Fall 2020

Well-being Indicators, Social Globalization, and Unaccompanied Child Migration from Central America

Lucia Farriss

WELL-BEING INDICATORS, SOCIAL GLOBALIZATION, AND UNACCOMPANIED CHILD MIGRATION FROM CENTRAL AMERICA

by

Lucia Dardano Farriss

A Dissertation
Submitted to the Graduate School,
the College of Arts and Sciences
and the School of Social Science and Global Studies
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved by:

Dr. Joseph St. Marie, Committee Chair
Dr. Iliyan Iliev
Dr. Robert Pauly
Dr. Edward Sayre

December 2020

Published by the Graduate School

THE UNIVERSITY OF SOUTHERN MISSISSIPPI®

ABSTRACT

This research investigates the effect of well-being indictors and social globalization on the migration of Unaccompanied Alien Children (UAC) from Central America. The purpose of this study is to determine whether the surge in UAC that began in 2014 at the United States southern border is driven primarily by violence, or whether other factors are at play. Using data for the period 2008-2018, the apprehension of UAC serves as a proxy for measuring unaccompanied child migration to the United States. The four countries of focus are El Salvador, Guatemala, Honduras, and Mexico as they contribute the largest numbers of child migrants by country of origin. Well-being indicators will extend beyond the traditional definitions of economic prosperity, to include measures on the overall well-being of youth, as supported by the literature. Unemployment rates of young adults and expected years of schooling are included as a measure of youth engagement in productive activities, while homicide rates measure the threat to leading a productive, healthy life. Global social network links are considered as possible pull factors of migration and measured through a social globalization index. First, a parametric fixed effects regression model is used to show the relationship between the various push-pull factors and UAC migration. The engagement of youth in school or work, along with increased social globalization, prove to be significant in explaining heightened UAC migration. Second, the nonparametric Kruskal-Wallis and Mann-Whitney U tests reveal that the populations of the four source countries are not statistically similar and should not be treated as one. Finally, change point detection ties changes in UAC migratory patterns to the historical events of the time period.

ACKNOWLEDGMENTS

The completion of this dissertation would not have been possible without the support and encouragement I received from the faculty and staff of the International Development Doctoral Program. I would like to thank Dr. Joseph St. Marie for his support from day one of the program, as well as Mrs. Annette Copeland for her unwavering positive spirit. Thank you to Dr. Robert Pauly and Dr. Edward Sayre for serving on my dissertation committee and providing guidance on my work.

My most sincere gratitude goes out to my mentor and major professor, Dr. Iliyan Iliev. I was fortunate to be his student in my first semester of the IDV program, which laid the groundwork for this research. It was his rigorous academic standards and unwavering support of my work that made this dissertation possible. I have him to thank for sparking my interest in quantitative research, and for helping me to see the invaluable contributions I can make.

.

DEDICATION

This dissertation is dedicated to my loved ones who have been instrumental in helping me to reach this monumental goal. In particular,

To my parents: Dr. Guillermo Dárdano and Mrs. Carmen Elisabeth Schimmel de Dárdano. Although they are no longer with me, their belief in the importance of a good education still lives in every one of my achievements.

To my husband, Scott: You have seen me through my relentless pursuit of higher education, and I am eternally grateful to you for supporting my dreams. Thank you for your patience during all those times when I said I was done and never really was. I can now safely say, I am officially done! None of this would be worth it without you.

To my children, JP and Kayla: I am honored to be your mom, and I thank you from the bottom of my heart for always telling me how proud you are of me. You will always be my greatest accomplishment.

To my dearest friend and spiritual guide, Maureen Doherty: your love and support of me has no bounds. You have shown me what it means to be an educator, and the impact we can make in just "our little corner" of the world. Thank you for always loving me just the way I am, while encouraging me to be my best.

To my mentor and friend, Dr. Barbara Caldwell: Words cannot express my gratitude for all you've done for me. You have been a guiding light in this entire process, seeing the potential in me even when I had not yet seen it in myself. You always pushed me to the next level, even when I was ready to just settle. You are an inspiration to me professionally and personally, never sacrificing your values while working tirelessly to make a difference in the lives of others.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ILLUSTRATIONS

CHAPTER I - INTRODUCTION

Unaccompanied Alien Children (UAC) apprehensions at the United States southern border have been steadily increasing since fiscal year 2012. In fiscal year 2014, the surge shifted from being predominantly Mexican children to children from three Central American countries: El Salvador, Guatemala, and Honduras. These three Central American countries are commonly referred to as the "Northern Triangle" countries. In fiscal year 2009, Mexican UAC accounted for nearly eighty-two percent of all UAC apprehensions, with apprehensions from the Northern Triangle countries adding another seventeen percent. By fiscal year 2019 the proportions had reversed, and Northern Triangle UAC apprehensions accounted for eighty-five percent of total UAC apprehensions. The majority were young adult males. Females accounted for only thirty-one percent of the total, and only twenty-three percent of UAC apprehensions were children under the age of fifteen (Kandel 2019).

Unaccompanied children become an easy target for human trafficking, sexual violence, and extortion while en route to the United States; and while this should be case enough to warrant further investigation, the financial implications on the United States economy are also significant. From a United States policy standpoint, the UAC surge poses a strain on the budgets of federal agencies, as well as on efforts to curb criminal behavior and gang violence within the United States. The U.S. Customs and Border Protection (CBP) is responsible for the apprehension, processing, and detention of UACs, while the Department of Health and Human Services (DHHS), through the Office of Refugee Resettlement (ORR), is responsible for their care until the Executive Office for Immigration Review (EOIR) conducts immigration proceedings. In 2018 alone, United

States federal government spending on the UAC program totaled $1.6 billion (Kandel 2019). Therefore, there is both a moral and financial urgency to understanding the motivating forces behind UAC migration.

Much of the unaccompanied child migration research to date has been qualitative in nature conducted through non-governmental organizations. Published research findings have been mostly rooted in surveys and interviews conducted with child migrants, with many reporting violence as a motivation to leave their home countries (Chishti *et al*. 2015, Kennedy 2014, UNHCR 2014, Swanson *et al.* 2016, Lorenzen 2017). Rising homicide rates have been cited repeatedly in the literature as driving forces behind child migration from this region (Kennedy 2014, Wong 2014, Swanson *et al.* 2016, Lorenzen 2017). Since the Northern Triangle countries and Mexico have suffered heightened homicide rates in the past decade, child migration is seen as homogeneous if originating in this region. This approach is flawed. For example, Wong (2014) attempts to illustrate the connection between homicide rates on UAC apprehensions by showing a positive correlation between the two variables. However, when separating out child migration and homicides by country of origin, UAC apprehensions by country do not move in line with homicide rates by country. Thus, while the relationship may hold at an aggregate level for the Northern Triangle region, the country-level effects are less clear. In addition, economic and social conditions do differ across countries, and this may be overlooked when child migration is seen from an aggregate-level perspective alone. As to the factors that may draw unaccompanied children to the United States, family reunification is often mentioned (Nazario 2014, Kennedy 2014, UNHCR 2014). Lorenzen (2017), however, finds that family reunification is often mentioned in

conjunction with another motivating factor, such as a lack of jobs, more so than as the exclusive factor.

Overall elevated migration numbers from the Northern Triangle countries began as far back as the late 1970s and 1980s, and the migratory patterns were not identical across all three countries. Therefore, the question as to why a surge in unaccompanied migrant children from this region began in 2012, decades later, remains unanswered. One possible explanation has been U.S. immigration policy. Wong (2014), however, finds no link to the 2012 Deferred Action for Childhood Arrivals (DACA) program, asserting that the growth in UAC apprehensions from the Northern Triangle countries began long before the passage of DACA. Amuedo-Dorantes *et al.* (2016) explores the impact of DACA further, conducting one of the first quantitative studies of UAC migration that did not rely on qualitative survey responses from child migrants. The authors find stronger statistical significance for the 2008 William Wilberforce Trafficking Victims Protection Reauthorization Act (TVPRA) than for DACA. The limited time period of these studies, however, prohibits more robust analysis. Ameudo-Dorantes *et al.* (2016) end with fiscal year 2013 data, while Wong (2014) only analyzes data through 2014. Furthermore, the CBP only began collecting UAC apprehension data beginning in October 2006. Nonetheless, even if family reunification through more favorable U.S. immigration policies is a motivating factor in child migration, the circumstances that would facilitate such reunification are left largely unexplored. Social globalization, through increased telecommunications and secondary income flows, is not addressed by the literature as a factor in UAC migration from the Northern Triangle and Mexico.

This research broadens the investigation of the push and pull factors of UAC migration to also include the growing interconnectedness of geographically displaced communities. A comprehensive set of factors influencing UAC migration, both at an aggregate level as well at the individual country-level are considered. The security and economic conditions within each country are considered as possible "push" factors to increased migration, while potential "pull" factors are drawn from a greater interconnectedness between these countries and the United States. This growing interconnectedness provides not only a common understanding of the social conditions in both countries, but a financial means to migrate through the transfer of secondary income, or remittances. Donato *et al.* (2015) highlight the importance of migration networks and the influence of a parent's migratory patterns on a child's decision to migrate. However, again the authors only review qualitative survey data through 2013, while the surge of Northern Triangle children began in 2014. Therefore, while previous studies have looked to identify the push and pull factors of unaccompanied child migration from the Northern Triangle and Mexico, no quantitative study has yet to include data that encompasses the years of the surge and beyond. This research will cover UAC migration for the time period 2008 to 2018, which allows for more relevant conclusions to be made regarding the factors motivating the rise in Northern Triangle child migrants in particular. Furthermore, it will look specifically into the growing interconnectedness of source and destination countries, using a social globalization index that incorporates increased communication, trade, and financial flows, while still considering the local conditions of each country.

The following research question is presented: Do unstable conditions in the Northern Triangle countries of Central America and Mexico, along with increased social and economic network links to the United States, heighten unaccompanied child migration?

First, an innovative and novel dataset is presented. Quantitative data from the World Bank and United Nations is synthesized with other non-governmental organization data to obtain a more comprehensive and reliable dataset. Homicide data is gathered from Instituto Igarape, a Brazilian think tank. Instituto Igarape partners with leading private sector companies, such as Microsoft, Google and McKinsey, as well as international non-governmental organizations, such as the Red Cross and the United Nations Educational, Scientific and Cultural Organization (UNESCO), to conduct development research throughout Latin America and obtain statistics directly from local governments and universities (Instituto Igarape 2019). This public-private partnership allows Igarape to produce statistics that are not only more reliable than a one-source dataset, but also allows for access to the latest, most updated data. Furthermore, data from the KOF Swiss Economic Institute, a private economic research institute that focuses on global economic development, is also incorporated into this new dataset. KOF globalization data is synthesized from public and private organizations, such as the International Telecommunications Union (ITU), UNESCO, as well as global corporations such as McDonald's and IKEA (KOF 2019). It is used by various governments worldwide and has a significant presence in the literature (Potrafke 2015). In order to more precisely measure the role of social networks in child migration, the KOF

Globalization Index is further deconstructed to single out only factors reflecting social globalization.

In summary, this research looks at the push and pull factors affecting child migration from each of the Northern Triangle countries and Mexico at both an aggregate and a country-specific level. The research methods employed encompass both parametric and nonparametric quantitative analysis in order to achieve more robust conclusions. With parametric analysis, a fixed effects model on UAC migration is presented to account for the unobserved heterogeneity across countries, while still allowing for generalized conclusions regarding the factors of migration. Nonparametric statistics will be used to confirm that these four countries are statistically different from one another, in both their local conditions as well as their ties to the greater global community. Finally, change point detection is employed to further pinpoint specific time periods where mean UAC migration, as well as the variability in UAC migration, experienced significant deviations from previous levels.

CHAPTER II – BACKGROUND

A brief background is presented on recent trends in UAC migration, followed by a historical overview of migration from the Northern Triangle countries. Much of the literature points to migration as a self-reinforcing behavior. Understanding the conditions faced by people in the Northern Triangle countries, their migration trends and continued ties to the United States provides the context for this study. The background presented is largely focused on the three Northern Triangle countries rather than on Mexico. The spike in UAC apprehensions from the Northern Triangle region has been unprecedented, while the relative percentage of Mexican UAC apprehensions has been declining (Kandel 2019).

Unaccompanied alien children are defined as children under the age of eighteen, entering the United States illegally, without a parent or legal guardian either accompanying them or able to provide custody upon their arrival (GAO 2015, Kandel 2019). According to the CBP, approximately ninety-one percent of all apprehensions at the southern border in May of 2019 originated from the Northern Triangle and Mexico. Seventy-eight percent were from the Northern Triangle countries alone. In fact, the number of refugees coming from Central America has reached a level not seen since the civil wars of the 1980s (Kurtenbach 2016). Heightened violence in the region, tied to the growing proliferation of gangs, is considered the driving force behind the large numbers of migrants, particularly children, arriving at the United States southern border (Wong, 2014).

The three Northern Triangle countries have seen their share of violence and political instability in the past. Poor economic conditions, poverty, and high levels of

income inequality are nothing new. The civil wars of Guatemala and El Salvador were estimated to have killed 275,000 persons (Center for Justice & Accountability 2020a, 2020b). Honduras, which did not experience a civil war itself, was flooded with migrants seeking refuge across its borders. Violence, in other words, has been a part of the cultural fabric of this region for decades. Therefore, the 2014 surge in unaccompanied child migration cannot be solely explained by increased violence and poor socio-economic conditions in the source countries. Previous migration patterns must also be considered, along with the networks that these flows create. Accelerated global interconnectedness that began in force in the 1990s, particularly through the dissemination of information on the internet, meant that international migrants became more connected with those remaining behind. Hopper (2007) proposes that cultures are often entangled with other cultures, and people can simultaneously inhabit different cultures. The contemporary phase of globalization has been marked by an intensification of this interconnectedness, which has transformed the social and cultural experience. And while globalizing processes do not define culture, they certainly shape it. Pieterse (2000) argues that globalization involves a trend towards human integration, and that diasporas and migration are a part of this trend. More pointedly, for the purposes of this research, globalization has played a significant role in reinforcing a culture of migration in the Northern Triangle countries.

Previous waves of migration from the Northern Triangle countries

Immigration from the Northern Triangle countries to the United States began decades before the UAC surge of 2014. Civil wars in El Salvador, Guatemala, and Nicaragua during the 1980s drove significant numbers of migrants northward to the

relative safety of the United States. Although the subsequent peace accords of the 1990s brought an end to formal conflict, economic and social insecurity remained. Furthermore, several natural disasters, including Hurricane Mitch in Honduras and Nicaragua in 1998 and an earthquake in El Salvador in 2001, led the United States to designate individuals from these countries for Temporary Protected Status (TPS). While migration to the United States from Central America has historically been high, the Northern Triangle countries have contributed the most numbers given their greater challenges with corruption, gang activity, extortion, and murder (O'Connor *et al.* 2019).

Migration from El Salvador

As of 2018 there are over 1.4 million Salvadorans living in the United States, and the U.S.-based Salvadoran diaspora provides a significant amount of secondary income via remittances to those remaining in El Salvador (MPI 2015, MPI 2020, Menjivar *et al.* 2018). By the mid-1970s, social tensions in El Salvador erupted into open conflict due to growing social inequalities and insufficient labor opportunities. Unauthorized migration to the United States became more common beginning in 1979 after U.S. intervention in the Nicaraguan civil war and its growing support of right-wing regimes throughout Central America. As the Salvadoran civil war grew in intensity throughout the 1980s, the number of unauthorized migrants escaping the war also grew significantly. Few legal means of migration to the United States were available to Salvadorans during the civil war given the numerical visa limits granted to any one country (Flores-Yeffal *et al.* 2018). Furthermore, the United States failed to recognize Salvadorans as political refugees, even though their claims of political persecution should have qualified them as asylum seekers. An estimated 75,000 people were killed during the Salvadoran civil war,

in addition to the thousands who were tortured or disappeared (Center for Justice & Accountability 2020a). However, only two percent of the asylum applications filed by Salvadorans were being approved during this period (Flores-Yeffal *et al*. 2018, Mejivar *et al*. 2018). Nonetheless, illegal immigration from El Salvador continued unencumbered until the passage of the Immigration Reform and Control Act (IRCA) of 1986, which imposed sanctions on employers willing to hire undocumented individuals. Prior to the passage of IRCA, Salvadorans were more interested in avoiding deportation than legalizing their stay, and as a consequence, few Salvadorans applied for asylum unless they were first apprehended. Furthermore, given U.S. military and financial support for the Salvadoran government during the armed conflict, the United States adopted a public relations stance that the human rights situation in El Salvador was actually improving (Coutin 1998, Menjivar *et al.* 2018). This claim would support the notion that the majority of Salvadorans in the United States were not in need of asylum. In 1989, however, it became known that the Salvadoran government was involved in the assassination of six Jesuit priests, which drew the international attention of human rights groups. A provision was negotiated as part of the 1990 Immigration Act which allowed Salvadorans to apply for (a renewable) eighteen months of Temporary Protected Status. However, by 1992 the Salvadoran government had signed a peace treaty with the guerilla forces, which made it harder to argue that Salvadorans in the United States should be classified as refugees who faced persecution if deported. Immigration activists, however, asserted that the United States had a unique responsibility to aid Salvadorans who had fled the war, given the role the United States government played in financing the war. As a result, Salvadorans were allowed to register for deferred enforced departure (DED)

status until the final expiration date of April 30, 1996 (Coutin 1998). In 1997, section 203 of the Nicaraguan Adjustment and Central American Relief Act provided an opportunity to apply for lawful residence to Salvadorans who entered the United States prior to September 1990 and had filed for asylum under the American Baptist Churches v. Thornburgh (ABC) settlement of 1990 (CIS 2008). Almost 200,000 Salvadorans received green cards under this provision (Menjivar *et al*. 2018). Sixty-four percent of Salvadoran immigrants came to the United States before 2000 (MPI 2015).

Overall, the civil war displaced an estimated one million Salvadorans throughout the world, roughly one-fifth of the population at the time. The greatest numbers immigrated to the United States (Coutin 1998, Menjivar *et al*. 2018). Increased deportations of Salvadorans from the United States in the 1990s, however, exacerbated organized crime and gang proliferation in El Salvador. The two major gangs in El Salvador, Mara Salvatrucha 13 (MS-13) and Barrio 18, originated in Los Angeles and proliferated in El Salvador with increased deportations of criminals from the United States. By the 1990s, these Los Angeles-based gangs had grown more powerful and violent through the escalating drug trade. The 1996 Illegal Immigration Reform and Immigrant Responsibility Acts (IIRIRA) permitted the deportation of any non-citizen, including legal residents, convicted of an aggravated felony. The law was also retroactive, which meant that even if the individual had become a United States citizen they could be deported for past crimes as a non-citizen. As a result of mass deportations of criminals and gang members from the United States beginning in 1996, El Salvador's gang epidemic was solidified (Kalsi 2018). As the country grew more unsafe, migration to the United States became a way to escape this lawlessness.

Furthermore, in 2001 El Salvador adopted the U.S. dollar as its official currency as a way to facilitate greater trade and investment with the United States. However, the dollarization of the Salvadoran economy did not generate the foreign investment, nor the economic growth rates, it had intended. The greatest impact has been on the poor who have faced higher costs of living when paying in dollars at the established exchange rate (Towers *et al.* 2004). In addition, two earthquakes in 2001 left many Salvadorans in precarious conditions. Between 1990 and 2017, the Salvadoran population in the United States more than tripled. Consequently, family reunification remains a significant motivator for continuous Salvadoran migration to the United States, facilitated by well-established migrant networks throughout the country (Menjivar *et al.* 2018).

Migration from Guatemala

As of 2018 there are more than one million Guatemalan immigrants living in the United States, significantly below the numbers of Mexicans and Salvadorans, but larger than the number of Hondurans (MPI 2020). Although the Guatemalan civil war began in the 1960s, the first large wave of Guatemalan migration to the United States began in the late 1970s. Migration during the early stages of the war had been predominantly to nearby Mexico, where many Guatemalans had established labor networks. As state-sponsored attacks against ethnic Mayans intensified, along with a devastating earthquake in 1976, significantly higher numbers of Guatemalans began seeking refuge in the United States as well. Approximately 14,000 Guatemalans had emigrated to the United States by 1977 but this number peaked to over 45,000 by 1989 (Jonas 2013). Ethnic Mayans constituted by far the greatest number of victims during the Guatemalan civil war, and historically have experienced discrimination and segregation. They experience higher

levels of poverty and unequal access to resources and services, such as adequate education and healthcare (Jonas 2013, Taft-Morales 2019). Nearly 200,000 Guatemalans crossed into Mexico and the United States in the early 1980s and were officially registered as refugees by the United Nations High Commissioner for Refugees (UNHCR). Nonetheless, neither the United States nor Mexico granted these migrants refugee status (Jamal 2000, Jonas 2013). Throughout the 1980s, ninety-seven percent of Salvadoran and ninety-eight percent of Guatemalan asylum petitions were denied. Outrage over U.S. involvement in both these countries civil wars led to the rise of the "sanctuary movement" of the 1980s. In 1985, a class-action lawsuit was launched by supporters of these migrants' plight against the U.S. Immigration and Naturalization Services (INS) and the U.S. Justice Department. The reasoning was that these individuals had been denied asylum unjustly due to a focus on foreign policy considerations and not their individual situations. The case, later known as the American Baptist Church v Thornburgh (ABC), ended in a 1990 settlement. The settlement required the INS, which was later reorganized as part of the Department of Homeland Security, to revisit all the cases of Guatemalans and Salvadorans arriving prior to 1990 that had previously been denied asylum. This legislative victory gave Salvadorans and Guatemalans special concessions in a later law, the 1997 Nicaraguan Adjustment and Central American Relief Act (NACARA).

