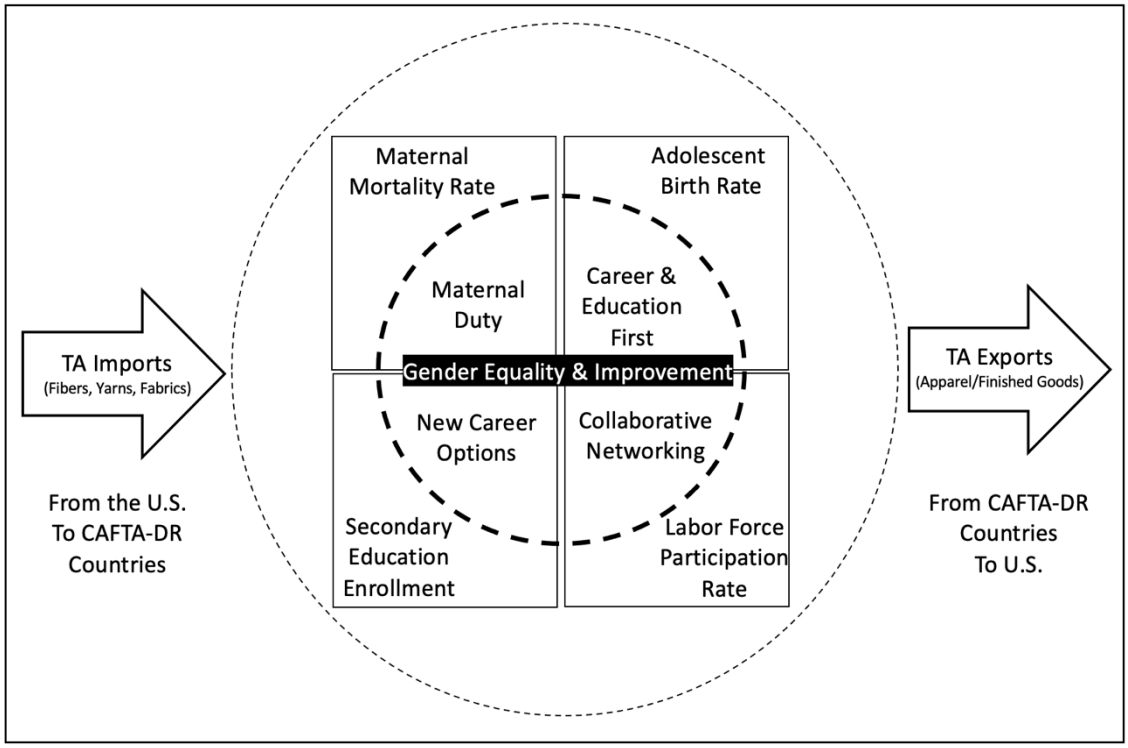
Now that the interpretation for Step 1 and Step 2 have been provided, the following section provides an analysis of both the quantitative and qualitative results. The below image is an example of how each quantitative variable was thematically triangulated to best fit the participants responses. The GII indicator, women in parliament seats did not merge as a theme in this study. My participants (only 1) did not have knowledge of this theme; therefore, it is not included in the triangulation model.

The model in figure to shows the relationship between the Central American Free Trade Agreement (CAFTA-DR) and the Gender Inequality Index (GII). The larger square confines the relationship between the agreement, GII index dimensions, the inflow and outflow of textile and apparel imports and exports, and the thematic constructs provided from the qualitative interview results. As the textile and apparel "TA" imports arrow flow into Central American economy from the United States, it permeates the cycle of gender inequality and influences how maternal mortality, adolescent birth, secondary education, and labor force participation rates evolve over time. These changes in GII statistics influence the everyday experiences of women working in the TA industry, as described by the dotted circle which includes maternal duty, placing career and education before family and child rearing, expansion of new career opportunities due to higher education access, and collaborative networks within the workspace. The collection of these statistics and the thematic constructs then lead to an outflow of TA exports from Central America to the United States. In summary, CAFTA-DR is a structure that influences

many aspects of the Central American TA industry, the economy, and the quality of well-being and economic equality as perceived by women. The flow of TA exports and imports have the potential to influence these relationships as well.

