

Fall 2022

The Effects of Trauma and Statelessness on Refugee Employment Outcomes

Seth Hershberger

Follow this and additional works at: <https://scholarcommons.sc.edu/etd>



Part of the [Economics Commons](#)

Recommended Citation

Hershberger, S.(2022). *The Effects of Trauma and Statelessness on Refugee Employment Outcomes*. (Master's thesis). Retrieved from <https://scholarcommons.sc.edu/etd/7128>

This Open Access Thesis is brought to you by Scholar Commons. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact digres@mailbox.sc.edu.

THE EFFECTS OF TRAUMA AND STATELESSNESS ON REFUGEE EMPLOYMENT
OUTCOMES

by

Seth Hershberger

Bachelor of Arts
Baylor University, 2017

Submitted in Partial Fulfillment of the Requirements

For the Degree of Master of Arts in

Economics

Darla Moore School of Business

University of South Carolina

2022

Accepted by:

Jessica Brown, Director of Thesis

Orgul D. Ozturk, Reader

Cheryl L. Addy, Interim Vice Provost and Dean of the Graduate School

© Copyright by Seth Hershberger, 2022
All Rights Reserved.

DEDICATION

To those who have suffered the consequences of violence, persecution, natural disaster and war and who have been forced to flee the homeland to seek safety in another. Their heart, perseverance, strength, and humanity are an inspiration, and their courage is an example to us all. May their stories continue to be heard and change lives for the better.

To my family – my parents, siblings, and grandparents – who instilled in me the love for serving refugees, immigrants, and other marginalized groups. They have stood by my side and provided support in every situation. Their encouragement is abundant and gives me the strength to continue serving those for which I am called.

ACKNOWLEDGEMENTS

An abundance of thanks to Dr. Jessica Brown for her great assistance in making this paper possible. Her guidance has made this research more thorough and beneficial for those who may use it to better serve refugees and immigrants. Thanks to Lutheran Immigrant and Refugee Services and Lutheran Services Carolinas as well for supporting this research and providing invaluable data and information that made this paper a possibility.

ABSTRACT

An empirical study, this paper examines the relationship of pre-resettlement refugee characteristics on their respective economic outcomes post-resettlement. In particular, it places special focus on the correlation that a refugee's level of trauma and duration of statelessness, or time spent in a temporary country of asylum, have with that refugee's real wages, probability of being employed at 180 days post-resettlement, and duration of initial unemployment in the country of final resettlement. Through the development of three sets of models, this paper finds a quadratic relationship between the length of a refugee's statelessness and real wages post-resettlement, where increases in duration of statelessness initially lead to decreases in real wages. It also finds an oppositely related quadratic relationship between length of statelessness and probability of employment within 180 days as well as a negative correlation between duration of statelessness and duration of initial unemployment. Meanwhile higher levels of trauma have some evidence supporting a negative relationship with real wages while at the same time may lead to decreased duration of unemployment. Multiple postulations are made as to why these relationships occur, citing the likelihood of statelessness and trauma leading to a depreciation in human capital and the potentiality that longer statelessness and higher trauma drive an increased willingness to accept initial employment.

TABLE OF CONTENTS

Dedication.....	iii
Acknowledgements.....	iv
Abstract.....	v
List of Tables.....	vii
List of Figures.....	viii
List of Symbols.....	ix
List of Abbreviations.....	x
Chapter 1 Introduction.....	1
Chapter 2 The Refugee Resettlement Process.....	9
Chapter 3 A Review of Literature on Refugee Economic Outcomes.....	18
Chapter 4 Data.....	25
Chapter 5 Methodology.....	46
Chapter 6 Results and Analysis.....	58
Chapter 7 Discussion and Implications.....	83
Chapter 8 Conclusion.....	91
References.....	93

LIST OF TABLES

Table 4.1 Relevant Variables.....	25
Table 4.2 Summary Statistics - Employment by 180 Days (Continuous Variables).....	30
Table 4.3 Summary Statistics - Employment by 180 Days (Categorical Variables).....	31
Table 4.4 Summary Statistics - Length of Statelessness (Continuous Variables).....	34
Table 4.5 Summary Statistics - Length of Statelessness (Categorical Variables).....	34
Table 4.6 Summary Statistics - Pre-Case Type Trauma Level (Continuous Variables).....	37
Table 4.7 Summary Statistics - Pre-Case Type Trauma Level (Categorical Variables).....	38
Table 4.8 Correlations.....	43
Table 6.1 Wage Model Results.....	59
Table 6.2 Employment Probability Model Results.....	69
Table 6.3 Unemployment Duration Model Results.....	76