Guatemalan immigrants became more significant as a percentage of the United States immigrant population after the conclusion of the civil war in 1996. Migrant networks had already been established in the United States and Mexico, and the legal victories of the 1990s only served to fuel greater migrant numbers given the harsh socio-

economic conditions of post-war Guatemala. Guatemala is among the countries with the highest income inequality and poverty rates across Central America, and these indicators only worsen for the largely rural, indigenous population (Janzen 2008, Taft-Morales 2019). During the post-war years between 1999-2007, 43.4 percent of the country's wealth was held by the top ten percent of the population and only 0.9 percent held by the bottom ten percent of the population (Janzen 2008). Guatemala has the lowest tax-to GDP ratios in the region, at 12.6 percent, which the World Bank and International Monetary Fund attribute as a factor in the weak post-war recovery (Jonas 2013). Criminal organizations operate widely throughout the country, with ties to the United States drug trade and links to gangs operating transnationally in the region.

In 2006, the government of Guatemala and the United Nations agreed to establish the International Commission against Impunity (CICIG) to dismantle and prosecute criminal groups operating in Guatemala. By 2017 however, former President Jimmy Morales had ordered the expulsion of the United Nations anti-corruption mission after it was revealed he and many in his inner circle were under investigation (Taft-Morales 2019). Furthermore, environmental disasters that have displaced hundreds have also been commonplace, with Hurricane Mitch in 1998, Stan in 2005, and Agatha in 2010, as well as a magnitude 7.4 earthquake in 2012. Despite the Temporary Protected Status granted to Salvadorans, Hondurans, and Nicaraguans following natural disasters, Guatemalans received no such relief (Jonas 2013).

The continued political and economic instability, coupled with violence and natural disasters, added to an accelerating rate of emigration to the United States. From 2007 to 2015, the Guatemalan population in the United States grew at thirty-one percent,

only second to immigration from Honduras. Although Guatemalans have established a large diaspora in the United States, it is not as entrenched and organized as the Salvadoran diaspora. Family reunification appears to be less of a reason to migrate, and instead a means to obtain funds to remit back to family members back home (Jonas 2013). In 2016, out of the three Northern Triangle countries, Guatemalans sent the highest amount of remittances back home at $7.5 billion (Cohen *et al.* 2017).

Migration from Honduras

As of 2018 there are approximately 646,000 Honduran immigrants living in the United States, the smallest number of immigrants from the Northern Triangle but the third largest from Central America (MPI 2020). Relatively few Honduran immigrants came to the United States in the 1980s, establishing fewer social networks to facilitate the increased numbers of migrants that would follow in the coming decades (Reichman 2013). Until the 1990s, international Honduran migration was less common than internal migration (Blanchard *et al.* 2011). With a relatively low population density, as economic opportunity developed in different areas of the country, migration patterns followed. Throughout the 20th century, Honduras became a magnet for multinational corporations, especially in the fruit industries. In the 1960s, Honduras began developing its coffee growing regions which attracted rural workers from around the country. The export-oriented industries of cattle and cotton also flourished, and by the 1980s industrial development in the north of the country was largely focused on production for the United States market (Reichman 2013). Throughout the 1980s, when its neighbors were experiencing civil war, the Honduran economy grew at rate of two percent, compared to only one percent in Guatemala and a decline of 1.6 percent in El Salvador. After the

signing of their respective peace accords, however, El Salvador and Guatemala experienced much stronger growth rates of over four percent annually. The Honduran economy remained at just a 2.7 percent growth rate throughout the 1990s (Cardemil *et al.* 2000).

Honduras has long suffered from chronic fiscal instability, with public sector deficits of 4.5 percent of GDP in 2008 and 7.6 percent in 2013. This was driven primarily by worsening terms of trade, as well as increased public sector spending tied to inflated salaries and debt repayments. Furthermore, Honduras has been slow to recover from the global financial crisis of 2009, exacerbating low employment opportunities and stagnating labor productivity. The Honduran economy is particularly susceptible to U.S. market fluctuations given its reliance on remittances from Hondurans working abroad. This vulnerability is most acute in the rural areas, where sixty-five percent of the households are considered to live in chronic poverty (World Bank Group 2015b).

Although Honduras did not endure a civil war, it was not shielded from the deleterious effects of large movements of Salvadoran, Nicaraguan, and, to a lesser extent, Guatemalan refugees across its borders. Furthermore, Honduras became the base of U.S. operations in the Cold War struggle against the spread of communism in Latin America. At the end of the Cold War, Honduran migratory patterns began to take on a more international trend. Continued focus on Honduras' export industry left many rural workers struggling. When Hurricane Mitch struck in 1998, 1.5 million Hondurans were estimated to have been displaced, leaving 17,000 workers jobless due to losses in the agricultural sector (Reichman 2013). Furthermore, in 1999 those Hondurans already living in the United States became eligible for Temporary Protected Status due to the

devastation of Hurricane Mitch. In fact, between 1990 and 2000, out of all Central American countries, Honduran immigration to the United States experienced the fastest growth. The rise in Honduran migration after the Cold War is largely seen as one of economic opportunity. In the 1990s, the political system in Honduras failed to bring economic stability and increased social welfare (Reichman 2013). The deteriorating conditions came to head when in 2009, the two main political parties with support from the legislature and the supreme court, participated in a military coup against then-President Manuel Zelaya who had become increasingly populist. In the years following the coup, the rival political party, the Partido Nacional, consolidated power and further eroded checks and balances in governance. After mass protests, in 2016 an Organization of American States (OAS)-backed mission to Fight against Corruption and Impunity in Honduras (MACCIH) was created (Meyer 2020). The mission, together with the Attorney General's office, has advanced several investigations regarding corruption by senior officials. However, in May 2018, the Constitutional Court ruled that although MACCIH was constitutional, some elements of the anti-corruption prosecutorial unit were not. This further undermined anti-corruption efforts (HRW 2020).

Despite their overall lower numbers, since the 1980s more Hondurans have been deported by the United States government than any other Central American country of origin (Blanchard *et al.* 2011). Several factors put Honduran immigrants more at risk for deportation. They tend to be more recently arrived, younger males with fewer immigrant network connections, and their arrival also coincides with greater U.S. immigration enforcement efforts. United States border patrol appropriations more than tripled from 1990 to 2010, and the number of border patrol agents quadrupled from 1992 to 2008

(Blanchard *et al.* 2011). A number of laws also facilitated greater deportations at the time, including the Illegal Immigration Reform and Responsibility Act (IIRIRA) and the Anti-Terrorism and Effective Death Penalty Act (AEDPA) in 1996 and the 2001 USA Patriot Act. In fact, from 1900 to 1990, overall annual deportations were relatively stable at around 20,000 per year. Between 1990 and 1995, given the political climate at the time, deportations began averaging 40,000 a year. Between 1996 to 2017, after the passage of IIRIRA and AEDPA, there were more than 270,000 deportations on average per year (Hagan *et al.* 2008, DHS 2017). Nonetheless, between 2007 and 2015 the Honduran foreign-born population in the United States grew the fastest of any country (Cohen *et al.* 2017).

The relative size of the Salvadoran, Guatemalan, and Honduran diasporas in the United States can be seen in the figures below. The foreign-born population in the United States from the Northern Triangle countries is shown in Figure 1, and for a better comparison of the differences in magnitude, the Mexican foreign-born population is added in Figure 2. A decline in the Mexican foreign-born population is evident around the time of the 2008-2009 global financial crisis, while the populations from the Northern Triangle continued their rise.

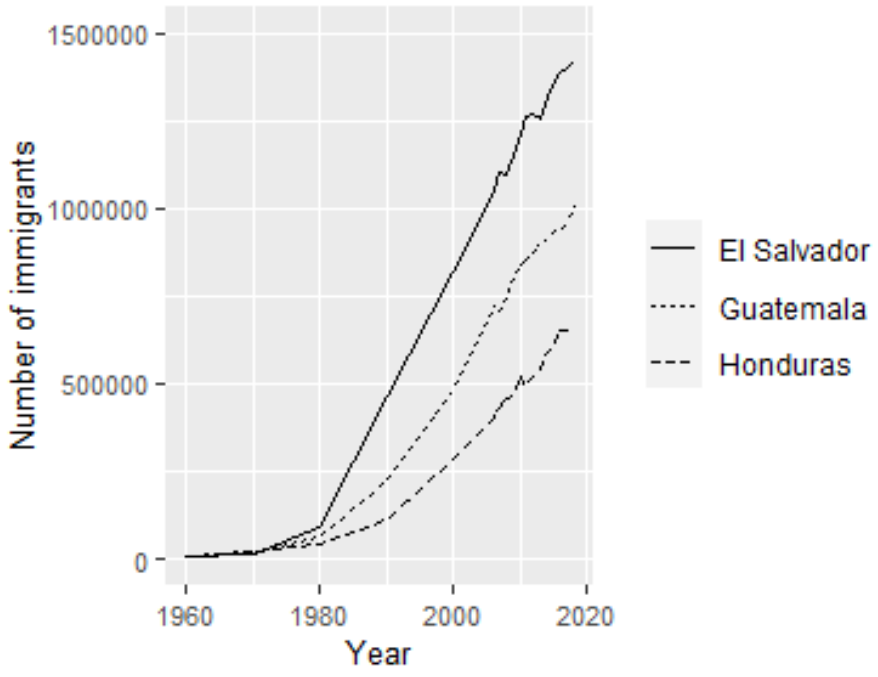

Figure 1. *Foreign-born population from the Northern Triangle countries*

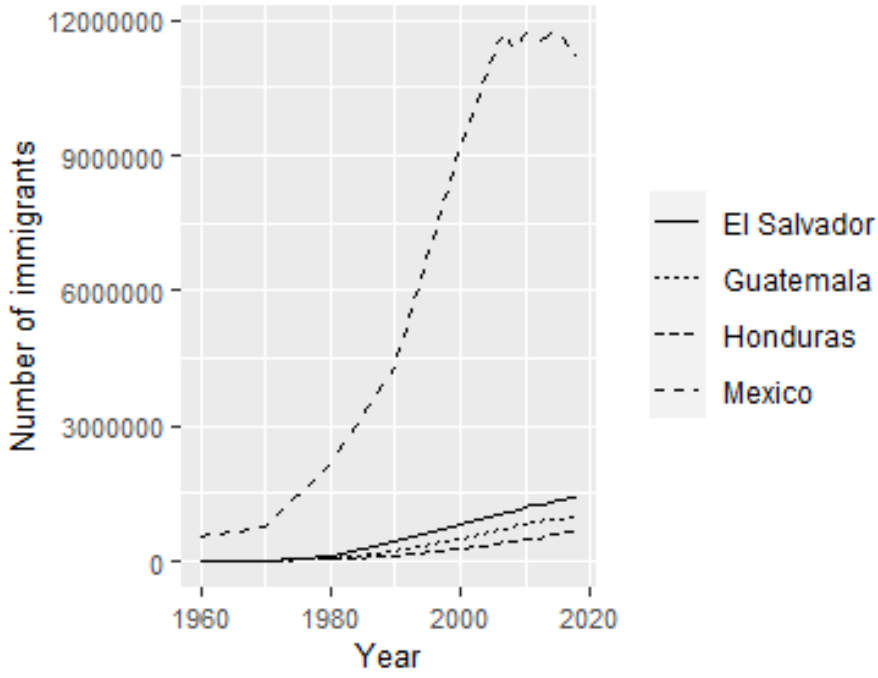

Figure 2. *Foreign-born population including Mexico*

CHAPTER III - LITERATURE REVIEW

The factors which enter into a person's decision to migrate fall into four broad categories: a) factors associated with the area of origin, or "push" factors, b) factors associated with the area of destination, or "pull" factors, b) intervening obstacles, and c) personal factors (Lee 1966). Since the decision to migrate entails a heavy cost, migration from developing countries tends to occur 'en masse' and is largely done under states of duress. For example, economic hardship is considered an important push factor in migration. Furthermore, the net benefits between migrating to a new area and staying in the area of origin is influenced by intervening obstacles, which must be surmounted on the migratory path (Lee 1966). These intervening obstacles include distance and the threat of harm, as well as any physical barriers, such as border controls. Factors associated with the area of destination are influenced by the degree of knowledge a person has in the destination, where technology can play a significant role. With increased internet access and the use of social media, awareness of opportunities abroad increases as does the tendency to migrate (Lee 1966, De Haas 2011). Furthermore, experience is a powerful force in facilitating repeated migration: A person who has migrated previously is more likely to migrate again (Lee 1966, Donato *et al.* 2015). The existence of a migratory patterns of movement create contacts between the origin and the destination (Lee 1966). These connections reduce the uncertainty in migration, which can be further reinforced from parents to children (Donato *et al.* 2015). In this way, a population can adopt a culture of migration.

Several push and pull factors of migration have been cited in the literature as motives behind the surge in the migration of children from Central America to the United

States. In the paragraphs to follow, the push and pull factors of UAC migration will be presented. First, the push factors are presented, which revolve around the well-being of a population and can be loosely addressed by the United Nation's Human Development Index (HDI). The individual variables contributing to the well-being of youth, however, are further disseminated to get a more pointed picture of the factors affecting youth migration. Deteriorating conditions in the Northern Triangle, including the proliferation of gangs and a steep increase in homicide rates, have led to reduced opportunities for youth to attend school and achieve gainful employment (Kennedy 2014, Wong 2014, Muñoz-Pogossian *et al*. 2015, Seelke 2016, Swanson *et al.* 2016, Kandel 2019). The pull factors of child migration are then explored, which are deeply rooted in family reunification and economic opportunity. These two factors are intrinsically linked. Strong ties to family members who have previously migrated to the United States has created a growing awareness of the possibilities outside the home country (De Haas 2011, Czaika *et al.* 2014, Kennedy 2014, Nazario 2014, Donato *et al.* 2015). Therefore, social globalization is presented as a pull factor of child migration, given the role it plays not only in motivating the journey, but in facilitating it through increased telecommunications and transfers of secondary income.

Youth at risk

According to a 2016 Congressional Research Service (CRS) report, "the social fabric in the northern triangle countries has been stressed by economic factors such as poverty, inequality, and unemployment, with few opportunities for growing youth populations." In 2010, more than twenty-five percent of youth aged 15-24 in El Salvador and Honduras neither worked nor studied (Seelke 2016). School dropouts, as well as

unemployed youth, are at particular risk for gang recruitment. This is further supported in an Organization of American States report that finds that youth are not only more at risk of violence, but also easily fall prey to the groups that carry out the violence. In El Salvador for example, more than fifty percent of the homicide victims are young people between 15 and 29 years old (Muñoz-Pogossian *et al*. 2015).

The term "NEET" refers to young people who are not engaged in employment, education, or training. De Hoyos *et al*. (2016a) conducted a study using official Mexican government panel data and found that the rate of male youth ages 19 to 24 not studying or working (i.e. NEETs) was actually *not* correlated with homicide rates between the period 1996 and 2006. The authors, however, found a positive correlation between male NEETs and homicide rates in Mexico between 2007 and 2013, a period where murder rates tripled. Furthermore, the correlation between NEETs and homicide rates was strongest in states located along the United States/Mexico border where drug cartels were prominent. Their findings suggest that the link between NEETs and violence in Mexico stems from a growing share of male NEETs, a lack of employment opportunities for youth, and more importantly, an increase in the criminal demand for youth labor. In Mexico and Central America, where the share of NEETs is above the regional average and society is rife with gangs and illegal activity, there are heightened risks for youth and society as a whole (Muñoz-Pogossian *et al.* 2015). Schmidt (2017), in evaluating interviews with unaccompanied migrant children for a 2014 United Nations High Commissioner for Refugees study, finds that the three domains of economics, education, and security were often mentioned together. For Salvadoran children in particular, economics and security were often mentioned as a concern together, as were education

and security. For Guatemalan children, the emphasis was more on the relationship between education and economics. The responses of Mexican and Honduran children were a combination of all three domains. The connection between economics and security is tied to the growing gang epidemic. Children report that being out of work increases your chances of being recruited into a gang, but by working you also increase your chances of being targeted by a gang for theft or extortion (Schmidt 2017).

De Hoyos *et al.* (2016b) further studied the NEET phenomenon across fifteen Latin American countries, including Mexico, El Salvador, and Honduras (data for Guatemala was unavailable). They harmonized data from Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS) and the World Bank, and further supplemented with household surveys from 1992-2010 which include comparable variables in school attendance, economic activity, and socio-demographic characteristics. The authors find that the highest percentages of NEETs in Latin America are in El Salvador and Honduras. In a further study conducted by the General Secretariat of the Organization of American States (2015), the highest percentage of NEETs were found in Honduras and Guatemala (Muñoz-Pogossian *et al.* 2015). In general, both studies find that the highest numbers of NEETs are found in the Northern Triangle countries of Central America, where gangs have a greater pool of youth from which to recruit. Gangs play a significant role in the rising violence, extortion, and forced recruitment of youth in the Northern Triangle, which has fueled internal displacement, as well as the record number of UACs fleeing to the United States (Seelke 2016).

Furthermore, the literature emphasizes homicide rates as a strong push factor for UAC migration (Kennedy 2014, Wong 2014, Swanson *et al.* 2016, Lorenzen 2017).

According to a 2015 Joint Report to Congress, the U.S. Department of State, Homeland Security, and Health and Human Services concluded that the spike in unaccompanied minors arriving in the United States is a direct result of increasing organized crime, illegal armed groups, and high rates of human and drug trafficking and violence in El Salvador, Honduras, and Guatemala. In the United Nations High Commissioner for Refugees 2014 survey of over 400 unaccompanied minors in United States custody, children revealed that organized criminal violence and domestic violence were the leading factors behind their migration. The survey found that approximately fifty-eight percent of the children interviewed were forcibly displaced and faced harm, requiring international protection. Of these internally displaced children, forty-eight percent shared experiences of heightened community violence by organized criminal actors. Wong (2014) further supports these findings by comparing annual percent change in UACs and absolute homicide rates across the four countries together from 2009 to 2013. The author finds a strong positive correlation between the two, concluding that the number of homicides must be a driving force behind UAC migration. A limitation of the research, however, is that it did not look beyond 2013 data despite the fact that the surge in migration from the Northern Triangle countries began in 2014. It also did not separate out UAC apprehensions and homicide rates by individual country of origin. When correlation between UAC migration by country is compared to a one-year lagged valued of the homicide rate for 2008 to 2018, the results only prove significant for Guatemala. More pointedly, the correlation coefficient for UAC and a one-year lag of the homicide rate is significant when all Northern Triangle countries are taken together, but not when

they are analyzed individually. Children, when determining whether their safety is in peril, do not consider the safety of the region, but rather the local conditions.

Furthermore, increased homicide rates can be tied to lower levels of life expectancy. Canudas-Romo *et al.* (2019) find that homicide mortality contributes to changes in life expectancy differently across countries. The life expectancy and causes of death were analyzed for twenty-three Latin American countries and fifteen European Union (EU) countries. While all countries have shown increases in life expectancy from 1990 to 2014, several disparities in life expectancy remain. In looking at the contribution of homicides to the life expectancy gap between Latin American countries and European countries, the largest disparity seen was for men. In Honduras between 2010 and 2014, homicide mortality accounted for 1.75 years lower life expectancy for women and 6.3 years lower life expectancy for men compared to EU countries. For Guatemala, which is also categorized as a low life expectancy country, the male-female gap was less pronounced, with males losing just over 2 years and females losing less than a year. The trend of higher life expectancy gaps for males than females due to homicides also held for El Salvador, classified as a medium-low life expectancy country, and Mexico, classified as a medium-high life expectancy country. Furthermore, in observing the life expectancy gap due to homicides for the age group 15-29 years, much higher levels were recorded for practically all countries (Canudas-Romo *et al.* 2019).

Economic conditions

In the 2014 study conducted by the United Nations High Commissioner for Refugees, of the 404 migrant children interviewed, issues of deprivation and economic hardship were a common theme. Furthermore, in the follow-up interviews conducted by

Schmidt (2017), security and economic concerns were intrinsically linked. A common response was that gangs were increasing in number because there were not enough jobs, which made gang membership more attractive. Economic concerns were also seen to be connected to education, however. With fewer jobs available employers could be more selective, requiring greater levels of education which is often financially unattainable. Without the financial ability to obtain higher levels of education and specialization, many young adults ended up idle, increasing their chances for gang recruitment (Schmidt 2017). Lorenzen (2017) conducted additional surveys of unaccompanied minors across ten detention centers in Mexico, which housed children mostly from the Northern Triangle and Mexico repatriated from the United States. The author finds that 57.7 percent of the children cited economic motives behind their migration. Economic motives were the single largest motive for migration, but many children cited the lack of educational opportunities as also playing a role in their economic circumstances.

Poor labor force conditions of young adults correlate with a higher percentage of at-risk youth, i.e. NEETs (Muñoz-Pogossian *et al*. 2015). According to the United Nations Economic Analysis and Policy Division in the Department of Economic and Social Affairs (UNDESA), young workers (ages 15-24) face particular challenges in finding jobs. Since the global financial crisis of 2008-2009, the number of young people in formal employment has contracted by more than fifteen percent, as compared to the number of employed adults which has continued to grow. Young people are twice as likely to be unemployed compared to adults. Youth in Latin America and the Caribbean are at a greater disadvantage given their lack work experience. One in five youth in the region is seeking work but remains unemployed (ILO 2018). The dilemma between

seeking a first job without success and jobs requiring prior work experience is documented in the mixed-motive migration findings in Lorenzen (2017). Without the opportunity for formal employment, many young people seek employment in the less stable informal sector. The share of informal employment for young adults was 62.6 percent in the Latin American and Caribbean region, with rates exceeding eighty percent in several countries, including Guatemala and Honduras. A lack of decent jobs and economic opportunities for young people has been a driving force in migration from Central America (UNDESA 2019).