Figure 4.1

Central America Free Trade Agreement and Gender Inequality Index Matrix



* Note: This figure represents the study findings from the following data sets: Quantitative data are from years 2000 to 2018; and qualitative data are collected in year 2021

This concludes the results section for steps 1, 2, and the triangulation in step 3. The final section of this dissertation will provide a conclusive summary along with limitations of the study, and implications for future research, policy reform, and the TA industry.

CHAPTER V. CONCLUSION AND IMPLICATIONS

Summary of Study

In conclusion, the purpose of this research study was to analyze the relationships between the international trade policy, The Dominican Republic and Central American Free Trade Agreement, gender inequality statistics from the Gender Inequality Index, and the perceptions of how gendered issues have evolved overtime from women working in the Central American textile and apparel supply chain. In response to the expected findings, this study found that throughout the implementation of CAFTA-DR, gender inequality statistics overall improved, some more significantly than others. For example (include examples here, i.e. maternal mortality and adolescent birth rates showed the most consistent statistically significant improvement over time since CAFTA-DR's implementation). Additionally, this study found that women working in the TA sector, while they may not have a direct understanding of the inner workings of trade policy, maquiladoras have experienced the side effects of international free trade, highlighting access to more stable careers, opportunities to pursue higher education in lieu of starting a family immediately, and networking across their peer groups with other women to create more opportunities for all.

The value of this research addressed the gap that experiential data is not often analyzed with the statistics that denote whether are trade policy is effective or not. While TA exports, imports, and GII statistics may improve over the implementation of a policy, the qualitative results from this study add new knowledge to the industry and academy, as rarely heard voices from women working in the Central American TA industry have been given the opportunity share their experiences as a result of policy change.

This research has addressed an intersectional gap in the literature that intentionally studies gender inequality and international trade from a TA specific lens. Therefore, upon completion of the analysis, the goal of this dissertation research is to be published and disseminated, primarily in a textile and apparel focused journals to add new value to this literature segment.

The overall goals of this research was achieved as the scholars were able 1) to analyze how TA export and import data, within CAFTA-DR implementation timelines, impacted maternal mortality rates, adolescent birth rates, secondary education enrollment for female pupils, national parliament seats held by women, and labor force participation rates of women (the Gender Inequality Index) and 2) through interview data explore how women working TA industries and the academy in El Salvador perceived gender inequality experiences throughout the CAFTA-DR implementation timeline.

This study used mixed methods to address the research gaps. For Step 1, the quantitative methods used multivariate multiple regressions with panel data, using STATA SE/16 as the tool, and gathering data from The World Bank and The World Integrated Trade Solutions. Five models, representing each dimension of GII, were analyzed with the independent variables, TA exports and TA imports, year (2000-2018), country (El Salvador – constant, Costa Rica, the Dominican Republic, Guatemala, Honduras, and Nicaragua), and control variables, military expenditure, healthcare expenditure, vulnerable female employment, and foreign direct investment. For Step 2, the qualitative methods used in-depth interviews to explore how 15 women participants who have worked or are currently working in TA factories or teaching a TA related

subject at university perceive gender inequality in CAFTA-DR and COVID-19 environments.

Overall, the Step 1 results showed that decreases in maternal mortality rate for CAFTA-DR countries had the strongest relationship to increases in TA exports, TA imports, and the implementation of CAFTA-DR. These results also found that adolescent birth rates, female labor force participation rates, and the percentage of national parliament seats held by women were all positively associated with the implementation of CAFTA-DR. Lastly, this study found that TA export growth is positively associated with the percentage of women holding national parliament seats, while TA import growth is associated with an increase in the percentage of female pupils enrolled in secondary education.

The Step 2 results conclude that there are four major themes found in this study. These themes include 1) maternal duty, 2) education first, children later, 3) new career opportunities, and 4) collaborative networking with women peers. Because of CAFTA-DR, even if the participants did not directly understand, this policy improved access to education for their entire families, which led to more career opportunities, which ultimately allowed a shift in goals from thinking about starting a family first to personal self-development.