LIST OF FIGURES

Figure 4.1 Histogram of Real Wages.....	41
Figure 4.2 Histogram of Duration of Initial Unemployment.....	42
Figure 4.3 Histogram of Length of Statelessness.....	42
Figure 5.1 Model One.....	55
Figure 5.2 Model Two.....	56
Figure 5.3 Model Three.....	56
Figure 5.4 Model Four.....	57
Figure 5.5 Model Five.....	57
Figure 6.1 Marginal Effect of Length of Statelessness.....	60
Figure 6.2 Marginal Effect of Length of Statelessness.....	71

LIST OF SYMBOLS

- β Coefficient indicating the magnitude of the relationship between the independent and dependent variable
- ε Error term
- λ Coefficient indicating the magnitude of the relationship between year fixed effects variables and the dependent variable

LIST OF ABBREVIATIONS

GDP.....	Gross Domestic Product
IOM.....	International Office of Migration
IRIS.....	Immigration and Refugee Information System
LIRS.....	Lutheran Immigrant and Refugee Services
MG.....	Matching Grant
PC.....	Preferred Communities
R&P.....	Reception and Placement
RAP.....	Refugee Assistance Program
SIP.....	School Impact Program
SNAP.....	Supplemental Nutrition Assistance Program
SOR.....	Services to Older Refugees
SRC.....	State Refugee Coordinator
TANF.....	Temporary Assistance for Needy Families
UNHCR.....	United Nations High Commissioner for Refugees
U.S.....	United States
USCIS.....	United States Citizenship and Immigration Services
USD.....	United States Dollar
VOLAG.....	Voluntary Agency

CHAPTER 1

INTRODUCTION

89.3 million. This is the number of forcibly displaced people in the world and a number that represents over one percent of the world's population (UNHCR 2021). Of those 82.4 million, roughly 27.1 million are formally classified as refugees by the United Nations High Commissioner for Refugees (UNHCR) while another 4.6 million are counted as asylum seekers (2021). The question of how to handle the growing number of UNHCR refugees – those fleeing their country due to violence, persecution, war, or natural disaster – has continued to become a more and more pressing topic of debate over the last decade. Most recently, movements of nationalism have swept across many Western countries such as the United States and Great Britain (Labott et al. 2021). This resulted in a decreased number of refugees accepted in these countries for several years (Migration Policy Institute 2022). However, political arguments of whether or how many refugees should be able to enter a country frequently appeal to emotion and cherry-pick facts to support one's cause. In response to this, some research has emerged in an effort to more objectively look at the effects of refugees on a country's economy and society.

In some countries refugees make up a sizable portion of the population. For example, Lebanon, a country of roughly 6.8 million people is estimated to have nearly 1.5 million refugees making up nearly a quarter of the population (UNHCR 2022; World Bank 2022). On the other hand, a country like the U.S. has taken in approximately 3.1

million refugees since 1980 (U.S. Department of State 2022). This makes up a little less than one percent of the U.S. population (World Bank 2022). Ultimately, regardless of the prevalence of refugees in a country, the impact of refugees on a country's economy and society varies based on an abundant number of factors. These could be things like policy, programs for resettlement and integration, local attitudes towards foreigners, existing economic opportunities, economic, religious, and other freedoms, and numerous other determinants. As such, it is nearly impossible to make sweeping claims of the impact of refugees on economies and societies without looking at each country's unique attributes and structures. Indeed, the article "Economic Impact of Refugees," makes note of the variety of research and thought on the subject, stating that "some studies suggest that refugees have no significant impact" on a country's economy while "others suggest heterogeneous impacts" depending on the country. However, it goes on to note that the majority of studies indicate that "refugees have productive capacities and assets, and they actively interact with host-country economies" (Alloush et al. 2016, 7,449).

In the US, despite the relatively small portion of the population that are refugees, some empirical research has suggested that refugees still may have a notable impact on certain aspects of the economy. One area that is often particularly contentious is the fiscal impact of refugees. In an article by the National Immigration Forum, it is noted that refugees in the U.S. were net fiscal contributors from 2005 to 2014, contributing an estimated 63 billion dollars (Mason 2018). Another study by the U.S. Immigration Policy Center found that despite some viewing refugees as fiscal burdens on state and local governments, refugees have no "no statistically significant impact on state or local

expenditures or revenues where they are settled, in the short- or long-term” (Dhingra, Kilborn, and Woldemikael 2021, 4). However, it went on to note that “in some cases, refugees have revitalized towns with declining populations and brought new businesses” (Dhingra, Kilborn, and Woldemikael 2021, 17).