Educational opportunities

While higher unemployment rates of young adults could be considered an alarming trend for at-risk youths, if school enrollment rates rise the long-term trend could be positive (Roser 2019, UNDP 2019). The United Nations Development Programme in its measurement of the HDI considers not only the GNI per capita of a country to assess the well-being of a population, but also includes schooling as an indicator of human capital investment (2019). Lucas (1998) finds that a higher level of education through schooling or learning by doing correlates with increased productivity and economic development, which would create even further opportunities for employment and income. Therefore, even if there were fewer young adults participating in the labor force, if this was due to greater schooling and investments in human capital, the future prospects of the country would be better.

Becker (1964), as well as Psacharopoulos *et al.* (1988), show that economic earnings tend to be positively correlated with education and skill level. Perotti (1993) finds that the increased education of individuals raises not only their own productivity but

also has a positive externality in affecting the productivity of others. Various studies indicate that additional years of schooling yields additional increases in earnings, but Psacharopoulos *et al.* (2004) show that returns for low-income and middle-income countries is the highest. However, Kalsi (2018) finds that increased U.S. criminal deportations are linked to gang activity and reduced schooling in El Salvador. Gangs are found to hinder basic education, primarily for males. In fact, the author finds that for gang-prone areas, which are those with greater business density and are therefore ripe for extortion, the weakening economy lowers returns to schooling. Males from these areas complete less schooling given that more males join gangs (Kalsi 2018). Edwards *et al.* (2003) find that males are twenty-seven percent more likely to drop out of school or never enroll in school at all. This is true in both urban and rural areas. Therefore, if NEETs are more susceptible to idleness and criminal activity, an increasing percentage of young males that are neither engaged at school or work face greater incentives to migrate (Muñoz-Pogossian *et al.* 2015, Seelke 2016, Kalsi 2018).

Family Reunification

According to the research of Sonia Nazario (2014), "the increase in divorce and family disintegration in Latin America has left many single mothers without the means to feed and raise their children. Single Latin American mothers began migrating in large numbers, leaving their children with grandparents, other relatives, or neighbors." Many unaccompanied minors travel north, risking both physical and emotional harm, in order to reunite with their parents. Donato *et al.* (2015) also find that child migration is closely tied to the previous migratory patterns of their parents. The authors use survey data from the Mexican and Latin American Migration Projects conducted through 2013. Through

the use of logistic regressions, they predict a child's likelihood to migrate based on their parent's previous migratory habits. The results indicate that children with migrant parents are much more likely to embark on a first trip to the United States. A limitation of the study, however, is that it does not include the years of the surge in child migrations from the Northern Triangle countries.

Kennedy (2014), in her interviews with 322 migrant children that were returned to El Salvador, finds that one in three identify family reunification as a primary reason for leaving home. In addition, over ninety percent of the children had a family member in the United States, with just over fifty percent having one or both parents in the United States. Lorenzen (2017) in attempting to separate out the mixed motives of migration finds that of the 241 children interviewed, 37.8 percent indicated family reunification as a factor. Only the search for economic opportunities, at 57.7 percent, was a more common response. Furthermore, the 2014 UNHCR study groups family reunification together with opportunities abroad as one unified motive for migration. Eighty-one percent of the 404 children interviewed fall into this category.

The immigrant populations from El Salvador, Guatemala, and Honduras in the United States rose by twenty-five percent from 2007 to 2015, while the number of Mexican immigrants decreased by six percent during this period (Cohen *et al.* 2017). Lorenzen (2017) finds the motivation of family reunification was greater for younger, female migrants. Furthermore, Salvadoran children were much more likely than Guatemalans and Hondurans to cite family reunification as a motivation for their journey. Salvadorans have indeed forged greater social networks with relatives living in the United States given previous waves of Salvadoran migration. The Salvadoran diaspora in

the United States is the largest Central American community, with one in five Salvadorans living in the United States (Brick *et al*. 2011, Lorenzen 2017). As Central American immigrant populations expand in the United States, thousands of children are left behind parentless. Many of these children, lacking a sense of community and support to anchor them to their home country, follow in their parent's migratory footsteps (Kennedy 2014, Nazario 2014, Donato *et al.* 2015).

United States immigration policy

United States immigration policy and border enforcement actions have long been cited as potential pull factors for illegal immigration, especially as it regards the recent surges in unaccompanied child migration from the Northern Triangle. One program in particular, the Deferred Action for Childhood Arrivals (DACA), has gained notoriety in the media for apparently enticing more children to migrate illegally to the United States.

On June 15, 2012, United States President Barack Obama established the DACA program, which granted a temporary reprieve from deportation, as well as work authorization, for qualifying young migrants who entered the United States illegally as minors. To qualify under the DACA program, illegal migrants had to (1) be under the age of 31 by June 15, 2012 and be physically present in the United States on that date, (2) have arrived in the United States before age 16, (3) lived continuously in the United States since June 15, 2007, and (4) be enrolled in/graduated from high school or be a veteran of the U.S. Armed Forces. Applicants had to also be free from any felony convictions or a major misdemeanor and have no more than three minor misdemeanors. Recipients were required to renew their work permits every two years (Alulema 2019). As of March 31, 2020, there are 643,560 active DACA recipients. Mexicans make up the

largest number of DACA recipients, or approximately eighty percent of the total, while Salvadorans make up close to four percent of the total. Guatemala and Honduras contribute 2.6 and 2.4 percent of total active DACA recipients respectively (CIS 2020).

The future of DACA recipients remains tenuous, however. On September 5, 2017, Acting Secretary of Homeland Security, Elaine Duke rescinded DACA, following Attorney General Jefferson B. Sessions III's recommendation that the program was a "circumvention of immigration laws" and an "unconstitutional exercise of authority by the Executive Branch". Federal litigation ensued, and on June 18, 2020 in a 5-4 decision, the Supreme Court of the United States ruled against the rescission. The ruling, however, still allows the Department of Homeland Security to reconsider the policy anew, under the right conditions (Department of Homeland Security *et al.* v. Regents of the University of California *et al*. 591 U.S. 2020).

An argument can be made that the DACA program has exacerbated the problem of unaccompanied child migration from the Northern Triangle given the perception that the United States will provide safe haven to such minors, whether this perception becomes reality or not (Raphel 2014, Carlson *et al.* 2015). The literature to date, however, points to a lack of correlation between DACA and the UAC surge at the United States southern border (Wong 2014, Amuedo-Dorantes *et al.* 2016). First, only children who lived continuously in the United States prior to June 15, 2007 were eligible for DACA relief. Therefore, new child migrant arrivals would not qualify for protection from deportation under the DACA program. Nonetheless, the perception that they could qualify for protection in the future remains, especially given the prevalent use of smugglers who provide migrants with false information. Amuedo-Dorantes *et al.* (2016)

points instead to the 2008 William Wilberforce Trafficking Victims Protection Reauthorization Act (TVPRA) as a greater force than DACA in attracting child migrants to the United States. The TVPRA law was intended to address the escalating issue of human trafficking of children into the United States. The law requires that unaccompanied minors arriving in the United States, with exception of those arriving from countries that share a border with the United States, have to be transferred to the custody of the Office of Refugee Resettlement (ORR) within 72 hours. The ORR is responsible for holding them until they can be released to a suitable family member in the United States. The children then wait for a hearing, which can take several years given the backlog in child migration cases. Previous to the requirements of TVPRA, the Department of Homeland Security had the authority to return unaccompanied minors using expediated procedures, which they still do for unaccompanied Mexican migrant children. Consequently, many more Mexican children are immediately repatriated back home as compared to those from the Northern Triangle countries. Immediate repatriation for children from contiguous countries is possible as long as the DHS determines that the minor is not a victim of a severe form of trafficking or in threat of being trafficked. The caveat is that the minor is expected to make an independent decision to withdraw their immigration application (GAO 2015). A 2015 U.S. Government Accountability Office report finds that when it comes to Mexican UAC, the Customs and Border Protection Agency, which is responsible for the majority of UAC apprehensions, does not consistently implement these policies. On the basis of interviews conducted, they found that not all CBP agents were aware that UAC under the age of 14 are presumed unable to make an independent decision.

After the law went into effect, which essentially protected Central American children from immediate deportation, word of the new "permiso" that was being granted spread throughout the Central American community (Chishti *et al.* 2015). Since the announcement of DACA overlapped with the beginning of the surge in unaccompanied child migration in 2012, however, it was incorrectly seen that DACA was attracting greater child migrants to the United States. In reality, it was TVPRA that had the significant impact on unaccompanied child migrant numbers from the Northern Triangle countries. When analyzing the effect of both laws, Amuedo-Dorantes *et al.* (2016) find that the effect of DACA on UAC apprehensions in 2012 and 2013 becomes statistically insignificant when various push and pull factors are also included in the analysis. The push factors considered were the homicide rate and real GDP per capita of the sending countries, and the pull factors included U.S. real median weekly earnings and the U.S. unemployment rate. In contrast to DACA, the TVPRA remained highly statistically significant in explaining UAC apprehensions, despite controls for push and pull factors and the number of border patrol agents and lawful permanent residents admitted by country. Amuedo-Dorantes *et al.* (2016) link TVPRA and the rise in unaccompanied child migration from the Northern Triangle to the prolonged period that these children are allowed to stay in the United States with family members pending their hearings. While knowledge of U.S. immigration policy was not explicitly stated as a reason for migration, the importance of family reunification was consistently mentioned by child migrants throughout the literature (Kennedy 2014, UNHCR 2014, Lorenzen 2017). Furthermore, problems with the parametric model used in Amuedo-Dorantes *et al.* (2016) prevent the findings from being conclusive. First, the dataset the regression was based on ended with

2013, which did not include the years of the surge. Second, including dummy variables for TVPRA and DACA left little variability in the already limited dataset. Third, and most importantly, while controls for border patrol agents were included, this data is not appropriate for panel data analysis. The dependent variable was UAC apprehensions by country, as were several of the independent variables, leading to the use of a panel data model. Border patrol agents, however, are assigned to enforce U.S. immigration overall, and not by country of origin.

Social globalization

With increased digital interconnectedness, the prospect of reuniting with family living abroad becomes more accessible. These links can be measured both by the social network ties present between immigrants already living abroad and the remittances they send back home (De Hass 2011, Czaika *et al.* 2014). Czaika *et al.* (2014) asserts that globalization has reinforced migrant networks and transnational ties by allowing migrants to stay connected to family, to remit funds, and to travel back and forth between destination and origin countries more easily. Furthermore, De Haas (2011) finds that greater access to global information sources through television and cellular/internet networks seem to have increased people's willingness to migrate, given greater awareness of the opportunities abroad. In addition, financial interconnectedness, especially through remittances received from family members living abroad, are a significant source of income supplementation and may, in fact, be an even more stable source of income (Edwards *et al.* 2003, Gammage 2006). Remittances, and the increased spending they facilitate, are an important contribution to real gross domestic income per capita for developing countries, particularly those of El Salvador, Guatemala, Honduras, and

Mexico (Federal Reserve Bank of St. Louis, 2018a, 2018b, 2018c, 2018d). This reliance on remittances creates a further tie to relatives living abroad. Edwards *et al.* (2003) finds that remittances have a large significant effect on school retention, particularly for urban-dwelling children. The authors find that remittances have a stronger impact on school retention rates than other types of income. Furthermore, remittances are also tied to funding additional migration. As an increasing number of migrants from these four countries settle in the United States, they facilitate subsequent migration and family reunification through their rising remittance spending (Czaika *et al.* 2014). Social globalization, in other words, captures not only the way in which migrants have remained connected to their source countries, but it also measures the information and financial flows necessary for undertaking a migratory journey. Social globalization has significantly decreased the intervening obstacles normally present in migration (Lee 1966).

CHAPTER IV – DATA AND METHODOLOGY

This research relies on both parametric and nonparametric analysis in order to achieve robustness and statistical power. Parametric statistical testing is conducted to determine if changes in the well-being of young adults in each country, as well as economic and social links to relations living abroad, entice greater child migration numbers. Nonparametric testing is conducted on the errors of the regression. First, to ascertain that the errors are normally distributed and that the parametric t-test is appropriate, and second to verify that the errors are homoscedastic. Tests of multicollinearity, cross-sectional dependence, and autocorrelation are also presented. Additional nonparametric statistical testing is then conducted to determine if the population distributions of the four countries in this study are statistically similar, and whether child migration from these four countries should be studied as one, singular phenomenon. Finally, change point detection is employed to determine, more precisely, in which time periods significant changes occurred in the mean and variance of UAC migration data.

A novel dataset

Quantitative data is obtained from a variety of governmental and non-governmental sources for the years 2008 to 2018, which includes the time period of the surge in migrant child arrivals from the Northern Triangle countries. Data on Unaccompanied Alien Children arriving at the United States southern border is obtained from the U.S. Customs and Border Protection (CBP), U.S. Department of Homeland Security (DHS). Unaccompanied Alien Children apprehensions serves as a proxy for child migration to the United States. The proxy is supported given evidence that

unaccompanied children arriving from Central America and Mexico often surrender to United States border patrol agents in order to claim asylum (American Immigration Council 2015, Cheatham 2019, DHS Homeland Security Advisory Council 2019). United States Customs and Border Protection data is obtained through CBP releases (CBP 2018) and by petitioning the DHS through the Freedom of Information Act (FOIA). The data obtained from the DHS FOIA request includes UAC monthly apprehensions by country of origin from October 2006 to April 2018 (CBP 2020). Unaccompanied alien children apprehension data is first reconciled between the public releases available through the CBP statistics website and the FOIA dataset received, and then the FOIA dataset is converted from fiscal year to calendar year.

Data on the push and pull factors of migration were obtained from the United Nations Development Programme, the World Bank, Instituto Igarape, and the KOF Swiss Economic Institute. The United Nations Development Programme contributes variables tied to the Human Development Index, such as expected years of schooling at school entrance age (UNDP 2018). The World Bank contributes unemployment rates of youth ages 15 to 24, from the modeled International Labour Organization (ILO) estimate (World Bank Group 2020a). Instituto Igarape provides a comprehensive dataset on homicides for Latin America and the Caribbean, collected directly from national police, ministries of the interior, justice, defense and health departments, national statistical offices and national institutes of legal medicine and forensic studies. The database is continuously updated and verified through its national, regional, and international partners, including various international universities, thinktanks, and public-private partnerships (Instituto Igarape 2019, 2020). Through the Instituto Igarape database, data

on homicides in El Salvador are obtained through the Institute of Legal Medicine, Supreme Court of El Salvador. Data on homicides in Guatemala are obtained through the national police, the Policia Nacional Civil (PNC). Data on homicides for Honduras are obtained through the Observatorio de la Violencia, a joint partnership between the United Nations and the National Autonomous University of Honduras (UNAH). Data on homicides for Mexico are obtained through the Ministry of Government, Executive Secretariat of the Public Security National System. The data available for public use was further corroborated through a request received directly from Instituto Igarape.

While there is no global data on family reunification specifically, family reunification remains an important driver for children traveling alone (UNICEF n.d.). Furthermore, the definition of family is too often narrowly defined. The United Nations Committee on the Rights of the Child (UNCRC) recognizes family members as persons with whom the child has a strong personal relationship (UNCRC 2013). Therefore, in the absence of more well-defined measures of family reunification, the strength of the connections of personal relationships, as measured through the KOF Social Globalization de facto Index, is an appropriate measure. The KOF Swiss Economic Institute, upon request, provided a further breakdown of their globalization index data into the three sub-indices of globalization, as well as the individual normalized variables included in the indices. Globalization data was also broken down between de facto and de jure globalization. Separating out the sub-indices of the Social Globalization Index was further considered for use in the regression model. However, incorporating only Informational Globalization or Interpersonal Globalization proved less meaningful in measuring the extent of interconnectedness between source and destination country

populations. Furthermore, Cultural Globalization did not exhibit enough variation to be considered individually. Finally, Social Globalization de facto was chosen over de jure in order to better measure the actionable impacts of globalization, rather than the policies intended towards that purpose (KOF 2019). The components of the KOF Social Globalization Index de facto are described in more detail later in this section.

To properly measure the push and pull factors present in UAC migration and address the research questions more robustly, a novel dataset is created. This panel dataset is used in conjunction with both parametric and nonparametric statistics. First, in order to examine the relationship between specific push-pull factors and UAC migration using parametric regression, annual UAC apprehension data from the CBP is combined with unemployment data from the World Bank, schooling data from the United Nations Development Programme, homicide data from Instituto Igarape, and globalization data from the KOF Swiss Economic Institute. Second, to test the similarity of the four source country populations in terms of the push factors of UAC migration, the Human Development Index is also included as an overall measure of population well-being in each country. The KOF Social Globalization de facto Index served to measure the pull factors of UAC migration for each country. Finally, monthly UAC apprehension data is also incorporated for mean and variance changepoint detection.

In compiling data from organizations across the private-public spectrum, as well as from organizations devoted to particular issues such as globalization or human development, an innovative approach for data analysis is taken. Instead of relying exclusively on a single source for information, this dataset goes to the heart of quantitative data collection techniques. For example, the homicide rate is not only

obtained from local sources, but through Instituto Igarape, only homicides from verifiable sources are included. While this ensures the greatest accuracy, consistency is also maintained by relying on imputed estimates from international organizations when local-level data is unavailable. For example, if local labor market indicators were relied on exclusively, the results of the model would be affected by limited nationally reported data from Guatemala. Therefore, to gauge the labor market conditions of youth, only modeled ILO youth unemployment rates are used as opposed to local calculations for this particular variable of interest. The ILO estimates provide a complete panel data set of internationally comparable variables, where missing data is imputed using econometric modeling (ILO 2020). A similar approach is relied upon for measuring globalization. By using the KOF index, any missing variables are imputed using linear interpolation. In addition, consistency is also maintained by including only what can be measured. More precise measures of human development indicators may exist beyond the Human Development Index, but they are not consistent across countries. The HDI in its simplicity of breaking down human development to its most basic components of income, knowledge, and health, is available consistently across years and countries. Moreover, accuracy and consistency are particularly important when it comes to measuring UAC apprehensions, the main variable of interest in this study. Not only was data obtained directly from the source of the apprehensions, the U.S. Customs and Border Patrol, but the public figures are further verified through an additional FOIA request of monthly apprehension data by country of origin. In fact, several discrepancies were found between the public press releases available on the CBP website and the FOIA figures obtained. Therefore, monthly UAC apprehension data for each country is used to

tally yearly figures, and then to convert them into calendar year figures rather than the reported fiscal year figures. The result is a comprehensive dataset that is more reliable and updated than that which could be obtained from a single, public source. In addition, the time period of this study, from 2008 to 2018, includes the years of the surge in migrant children coming from the Northern Triangle countries. This is crucial for attaining reliable results since this data was previously unavailable for analysis. The list of variables used in this research and their respective sources can be found in Appendix A. Each variable in the dataset is described in more detail in the following paragraphs.

As mentioned previously, measures of a population's well-being are incorporated into the dataset for each source country as potential push factors (Lee 1966) and have been obtained from the World Bank and the United Nations Development Programme. The unemployment rates of youth (ages 15-24) is included as a measure of the health of the job market for young people. Including the unemployment rates of youth is more meaningful as it captures specifically the hardship that young, potential migrants are facing (Muñoz-Pogossian *et al*. 2015). A 2015 Government Accountability Office (GAO) report shows that sixty-one percent of UAC apprehensions between 2009 and 2014 were of youth between the ages of 16 and 17 years old. If fourteen and fifteen-year-olds are included, that number rises to eighty-four percent. The trend of predominantly teen migration remains even in later years. According to the U.S. Department of Health and Human Services, in fiscal year 2018 approximately seventy-three percent of all unaccompanied minors referred for resettlement were over 14 years of age (DHHS 2020). Furthermore, unemployment rates are chosen over labor force participation rates as an explanatory variable since they are intrinsically tied to both the labor force participation

and the employment to population ratio (ILO 2018). In this way, unemployment rates not only reflect the desire to participate in the labor force, but employment opportunities as well.

Expected years of schooling for a child at school entrance age is included in the dataset to account for investments and engagement in human capital. It measures the number of years of schooling that a child of school entrance age can expect to receive in each country, if the current age-specific enrollment rates persist throughout the child's life. This is a better gauge of total schooling obtained since it doesn't rely on enrollment rates for only a particular stage of education (Roser 2019). It is important to note that increased school enrollment rates may affect national income and labor force participation rates adversely in the short term, yet could lead to higher economic growth rates and standards of living in the longer term (Perotti 1993, Lucas 1998). More pointedly, increased school enrollment rates can be a signal of the optimism of students in future labor market opportunities.

Homicide rates are also included in the dataset as a measure of the safety and security conditions of the source country. Increased homicides rates affect a number of social well-being indicators, including perceptions of personal safety, as well as reductions in life expectancy (Canudas-Romo *et al.* 2019, OECD 2020). Exposure to violence, as measured by rising homicide rates, has been cited extensively in the literature as a further push factor in child migration (Kennedy 2014, Wong 2014, Swanson *et al.* 2016, Lorenzen 2017).

When seen at the individual country level, however, increased homicide rates and UAC migration numbers do not appear to move together. This would call into question

one of the main motives reflected in the survey responses of migrant children found in the literature. For example, in 2008 the homicide rate per 100,000 inhabitants stood at 57.9 in Honduras, 51.9 in El Salvador, 46 in Guatemala, and 13.1 in Mexico. Over the next decade, homicide rates remained high, but erratic, across the four countries. Guatemala's homicide rate, however, began steadily decreasing after 2009 and yet child migrant numbers continued to rise precipitously. Furthermore, Mexico's homicide rate from 2008 to 2018 remained significantly below that of the Northern Triangle countries at an average of 18.8, compared to an average of 65.8 in Honduras, 63.1 in El Salvador, and 34.4 in Guatemala. More pointedly, prior to 2014 Mexican UAC apprehensions exceeded those of the Northern Triangle countries despite homicides in Mexico remaining well below the Northern Triangle rates. From 2013 to 2014, the number of Mexican child migrants *fell* by seventeen percent, while Northern Triangle child migrants rose on average eighty-eight percent. Furthermore, homicide rates had actually fallen over this period for all countries except El Salvador (Instituto Igarape 2020). In fact, in 2018 Guatemala had the lowest homicide rate of the four countries, and yet contributed the largest number of UACs apprehended at the United States southern border, an increase from the previous year of over seventy-two percent. El Salvador contributed the lowest number of UAC in 2018, and yet had the highest homicide rate of the four countries (CBP 2018, Instituto Igarape 2020). Table 1 depicts homicide rates, per 100,000 of the population, compared to UAC apprehension numbers at the United States southern border for the years 2008-2018. The shaded bars represent the intensity of the variable displayed. The data reflects that homicide rates do *not* rise and fall in line with child migration numbers across the three Northern Triangle countries and Mexico.