Contributions of this study

This study helps fill gap in TA literature by adding new knowledge to the field about how gender inequality statistics, TA export and import trade, policy change, and the lived experiences of women working in TA factories are associated. Both the Heckscher-Ohlin (1942) and the Becker (1957) theories are supported from the findings

in this study. Heckscher-Ohlin theory of international trade that a country produces exports for its most dominant resource. With El Salvador as the constant country and the reference country for the qualitative research, El Salvador is consistently the highest TA product exporting country out of all CAFTA-DR countries. Additionally, the regressions found that 4 out of the 5 models were directly influenced by positive growth in TA exports and/or imports. Therefore, the Heckscher-Ohlin theory of international trade is supported.

The Becker theory or economic discrimination is also supported. This theory claims that there is clear evidence between gender and labor market discrimination (Altman, 1995), particularly when it comes to wages and/or opportunities for advancement, economic mobility, and how the socialization of women encourages them to be household workers vs. formal employees. This supported the findings from the qualitative interview findings as many women were clear that their economic opportunities have been limited due to their gender in CAFTA-DR countries. However, with growth of TA free trade, more doors are opened and the effects of labor market discrimination, while present still, are decreasing. This is especially true for women who work for women owned companies.

This study agrees with other studies that have examined the impacts of gender inequality on women in Central America and working in TA industries, in both CAFTA-DR and COVID-19 environments (Busse & Spielmann, 2006; Jansen et al., 2007; Webster et al., 2022). The most recent study by Webster et al (2022) concluded that although free trade improved the opportunity for women to enter the workforce in Central America, COVID-19 resulted in significant loss of employment, effecting women at

significantly higher rates than men, as women make up 80% of the Central American TA workforce. Robinson (2002) found that gender inequality and pre-existing cultural norms that promoted division based on sexes directly impacted labor force inequalities in Central America, as this scholar studied it through the lens of globalization. The findings from my study are also in agreement with Robinson (2002).

Additionally, because this study used a mixed-methods research design to better understand complex phenomena, such as the lived experiences of gender inequality and how it compares to the available statistical data, this research contributes a more holistic understanding to gender inequality research, Latinx studies, and more specifically, the global textile and apparel manufacturing sector. While there is present literature that either studies the qualitative impacts (Anner & Evans, 2007; Molyneux, 2002; Padavic & Reskin, 2002) or the quantitative impacts (Huber & Stephens, 2012; Thorp & Inter-American Development Bank., 1998) on gender inequality, Latin America, and the TA industry, this study combined the two methodologies contribute new inclusive knowledge to the body of literature.

Implications

With this theoretical contribution, the study findings how have several including theoretical, political, and research-based implications for future stakeholders.

Policy implication

As the results from this study supported both the Heckscher-Ohlin theory of international trade and the Gary Becker theory of economic discrimination, we found that for quantitative result 5 that 1) throughout the implementation of CAFTA-DR, labor

force participation of women increased, and through the qualitative theme 4, 2) since the implementation of CAFTA-DR, with more women being in the work force, women employees experiences more satisfactory experiences while seeking new work and within the work environment due to supportive environments and an increased sense of collaboration. These findings can be beneficial to women-centered organizations that promote programs to enhance the professional skill development of women in CAFTA-DR countries. These results could be used by the United Nation's committees that develop programming for the Sustainable Development Goal 8: Promote sustained, inclusive, and sustainable economic growth, and full productive employment and decent work for all by 2030. One strategy currently used by the UN to achieve this goal is to increase aid for trade and increase protection of labor rights to promote secure working environments, particularly for women migrants and those in precarious employment. The findings from this study imply that programs such as these are validated in their efforts and could better achieve their goals by analyzing how increased international trade and protecting the workspaces of women will benefit CAFTA-DR countries and the everyday lives of women working TA industries.