Another contentious area pertains to perceived displacement of the local labor force. Yet, most empirical studies have disproved this thought. For example, a study by Anna Maria Mayda for the U.S. Department of State finds that there are no “significant long-term labor market impact of refugees” and that the “results provide robust causal evidence that there is no adverse long-run impact of refugees on the U.S. labor market” (Mayda 2017).

Research on the broader impact of refugees on the economy is of undeniable importance, as it can play a part in determining the well-being of the general population. However, the aggregate impact and direction of influence of refugees on the economy is ultimately driven by the individual economic outcomes of refugees in the U.S. Factors like wages, labor participation rates, and unemployment rates are some of the inputs that drive the aggregate impact of refugees on local economies. As such, it follows that these measurements of individual economic outcomes combine to have a broader impact on the economy and the well-being of the general population as discussed above.

While it is certainly important to study the effects of refugees on a country’s broader economy, society, and population, the well-being of refugees themselves should not be overlooked. Over three million refugees may only be one percent of the U.S.’s population; however, it is still a sizable group of people. Furthermore, refugees are quite

unlike natives or other immigrants in that they often face unique vulnerabilities and their migration to other countries is not voluntary or driven by economic factors. Rather, refugees are an atypical population for numerous reasons. While many immigrants could be considered vulnerable, refugees are particularly vulnerable due to their exposure to trauma-causing events like violence, persecution, war, and natural disaster. In fact, research has shown that refugees tend to have higher levels of trauma, physical and mental complications, and overall barriers to integration, economic success, and overall well-being.

Ultimately, given the impact on the larger economy and well-being of the broader population, as well as the sizable number of refugees in the United States and basic humanitarian concerns for the well-being of a group of people that is especially vulnerable, research on the economic outcomes and success of individual refugees is surely of great importance. As such, this paper seeks to provide insight into the determinants of refugee economic outcomes in the U.S. While more comprehensive models and theories of the determinants of economic outcomes for resettled refugees in the U.S. have been developed, the goal of this paper is not to evaluate every possible determinant that plays into the economic well-being of a refugee in the U.S. Nor is it to evaluate all possible measurements of economic outcomes. Such an undertaking is certainly important but is beyond the scope of this paper.

Rather, the motivation of this paper is to improve the lives of refugees – a vulnerable and sizable group of people – and perhaps even the general population by offering insights into certain determinants of three particular economic outcomes for

refugees. More specifically, the objective of this paper is to primarily evaluate the impact of certain pre-arrival determinants of refugee economic outcomes in regards to wages, length of initial unemployment, and employment probability within the first six months of their arrival in the United States. Even more specifically, in addition to an analysis of more commonly accepted and widely researched determinants, such as English, education, age, and sex (to name a few), this paper takes a special look at two possible determinants, namely length of refugee statelessness and cause of refugee vulnerability (more technically referred to as pre-case type).

While there is limited research on the effects of length of statelessness and cause of refugee vulnerability and trauma on refugee wages, probability of unemployment, and duration of initial unemployment within the first six months post-resettlement, this paper does not address these topics simply because they have not been widely researched. Instead, it looks at these factors and outcomes in particular because of their potential relevance to policy, resettlement programming, and the subsequent likely impact on the broader economy and sizable group of vulnerable refugees within the U.S. Indeed, length of statelessness (described in more detail in the following chapter) is often highly affected by U.S. policy regarding how quickly refugees are processed and the number of refugees permitted into the U.S. each year. Moreover, U.S. international diplomatic and military policy in various countries that refugees come theoretically could have an impact on the cause of vulnerability and trauma that a refugee faces. Even more so, refugee resettlement programming may be able to be adjusted and tailored to better serve

refugees depending on the impact that length of statelessness, cause of vulnerability, and other factors have on refugee economic outcomes.