Table 1

UAC apprehensions and homicide rates by country

	El Salvador		*Guatemala*		*Honduras*		*Mexico*	
Year	***UAC***	***Homicides***	***UAC***	***Homicides***	***UAC***	***Homicides***	***UAC***	***Homicides***
2008	1327	51.9	1384	46	1515	57.9	3616	13.1
2009	1321	71.2	1125	46.3	957	66.8	17493	15.8
2010	1815	64.7	1508	41.5	920	77.5	13253	20.1
2011	1676	70	1876	38.6	1256	86.5	11767	21.9
2012	3675	40.8	4639	34.7	3512	85.5	14971	20.6
2013	7203	39.6	10148	34	8805	79	17589	17.2
2014	15878	61.1	16265	31.6	16035	68	14446	14.5
2015	12830	103	17293	29.5	7404	60	11112	14.8
2016	18385	81	20029	27.3	12305	59	12004	18.5
2017	4258	60.1	12928	26	4914	43.6	8356	23.4
2018*	4949	50.3	22327	22.5	10913	40.3	10136	26.7

Note: 2018 data was obtained through CBP releases only

Human Development Index to measure push factors

The push factors of child migration used in this research are in line with the well-being indicators used as part of the United Nation's Human Development Index. The HDI is a summary measure of various key dimensions of human development in a country. Certainly, a decent standard of living is imperative for development, but so is the ability to lead a long, healthy life and the opportunity of gaining knowledge. The HDI is comprised of three sub-indices capturing changes in a population's GNI per capita, mean and expected years of schooling, and life expectancy. The HDI assigns equal weights to all dimensions of human development, as well as equal weights to the two education sub-indices (UNDP 2020). The components of the HDI are shown in Figure 3.

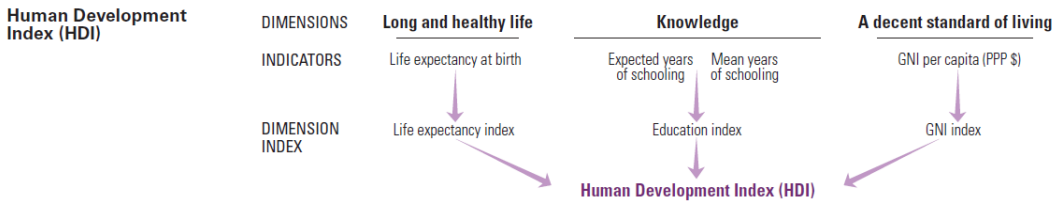

Figure 3. *Components of the Human Development Index*

According to the United Nations Development Programme, the standard of living dimension in a country is measured by gross national income (GNI) per capita. National income, also known as national production (or its more-geographically limited counterpart, Gross Domestic Product) has been used exhaustively in the literature to link economic growth to increased well-being in a country's standard of living (Ahuvia *et al.* 1998; Cox *et al*. 2002; Easterly 1999, McGillivray *et al*. 2006). Ahuvia *et al.* (1998) show a strong relationship between measures of subjective well-being and economic growth in less developed countries, but Easterly (1999) cautions that these changes in quality of life are lagged in relation to growth and not distributed evenly. In other words, the well-being of a population cannot be measured on gains in income alone. Therefore, the HDI incorporates two other measures of well-being into its index: a measure of health and a measure for knowledge. In the education index, two indicators for attaining knowledge are measured: mean years of schooling for adults aged 25 years and expected years of schooling for children of school entering age. Expected years of schooling is a measure of the number of years of schooling that a child entering school can expect to receive, if prevailing patterns of age-specific enrollment rates persist throughout the child's life. Life expectancy at birth is used to generate the life expectancy index of the

HDI and is considered an appropriate measure of the health conditions prevalent in a country (UNDP 2013).

Otoiu *et al.* (2014) explores the relevance of the variables used in various indices of well-being by performing cluster analysis, validating the HDI as a reliable measure of well-being for a given country. Hagerty *et al.* (2001), in comparing various quality of life indices, find that the HDI is reliable in assessing development across countries given its aggregation of widely reported variables. The simplicity of the HDI, however, is also a limitation. In other words, the HDI can only give a limited picture of human development, it is not satisfactory in representing the totality of the life experiences and conditions of a population.

KOF Globalization Index to measure pull factors

The KOF Globalization index is one of the most frequently used indices of globalization by researchers, encompassing a panel dataset of 203 countries spanning from 1970 to 2017 (Gygli *et al.* 2019, KOF 2019). The original KOF index was introduced by Dreher (2006) and updated in Dreher *et al*. (2008). Gygli *et al.* (2019) introduces a revised version of the index that distinguishes between *de facto* and *de jure* measures along the different dimensions of globalization. As Potrafke (2015) shows, the KOF index has been used in over 100 studies on the effects of globalization on various outcome variables.

While the literature points to U.S. immigration policies (Amuedo-Dorantes *et al.* 2016), in conjunction with family reunification (Kennedy 2014, Nazario 2014, UNHCR 2014, Lorenzen 2017) as a pull factor of migration, the increased interconnectedness of the origin and destination populations appear to be a facilitating factor (De Haas 2011,

Czaika *et al.* 2014). The extent of interconnectedness, or globalization, can be measured within three dimensions: economic, political, and social. Economic globalization is characterized by the flow of goods, services, and capital over long distances, as well as the information that accompanies these market exchanges. Political globalization is characterized by a diffusion of government policies. Social globalization is characterized by the spread of ideas, information, images, and people. This last category, social globalization, is the one that best measures personal relationship interconnectedness. For example, interpersonal globalization, a part of social globalization, measures the direct interactions of people living in different countries. This interaction can occur by means of personal calls across borders, as measured by international voice traffic in minutes per capita using both fixed and mobile telephones. However, it can also occur through personal contact, as is the case with international tourism, international students, and the size of the foreign-born population in a country. In addition, international transfers of money always involve some form of personal interaction, and so contribute to a greater interconnectedness of the populations. Furthermore, while interpersonal globalization measures personal interactions, informational globalization measures the flow of ideas, knowledge, and images (Gygli *et al.* 2019). Used internet bandwidth serves as a proxy for international digital information sharing, while international patent applications and high technology exports measure the inflow and outflow of technology and scientific ideas. Lastly, cultural globalization measures the international dispersion of cultural values. In practice, cultural globalization has often been tied to the spread of Western or American values (Hopper 2007, Gygli *et al.* 2019). The transmission of cultural values can be linked to trade in cultural goods and services, such as movies, television series,

music, works of art, etc. across borders. This is particularly relevant when considering migration from Central America and Mexico to the United States, where the spread of American culture and values is reflected not only in the growing trade in cultural goods (UNESCO 2020), but in strong ties to family members that migrated previously. Children appear to be particularly susceptible to this growing interconnectedness, citing family reunification in the United States as a common motive behind their journey (Kennedy 2014, UNHCR 2014, Lorenzen 2017, Schmidt 2017).

The three sub-components of the KOF Social Globalization Index are shown in Table 2. The *de facto* index is specifically chosen over the *de jure* index in order to measure the actual interconnectedness of the population, rather than the presence of policies that would enable it. Each sub-component of the Social Globalization Index is equally weighted and comprised of individual-weighted variables (KOF 2020).

Table 2

Components of the KOF Social Globalization de facto Index

A. Interpersonal Globalization
International voice traffic
Transfers
International tourism
International students
Migration
B. Informational Globalization
Used internet bandwidth
International patents
High technology exports
C. Cultural Globalization
Trade in cultural goods
Trade in personal services
International trademarks
McDonald's restaurant
Ikea stores

The following two research questions are formulated based on the push and pull factors of migration (Lee 1966, Donato *et al.* 2015), and are tested using parametric regression:

R1: Do lower rates of school attendance and higher unemployment rates among young adults, along with higher homicide rates, contribute to greater child migration?

R2: Does greater global economic and social interconnectedness contribute to greater child migration?

The following research question addresses the distribution of the populations of the four countries included in this study, and is tested using nonparametric analysis for unrelated samples:

R3: Are the social and economic conditions faced by the populations of three Northern Triangle countries and Mexico similar?

Descriptive statistics

Descriptive statistics are provided in Table 3 for the variables used in this research. This includes the dependent variable, UAC apprehensions, as well as the push and pull factors used as explanatory variables. The data is represented in annual figures from 2008 to 2017. Since KOF Social Globalization de facto Index data was not available for 2018, all descriptive statistics are only shown through 2017. Over this time period, on average 8,444.825 unaccompanied children were apprehended, with a standard deviation of 6,317.236. The range, or difference between the minimum and maximum values, is 19,109, indicating significant dispersion in the dataset for UAC apprehensions. The push factors, including the youth unemployment rate, expected years of schooling, and the homicide rate, have respective means of 8 percent unemployment, 11.7 years of

expected schooling, and 46.6 homicides per 100,000 of the population. The standard deviation of these push factors are 2.3 for youth unemployment, 1.3 for expected years of schooling, and 24.2 for the homicide rate. The Social Globalization de facto Index, used as a measure of the pull factors of migration, has a mean of 59.9 and a standard deviation of 3.0.

Table 3

Descriptive statistics

Variable	**N**	**Mean**	**Median**	**Variance**	**SD**	**Range**
UAC apprehensions	40	8444.825	7880.0	39907473.6	6317.236	19109.0
Youth unemployment	40	8.148	8.524	5.302	2.303	9.237
Expected years school	40	11.673	11.400	1.650	1.284	4.100
Homicide rate	40	46.565	42.550	584.405	24.174	89.900
Social globalization	40	59.906	59.041	9.100	3.017	10.702

Visualization of the data is shown in figures 4 through 8 on the following pages. These figures provide a context for the descriptive statistics provided in Table 3. Figure 4 shows UAC apprehensions from all four source countries over the time period 2008 to 2017. High variability is present in UAC apprehensions, as indicated by the variance and standard deviation. Figures 5, 6, 7, and 8 show youth unemployment rates, expected years of schooling, homicide rates, and social globalization respectively. Lower levels of variability are evident in youth unemployment rates and the KOF social globalization index, with particularly low variability for expected years of schooling. Higher variability, however, is present in the homicide rate.

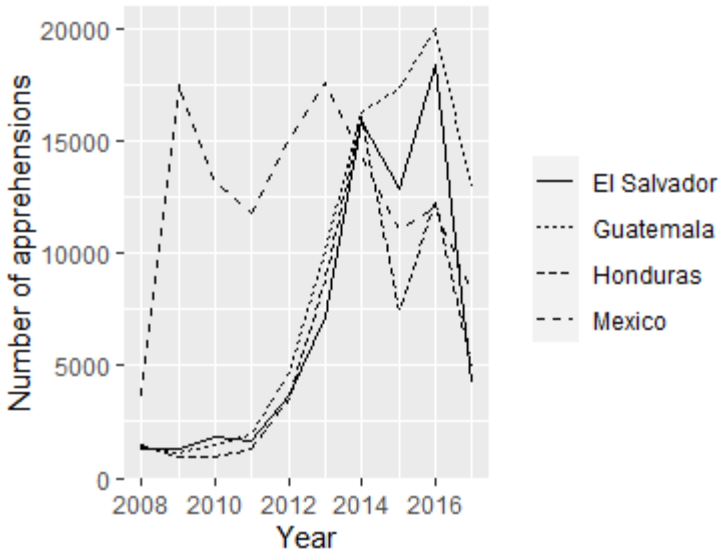

Figure 4. *UAC Apprehensions*

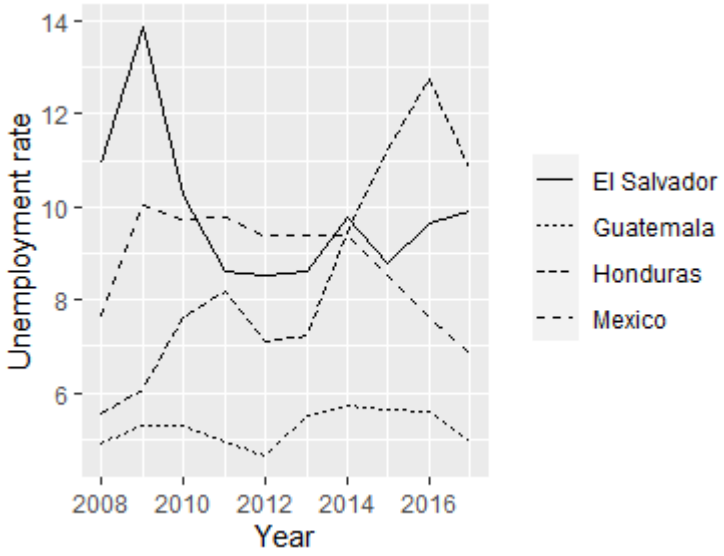

Figure 5. *Youth unemployment rates*

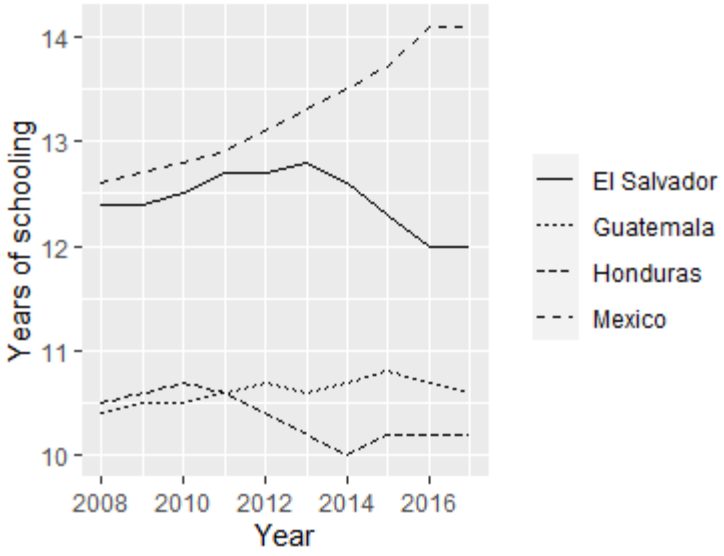

Figure 6. *Expected years of schooling*

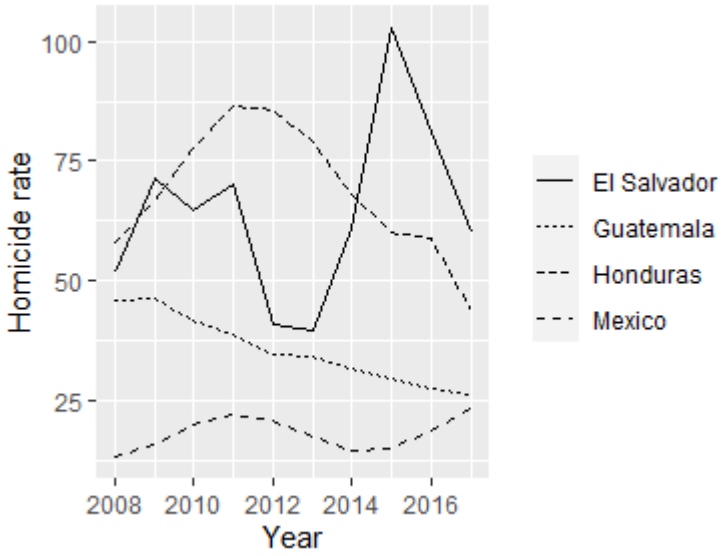

Figure 7. *Homicide rates*

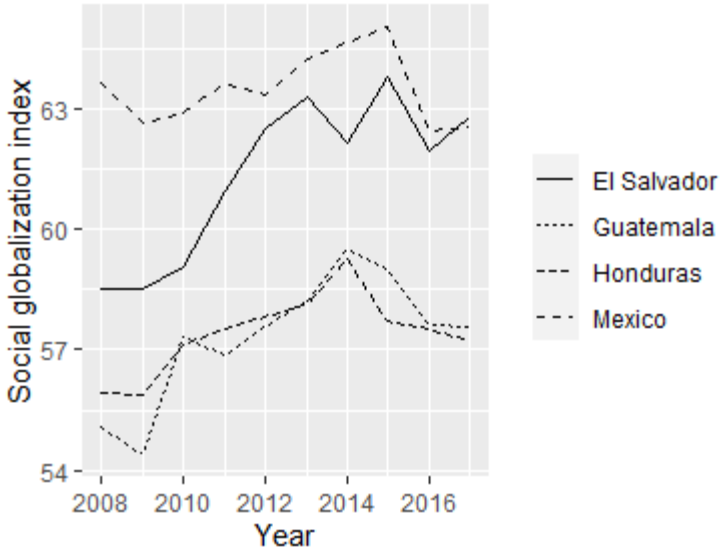

Figure 8. *KOF Social Globalization de facto Index*

Fixed effects model

A parametric, fixed-effects regression model is employed to measure how changes in the push and pull factors of migration affect the overall number of unaccompanied child migrants arriving at the United States southern border from the Northern Triangle and Mexico. The fixed effects model controls for time invariant changes between the countries included in this study. In other words, the model is appropriate for evaluating changes within each country (Torres-Reyna 2007). It permits heterogeneity among countries by allowing different intercepts for different countries (Gujarati *et al.* 2009).

Using a distributed lag, fixed effects model, a least squares regression is performed for panel data over the years 2008-2017 on the three Northern Triangle countries and Mexico. Data for 2018 was not included in the regression model since the KOF Social Globalization Index was available only through 2017. Since the factors that

enable migration take time to surface, lagging the independent variables is recommended. Lagging independent variables is appropriate where the dependent variable doesn't react fully to changes in the explanatory variables within the same time period (Hill *et al.* 2011; Nau 2018). For example, homicide rates do not escalate overnight, and the decision to migrate may be the product of months of consideration. In addition, plans for family reunification take time, as well as the accumulation of resources necessary to make the trip.

The model also contains a logarithmic transformation of the dependent variable. This transformation facilitates the analysis for percent changes in child migration. More pointedly, it facilitates the interpretation of how well-being and social globalization indicators affect percentage changes in child migration over the time period of study. The dependent variable is the natural logarithm of UAC apprehensions at the United States southern border, serving as a proxy for child migration. The explanatory variables include a measure of economic well-being, the unemployment rate of young adults (ages 15-24), as well as a measure of human capital engagement, expected years of schooling at school entrance age. Furthermore, a social well-being indicator tied to life expectancy, homicide rates (per 100,000 of the population), is included. These three independent variables are considered push factors in child migration if they lead to worsening economic opportunities for young adults, idleness, and increased insecurity (Lee 1966, Kennedy 2014, Wong 2014, Chishti *et al.* 2015, De Hoyos *et al.* 2016b, Seelke 2016, Swanson *et al.* 2016, Canudas-Romo *et al.* 2019). In addition, to gauge the pull factors of migration the KOF Social Globalization de facto Index is incorporated as an explanatory variable. It is used both as a measure of social network linkages between the

populations of the source countries and the greater outside world, as well as the financial flows that strengthen that link (De Hass 2011, Czaika *et al.* 2014, Kennedy 2014, Chishti *et al.* 2015, Gygli *et al.* 2019). Since the KOF Social Globalization de facto Index already includes measures necessary for family reunification, a separate measure for this will not be included. For example, the Index includes international voice traffic and used internet bandwidth which would capture the telecommunications aspect of remaining connected to family, as well as secondary income (i.e. remittances) paid and received which would capture the financial connection.

The parametric regression model is described as follows:

$$\ln UAC_{it} = \beta_0 + \beta_1 URyouth_{i,t-1} + \beta_2 ExpectedSchooling_{i,t-1} + \beta_3 Homicides_{i,t-1} + \beta_4 Social\ globalization\ index_{i,t-1} + \alpha_i + \varepsilon_{it}$$

where t-1 indicates time lagged by one year, i indicates country, and α is the control for fixed country effects. The dependent variable is transformed into its natural logarithmic form, which allows for a better fit with the conditions of a linear model and limits the effects of outliers in the data (Wooldridge 2006).

The null and alternative hypothesis for the regression model are:

H_{01}: Changes in well-being in the home country, along with exposure to increased social globalization, does not affect unaccompanied child migration.

H_{a1}: Changes in well-being in the home country, along with exposure to increased social globalization, increases unaccompanied child migration.

Tests of the estimated regression model

In order to test that the assumptions of regression are met, several postestimation tests are performed on the error term. These include tests on the requirement of

normality, homoscedasticity, and independence of the residual. In addition, tests for multicollinearity and cross-sectional dependence are also performed

Normality of the error term. In order to ascertain that the condition of normality of the error term in linear regression is met, the Skewness and Kurtosis (SK) test for panel data models is performed (Alejo *et al.* 2015). The test, an extension of the Jarque-Bera (SK) test, allows identification of departures from the Gaussian assumption in both error term components of a panel regression model. The resulting test statistics have a Chi^2 distribution with two degrees of freedom. The null hypotheses indicate a skewness equal to zero and kurtosis equal to 3, which is in line with that of a normal distribution (Naghshpour 2016a).