In addition, results from quantitative findings 1), maternal mortality rate decreased as textile and apparel exports and imports increased and CAFTA-DR progressed, 2) women's representation in national parliament increased as textile exports increased, and as CAFTA-DR progressed, and the qualitative finding that 3) maternal duty is an essential component of cultural expectations for women in Latin America, organizations such as Latin American and Caribbean Committee for the Defense of Women's Rights (CLADEM) which promotes women's rights by monitoring

international treaties and proposing reforms in legislation by conducting research, trainings, and organizing action based programming could strengthen the validation for their programs based on these findings. Particularly, CLADEM has been instrumental adding additional support to program that support women's reproductive rights while keeping these decisions out of the hands of major governments, to all for the women's groups to lead these efforts. These findings also could be beneficial to support to the programs that CLADEM does every four years that strategize how the state can be more responsible for increasing women's access to health care when life circumstances increase their risks of possible abortion or pregnancy related issues. Additionally, CLADEM has been instrumental in increasing the political participation of women in the Central American and Caribbean regions by strengthening family welfare programming in the communities, demanding affirmative action, quota laws, and help political parties and heads of state involve more women in the political process. Therefore, the aforementioned results will prove beneficial to supporting the causes and initiatives of CLADEM and similar organizations.

Industry Implications

Similarly to the theoretical implications, there are industry implications for the quantitative results (5) which claimed throughout the implementation of CAFTA-DR, labor force participation of women increased, and through the qualitative theme (4) which support the notion that the implementation of CAFTA-DR, with more women being in the work force, women employees experiences more satisfactory experiences while seeking new work and within the work environment due to supportive environments and an increased sense of collaboration. Company's departments who

specialize the corporate social responsibility side of the TA industry can use these findings to further investigate and improve the everyday working experiences of women in the TA industry, placing special emphasis on programs that support team buildings, networking across the industry, and support groups. The TA factors can use these findings owners could examine the spirit of collaboration and teamwork amongst employees as well as the advancement of women to supervisory roles. By further exploring these relationships, both quantitatively and experientially, CSR teams and factory owners can develop programming to better serve the women working in their companies.

Academic Implications

Lastly, the key quantitative result 2) which claimed secondary educational enrollment of female pupils increased throughout the implementation of CAFTA-DR and the qualitative finding from theme 3) which expressed that secondary and tertiary education attainment has changed the lives of women and their children for the better by providing hope and access to new opportunities in CAFTA-DR countries. These findings could benefit the development of TA scholarly programming in universities in the U.S. and in Central America, such as the University of Missouri and Universidad Catolica de El Salvador. These TA programs could reenforce the desire to build the professional development bridges from high school, through university level courses, then connecting to various opportunities in the TA sector to enhance the quality of life of students, particularly women. These findings support the need for such programs and a can be used as a resource to validate their importance to educating women in Central America.

Study limitations and future research opportunity

The quantitative portion of this study was limited in nature due to its small sample size (n=114), inconclusive data for various countries, years, outcome variables, independent variables, and control variables. The original plan for this study examined over 300 data points and 12 control variables, ranging from years 1990 to 2019. However, due to missing data within the years, countries, the key outcome variables and the control variables, these data points were reduced to (n=114) and 4 control variables. This study also conducted 3 sensitivity tests, however there is opportunity to reexamine the selected variables to due the five models having closeness to being highly correlated.

The qualitative portion of this study is limited in nature as data was collected from 1 country, 1 factory, 1 showroom, and the remainder at a university in El Salvador with employees who worked in TA factories in the past. There is an opportunity to further expand this study by collecting data in other CAFTA-DR countries with high TA export production, such as Guatemala and Honduras. There were 15 participants interviewed for this study, there is an opportunity to increase the sample size, while also improving the diversity of the demographics within the selected sample, for example, more women who have worked in the TA industry longer, more women in supervisory roles in TA industries, and more women with direct knowledge of how CAFTA-DR impacted their everyday lives. The interviews in this study were also conducted in Spanish by a non-native Spanish speaker, therefore there is a limitation in interpretation and potential language barriers when formulating follow-up and clarification questions throughout the interviews. Future scholars could also consider studying the newly improved lives of

these women with higher degrees who work in TA industries, as they are a relatively new demographic with new experiences worth examining.

APPENDICES

IRB Application Documents for Qualitative Research

See printed attached document of IRB approval.