Additionally, real wages, probability of employment, and duration of initial unemployment within the first six months are not the selected outcomes simply because of the data available or because of the lack of previous research. Rather, these outcomes are selected because they are strong indicators of refugee economic well-being, integration, and impact on the broader economy. For instance, the higher the wages and the shorter the duration of initial unemployment, the more likely a refugee is to become self-sufficient and the faster they will be to start contributing significantly to the U.S. economy through income taxes, consumption, and subsequent increases in domestic production and income per capita. In another example, research by Linn, Sandifer, and Stein shows that lack of employment (e.g., represented in this study by duration of initial unemployment) can be a significant risk factor for mental and somatic health while employment (as measured in this study by employment probability), on the other hand, leads to better economic and social integration (1985). Furthermore, the initial six-month period is evaluated because it is during this time that refugees are most vulnerable in their country of resettlement and have the largest gaps in economic outcomes as compared to natives or other immigrants.

That said, it is imperative to note that this study does not analyze refugees across all areas of the U.S. Instead, due to the restraints and availability of data, it takes a more narrow approach that looks at refugees specifically resettled in South Carolina over the past 12 years. As such, it should be noted that this research is unable to make broad

claims of generalizability or transferability of findings. Due to the nature of refugee backgrounds and privacy concerns, data on refugees tends to be sparse and difficult to obtain. Much of the literature on refugee employment outcomes addresses this issue by using various methodologies to make what amount to educated guesses on which individuals from U.S. census data are refugees. While this allows for larger data sets and more generalizability of findings across the US, this method certainly has its weaknesses and inconsistencies. By using this method, there is no guarantee the sampled individuals are actually refugees, nor is there data on length of statelessness and pre-case type included in census data. Conversely, this study uses data obtained directly from refugee resettlement agencies to be able to more accurately analyze those two potential determinants for those that are actually known with certainty to be refugees. Unfortunately, as a trade-off, this has limited the data to the state of South Carolina and, again, somewhat limits the generalizability and transferability of findings to other parts of the U.S.

Nevertheless, the importance of the findings in the paper should not be disregarded as completely inapplicable. Rather, as mentioned earlier, insight into the impact of length of statelessness, pre-case type, and other determinants on refugee wages, probability of employment, and duration of initial unemployment within the first six months of resettlement, although limited to South Carolina, may still have broader applications on policy and refugee resettlement programming such as employment assistance and trauma informed care and counseling. Even more so, it may also serve as a foundation for improving the lives and economic well-being of perhaps the general

population and certainly of the significant number of vulnerable refugees in South Carolina, the US, and potentially abroad.

Finally, this paper takes the following structure. First, a brief overview of the U.S.'s refugee resettlement process as well as pertinent definitions will be covered to give the reader a better background and understanding of an often misunderstood system. Following this, a detailed description of existing literature on determinants of refugee economic outcomes will be undertaken to establish the uniqueness of this paper as well as to lay out a foundation for the empirical analysis developed in this study. Continuing on, this paper then delves into the data, methodology, and model used for this study. Finally, the paper concludes by going over the results of the model and opening a discussion on possible explanations and broader ramifications of the findings.

CHAPTER 2

THE REFUGEE RESETTLEMENT PROCESS

In order to fully understand the literature, model, and findings that will subsequently be discussed, it is important to also have a good, foundational understanding of the refugee resettlement process. While the term “refugee” is often widely used by media and other entities in a very general sense, in the U.S. legal and immigration systems it has a very technical definition. According to the United States Citizenship and Immigration Services (USCIS), a refugee is a specific legal status for someone who:

- “1) Is located outside of the United States*
- 2) Is of special humanitarian concern to the United States*
- 3) Demonstrates that they were persecuted or fear persecution due to race, religion, nationality, political opinion, or membership in a particular social group*
- 4) Is not firmly resettled in another country*
- 5) Is admissible to the United States” (2022)*

Prior to receiving refugee status from the US, a person must first receive refugee status from the UNHCR. Typically a person will receive refugee status from the UNHCR and the U.S. while they are in a second country that they have fled to before they are permanently resettled in the U.S. To receive refugee status from the UNHCR and be

eligible for resettlement, a refugee must first go through intensive screening. The UNHCR must identify the person as one of the most vulnerable – one who has fled their home country due to violence, persecution, war, or disaster. Additionally, no persons who have committed crimes or pose security threats are considered for refugee status by the UNHCR (U.S. Resettlement Facts, 2022). When a refugee is formally identified by the UNHCR, they are placed into one of several categories noting their particular type of vulnerability (i.e., pre-case type). These categories include the following:

- basic considerations
- legal or physical protection needs
- survivors of violence or torture
- medical needs
- women and girls at risk
- family reunification
- children and adolescents at risk
- lack of foreseeable alternative durable solutions (UNHCR Resettlement Submission Categories, n.d.)