The null and alternative hypotheses for both the individual-specific (u_i) and the remainder error component (e_{it}) are:

$H_{02}^{Su\&Ku}$: $S_u = 0$ and $K_u = 3$ $H_{a2}^{Su\&Ku}$: $S_u \neq 0$ and $K_u \neq 3$

$H_{02}^{Se\&Ke}$: $S_e = 0$ and $K_e = 3$ $H_{a2}^{Se\&Ke}$: $S_e \neq 0$ and $K_e \neq 3$

Homoscedasticity of the error term. The condition of constant variance of the error term is also tested to ensure compliance with the least squares assumption. Homoscedasticity implies that the variance of the residual is constant (Wooldridge 2006). Since this is a fixed effects model, the Modified Wald test for group-wise heteroscedasticity is most suitable. The resulting test statistic has a Chi^2 distribution, in this case with four degrees of freedom.

The null and alternative hypotheses are:

H_{03}: The error term of the regression model has a constant variance

H_{a3}: The error term of the regression model does not have a constant variance

Multicollinearity. To judge whether the relationships between the variables is a problem for the model, the presence of multicollinearity must be ruled out. First, a correlation matrix is constructed to show the correlation coefficients between variables with their respective p-values. As a further test for linear independence, the variance inflation factor (VIF) is used to judge possible multicollinearity between the explanatory variables in the regression model. If multicollinearity is present, this could render the interpretation of the individual coefficients invalid. While there is no concrete rule to deem the presence of multicollinearity a problem, a generally accepted rule of thumb is that a VIF greater than 10 is a sign of serious multicollinearity issues that require correction, while a VIF of 5 indicates some multicollinearity (Naghshpour 2016c, Penn State Eberly College of Science 2019).

Cross-sectional dependence. For panel data models, cross-sectional dependence may be a concern. However, cross-sectional dependence, when the residuals across countries are related, tends to be more of a problem in macro models with extended time series. It much less of a concern in micro models with limited times series (Torres-Reyna 2007), such as this one. Nonetheless, the Breusch-Pagan LM test of independence is conducted. The test statistic has a Chi^2 distribution with six degrees of freedom.

The null and alternative hypothesis are:

H_{04}: No cross-sectional dependence

H_{a4}: Cross-sectional dependence

Mean of error term. A further assumption of linear regression is that the mean of the residual is zero. This condition assumes that the distribution of the error term has a zero mean and that there is no relationship between the explanatory variables and the error term (Wooldridge 2006).

Autocorrelation. Serial correlation tends to also be more problematic for macro models with extended time series, but less of a problem in micro models (Torres-Reyna 2007). In models with reduced time series such as this one, some serial correlation is expected since it is the relationship between a variable and the lagged version of itself. Serial correlation is tested using the Wooldridge test for autocorrelation in panel data.

The following null and alternative hypotheses are presented:

H_{05}: No first-order autocorrelation

H_{a5}: First order autocorrelation

Tests of population distributions

The nonparametric Kruskal-Wallis and Mann-Whitney U tests are conducted on the push and pull factors of each country to compare if the populations of these countries differ significantly from each other. The push factors are tested using the Human Development Index (HDI) and the pull factors are tested using the KOF Social Globalization de facto Index.

Kruskal-Wallis/ Mann-Whitney U test on Human Development Index

Human Development data from the three Northern Triangle countries and Mexico from 2008 to 2018 is tested to determine if the populations are significantly similar and come from a common distribution. The intention is to gauge the similarity of the push conditions of migration across all four countries, using the simplicity of an index that is supported by the literature (Hagerty *et al.* 2001, Otoiu *et al.* 2014).

The null and alternative hypothesis for the Kruskal-Wallis One-Way ANOVA test on the push conditions in each country are:

H_{06}: The distribution function of the HDI for the four populations are identical

H_{a6}: The distribution function of the HDI for the four populations are not identical

The distribution of the Kruskal-Wallis test statistic approximates a Chi^2 distribution. If the null hypothesis of the equality of the population distributions is rejected, it would be necessary to determine which parameter is different by comparing individual population distributions, one-at-a-time. Since the samples are not related, the appropriate pairwise test is the Mann-Whitney U test. There are six pairwise combinations, a combination of four countries, two at a time (Naghshpour, 2016b).

The null and alternative hypothesis for the Mann-Whitney U tests, for each pairwise combination, are as follows:

H_{07}: The difference between the medians of the populations for the HDI of the two countries is zero.

H_{a7}: The difference between the medians of the populations for the HDI of the two countries is different from zero**.**

Kruskal-Wallis/Mann-Whitney U test on KOF Social Globalization Index

Greater interconnectedness of the populations of the four countries to the global world, through both social and financial linkages, is expected to increase migration (De Hass 2011, Czaika *et al.* 2014). The KOF Social Globalization de facto Index considers the importance of interpersonal, informational, and cultural globalization.

In order to ascertain whether the populations differ in terms of their interconnectedness to the greater global world, the Kruskal-Wallis One-Way ANOVA test is again performed, but this time on the KOF Social Globalization de facto Index.

The null and alternative hypothesis on the pull conditions in each country are:

H_{08}: The distribution function of the KOF Social Globalization Index for the four populations are identical

H_{a8}: The distribution function of the KOF Social Globalization Index for the four populations are not identical

If the null hypothesis of the equality of the population distributions is rejected, it would be necessary to determine which parameter is different by comparing individual population distributions, one-at-a-time. Once again, since the samples are not related, the appropriate pairwise test is the Mann-Whitney U test for six pairwise combinations. The null and alternative hypothesis for the Mann-Whitney U tests, for each pairwise combination, are as follows:

H_{09}: The difference between the medians of the populations for the KOF Social Globalization Index of the two countries is zero.

H_{a9}: The difference between the medians of the populations for the KOF Social Globalization Index of the two countries is different from zero.

Change point detection

Change point detection (CPD) is used to identify abrupt changes in the trend of monthly UAC apprehensions. It can further assist in identifying pivotal time periods where major changes in migration occurred, including those possibly associated with U.S. immigration policy. Change point detection is performed on both the mean and variance of the UAC time series for each country. Major changes in the mean reflect that the average number of children apprehended suddenly deviated from a previous average. Major changes in the variance reflect that sudden changes in the volatility of UAC apprehensions have occurred. The change point will indicate which month reflects a break, or an abrupt change, in the mean and variance of the time series. For example, if the mean changepoint occurs in February 2013, then beginning with March 2013 a new mean was established that was significantly different from the previous mean.

The data and models included in this study reflect the best possible measures of the push and pull factors of child migration. Nonetheless, inevitably the data is limited to only that which it can be measured, which in turn informs the results of the models. More pointedly, in selecting the data for this research, ample consideration is given to the best possible measures of the economic conditions, investments in human capital, and security concerns present as push conditions in the source countries. Careful consideration was also given to the pull factors present in the United States for potentially attracting these child migrants. However, not everything that is counted will account for everything (Jahan 2020). Every effort is made in the analysis of results to reflect that which can be accounted for.

CHAPTER V RESULTS AND ANALYSIS

First, the parametric fixed effects model results are discussed in order to present the significant push and pull factors of UAC migration that are common to the three Northern Triangle countries and Mexico. Second, the results of the nonparametric Kruskal-Wallis and Mann-Whitney U tests are discussed to highlight that there are, in fact, significant differences in the push and pull conditions faced by the populations of the four countries. Change point detection is then presented to tie the results of the parametric model to the results of the nonparametric tests, by linking historical events affecting migrant children from each of the four countries to their actual migratory journey.

Fixed effects model

A parametric fixed effects regression is performed on the logarithmic transformation of unaccompanied alien children apprehensions from 2008 through 2017. Apprehensions are used as a proxy for unaccompanied child migration, supported by the fact that the vast majority of migrant children voluntarily surrender to U.S. Customs and Border Patrol agents. The explanatory variables are the lagged values of various push and pull factors of migration as supported by the literature. The unemployment rate of youth (ages 15-24) and expected years of schooling at school entrance age are used to gauge young adult involvement in the labor force and educational system. The homicide rate measures not only safety and security concerns, but serves as a well-being indicator tied to life expectancy. The KOF Social Globalization de facto Index is used to evaluate the interconnectedness of previous migrants with those left behind in the home country.

In this way it serves to gauge the extent of these connections, as well as the feasibility of family reunification.

The results of the regression performed on the log of UAC are shown in Table 4. The results of the model reveal that the null hypothesis can be rejected in favor of the alternative hypothesis given the F-statistic (p-value ≈ 0.0000). More pointedly, the push and pull factors included in this model have strong explanatory power in accounting for changes in UAC migration coming from the Northern Triangle countries and Mexico.

Table 4

Fixed effects regression results

Dependent variable: UAC apprehensions (log)			
Explanatory variables (lag)	**Coefficient**	**SE**	**p-value**
Youth unemployment rate	0.1125	0.0615	0.0770
Expected years schooling	-0.5883	0.2065	0.0080
Homicide rate	0.0036	0.0068	0.6000
Social globalization index	0.5324	0.0623	0.0000
R^2	**corr(u_i, Xb)**	-0.5884	
within *0.7127*	**sigma_u**	0.7954	
between 0.2592	**sigma_e**	0.5518	
overall *0.4837*	**rho**	0.6751	
Probability > F = 0.0000			

Three coefficients were found to be significant in explaining UAC migration: the unemployment rate of youth, expected years of schooling, and the KOF Social Globalization de facto Index. The youth unemployment rate has a positive relationship with UAC migration with a p-value of 0.0770. While this relationship is the weakest of the three variables in terms of its significance level, it still indicates a positive relationship between higher unemployment and UAC migration. For every one percent

rise in the youth unemployment rate, UAC migration increases by 11.25 percent. This finding is supported by the literature where many young migrants, especially from Guatemala and Honduras, claim to be seeking economic opportunity in the United States given a lack of opportunity in their home countries (Seelke 2016, Lorenzen 2017). Furthermore, expected years of schooling has a negative relationship with UAC migration. For additional year of expected schooling, UAC migration decreases by 58.83 percent. This finding is significant not only in terms of its magnitude, but also because it has a high significance level with a p-value of 0.0080. While a 58.83 percent increase in migration may seem like a very large jump, it's important to note that a) an additional year of schooling is a relatively large increase in and of itself, and b) in some years, UAC migration from the Northern Triangle increased upwards of 145 percent. The significance of these two variables together supports previous research findings that the growing NEET phenomenon in the Northern Triangle countries and Mexico makes young adults more susceptible to migration (Muñoz-Pogossian *et al.* 2015, Seelke 2016, Kalsi 2018). More pointedly, these findings support the work of De Hoyos *et al*. (2016a) and Muñoz-Pogossian *et al.* (2015) which find that young people in the Northern Triangle and Mexico face greater risks when idle. Seelke (2016) adds that these heightened risks increase the motivation to migrate. De Hoyos *et al.* (2016a) find that Mexican NEETs that lived near organized criminal actors were more susceptible to gang recruitment. Schmidt (2017) finds that several migrant children reported that being out of work increases the chance of being recruited into a gang. However, despite repeated findings from surveys and interviews of child migrants citing violence as a factor in their decision to migrant, homicide rates did not prove to be significant in explaining UAC

migration. One possible reason is that homicide rates may not be an adequate measure of the overall safety and security conditions in a country. The 2014 United Nations High Commissioner for Refugees study of migrant children found that forty-eight percent of respondents expressed that they were personally affected by the augmented violence of criminal organizations in the region. Kennedy (2014), in interviewing child migrants from El Salvador, finds that crime, gang threats, and violence were the strongest reasons cited for migration. In fact, fifty-nine percent of Salvadoran boys and sixty-one percent of Salvadoran girls cited one of those factors as a reason for their emigration. In other words, the *threat* of violence may motivate migration, with that threat increasing due to being out of work and out of school. However, actual homicide rates are not sufficient for explaining the motivation behind UAC migration.

Furthermore, social globalization, which measures the interconnectedness of the population of each country to the greater global world, appears to also have a tremendous impact on unaccompanied child migration from the Northern Triangle countries and Mexico. The KOF Social Globalization de facto Index proved the most statistically significant coefficient with a p-value of approximately zero. According to the model, a one-unit increase in the KOF Index increases UAC migration by 53.24 percent. Again, the magnitude of this relationship must also be placed in context. A one-unit increase in the KOF index is also a substantial jump. Over the ten-year period of this study, the KOF Social Globalization de facto index fluctuated at most between a six-point change for any one country. Furthermore, the Social Globalization de facto Index does not only reflect increased telecommunications, but financial flows of remittances, and exposure to cultural norms and values from abroad. It incorporates the three categories of

interpersonal globalization, informational globalization, and cultural globalization. More pointedly, social globalization not only increases awareness of opportunities abroad, but it also permits the connections with family and friends that would facilitate migration. As countries become more interconnected globally it is not only the flow of goods and services that will increase, but also the flow of ideas which influences the flow of people. This is also supported by the literature where the migration habits of the parents are carried over to the children and further enabled through technology (Lee 1966, Donato *et al.* 2015). Donato *et al.* (2015) find important links between the existence of migration networks and the influence of a parent's migratory patterns on a child's decision to migrate. The connections potential child migrants forge with previous migrants reduce the uncertainty in the child's own migration. As the populations of immigrants from these countries grow in the United States, they facilitate further migration and family reunification through remittance spending (Czaika *et al.* 2014). In fact, Kennedy (2014) found that one in three Salvadoran children interviewed cited family reunification as the primary reason for their migration, with over ninety percent of the children with at least one parent residing in the United States. Schmidt (2017) finds that several children referenced family reunions as motivating factors, but that often this was tied to problems in the home or desires to help siblings and other relatives. Lorenzen (2017) further dissects the factors of migration by evaluating them in relation to each other. He finds that around one-third of child migrants had mixed motives for migration. While violence did result as the most often cited reason for migration, it was cited mainly among those children exhibiting mixed motives for migration. This was in contrast to the motive of searching for better opportunities in the United States, which was most often cited as an

exclusive reason. Minors citing both violence and economic opportunities were largely male adolescents. Minors citing family reunification were mainly younger and female. Furthermore, the author found very different motives between the children from different countries. This can be tied back to the *within* R^2 value obtained from the fixed effects model. Over seventy-one percent of the variation in UAC migration within countries is captured by the model, but only twenty-six percent of the variation between counties, however, is captured by the model. This is further supported by rho, representing that sixty-eight percent of the variance in the model is due to differences across the panels (Torres-Reyna 2007). Therefore, the fixed effects model is good at indicating commonalities in migration factors, while highlighting the variability and heterogeneity present in each country.

The results of the fixed effects model address the first two research questions of this study. The first question regards the push factors that influence child migration, specifically school attendance rates, youth unemployment rates, and homicide rates. It can be concluded with strong statistical certainty that school attendance rates matter for UAC migration. School attendance, as captured by expected years of schooling at school entrance age, estimated at prevailing enrollment rates, are statistically significant at the one percent level. Unemployment rates are also statistically significant in explaining UAC migration, but at the weaker eight percent significance level. Homicide rates, however, are not good at explaining UAC migration from the Northern Triangle countries and Mexico.

The second research question regards the pull factors of migration, specifically the growing global interaction of societies, that permits knowledge sharing and long-

distance relationships. It can be concluded with strong statistical certainty that social globalization, resulting in the greater global interconnectedness of populations, is significant in explaining UAC migration. The model reveals that the Social Globalization de facto Index is highly statistically significant with a probability approaching zero.

The results of the regression model indicate that economic and educational opportunities for young adults, together with the growing global interconnectedness of societies, provide strong incentives for UAC migration from the Northern Triangle countries and Mexico to the United States.

Tests of the estimated regression model

The following postestimation test results reveal that the assumptions of fixed effects regression have been met. The estimates generated by the model remain the Best Linear Unbiased Estimates (BLUE).

Skewness and Kurtosis (SK) test for panel data models. The joint test for normality on the individual-specific error term, as well as the joint test for normality on the remainder error component, indicate that the null hypotheses of skewness equal to zero and kurtosis equal to 3 cannot be rejected. More pointedly, the error term of the fixed effects regression model can be assumed to be normally distributed. The results of the Skewness and Kurtosis (SK) test for panel data models is shown in Table 5.

Table 5

SK test results for panel data models

Joint test for normality on e:	$Chi^2(2) = 0.23$	$Prob > Chi^2 = 0.8929$
Joint test for normality on u:	$Chi^2(2) = 2.39$	$Prob > Chi^2 = 0.3021$

The Modified Wald test for group-wise heteroscedasticity. The results of the Modified Wald test for group-wise heteroscedasticity in fixed effects models indicate that the null hypothesis of constant variance in the error term cannot be rejected. In other words, given a p-value of 0.4508 it can be determined with strong statistical certainty that the error term is homoscedastic. The results of the Modified Wald test are shown in Table 6.

Table 6

Modified Wald test results

Chi^2 (4)	3.68
Prob > Chi^2	0.4508

Correlation matrix. In order to gauge correlation between the explanatory variables in the model, the correlation coefficients with their respective significance levels are presented in Table 7. As is evidenced by the coefficients shown in bold, the KOF Social Globalization de facto Index has a strong and significant correlation with the other variables in the model. The strongest relationship is found between social globalization and years of schooling. The p-value not only indicates high significance, but the coefficient of correlation, measuring the strength of the relationship, is also quite elevated. This aligns with the findings of Edwards *et al.* (2003), where remittances,

which are a part of the KOF Social Globalization de facto Index, play a significant role in school retention. This is further supported by Gammage (2006) and Czaika *et al.* (2014) that link remittances to funding education. Homicides also have a significant relationship with years of schooling, albeit a negative one. This is supported by the literature given the increased risk that NEETs face in gang recruitment and further participation in criminal organizations (De Hoyos *et al.* 2016a, Muñoz-Pogossian *et al.* 2015). The negative relationship between homicides and social globalization is less intuitive, and the correlation coefficient indicates a weak relationship between the two variables. The gang epidemic in Central America is not only localized to the region. Transnational gangs, such as MS-13 and Barrio 18, operate across borders with the assistance of the same technologies that keep families connected globally. Mexico and the Northern Triangle countries have substantial numbers of youth linked to transnational gangs operating in the U.S. (Vittori 2006). Furthermore, while homicide rates are linked to the proliferation of these transnational gangs (Meyer *et al.* 2019), they have exhibited variability across countries over time, as previously shown in Table 1. For example, between 2012 and 2014 the truce between rival gangs in El Salvador significantly decreased the homicide rate, but later proved to only have strengthened their power as homicide rates increased considerably in 2015 (Seelke 2016). Social globalization also has a significant relationship with the unemployment rate. This may be a relationship tied to increases in virtual interconnectedness at the same time that the economic growth of the countries suffered. The Northern Triangle countries have failed to generate sufficient employment given the increases in their labor force. Poor economic conditions are a known push factor of migration (UNDESA 2019), which contributes to the growing diaspora of

migrants abroad, and serves to create even more global social networks (Meyer *et al.* 2019). Years of schooling and the unemployment rate also have a significant positive relationship, but again, the coefficient of correlation is relatively small. As labor force prospects dwindle, greater education can lead to greater marketability. However, as many young migrants have stated, greater education requires financial resources. As employment becomes more elusive, economic and educational opportunities in the United States become more attractive (Lorenzen 2017).

Table 7

Correlation Coefficients with p-values in italics

	URyouth	Years school	Homicides	KOF social
URyouth	1.0000			
Years school	**0.3592** *0.0247*	1.0000		
Homicides	0.1798 *0.2734*	**-0.4248** *0.0070*	1.0000	
KOF social	**0.3784** *0.0175*	**0.8591** *0.0000*	**-0.3949** *0.0129*	1.0000

Variance Inflation Factor. While a correlation coefficient gives a numerical indication of the degree of association, the variance inflation factor provides a more formal multicollinearity detection method (Naghshpour 2016c). For the explanatory variables in the model the mean VIF is 2.72, with expected years of schooling reflecting the highest VIF of 4.05. Given these results, it can be concluded that multicollinearity is not an issue in the model, despite the relationships reflected in the correlation matrix. The results of the Variance Inflation Factor are shown in Table 8.

Table 8

VIF organized in descending order

Explanatory Variable	VIF	1/VIF
Expected years schooling	4.05	0.2470
Social globalization index	3.97	0.2517
Homicide rate	1.47	0.6802
Youth unemployment rate	1.41	0.7104
Mean VIF	**2.72**	

Breusch-Pagan LM test of independence. Cross-sectional dependence refers to the interdependence of variables across units, or in this case countries, in panel data models. The results of the test for cross-sectional dependence indicate that the null hypothesis cannot be rejected and therefore, cross-sectional dependence concerns can be eliminated. The results of the Breusch-Pagan LM test of independence are presented in Table 9.

Table 9

Breusch-Pagan LM test of independence

Chi^2 (6)	10.164
Prob > Chi^2	0.1179

Mean of error term. Descriptive statistics for the error term are shown in Table 10. They reflect the mean, standard deviation, and minimum and maximum values of the residual. The results obtained reflect that the assumption of a mean of zero for the error term is met.

Table 10

Statistics on the error term

	Mean	SD	Min	Max
Residual	0.0000	0.8454	-1.5352	1.7588

Wooldridge test for autocorrelation. Serial correlation is a violation of the independence of the error term and is more common in time series data than cross-sectional data, especially in the case of cyclical data (Naghshpour 2016c). The results of the Wooldridge test for autocorrelation in panel data are presented in Table 11. The null hypothesis cannot be rejected at the five percent significance level, but can be rejected at the weaker ten percent significance level. Since some autocorrelation was expected given the limited time series of this dataset, the results are not overly concerning. In fact, the regression model can be evaluated with clustered standard errors to address the autocorrelation (Hanck *et al.* 2020). The results of the model remained essentially unchanged, with the same significant coefficients but smaller standard errors. This additional model is presented in Appendix A for reference.