IRB #2070522 MU, Application #337719

Submission date: 9/17/2021

Submitted by: Robertson, Cydni Meredith

Approved: 9/21/2021

English Recruitment Email

The Effects of Trade Liberalization Policies on Gender Inequality in Central America and Its Relevance to the Textile and Apparel Industry and Academy

Greetings Ms. Patricia Quintana of Universidad Catolica de El Salvador (UNICAES)

My name is Cydni M. Robertson, graduate PhD student in the Department of Textile and Apparel Management (TAM) at the University of Missouri - Columbia. I am conducting a dissertation research project as a part of completion for a PhD in TAM which will explore: How CAFTA-DR influenced changes in perceptions of gender inequality for women working and studying in the El Salvador textile and apparel manufacturing industry.

We are inquiring about Hanes', Lula Mena, Marguerite Children's Clothing and Manufacturing, and more availability to open its facilities for this research study. Would you facilitate the relationship between the above companies to allow the researcher to conduct interviews with available women workers research purposes? The questioning process will not take more than 15-20 minutes to complete per individual.The women's participation in this study is strictly voluntary, and the women may refuse to participate or discontinue participation at any time. Their names will not be linked to the survey responses to ensure privacy. The responses will be saved anonymously with password in a password protected computer. Any electronic files will be saved with numeric codes, with no personal identifiers. Finally, the aggregated data will be analyzed and shared for publication. The data will be kept for seven years after the study has been completed.

Continuing with our interview is an indication of the women's willingness to participate, and that they are at least 18 years old. I am hoping that Hanes, Lula Mena, Marguerite Children's Clothing and Manufacturing, and more will be interested in taking

part in this interview. If you have any questions concerning the rights of the participants, you may contact Campus Institutional Review Board at 573-882-9585 or at umcresearchcirb@missouri.edu. If you have any questions regarding the research itself, you may myself, Cydni M. Robertson by email at cydni.robertson@mail.missouri.edu or by phone, 972-824-0925 or you may contact Jung Ha-Brookshire at habrookshirej@missouri.edu by e-mail at habrookshirej@missouri.edu.

Spanish Recruitment Email

Título del Proyecto:
Los efectos de las políticas de liberalización comercial sobre la desigualdad de género en Centroamérica y su relevancia para la industria y academia textil y de la confección

Saludos Sra. Patricia Quintana de la Universidad Católica de El Salvador (UNICAES)

Mi nombre es Cydni M. Robertson, estudiante de doctorado en el Departamento de Gestión de Textiles y Confecciones (TAM) de la Universidad de Missouri - Columbia. Estoy realizando un proyecto de investigación de tesis como parte de la finalización de un doctorado en TAM que explorará: Cómo el CAFTA-DR influyó en los cambios en las percepciones de la desigualdad de género para las mujeres que trabajan y estudian en la industria textil y de confección de El Salvador.

Estamos preguntando sobre la confección y confección de ropa infantil de Hanes, Lula Mena, Marguerite y más disponibilidad para abrir sus instalaciones para este estudio de investigación. ¿Facilitaría la relación entre las empresas mencionadas para permitir al investigador realizar entrevistas con las trabajadoras disponibles con fines de investigación? El proceso de interrogatorio no tomará más de 15 a 20 minutos para completar por persona.

La participación de las mujeres en este estudio es estrictamente voluntaria y las mujeres pueden negarse a participar o dejar de participar en cualquier momento. Sus nombres no estarán vinculados a las respuestas de la encuesta para garantizar la privacidad. Las respuestas se guardarán de forma anónima con contraseña en una computadora protegida por contraseña. Todos los archivos electrónicos se guardarán con códigos numéricos, sin identificadores personales. Finalmente, los datos agregados serán analizados y compartidos para su publicación. Los datos se conservarán durante siete años después de que se haya completado el estudio.
Continuar con nuestra entrevista es un indicio de la voluntad de participación de las mujeres y de que tienen al menos 18 años.

Espero que Hanes, Lula Mena, Marguerite Children's Clothing and Manufacturing, y más, estén interesados en participar en esta entrevista. Si tiene alguna pregunta sobre los derechos de los participantes, puede comunicarse con la Junta de Revisión Institucional del Campus al 573-882-9585 o al umcresearchcirb@missouri.edu.