Each of these categories is explicitly defined by the UNHCR. It should be noted that although violence, persecution, and disaster may broadly be the reasons nearly all refugees are fleeing their respective countries, these UNHCR categories that they are placed into are much more specific and often provide significant variation based on individual experiences. For example, a refugee from Syria may generally be fleeing due to violence from the civil war; however, they would only be placed in the “survivors of

violence or torture” category if they had a direct encounter with this violence or torture and were exhibiting continuing signs of physical or psychological harm. Many refugees never actually experience violence directly but leave simply due to the its threat or due to some other reason, such as political, ethnic, or religious discrimination or natural disaster. Nevertheless, it is, in fact, possible for a refugee to fit into more than one of the above categories. In that case, the most pertinent and applicable category is chosen as their pre-case type.

Once a refugee has received refugee status by the UNHCR in their second temporary country (i.e., first country of asylum), they go through processing by the U.S. government. This includes processing through eight different U.S. government agencies, five different security databases, six background checks, and three in-person interviews. Only then are they eligible to actually come to the U.S. as a refugee (U.S. Resettlement Facts 2022). This process can take years to complete, and many refugees may even wait more than ten years before they are finally resettled in the U.S.

A refugee’s background and journey to the U.S. can vary greatly. Refugees come from a variety of countries, ranging from the Democratic Republic of the Congo (the DRC) to Syria and Iraq in the Middle East to El Salvador or Myanmar in Central America and Southeast Asia respectively. As such, their human, social, and financial capital can be quite different depending on their country of origin, employment experience, education, and numerous other factors. Some refugees come from countries with relatively strong or at least widely available education systems. For example, those coming from Iraq would have been potentially able to attend college or university for free

depending on their test scores (Iraq Education, n.d.). On the contrary, those coming from the DRC likely have very little access to even intermediate or secondary education (Central Intelligence Agency 2022). In the same fashion, refugees come from countries with diverse levels of wealth and employment opportunities. As of 2020, gross domestic product (GDP) per capita in the DRC sits just above 550 U.S. dollars. Iraq, on the other hand, has a GDP per capita well over 4,000 U.S. dollars (The World Bank 2020).

Despite this, it is not always the country of origin that defines a refugee's experience and background. Rather, as mentioned earlier, a refugee can spend years in a temporary country of asylum that they have fled to as a result of the situation in their country of origin. During this time, a refugee may be considered stateless. In international law statelessness has a more narrow definition, defining it as being without legal national standing in any country (About Statelessness, n.d.). However, for the purposes of this paper, statelessness will be used in a broader sense, describing it as the period from a refugee's flight from their country of origin to their permanent resettlement in a final country of residence.

Typically this temporary country of asylum would be bordering their country of origin. Often, these temporary countries of asylum provide limited refuge for a refugee. While it may be away from the conflict, disaster, or persecution of their home, it is not uncommon for a refugee to still experience discrimination and to lack legal status and the opportunities it affords, such as legal employment, access to schools, ability to purchase properties and homes, and more. Refugees who do not pursue legal status (or refugee status with the UNHCR at the very least) may find themselves in extreme poverty and/or

informal refugee camps where daily survival is a challenge. In many cases, even if a refugee pursues legal status, they will subsequently be placed in a refugee camp, where homes are built from canvas or recycled material, gainful employment is nearly non-existent, and schools are non-compulsory, underfunded, and rudimentary at best.

That said, it is once again important to note that this paper is dealing with refugees in a very specific sense. Henceforth, when the term “refugee” is used it is used to refer specifically to those that have legal refugee status and have been resettled in the U.S. While refugees are resettled throughout the US, it is also important to remember that this paper is dealing with those that have been resettled within the state of South Carolina.

The resettlement process does not stop once a refugee receives U.S. refugee status while in their temporary country of asylum (the U.S. typically being the second and final country of asylum). Rather, refugees who receive legal status with the U.S. then are allocated to one of nine different refugee resettlement agencies. These agencies are referred to as Voluntary Agencies (VOLAGS) and are nonprofits that receive federal and state grants to help resettle refugees in the U.S (U.S. Resettlement Facts, 2022). The International Office of Migration (IOM) assists refugees in scheduling travel to the U.S. and in coordinating arrivals with VOLAGS (International Organization for Migration, n.d.). Once the refugee arrives in the US, there are numerous different programs that these agencies run to help refugees. From the moment a refugee arrives at the airport, VOLAG staff are there to help pick up the refugee(s) and provide them with services.