Table 11

Wooldridge test for autocorrelation in panel data

F statistic	6.424
Prob > F	0.0851

These postestimation tests indicate that the fixed effects model provides efficient and unbiased estimates. Furthermore, the results of the model reveal that it does a good job in explaining the variation *within* the countries included in this study. The variation *between* the countries, however, warrants further testing.

Tests of population distributions

The parametric fixed effects model is useful in explaining overall UAC migration while accounting for the unobserved heterogeneity across countries over time. However, the model does not permit a closer look into the push and pull factors of UAC migration specific to each country. To gauge these similarities and differences, the Kruskal-Wallis and Mann-Whitney U nonparametric tests are conducted. The Human Development Index is chosen to reflect the push conditions prevalent in the source countries, while the KOF Social Globalization de facto Index is chosen to reflect the pull conditions from a growing interconnectedness. The results of these tests indicate that the four countries in this study cannot be viewed as a whole. The Northern Triangle countries and Mexico exhibit very different characteristics in both well-being indicators and their links to the global community.

Kruskal-Wallis/ Mann-Whitney U test on Human Development Index

The availability of data varies across countries and can limit comparative analysis relying on more precise variables. El Salvador for example, tends to make available consistent data on poverty and income inequality, while Guatemala has very limited data on these indicators. The HDI index is widely supported in the literature as a generalized indicator of well-being, with the understanding that it is a simplistic view of the prevailing conditions. The advantage of the HDI is that it uses the basic components of GNI per capita, years of schooling, and life expectancy, which are available across all countries in this study. The results of the Kruskal-Wallis test on the HDI, with three degrees of freedom, and correcting for ties present in the data, reveals that the null hypothesis of no difference between the populations of the countries can be rejected at a

p-value of 0.0001. Since it can be concluded that the countries are statistically different, the Mann-Whitney U test is then conducted to see where the differences lie. The results of the Mann-Whitney U pairwise comparisons indicate that differences exist across all countries. In other words, no two countries are considered to be statistically similar when it comes to their HDI. The results of the Kruskal-Wallis test for the HDI of the four countries, as well as the Mann-Whitney U test pairwise comparisons, are shown in Table 12.

Table 12

Kruskal-Wallis/Mann-Whitney U tests for the HDI

Kruskal-Wallis		**Mann-Whitney**
Country	*Rank Sum*	*El Salvador to Honduras*
Guatemala	159.5	z statistic: -3.979
Honduras	100.5	p-value: 0.0001
El Salvador	301.0	*El Salvador to Guatemala*
Mexico	429.0	z statistic: -3.522
		p-value: 0.0004
Test statistic adjusted for ties: 35.927		*El Salvador to Mexico*
degrees of freedom: 3		z statistic: 3.981
p-value: 0.0001		p-value: 0.0001
		Honduras to Guatemala
		z statistic: 1.708
		p-value: 0.0877
		Honduras to Mexico
		z statistic: -3.974
		p-value: 0.0001
		Guatemala to Mexico
		z statistic: -3.974
		p-value: 0.0001

The p-value between Honduras and Guatemala warranted further investigation however, because while it is significant at the ten percent level (p-value = 0.0877), it was

much higher than that of the other countries (p-values = 0.0001 for all other comparisons). As mentioned previously, the HDI is composed of three indices: income, education, and life expectancy. These individual indices were tested separately to see which differed significantly for Guatemala and Honduras. The results of the Mann-Whitney U tests conducted on the three components of the HDI between Guatemala and Honduras are shown in Table 13. The results reveal commonalities in the educational attainment of the populations of the two countries. While the income and life expectancy indices were statistically significant at the one percent level or less, the education index was not statistically significant (p-value = 0.7176). Therefore, it can be concluded that Guatemala and Honduras are statistically different from each other in terms of the well-being indicators used in the HDI, with the exception of the education index. It is not surprising that Guatemala and Honduras are more similar than the other countries when it comes to education. The education indices reflect much lower levels of schooling than that of Mexico and El Salvador. Mexico, on average, achieves close to seven years of schooling and El Salvador closer to six years. Honduras and Guatemala, however, barely achieve five years of schooling for their population. The relative size of their rural populations (World Bank Group 2020b) plays a significant role in their lower levels of educational attainment.

Table 13

Mann-Whitney U tests on HDI: Guatemala & Honduras

Components of HDI
Income Index
z statistic: 3.975
p-value: 0.0001
Education Index
z statistic: -0.362
p-value: 0.7176
Life Expectancy Index
z statistic: -2.892
p-value: 0.0038

Kruskal-Wallis/Mann-Whitney U test on KOF Social Globalization Index

In terms of the pull factors of migration, the KOF Social Globalization de facto Index measures the strength of the connections between the populations of each country and the greater global world. While globalization in general has contributed to a growing interconnectedness on all levels, social globalization in particular measures the extent to which a country has globalized their social and cultural networks. The KOF Social Globalization de facto Index, as mentioned previously, is made up of three components. Interpersonal globalization measures the flow of people and finances, including telecommunications and money transfers. Informational globalization measures the sharing of ideas, including used internet bandwidth, innovation through international patents, and technological exports. Cultural globalization measures the flow of goods and services that express the norms and values of a culture.

The Kruskal-Wallis test is run on the KOF Social Globalization de facto Index of all four countries in this study. The results of the test, with three degrees of freedom, and

correcting for ties present in the data, reveals that the null hypothesis of no difference between the populations of the countries can be rejected at a p-value of 0.0001. Since the countries are statistically different, the Mann-Whitney U test is then conducted to see where the differences lie. All four pair-wise comparisons showed highly significant p-values below the one percent level, again except between Honduras and Guatemala. In fact, the p-value between Honduras and Guatemala was equal to 0.8798. With a p-value this large, the null hypothesis of the equality of the KOF between these two countries cannot be rejected at any level. The results of the Kruskal-Wallis test for the KOF Social Globalization Index of the four countries, as well as the Mann-Whitney U test pairwise comparisons, are shown in Table 14.

Table 14

Kruskal-Wallis/Mann-Whitney U tests on Social Globalization

Kruskal-Wallis		**Mann-Whitney**
Country	*Rank Sum*	*El Salvador to Honduras*
Guatemala	112	z statistic: -3.553
Honduras	106	p-value: 0.0004
El Salvador	262	*El Salvador to Guatemala*
Mexico	340	z statistic: -3.402
		p-value: 0.0007
Test statistic adjusted for ties: 29.213		*El Salvador to Mexico*
degrees of freedom: 3		z statistic: 2.646
p-value: 0.0001		p-value: 0.0082
		Honduras to Guatemala
		z statistic: 0.151
		p-value: 0.8798
		Honduras to Mexico
		z statistic: -3.780
		p-value: 0.0002
		Guatemala to Mexico
		z statistic: -3.780
		p-value: 0.0002

Since it can be concluded with strong statistical certainty that three of the four country populations differ significantly in terms of their exposure to social globalization, additional testing is warranted just on the populations of Guatemala and Honduras. In order to discover which component of the KOF Social Globalization de facto Index was contributing to the elevated p-value, further Mann-Whitney U tests are run on the sub-components of social globalization for these two countries. The results of the Mann-Whitney U tests conducted on the three components of the KOF Social Globalization de facto Index between Guatemala and Honduras are shown in Table 15. While the interpersonal and cultural indices were statistically significant at the one percent level or less, the informational index was not statistically significant (p-value = 0.7624). Therefore, it can be concluded that Guatemala and Honduras are statistically different from each other in terms of interpersonal and cultural globalization, but not in terms of informational globalization. In fact, Honduras and Guatemala both achieved lower rankings in the informational globalization sub-category index of the Social Globalization Index as compared to Mexico and El Salvador. Mexico achieved the highest ranking for informational globalization, at an average of 89 over the period, followed by El Salvador at an average of 78. Honduras and Guatemala both achieved an average index of 76. Another important point was that both Guatemala and Honduras saw more variability in the informational index over the time period of this study. Honduras had a minimum index of 71 in 2008 and a high of 79 in 2014, falling again to 77 by 2017. Similarly, Guatemala began at 70 in 2008 and grew to 78 by 2013-2015, falling to 77 in 2016 and 2017. Mexico, however, saw consistent increases in its index, from 86 in 2008 to a high of 91 in 2017. El Salvador, on the other hand, saw rather larger jumps in its index, from

68 in 2008 to 81 in 2017, but also exhibited some of the variability of Honduras and Guatemala.

Other than the similarity of Guatemala and Honduras when it comes to informational globalization, it cannot be said that these two countries are similar in terms of the social globalization of their populations.

Table 15

Mann-Whitney U tests on Social Globalization: Guatemala & Honduras

Components KOF Social
Interpersonal Index
z statistic: -3.780
p-value: 0.0002
Informational Index
z statistic: 0.302
p-value: 0.7624
Cultural Index
z statistic: 2.570
p-value: 0.0102

The results of the Kruskal-Wallis and Mann-Whitney U tests on the HDI and KOF Social Globalization de facto Index address the third research question of this study, regarding the population distributions of three Northern Triangle countries and Mexico. It can be concluded with strong statistical certainty that the social and economic conditions of the Northern Triangle countries and Mexico, as measured by their respective HDI and KOF Social Globalization de facto indices, are significantly different. More pointedly, the populations of the four countries differ from each other in terms of both the push and pull conditions of migration. The only similarities found were between Guatemala and Honduras, and only as it regards educational attainment and informational

globalization. Overall, however, it can be said that the factors which motivate child migration from each country should not be treated as identical. Migration from the three Northern Triangle countries is often treated as homogeneous, which is not justified from a methodological standpoint.

Change point detection

If the push and pull conditions of UAC migration differ across the four countries, UAC migration trends over the last decade cannot be analyzed in an aggregated manner. Since the fixed effects parametric model identified economic conditions, educational opportunities, and family reunification as significant explanatory variables, these are the factors given most attention in addressing the major change points in UAC migration. Change point detection (CPD) is performed on both the mean and variance of UAC apprehensions from each of the four countries in this study.

The mean number of unaccompanied minor apprehensions from Mexico abruptly increased in January 2009 and remained elevated through May 2014. Comparatively, the mean number of UAC apprehended for all three Northern Triangle countries abruptly increased in March 2013. While the mean number of Mexican UAC apprehensions began to rise much earlier than those from the Northern Triangle, they had also begun declining while those from Guatemala and El Salvador remained elevated. Guatemala faced a double spike in mean UAC apprehensions, one in March 2013 and a higher jump in November 2013. Mean UAC apprehensions for Guatemala remained high through the end of 2018. El Salvador's mean UAC apprehensions also remained high for the majority of the time period, not seeing a major decrease until February 2017. Honduras, however, saw its mean UAC abruptly decrease by August 2014.

Increased volatility began in March 2014 for El Salvador and Guatemala, but for Honduras increased volatility began much earlier in November 2013. Honduran child migrants exhibited two periods of sharp variability changes. The first, beginning in November 2013, corresponded with the peak of Honduran monthly UAC apprehensions. The second, beginning in July 2014, corresponded with lower mean UAC apprehensions but with some significant volatility still present. The variability in Mexican child migrants slowed between June 2014 and September 2016 but returned thereafter despite an abrupt reduction in mean apprehensions.

Change point detection, El Salvador

In conducting CPD for monthly UAC migration from El Salvador over the period October 2006 to April 2018, change points in mean apprehensions were found in February 2013 and again in January 2017. In terms of the variability, or variance of UAC apprehensions, change points were found in February 2014 and January 2017. More pointedly, the mean number of UAC apprehensions from El Salvador rose significantly from March 2013 to January 2017. Greater volatility, or spread in the distribution of the observations, was seen in UAC apprehensions over the period March 2014 through January 2017. The mean number of UAC apprehensions from El Salvador experienced a sudden increase a year before also experiencing increased volatility in these apprehensions. After January 2017, both the mean number of apprehensions and their variance decreased dramatically. The plots of the mean and variance changepoints for UAC apprehensions from El Salvador are shown in Figure 9.

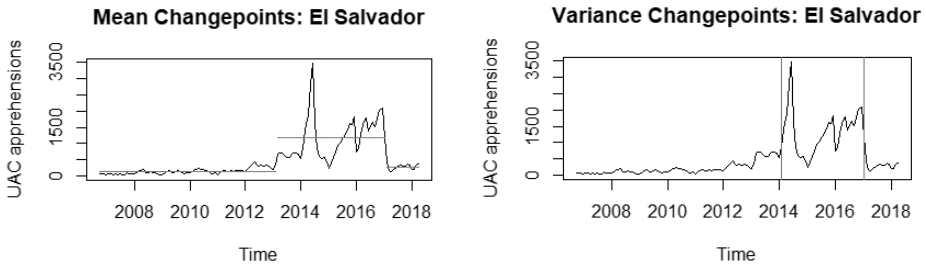

Figure 9. *Mean and variance changepoints for El Salvador*

The 2008-2009 global financial crisis hit El Salvador hard, only achieving between 1.4 and 2.2 percent growth from 2010 to 2013. Despite improvements in inequality and poverty, however, these improvements did not transfer over to the labor market, particularly for young adults. In 2013, half of the Salvadoran population was less than 30 years old, and every year about 30,000 young Salvadorans enter the labor force for the first time. Furthermore, growth in human development improvements had slowed. Enrollment rates increased significantly only in pre-primary and primary school. Secondary and tertiary enrollment rates advanced at a much slower pace. In 2012, El Salvador ranked among the countries with the lowest public spending on its social sectors, with only 3.5 percent of its GDP towards education. Basic education makes up the bulk of this spending, with less than seventeen percent allocated to secondary and tertiary education. Furthermore, in 2012 gross enrollment at the upper secondary level was just forty-eight percent, well below regional averages. In 2013, approximately fifty-five percent of these new labor force entrants had less than a secondary education, with fifteen percent stating they could not find a job (World Bank Group 2014). This is important in comparison with the 2013 spike in mean UAC migration rates from El Salvador. Seelke (2016) finds a strong relationship between the displacement of youth

and migration. The drastic rise in mean UAC migration from El Salvador lasted through January 2017. One explanation for this is that Salvadoran children by and large were citing family reunification as a strong motive for migration, much more so than the other UAC groups (Kennedy 2014, Lorenzen 2017). Potential migrant children from El Salvador have stronger migrant networks to rely on, as well as family members to house them in the United States while they await their immigration hearings.

Change point detection, Guatemala

In conducting CPD for monthly UAC migration from Guatemala over the period October 2006 to April 2018, change points in mean apprehensions were found in February 2013 and again in October 2013. In terms of the variability, a change point was identified only for February 2014. Mean Guatemalan UAC apprehensions first spiked in the same month as El Salvador. However, Guatemala saw a second spike in mean UAC apprehensions beginning in November of the same year. Increased variability began in March 2014, one year after the first spike in mean UAC apprehensions. In other words, the average number of unaccompanied minors from Guatemala began steadily increasing from March 2013 onwards, but the variability was not present until one year later. Both the mean and variability of UAC apprehensions from Guatemala has remained consistently high. The plots of the mean and variance changepoints for UAC apprehensions from Guatemala are shown in Figure 10.

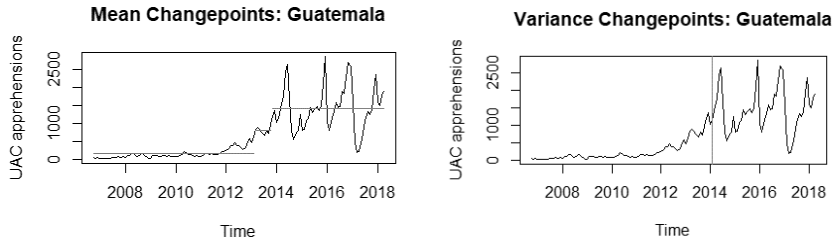

Figure 10. *Mean and variance changepoints for Guatemala*

The 2008-2009 financial crisis also hit Guatemala hard, with low or even negative per capita growth rates in the years that followed. Guatemala has historically been one of the poorest and most unequal countries in the Latin American and Caribbean region (World Bank Group 2016). While inequality slightly decreased from 2007 to 2014, it remained significantly above the rest of Central America. Furthermore, poverty actually increased in the urban areas, even though the rural poverty rate, at 71.4 percent, is nearly twice urban rate, at thirty-five percent. Education spending rose in real terms at a modest average of 1.1 percent per year, but per capita education spending actually fell between 2007 and 2013. Guatemala's public education spending as a percent of GDP is lower than all the other Central American countries, at only three percent in 2013. Furthermore, the vast allocation of these funds go to pre-primary and primary education. Total secondary education spending as a percent of GDP has remained stagnant at 0.3 to 0.4 percent from 2007 to 2013, while enrollment increased from 864,000 to 1,164,000. However, school attendance rates are lower and drop-out rates occur earlier than in other Central American countries (World Bank Group 2016). Between 2010 and 2013, the share of youth not in education, employment or training as a percent of the total youth population (ages 15 to 24) was a considerable 24.64 percent (World Bank Group 2020a). Young people, aged 25 or younger, accounted for only thirty-five percent of the

employed population (World Bank Group 2016). Based on the latest available estimates of the size of the NEET population in Guatemala, the share of youth not in education, employment or training rose to over twenty-seven percent as a percent of the youth population by 2017 (World Bank Group 2020a). Youth out of work and out of school face greater incentives to migrate for better opportunities abroad (Seelke 2016), and for Guatemalan children, this is a stronger pull factor than family reunification (Lorenzen 2017).

Change point detection, Honduras

In conducting CPD for monthly UAC migration from Honduras over the period October 2006 to April 2018, change points in mean apprehensions were found in February 2013 and again in July 2014. In terms of the variability, change points were found in October 2013 and June 2014. An abrupt increase in UAC migration occurred for all three Northern Triangle countries in March 2013, but any subsequent decreases are inconsistent across the countries. Honduras, in particular had a shorter period of extreme volatility than other two countries. While the mean apprehensions in UAC from Honduras experiences a sharp increase in March 2013, mean apprehensions overall remains the lowest of the three countries. Honduran UAC apprehensions reached a peak of 3,698 children in one month, with El Salvador peaking at 3,469 and Guatemala at 2,845. In other words, Honduras experienced a shorter episode of extreme UAC apprehension volatility but had a higher peak number of apprehensions despite lower overall mean apprehensions. While the mean number of apprehensions fell sharply after July 2014, some volatility remained. The plots of the mean and variance changepoints for UAC apprehensions from Honduras are shown in Figure 11.

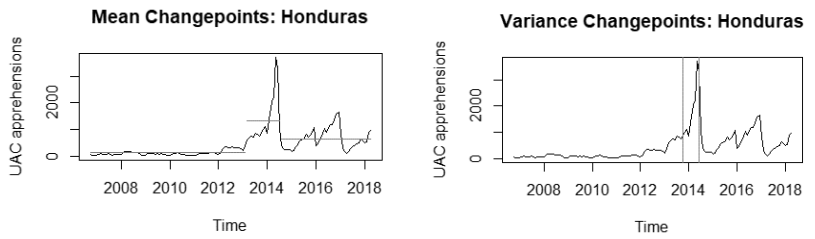

Figure 11. *Mean and variance changepoints for Honduras*

In the midst of the global financial crisis of 2008-2009, Honduras was experiencing a constitutional crisis with the military detainment, and subsequent exile, of President Manuel Zelaya (Meyer 2010). The economy had been experiencing strong growth and stability under President Zelaya, until a significant slowdown began in 2008 with the onset of the global financial crisis (Cordero 2009). While the Honduran economy grew, on average, by a modest 3.5 percent between 2010 and 2013, its economy in 2013 was still thirty-three percent lower than Guatemala's and half the size of El Salvador's. In 2013, however, the growth rate in per capita GDP slowed to less than one percent. However, poverty rates had long been a problem even prior to the global financial crisis and continued to be a concern thereafter. Extreme poverty is higher in rural areas, at 55.6 percent versus 29 percent in urban areas in 2013. Income poverty is the highest in the region, which reflects back to its high inequality rates. Honduras has significantly boosted primary enrollment and completion rates, with secondary enrollment rates consistent with the Central American average. The urban rural divide is as significant in Honduras as it is in Guatemala, however. Secondary school enrollment rates in rural areas are half that of the urban areas. Overall enrollment rates drop to 43.9 percent by the start of secondary school. Spending on education is one of the largest categories of public spending, thirty-seven percent in 2013, which is high even compared

to OECD standards. Nonetheless, between 2007 and 2013 it decreased on average five percent in real terms per year. Between 2007 and 2013 youth unemployment, even for those completing secondary education, rose from 6.4 percent to 13 percent, representing lower returns to education and greater incentives to migrate (World Bank Group 2015a). Honduran children faced the shortest increase in mean UAC, and this can be tied back to lack of established immigrant communities in the United States for family reunification and support.

Change point detection, Mexico

Mexican UAC apprehensions trends differ in many ways from those found for the Northern Triangle countries. As mentioned previously, prior to 2014 the majority of UAC apprehensions were Mexican children. In conducting CPD for monthly UAC migration from Mexico over the period October 2006 to April 2018, change points in mean apprehensions were found in December 2008 and May 2014. Mean UAC apprehensions spiked in January of 2009, much earlier than the spikes in mean UAC apprehensions from the Northern Triangle countries. More pointedly, while overall monthly mean UAC apprehensions from Mexico are the highest of all four countries in this study, the spike occurred earlier and the mean number of apprehensions significantly decreased by June 2014. Furthermore, a significant reduction in variability was also the case between June 2014 and September 2016. After September 2016, variability increased but it was coupled with lower mean values. The plots of the mean and variance changepoints for UAC apprehensions from Mexico are shown in Figure 12.