Si tiene alguna pregunta con respecto a la investigación en sí, puede llamar a Cydni M. Robertson por correo electrónico a cydni.robertson@mail.missouri.edu o por teléfono al 972-824-0925 o puede comunicarse con Jung Ha-Brookshire en habrookshirej@ missouri.edu por correo electrónico a habrookshirej@missouri.edu.

English Consent Script

Good morning/good afternoon,

My name is Cydni M. Robertson. I am involved in a research study to understand how Quality of Work Life influences perceptions of overall life satisfaction within the El Salvadorian textile supply chain. This study is being led by myself, Cydni M. Robertson, at The University of Missouri – Columbia. May I ask you a few short questions? I must confirm that you are 18 years of age or older to begin. Are you over the age of 18 years old?

The University of Missouri – Columbia and I are conducting an exploratory research study on how the quality of your working life can be described by women working in the textile and apparel industry in El Salvador. Your participation in this research is strictly voluntary, and you may refuse to participate or discontinue participation at any time. For the next 10-20 minutes, I will ask you questions related to these topics. Our conversations will be recorded in a digital recorder, and I may take a few photos during our conversation. However, all information will be kept digitally in my password protected storage and analyzed confidentially. Your name and the company's name will not be used in research publication. No one will be able to link the answers you provide to you as an individual. There are minimal risks in participating in this research. By consenting to participate in this research, you verify that you are an adult over 18 years of age. If you have any questions concerning your rights as a participant, you may contact The University of Missouri Institutional Review Board at 573-882-3181 or at irb@missouri.edu. For any questions about the research, you may contact myself, Cydni M. Robertson at cydni.robertson@mail.missouri.edu or 972-824-0925, or Jung Ha-Brookshire at habrookshirej@missouri.edu or 573-882-6316.

Spanish Consent Script

Hola y Buenos dias/tardes,

Mi nombre es Cydni M. Robertson. Estoy involucrada en un estudio de investigación de tesis para comprender cómo los efectos de las políticas de liberación comercial influyen en las estadísticas de desigualdad de género en Centroamérica y analizar su relevancia para la industria y la academia textil y de la confección.
A lo largo de este estudio, indagaré sobre sus experiencias como mujer que trabaja en la industria de administración de textiles y confecciones salvadoreñas desde dos años antes de la implementación del CAFTA-DR hasta la actualidad. También haré preguntas sobre su percepción de las desigualdades de género en El Salvador. Este estudio está siendo dirigido por mí, Cydni M. Robertson, en la Universidad de Missouri - Columbia y

supervisado por mi asesor de tesis, el Dr. Jung Ha-Brookshire. ¿Puedo hacerle algunas preguntas breves? Debo confirmar que tienes 18 años o más para comenzar. ¿Tiene más de 18 años?La Universidad de Missouri - Columbia y yo estamos llevando a cabo un estudio de investigación exploratorio sobre cómo las mujeres que trabajan en la industria textil y de la confección pueden describir el CAFTA en El Salvador. Su participación en esta investigación es estrictamente voluntaria y puede negarse a participar o dejar de participar en cualquier momento. Durante los próximos 10 a 20 minutos, le haré preguntas relacionadas con estos temas. Nuestras conversaciones se grabarán en unagrabadora digital y es posible que tome algunas fotos durante nuestra conversación. Sin embargo, toda la información se mantendrá digitalmente en mi almacenamiento protegido con contraseña y se analizará de manera confidencial. Su nombre y el nombre de la empresa no se utilizarán en publicaciones de investigación. Nadie podrá vincular las respuestas que le proporcione como individuo. Hay riesgos mínimos al participar en esta investigación. Al dar su consentimiento para participar en esta investigación, usted verifica que es un adulto mayor de 18 años. Si tiene alguna pregunta sobre sus derechos como participante, puede comunicarse con la Junta de Revisión Institucional de la Universidad de Missouri al 573-882-3181 oatirb@missouri.edu. Para cualquier pregunta sobre la investigación, puede comunicarse conmigo, Cydni M. Robertson en cydni.robertson@mail.missouri.edu o 972-824-0925, o Jung Ha-Brookshire en habrookshirej@missouri.edu.

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VITA

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