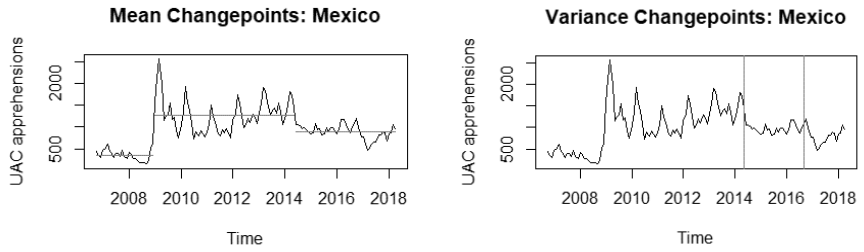

Figure 12. *Mean and variance changepoints for Mexico*

Informality rates in Mexican employment, which measure lack of access to social benefits, increased nearly two percentage points between the fourth quarters of 2008 and 2009. Employment of young adults, aged less than 26 years, fell by more than 540,000 jobs. The greatest job losses were for those with just primary level schooling (Freije *et al.* 2011). The weakening economy brought greater school drop-out rates due to worsening career expectations. Furthermore, youth out of work and out of school raise serious security concerns as the draw of criminal organizations becomes more attractive (Villareal 2010).

The Mexican UAC migration spike of 2009 occurred at the height of the U.S. financial crisis when most indicators reflected a lower United States demand for immigrant labor and falling Mexican emigration (Freije *et al.* 2011, Alba 2013). While this may seem counterintuitive at first glance, the distinction between circular and settled Mexican migration has become more blurred over time. Many migrants travel back and forth between the two countries (Alba 2013), making it more difficult to properly account for the motivations behind the actual flows. Furthermore, circular migrants tend to be younger and predominantly male, which coincides with the demographic makeup of child migrants (UNHCR 2014, Kandel 2019). The fact that the Mexican community in the United States is the largest Hispanic community, accounting for twenty-nine percent of

all immigrants (Radford *et al.* 2019), also supports the notion of circular migration allowing for extensive migrant networks in both directions.

Furthermore, the 2008 Trafficking Victims Protection Reauthorization Act (TVPRA) made special provisions for children from non-contiguous countries while allowing for the immediate deportation of Mexican children under certain conditions. According to a 2015 U.S. Government Accountability Office report, the CBP repatriated about ninety-three percent of Mexican UAC under the age of 14 between fiscal years 2009 through 2014. The different treatment of Mexican UAC compared to that of non-contiguous countries may have contributed to the decline in Mexican UACs just as the number of Northern Triangle UACs began to rise. In addition, all three Northern Triangle countries saw decreases in the growth of their social well-being indicators leading up to the changepoint in mean UAC apprehensions of February 2013. El Salvador actually saw declines in the HDI in 2011 and Honduras in 2012. Until 2014, growth in the HDI did not exceed one percent in any Northern Triangle country in any year following the financial crisis of 2008-2009.

The role that human trafficking and smuggling operations play in illegal migration may also be a contributing factor in the UAC surge from the Northern Triangle countries. It is estimated that 75 to 80 percent of unaccompanied child migrants travel with smugglers (Snider 2014). As these criminal organizations became more profitable, they also engaged in more targeted marketing strategies. Smugglers routinely exploit minors into believing that their extended stay is a special permit, or "permiso", to remain in the United States (Chishti *et al.* 2015). According to a report issued by the El Paso Intelligence Center (EPIC), the CBP interviewed 230 migrants that were apprehended in

the Rio Grande Valley in May 2014. Of the 230 interviewed, 219 cited that the primary reasons for migrating was the perception that the United States was granting permisos to UAC and adult females traveling with minors (Darby 2014, Stewart 2014, Chishti *et al.* 2015). In July 2014, the CBP announced the "Dangers Awareness Campaign" which discredited much of the false information smugglers were spreading about U.S. immigration policy. As part of this effort, Mexico began the "Programa Frontera Sur" to increase security on its own southern border with Guatemala. In fact, Mexico deported 21,547 children back to Central America in the first eleven months of 2014, up from 7,738 in 2013 (Chishti *et al.* 2015). Furthermore, these stricter measures coincide with a change point in increased volatility in UAC apprehensions at the United States southern border for all Northern Triangle countries.

CHAPTER VI – CONCLUSION

The literature to date on unaccompanied child migration from the Northern Triangle countries and Mexico has provided pieces of the puzzle for understanding the push and pull factors behind the migration trends. Interviews and surveys conducted with migrant children have offered only a glimpse into the circumstances they face, both in their home countries and in connection to family members already living in the United States. While their responses are valuable from a micro-level perspective, they do not permit a macro-level analysis of the economic, social, and security conditions of each country, or of the extent of their interconnectedness to U.S. society. Of the published research relying on macro-level quantitative data, the studies are limited to the years prior to the 2014 surge in UAC migration from the Northern Triangle countries. Furthermore, UAC migration from this region is typically treated as homogenous, rather than analyzed separately as migration from three different countries with very different conditions. No study to date has attempted to quantify the effects of the growing interconnectedness between countries in facilitating the migratory journey of unaccompanied children. While many unaccompanied children cite family reunification or economic opportunities abroad as a pull factor behind their migration, without the migratory networks established by previous migrants, the journey would be too uncertain. Dating back to Lee's (1966) seminal work, the push and pull factors of migration work alongside intervening obstacles, such as distance, physical borders, and threat of harm, in influencing a person's decision to migrate. Furthermore, the attractiveness of a destination is shaped by the knowledge a person has obtained about that destination. Technology plays a significant role in decreasing both intervening obstacles and the uncertainty of life abroad. Increased

social globalization, through increased telecommunications, as well as the financial linkages that are made possible by it, have increased the awareness of opportunities abroad. In addition, cultural hybridization through previous waves of migration, and a growing trade in cultural goods, has broadened national identities beyond strictly geographic borders. Since 1970, the Mexican and Central American diaspora in the United States rose by a factor of twenty at a time when the United States immigrant population grew four-fold. Social globalization permitted a strengthening of ties between the diaspora living in the United States and those left behind (Brick *et al.* 2011).

A fixed effects regression is conducted on the push and pull factors most affecting child migration, as evidenced by the literature. Particular attention is given to the economic and social conditions of youth, considering the additional risks faced by those who are neither at work, in school, or training. The desire for family reunification is quantified through the KOF Social Globalization de facto Index, which measures the growing interconnectedness of people across borders, both culturally and financially. While there is no global data on migration flows tied to family reunification per se, the strength of the connections of personal relationships, as measured through social globalization, serves as a useful estimate of this interrelation. The results of the model reveal that the unemployment rate of youth, expected years of schooling, and social globalization prove to be important factors in motivating UAC migration. Social globalization in particular proved to be the most statistically significant factor in explaining unaccompanied child migration. A one-unit increase in the KOF Social Globalization de facto Index results in over a fifty percent jump in UAC migration. More pointedly, it is not only the well-being of youth, in terms of employment and educational

opportunities in the home country that matter for UAC migration, but also the strength of the ties to family members and opportunities of living abroad. The push factors present in each country work together with increased social globalization to entice greater child migration numbers from the Northern Triangle and Mexico.

Although the fixed effects model allows for heterogeneity across countries, each country does exhibit differences in terms of the push and pull factors affecting their respective populations. While UAC migration from the Northern Triangle countries tends to be evaluated as one single phenomenon, this approach is not always appropriate. To further analyze the differences across countries, the nonparametric Kruskal-Wallis and Mann-Whitney U tests are conducted. The push conditions are aggregated by using the Human Development Index, while the pull conditions are captured by the KOF Social Globalization de facto Index. The results of tests reveal that the populations from the three Northern Triangle countries and Mexico are not statistically similar, with the exception of Guatemala and Honduras. These two countries, however, are still statistically different for the most part, except for one component of the HDI and one component of the KOF Social Globalization de facto Index. More pointedly, they only differ statistically from each other in terms of the educational attainment of their populations and in terms of their exposure to informational globalization. Otherwise, the populations of all four countries cannot be considered to be identical and should not be treated as such. This is an important finding since it indicates that it is best to analyze the push and pull factors behind child migration on a country-by-country basis.

Change point detection facilitated further analysis on an individual country basis for the mean and variance of monthly UAC apprehensions. While all three Northern

Triangle countries saw sharp rises in mean UAC apprehensions around the same time, the trend varied by country. The mean and variance of UAC apprehensions for Guatemala remained consistently high through 2018. El Salvador followed a similar pattern but did see declines in mean UAC by early 2017. Honduras, however, saw a short period of heightened mean UAC apprehensions and variability, with declines in both by the summer of 2014. Mexican UAC apprehensions, on the other hand, occurred much earlier, with significant decreases in both the mean and variance as apprehensions from the Northern Triangle surged.

Future research

The research conducted in this study can be expanded in several directions. First and foremost, each country should be evaluated separately as to the push and pull conditions faced by young adults. For Mexican and Salvadoran youth for example, previous waves of migration have established strong networks that encourage greater family reunification. Remittance spending can provide further evidence as to whether these transfers improve the conditions of those left behind, or whether they serve to fund greater migratory flows. As the world becomes more interconnected, cultural differences become less definitive. This is particularly evident in young adults as new, blended cultures are adopted through increased interactions with social media and the trade in cultural goods. Furthermore, differences in standards of living across countries become more apparent. Advances in telecommunications increase the awareness of a better life abroad, a life that no longer seems so foreign given cultural hybridization. In analyzing Honduran and Guatemalan youth, for example, the search for economic opportunities in

the United States was a strong motive behind their migration. This was not necessarily tied to family reunification.

Greater research is needed into the impact of various programs aimed at improving the conditions of young adults in the developing world. In order to achieve this, a better measure of job-ready skills is critical, as the usual measures of years of schooling, enrollment rates, and test scores leave much unaccounted for. Research on the growing NEET phenomenon is gaining momentum and data is becoming more available as to the extent of this epidemic in the Northern Triangle countries and Mexico. Several multi-organizational partnerships between governments and non-governmental organizations are aimed at addressing this epidemic, with results-based vocational training programs and apprenticeships. Evaluating the effectiveness of these programs, and tying them to the labor force participation rates of young adults, is critical for their success and further dissemination into society. Exploring the relationship between human capital investment and young adult migration would then become more productive.

Finally, since social globalization proved to be highly significant in explaining unaccompanied child migration, the link between globalization and child migration should be broken down further into the particular aspects of globalization that are most influential. Again, it could be as simple as increased remittance spending or greater access to telecommunications, but it could also be more complex in terms of the hybridization of cultural identities through a growing trade in cultural goods. The difficulty here will lie in isolating the most significant variables, while avoiding the strong relationships that these variables seem to share. While social globalization can be

difficult to quantify, this research has shown that it also has the potential to provide the greatest insights into contemporary migration trends.

In closing, in an era of heightened globalization, countries do not simply become more interconnected economically, but also politically and socially as well. Cultural distinctions become blurred as migrant families adopt a more blended identity. Communication pathways are reinforced through greater access to telecommunications and the internet. As long-distance relationships become more solidified, a culture of migration is passed from one generation to the next. Just as rural-urban migration trends are fueled by the possibility of a better life in the cities, so is international migration. Previous migrants not only show those left behind that there is a possibility of a better life, but they also provide the information and finances necessary to make the journey. In an era of globalization, low-to-medium development countries, such as those in the Northern Triangle region, will continue to face out-migration so long as they do not invest more in their youth. Young adults seeking a better life are turning their attention beyond their own borders, with the support of those that went before them.

APPENDIX A– Additional Tables

Table A1.

Dataset variables and their respective sources

Variable	**Source**
UAC apprehensions	U.S. Customs and Border Patrol, public release & FOIA data request
Unemployment rate of youth (ages 15-24)	World Development Indicators, The World Bank
Expected years of schooling	Human Development Reports, UNDP
Homicide rate (per 100,000 population)	Instituto Igarape, public release & data request
KOF Social Globalization de facto Index	KOF Swiss Economic Institute, public release & data request
Interpersonal Globalization de facto Index	KOF Swiss Economic Institute, public release & data request
Informational Globalization de facto Index	KOF Swiss Economic Institute, public release & data request
Cultural Globalization de facto Index	KOF Swiss Economic Institute, public release & data request
Human Development Index	Human Development Reports, UNDP
Income Index	Human Development Reports, UNDP
Education Index	Human Development Reports, UNDP
Life Expectancy Index	Human Development Reports, UNDP

Table A2.

KOF Social Globalization de facto index, breakdown of components

A. Interpersonal Globalization	
International voice traffic	Incoming and outgoing fixed and mobile telephone traffic in minutes per capita
Transfers	Inflows & outflows of goods, services, income, financial items without a quid pro quo per capita
International tourism	Sum of arrivals and departures of international tourists as a share of population
International students	Inbound and outbound number of tertiary students (% population)
Migration	Number of foreign or foreign-born residents as percentage of total population
B. Informational Globalization	
Used internet bandwidth	Used capacity of international internet bandwidth in bps per capita (% population)
International patents	Patent applications by non-residents (% of population)
High technology exports	Exports of high R&D intensity products in current US$
C. Cultural Globalization	
Trade in cultural goods	Sum of exports and imports of cultural goods
Trade in personal services	Trademark registration applications by non-residents (% of applications)
International trademarks	Sum of exports & imports in personal, cultural, and recreational services (% population)
McDonald's restaurant	Number of McDonald's restaurants (% population)
Ikea stores	Number of IKEA stores (% population)

Table A3.

Fixed effects model results with clustered standard errors

Dependent variable: UAC apprehensions (log)			
Explanatory variables (lag)	**Coefficient**	**Robust SE**	**p-value**
Youth unemployment rate	0.1125	0.0275	0.0260
Expected years schooling	-0.5883	0.0943	0.0080
Homicide rate	0.0036	0.0068	0.6310
Social globalization index	0.5324	0.0582	0.0030
R^2	**corr(u_i, Xb)**	-0.5884	
within *0.7127*	**sigma_u**	0.7954	
between *0.2592*	**sigma_e**	0.5518	
overall *0.4837*	**rho**	0.6751	

REFERENCES

Ahuvia, Aaron, and Douglas Friedman. 1998. "Income, Consumption, and Subjective Well-Being: Toward a Composite Macromarketing Model." *Journal of Macromarketing* 18, no. 2 (December): 153-168.

Alba, Francisco. 2013. "Mexico: The New Migration Initiative." *Migration Information Source*, April 24. Accessed July 20, 2020. https://www.migrationpolicy.org/article/mexico-new-migration-narrative

Alejo, Javier, Antonio Galvao, Gabriel Montes-Rojas, and Walter Sosa-Escudero. 2015. "Tests for Normality in Linear Panel Data Models." *The Stata Journal* 15, no. 3 (October 2015): 822–832. Accessed July 16, 2020. http://ageconsearch.umn.edu/record/281134/

Alulema, Daniela. 2019. "DACA and the Supreme Court: How We Got to This Point, a Statistical Profile of Who Is Affected, and What the Future May Hold for DACA Beneficiaries." *Journal of Migration and Human Security* 7, no. 4: 123-130.

American Immigration Council (AIG). 2015. *A Guide to Children Arriving at the Border: Laws, Policies and Responses.* Special Report, June 26, 2015. Washington, D.C.: AIG. Accessed July 4, 2020. https://www.americanimmigrationcouncil.org/research/guide-children-arriving-border-laws-policies-and-responses

Amuedo-Dorantes, Catalina, and Thitima Puttitanum. 2016. "DACA and the Surge in Unaccompanied Minors at the US-Mexico Border." *International Migration* 54, no. 4: 102-117.

Becker, Gary S. 1964. *Human Capital: A Theoretical and Empirical Analysis, With Special Reference to Education.* 2nd Ed. New York: National Bureau of Economic Research, distributed by Columbia University Press.

Blanchard, Sarah, Erin R. Hamilton, Nestor Rodriguez, and Hirotoshi Yoshioka. 2011. "Shifting Trends in Central American Migration: A Demographic Examination of Increasing Honduran-U.S. Immigration and Deportation." *Latin Americanist* 55, no. 4 (December): 61–84.

Brick, Kate, A.E. Challinor, and Marc R. Rosenblum. 2011. “Mexican and Central American Immigrants in the United States.” June. Washington, D.C.: Migration Policy Institute.

Canudas-Romo, Vladimir, and José Manuel Aburto. 2019. “Youth Lost to Homicides: Disparities in Survival in Latin America and the Caribbean.” *BMJ Global Health* 4, no. 2: e001275.

Cardemil, Leonardo, Juan Carlos Di Tata, and Florencia Fratischek. 2000. “Central America: Adjustment and Reforms in the 1990s.” *Finance & Development*, March. Washington, D.C.: International Monetary Fund. Accessed July 2, 2020. https://www.imf.org/external/pubs/ft/fandd/2000/03/pdf/cardemil.pdf

Carlson, Elizabeth, and Anna Marie Gallagher. 2015. “Humanitarian Protection for Children Fleeing Gang-Based Violence in the Americas.” *Journal on Migration and Human Security* 3, no. 2:129-158.

Center for Justice & Accountability. 2020a. “El Salvador.” Accessed July 6, 2020. https://cja.org/where-we-work/el-salvador/#:~:text=Transitional%20Justice%20in%20El%20Salvador,Salvador%20(1980%2D1992)

Center for Justice & Accountability. 2020b. “Guatemala.” Accessed July 6, 2020. https://cja.org/where-we-work/guatemala/

Cheatham, Amelia. 2019. “Central America’s Turbulent Northern Triangle.” *Council on Foreign Relations*, October 1. Accessed March 9, 2020. https://www.cfr.org/backgrounder/central-americas-turbulent-northern-triangle#:~:text=A%20surge%20of%20migrants%20from,beyond%20to%20reexamine%20relevant%20policies

Chishti, Muzaffar, and Faye Hipsman. 2015. “The Child and Family Migration Surge of Summer 2014: A short-lived crisis with a lasting impact.” *Journal of International Affairs* 68, no. 2: 95-113.

Cohen, D’Vera, Jeffrey S. Passel, and Ana Gonzalez-Barrera. 2017. “Rise in U.S. Immigrants From El Salvador, Guatemala and Honduras Outpaces Growth From Elsewhere.” December 7. Washington, D.C.: Pew Research Center. Accessed

March 18, 2020. http://www.pewhispanic.org/2017/12/07/rise-in-u-s-immigrants-from-el-salvador-guatemala-and-honduras-outpaces-growth-from-elsewhere/

Cordero, Jose Antionio. 2009. "Honduras: Recent Economic Performance." November. Washington, D.C.: Center for Economic and Policy Research. Accessed Auguest 23, 2020. https://www.cepr.net/documents/publications/honduras-2009-11.pdf

Cox, Michael W., and Richard Alm. 2002. "The Fruits of Free Trade." Annual Report, Federal Reserve Bank of Dallas. Accessed August 11, 2020. https://www.dallasfed.org/~/media/documents/fed/annual/2002/ar02.pdf

Coutin, Susan Bibler. 1998. "From Refugees to Immigrants: The Legalization Strategies of Salvadoran Immigrants and Activists." *International Migration Review* 32, no. 4: 901–25.

Czaika, Mathias, and Hein de Haas. 2016. "The Globalization of Migration. Has the World Become More Migratory." *International Migration Review* 48 (2): 283-323. Accessed Mach 10, 2020. https://journals.sagepub.com/doi/pdf/10.1111/imre.12095

Darby, Brandon. 2014. "Leaked Border Crisis Intel Shreds Narrative From Media and Obama Admin." *Breitbart News*, July 14. Accessed July 22, 2020. https://www.breitbart.com/border/2014/07/14/leaked-intel-report-violence-in-central-america-likely-not-primary-factor-in-border-crisis/

De Haas, Hein. 2011. "The Determinants of International Migration: Conceptualizing Policy, Origin and Destination Effects." IMI Working Paper No 32. Oxford: International Migration Institute. Accessed March 10, 2020. https://ora.ox.ac.uk/objects/uuid:63b0a544-2b39-45a5-b9fe-cffdb5f4c654

De Hoyos, Rafael, Carlos Gutierrez Fierros, and J.M. Vargas. 2016a. "Idle Youth in Mexico: Trapped between the War on Drugs and Economic Crisis." World Bank Working Paper 7548 (February). Washington, D.C.: World Bank Group, Education Global Practice Group. Accessed March 18, 2020. http://documents.worldbank.org/curated/en/619751467988934575/pdf/WPS7558.pdf

De Hoyos, Rafael, Anna Popova, and Halsey Rogers. 2016b. “Out of School Out of Work: A Diagnostic of NEETs in Latin America.” World Bank Working Paper 7548. Washington, DC: World Bank Group. Accessed March 18, 2020. https://openknowledge.worldbank.org/bitstream/handle/10986/22349/K8318.pdf?sequence=8

Donato, Katherine M., and Blake Sisk. 2015. “Children’s Migration to the United States from Mexico and Central America: Evidence from the Mexican and Latin American Migration Projects.” *Journal on Migration and Human Security* 3, no. 1 (March): 58–79.

Dreher, Axel. 2006. “Does Globalization Affect Growth? Evidence from a new Index of Globalization.” *Applied Economics* 38, no. 10: 1091-1110.

Dreher, Axel, Noel Gaston, and Pim Martens. 2008. *Measuring Globalisation, Gauging its Consequences*. New York: Springer-Verlag.

Easterly, William. 1999. “Life During Growth.” *Journal of Economic Growth*, 4: 239-276.

Edwards, Alejandra Cox, and Manuelita Ureta. 2003. “International Migration, Remittances, and Schooling: Evidence from El Salvador.” *Journal of Development Economics* 72, no. 2: 429–461.

Federal Reserve Bank of St. Louis, FRED. 2018a. “Remittance Inflows to GDP for El Salvador.” September 21. Accessed July 16, 2019. https://fred.stlouisfed.org/series/DDOI11SVA156NWDB

Federal Reserve Bank of St. Louis, FRED. 2018b. “Remittance Inflows to GDP for Guatemala.” September 21. Accessed July 16, 2019. https://fred.stlouisfed.org/series/DDOI11GTA156NWDB

Federal Reserve Bank of St. Louis, FRED. 2018c. “Remittance Inflows to GDP for Honduras.” September 21. Accessed July 16, 2019. https://fred.stlouisfed.org/series/DDOI11HNA156NWDB

Federal Reserve Bank of St. Louis, FRED. 2018d. “Remittance Inflows to GDP for Mexico.” September 21. Accessed July 16, 2019. https://fred.stlouisfed.org/series/DDOI11MXA156NWDB

Flores-Yeffal, Nadia Y., and Karen A. Pren. 2018. “Predicting Unauthorized Salvadoran Migrants’ First Migration to the United States between 1965 and 2007.” *Journal of Migration and Human Security* 6, no. 2: 131-144.

Freije, Samuel, Gladys Lopez-Acevedo, and Eduardo Rodriguez-Oreggia. 2011. “Effects of the 2008-09 Economic Crisis on Labor Markets in Mexico.” World Bank, Working Paper 5840 (October). Washington, D.C.: World Bank Group, Poverty Reduction and Equity Unit.

Gammage, Sarah. 2006. “Exporting People and Recruiting Remittances: A Development Strategy for El Salvador?” *Latin American Perspectives* 33, no. 6 (November 1): 75-100.

Gujarati, Damodar N., and Dawn C. Porter. 2009. *Basic Econometrics*, 5th ed. New York: McGraw-Hill Irwin.

Gygli, Savina, Florian Haelg, Niklas Potrafke, and Jan-Egbert Sturm. 2019. “The KOF Globalisation Index-revisited.” *The Review of International Organizations* 14: 543-574.

Hagan, Jacqueline, Karl Eschbach, and Nestor Rodriguez. 2008. “U.S. Deportation Policy, Family Separation, Circular Migration.” *International Migration Review* 42, no. 1: 64-88.

Hagerty, Michael R., Robert Cummins, Abbott Ferriss, Kenneth Land, Alex C. Michalos, Mark Peterson, Andrew Sharpe, Joseph Sirgy, and Joachim Vogel. 2001. “Quality of Life Indexes for National Policy: Review and Agenda for Research.” *Social Indicators Research* 55, 1: 1-96.

Hanck, Christoph, Martin Arnold, Alexander Gerber, and Martin Schmelzer. 2020. *Introduction to Econometrics with R*. Essen: Universitat Duisburg-Essen. Accessed July 21, 2020. https://www.econometrics-with-r.org/10-5-tferaaseffer.html

Hill, Carter R., William E. Griffiths, and Guay C. Lim. 2011. *Principles of Econometrics*, 4th ed. Hoboken: John Wiley & Sons, Inc.

Hopper, Paul. 2007. *Understanding Cultural Globalization.* New York: Polity Press.

Human Rights Watch (HRW). 2020. “Honduras, Events of 2018.” Accessed July 17, 2020. https://www.hrw.org/world-report/2019/country-chapters/honduras#

Instituto Igarape. 2019. “New Partners.” Accessed April 10, 2020. https://igarape.org.br/en/new-partners/

Instituto Igarape. 2020. Homicides. Accessed July 9, 2020. https://homicide.igarape.org.br/

International Labour Organization (ILO). 2018. “2018 Labour Overview, Latin America and the Caribbean.” Geneva: International Labour Organization. Accessed July 9, 2020. https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/documents/publication/wcms_675285.pdf

International Labour Organization (ILO). 2020. “ILO Modelled estimates and projections, Data considerations and methodological approach.” Geneva: International Labour Organization. Accessed July 9, 2020. https://ilostat.ilo.org/resources/methods/ilo-modelled-estimates/

Jahan, Selim. 2020. “Counting What Counts in Development.” Human Development Reports, United Nations Development Programme. New York: United Nations. Accessed July 9, 2020. http://hdr.undp.org/en/content/counting-what-counts-development

Jamal, Arafat. 2000. “Refugee repatriation and reintegration in Guatemala: Lessons learned from the UNHCR’s experience.” United Nations High Commissioner for Refugees, Evaluation and Policy Analysis Unit, Regional Bureau for the Americas and Caribbean (September). Geneva: United Nations.

Janzen, Randall. 2008. “From Less War to More Peace: Guatemala’s Journey since 1996.” *Peace Research* 40, no. 1: 55-75.

Jonas, Susanne. 2013. “Guatemalan Migration in Times of Civil War and Post-War Challenges.” Washington, D.C.: Migration Policy Institute. Accessed June 30, 2020. https://www.migrationpolicy.org/article/guatemalan-migration-times-civil-war-and-post-war-challenges

Kalsi, Priti. 2018. “The impact of U.S. deportation of criminals on gang development and education in El Salvador.” *Journal of Development Economics* 135 (November): 433-448.

Kandel, William A. 2019. "Unaccompanied Alien Children: An Overview." Congressional Research Service R43599 (October 9). Washington, D.C.: Congressional Research Service. Accessed March 9, 2020. https://fas.org/sgp/crs/homesec/R43599.pdf

Kennedy, Elizabeth. 2014. “No Childhood Here: Why Central Americans are Fleeing their Homes.” Special Report (July). Washington, D.C.: American Immigration Council. Accessed March 18, 2020. https://www.americanimmigrationcouncil.org/research/no-childhood-here-why-central-american-children-are-fleeing-their-homes

KOF Swiss Economic Institute. 2019. “KOF Globalization Index.” Accessed March 10, 2020. https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html

KOF Swiss Economic Institute. 2020. “2019 KOF Globalisation Index, Method of calculation.” Accessed March 10, 2020. https://kof.ethz.ch/en/forecasts-and-indicators/indicators/kof-globalisation-index.html

Kurtenbach, S. 2016. “How El Salvador became the murder capital of the world.” *The Conversation.* Accessed March 9, 2020. http://theconversation.com/how-el-salvador-became-the-murder-capital-of-the-world-64196

Lee, Everett. 1966. "A Theory of Migration." *Demography* 3, 1: 47-57.

Lorenzen, Matthew. 2017. “The Mixed Motives of Unaccompanied Child Migrants from Central America’s Northern Triangle.” *Journal on Migration and Human Security* 5, no. 4: 744-767.

Lucas, Robert Jr. 1988. "On the mechanics of economic development," *Journal of Monetary Economics* 22, 1: 3-42.

McGillivray, Mark, and Matthew Clarke. 2006. “Human Well-being: Concepts and Measures.” In Mark McGillivray and Matthew Clarke, eds. *Understanding Human Well-Being.* United Nations University Press.

Menjivar, Cecilia, and Andrea Gomez Cervantes. 2018. “El Salvador: Civil War, Natural Disasters, and Gang Violence Drive Migration.” Washington, D.C.: Migration Policy Institute. Accessed June 28, 2020. https://www.migrationpolicy.org/article/el-salvador-civil-war-natural-disasters-and-gang-violence-drive-migration#:~:text=Migration%20from%20El%20Salvador%20is,and%20deeply%20rooted%20social%20inequalities.&text=The%20nearly%201.4%20million%20immigrants,the%20United%20States%2C%20after%20Mexicans.

Meyer, Peter J. 2010. “Honduran Political Crisis, June 2009-January 2010.” Congressional Research Service R41064 (February 1). Washington, D.C.: Congressional Research Service. Accessed August 23, 2020. https://fas.org/sgp/crs/row/R41064.pdf

Meyer, Peter J., Maureen Taft-Morales. 2019. “Central American Migration: Root Causes and U.S. Policy.” Congressional Research Service IF11151 (June 13). Washington, D.C.: Congressional Research Service. Accessed August 28, 2020. https://fas.org/sgp/crs/row/IF11151.pdf

Meyer, Peter J. 2020. “Honduras: Background and U.S. Relations.” Congressional Research Service RL34027 (April 27). Washington, D.C.: Congressional Research Service. Accessed July 5, 2020. https://fas.org/sgp/crs/row/RL34027.pdf

Migration Policy Institute (MPI). 2015. “RAD Diaspora Profile: The Salvadoran Diaspora in the United States.” Rockefeller Foundation-Aspen Institute Diaspora Program (June). Washington, D.C.: Migration Policy Institute. Accessed August 11, 2020. file:///C:/Users/lfarr/Downloads/RAD-ElSalvador%20(3).pdf

Migration Policy Institute (MPI). 2020. “Countries of Birth for U.S. Immigrants, 1960-Present.” Accessed June 30, 2020. https://www.migrationpolicy.org/programs/data-hub/charts/immigrants-countries-birth-over-time

Muñoz-Pogossian, Betilde, and Mariette Vidal. 2015. “Youth, Peace and Security in the Americas: Risks and Opportunities for Central American and Caribbean Youth: A contribution to the Progress Study on Youth, Peace and Security mandated by

Security Council." General Secretariat of the Organization of American States Resolution 2250. Accessed March 9, 2020. https://www.youth4peace.info/system/files/2018-04/15.%20CFR_YPS%20in%20the%20Americas%20-%20Central%20American%20and%20Caribbean%20Youth%20-%20OAS_0.pdf

Naghshpour, Shahdad. 2016a. *A Primer on Nonparametric Analysis, Volume I*. New York: Business Expert Press.

Naghshpour, Shahdad. 2016b. *A Primer on Nonparametric Analysis, Volume II*. New York: Business Expert Press.

Naghshpour, Shahdad. 2016c. *Regression for Economics,* second edition. New York: Business Expert Press.

Nau, Robert. 2018. "Fitting time series regression models." Statistical forecasting: notes on regression and time series analysis, Fuqua School of Business, Duke University. Accessed March 16, 2020. http://people.duke.edu/~rnau/411l696.htm

Nazario, Sonia. 2014. *Enrique's Journey*. New York: Random House.

O'Connor, Allison, Jeanne Batalova, and Jessica Bolter. 2019. "Central American Immigrants in the United States." Washington, D.C.: Migration Policy Institute. Accessed June 28, 2020. https://www.migrationpolicy.org/article/central-american-immigrants-united-states

Organisation for Economic Co-operation and Development (OECD). 2020. "OECD Better Life Index, Safety." Accessed June 27, 2020. http://www.oecdbetterlifeindex.org/topics/safety/

Otoiu, Adrian, Emilia Titan, and Remus Dumitrescu. 2014. "Are the Variables Used in Building Composite Indicators of Well-Being Relevant? Validating Composite Indexes of Well-Being." *Ecological Indicators* 46: 575-585.

Penn State Eberly College of Science (Penn State). 2019. "Applied Regression Analysis, Detecting Multicollinearity Using Variance Inflation Factors." Accessed March 16, 2020. https://online.stat.psu.edu/stat462/node/180/

Perotti, Roberto. 1993. "Political Equilibrium, Income Distribution, and Growth." *The Review of Economic Studies* 60, no. 4: 755-776.

Pieterse, Jan Nederveen. 2000. “Globalization and Human Integration: We Are All Migrants.” *Futures* 32, no. 5: 385–398.

Potrafke, Niklas. 2015. “The Evidence on Globalisation,” *The World Economy* 38, no. 3: 509-552.

Psacharopoulos, George, and Eduardo Velez. 1988. “Schooling, Ability, and Earnings in Colombia, 1988.” *Economic Development and Cultural Change* 40, no. 3: 1629-643.

Psacharopoulos, George, and Anthony Patrinos. 2004. “Returns to Investment in Education: A Further Update.” *Education Economics* 12, no. 2: 111-134.

Radford, Jynnah, and Luis Noe-Bustamante. 2019. “Facts on U.S. Immigrants, 2017.” June 3. Washington, D.C.: Pew Research Center. Accessed July 20, 2020. https://www.pewresearch.org/hispanic/2019/06/03/facts-on-u-s-immigrants/

Raphel, Alexandra. 2014. “Unaccompanied migrant children in the United States: Research roundup.” *Journalist’s Resource,* Shorenstein Center on Media, Politics and Public Policy, Harvard Kennedy School (July 15). Accessed July 3, 2020. https://journalistsresource.org/studies/government/immigration/unaccompanied-migrant-children-united-states-research-roundup/

Reichman, Daniel. 2013. “Honduras: The Perils of Remittance Dependence and Clandestine Migration.” April 11. Washington, D.C.: Migration Policy Institute. Accessed July 5, 2020. https://www.migrationpolicy.org/article/honduras-perils-remittance-dependence-and-clandestine-migration

Roser, Mark. 2019. "The Human Development Index (HDI)". Our World In Data, Global Change Data Lab at the University of Oxford. Accessed March 18, 2020. https://ourworldindata.org/human-development-index

Schmidt, Susan. 2017. “They Need to Give Us a Voice: Lessons from Listening to Unaccompanied Central American and Mexican Children on Helping Children Like Themselves.” *Journal on Migration and Human Security* 5, no. 1: 57-81.

Seelke, Clare Ribando. 2016. “Gangs in Central America.” Congressional Research Service RL34112 (August 29). Washington, D.C.: Congressional Research Service. Accessed March 9, 2020. https://fas.org/sgp/crs/row/RL34112.pdf

Snider, Paul. 2014. *Unaccompanied Alien Children in the United States : Issues and Trends* New York: Nova Publishers.

Stewart, Louise. 2014. "Leaked Report Claims Rumors About U.S. Law at Root of Border Crisis." *Newsweek* (July 17). Accessed July 23, 2020. https://www.newsweek.com/leaked-intel-report-immigration-crisis-contains-both-iffy-informative-259598

Swanson, Kate, and Rebecca Maria Torres. 2016. "Child Migration and Transnationalized Violence in Central and North America." *Journal of Latin American Geography* 15, no. 3: 23-48.

Taft-Morales, Maureen. 2019. "Guatemala: Political and Socioeconomic Conditions and U.S. Relations." Congressional Research Service R42580 (March 20). Washington, D.C.: Congressional Research Service. Accessed June 30, 2020. https://fas.org/sgp/crs/row/R42580.pdf

Torres-Reyna, Oscar. 2007. "Panel Data Analysis, Fixed and Random Effects using Stata (v.4.2)." Getting Started in Data Analysis using Stata and R: notes on fixed/random effects (panel data), Data & Statistical Services, Princeton University. Accessed July 17, 2020. https://dss.princeton.edu/training/

Towers, Marcia, and Silvia Borzutzky. 2004. "The Socioeconomic Implications of Dollarization in El Salvador." *Latin American Politics and Society* 46, no.3 (September): 29-54.

United Nations Children's Fund (UNICEF). n.d. "Family Unity in the Context of Migration." UNICEF Working Paper. New York: UNICEF. Accessed August 26, 2020. https://www.unicef.org/documents/working-paper-family-unity-context-migration

United Nations Committee for the Rights of the Child (UNCRC). 2013. "General comment No. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration (art. 3, para. 1)". CRC/C/GC/14 (May 29). Accessed August 26, 2020. https://www2.ohchr.org/English/bodies/crc/docs/GC/CRC_C_GC_14_ENG.pdf

United Nations Economic Analysis and Policy Division, Department of Economic and Social Affairs (UNDESA). 2019. "World Economic Situation and Prospects, Monthly Briefing No. 125." April 1. Accessed July 9, 2020. https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/wesp_mb125.pdf

United Nations Educational Scientific and Cultural Organization, UNESCO Institute for Statistics. 2020. "International trade in cultural goods." Accessed July 21, 2020. http://data.uis.unesco.org/index.aspx?queryid=3629#

United Nations Development Programme (UNDP). 2013. "Expected years of schooling (of children) (years)." Accessed March 11, 2020. http://hdr.undp.org/en/content/expected-years-schooling-children-years

United Nations Development Programme (UNDP). 2018. "Human Development Data (1990-2018)." Accessed March 11, 2020. http://hdr.undp.org/en/data

United Nations Development Programme (UNDP). 2019. "Human Development Report 2019: Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century)." Accessed March 18, 2020. http://hdr.undp.org/sites/default/files/hdr2019.pdf

United Nations Development Programme (UNDP). 2020. "Are the HDI dimensions weighted equally?" Accessed March 11, 2020. http://hdr.undp.org/en/content/are-hdi-dimensions-weighted-equally

United Nations High Commissioner for Refugees (UNHCR). 2014. "Children on the Run." United Nations High Commissioner for Refugees Regional Office for the United States and the Caribbean. Washington, DC: United Nations. Accessed March 10, 2020. https://www.unhcr.org/56fc266f4.html

United States Department of Health and Human Services (DHHS), Office of Refugee Resettlement. 2020. "Facts and Data." Accessed July 5, 2020. https://www.acf.hhs.gov/orr/about/ucs/facts-and-data

United States Department of Homeland Security, U.S. Citizenship and Immigration Services (CIS). 2008. "American Baptist Churches v. Thornburgh (ABC) Settlement Agreement." Accessed June 28, 2020.

https://www.uscis.gov/archive/american-baptist-churches-v-thornburgh-abc-settlement-agreement

United States Department of Homeland Security (DHS). 2017. "2017 Yearbook of Immigration Statistics." Accessed July 5, 2020. https://www.dhs.gov/immigration-statistics/yearbook/2017/table39

United States Department of Homeland Security, Customs and Border Protection (CBP). 2018. "U.S. Border Patrol Southwest Border Apprehensions by Sector." Accessed July 9, 2019. https://www.cbp.gov/newsroom/stats/usbp-sw-border-apprehensions

United States Department of Homeland Security, Customs and Border Protection (CBP). 2020. "USBP Southwest Border Apprehensions, FY2007 to FY2018TD through April." March 25. Freedom of Information Act (FOIA).

United States Department of Homeland Security Advisory Council. 2019. "CBP Families and Children Care Panel Final Report." November 14. Accessed July 27, 2020. https://www.dhs.gov/sites/default/files/publications/fccp_final_report_1.pdf

United States Department of Homeland Security, U.S. Citizenship and Immigration Services (CIS). 2020. "Immigration and Citizenship Data: Approximate Active DACA Receipts." Accessed June 30, 2020. https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/Immigration%20Forms%20Data/All%20Form%20Types/DACA/Approximate_Active_DACA_Receipts_-_March_31_2020.pdf

United States Department of Homeland Security *et al.* v. Regents of the University of California *et al*. 591 U.S. 2020

United States Department of the State, U.S. Department of Homeland Security, United States Department of Health and Human Services. "Proposed Refugee Admission for Fiscal Year 2015: Report to the Congress." Submitted on Behalf of the President of the United States to the Committees on the Judiciary, United States Senate and the United States House of Representatives in Fulfillment of the Requirements of Sections 207 (d)(1) and (e) of the Immigration and Nationality Act. Accessed August 11, 2020. https://2009-2017.state.gov/documents/organization/232029.pdf.

United States Government Accountability Office (GAO). 2015. “Unaccompanied Alien Children: Actions Needed to Ensure Children Receive Required Care in DHS Custody.” Report to Congressional Committees, GAO 15-521 (July). Accessed July 15, 2020. https://www.gao.gov/assets/680/671393.pdf

Villareal, M. Angeles. 2010. “The Mexican Economy after the Global Financial Crisis.” Congressional Research Service R41402 (September 16). Washington, D.C.: Congressional Research Service. Accessed July 20, https://fas.org/sgp/crs/row/R41402.pdf

Vittori, Jodi. 2006. “The Gang's All Here: The Globalization of Gang Activity.” *Journal of Gang Research* 14, no. 3: 1-30.

Wong, Tom K. 2014. "*Statistical Analysis Shows that Violence, Not Deferred Action, Is Behind the Surge of Unaccompanied Children Crossing the Border."* Washington, D.C.: Center for American Progress. Accessed October 7, 2017. https://www.americanprogress.org/issues/immigration/news/2014/07/08/93370/statistical-analysis-shows-that-violence-not-deferred-action-is-behind-the-surge-of-unaccompanied-children-crossing-the-border/

Wooldridge, Jeffrey M. 2006. *Introductory econometrics: a modern approach*. Mason: Thomson/South-Western.

World Bank Group. 2014. “Central America Social Expenditures and Institutional Review, El Salvador.” World Bank Education Global Practice, Health, Nutrition and Population Global Practice, Social Protection and Labor Global Practice, Latin America and the Caribbean Region, report No: 95649-SV (December). Washington, D.C.: The World Bank. Accessed July 20, 2020. http://documents1.worldbank.org/curated/en/897971468222259665/pdf/956490WP0P13330r0SSEIR000Final02014.pdf

World Bank Group. 2015a. “Central America Social Expenditures and Institutional Review, Honduras.” World Bank Education Global Practice, Health, Nutrition and Population Global Practice, Social Protection and Labor Global Practice, Latin America and the Caribbean Region, report No: 93739 (June 29). Washington, D.C.: The World Bank. Accessed July 20, 2020.

http://documents1.worldbank.org/curated/en/671971468222285751/pdf/93739-REVISION-WP-P146907-PUBLIC-SSEIR-Honduras-Final.pdf

World Bank Group. 2015b. “Honduras Economic DNA.” World Bank, first edition no. 97361 (June). Washington, D.C.: The World Bank. Accessed July 5, 2020. http://documents1.worldbank.org/curated/en/150731468189533027/pdf/97361-WP-PUBLIC-Box391473B-Honduras-Economic-DNA-First-Edition-11Jun2015-FINAL-PUBLIC.pdf

World Bank Group. 2016. “Central America Social Expenditures and Institutional Review, Guatemala.” World Bank Education Global Practice, Health, Nutrition and Population Global Practice, Social Protection and Labor Global Practice, Latin America and the Caribbean Region (August 25). Washington, D.C.: The World Bank. Accessed July 20, 2020. http://documents1.worldbank.org/curated/en/979251481092306649/pdf/110778-WP-P158442-PUBLIC-ENGLISH-GuatemalaSSEIRFinal.pdf

World Bank Group. 2020a. “World Development Indicators.” Washington, D.C.: The World Bank Group. Accessed March 10, 2020. https://databank.worldbank.org/reports.aspx?source=2&country=SLV

World Bank Group. 2020b. “Rural population (% of total population).” Washington, D.C.: The World Bank Group. Accessed August 26, 2020. https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=GT-HN-SV-MX