The first programs that a refugee typically goes into are the Reception and Placement Program (R&P) and the Matching Grant Program (MG). Not all refugees will automatically go into these programs, but the vast majority do. R&P provides the refugee with funding for three months and assists the refugee in finding housing, applying for public benefits (i.e., Supplemental Nutrition Assistance Program (SNAP), Medicaid, etc.), enrolling in school or English classes, cultural orientation, completing medical screenings, and several other services (U.S. Department of State 2021). MG typically provides refugees with additional financial assistance up to six months, and helps refugees with financial literacy training, job readiness training, the employment search, and employment follow-up assistance. MG also tracks a case's self-sufficiency at 120 days post-arrival and 180 days post-arrival (Office of Refugee Resettlement 2022).

Self-sufficiency is determined by two factors. Firstly, it is determined by whether or not the refugee has enough net income and public benefits to pay all their essential bills (i.e., rent, utilities, food, etc.). Secondly, it is determined by whether or not the refugee has enough gross income to be above the gross income limit for public cash assistance, or Temporary Assistance for Needy Families (TANF). If the refugee does not have enough gross income to be above the gross income limit for TANF, they will not be considered self-sufficient.

During the first six months, the goal of self-sufficiency drives a refugee's services. Refugees wanting to participate in MG or other employment programs are required to sign documentation indicating their willingness to look for and take employment as quickly as possible. Employment specialists are trained to encourage

refugees to accept the first job opportunity that comes available, as long as it is logistically possible and within the refugee's cultural and religious boundaries. Refugees are typically informed that they can continue searching for job upgrades after they accept their initial employment. However, this does not mean that all refugees have the same willingness to accept employment. Instead, depending on their background and expectations, it is not uncommon for some refugees to be more selective about what field of work they go into. Not all refugees are willing to take the first job they are offered. Moreover, even though program guidelines technically result in sanctioning should a refugee turn down a viable job offer, exceptions tend to be frequent, and flexibility in employment is perhaps more common than program guidelines suggest. As such, willingness to accept employment can be a significant factor in determining a refugees economic success early on.

R&P and MG are not the only programs in which a refugee can enroll. Refugees may also qualify for one of the following programs: School Impact Program (SIP), Preferred Communities (PC), Services to Older Refugees (SOR), Refugee Assistance Program (RAP), or TANF. While R&P and MG only last three and six months respectively, these other programs may provide services to refugees for up to five years. However, most of these programs begin after the refugee has already exited R&P and MG and are not as pertinent for this paper. What is most important to understand is the services that a refugee receives in R&P and MG within the first half year of being in the U.S. Additionally, it is imperative to understand how self-sufficiency is tracked in MG.

R&P and MG also track a wide range of other variables and outcomes, such as wages, date of employment, and cultural orientation competency, to name a few.

Ultimately, the goal of all programs is to assist refugees in becoming self-sufficient as quickly as possible and in integrating into society within the U.S. While not all programs are offered in every state, the programs mentioned above have been offered within South Carolina for the entire period in which data has been collected for this paper.

Until very recently South Carolina has only had one office for refugee resettlement based in the city of Columbia. Furthermore, most refugees have even been resettled within the same general area of Columbia. Since all refugees included in this project have been resettled through Columbia, South Carolina and since the programs have stayed relatively consistent over time, it can be reasonably assumed that most post-arrival variables (e.g., access to services, classes, job markets, local economic indicators, etc.) are constant across refugees included in this study that are resettled during similar time periods. As such, time fixed effects should be able to control for these post-arrival determinants. Additionally, despite the emphasis on self-sufficiency, the short six month time period of resettlement that this study covers does not likely allow for refugees to have significant changes in human capital.

However, pre-arrival variables (e.g., *pre-arrival* education, English ability, work experience, length of statelessness, etc.) may vary greatly for the refugees that come to Columbia and are included in this project. It would certainly be worth undertaking research that evaluated the effects that differing post-arrival variables have on post-arrival

economic outcomes for refugees. However, due to the limitations in data available, this paper will primarily look at the effects that pre-arrival variables have on post-arrival economic outcomes for refugees.

CHAPTER 3

A REVIEW OF LITERATURE ON REFUGEE ECONOMIC OUTCOMES

As aforementioned, prior literature and research specifically focusing on length of statelessness and levels of trauma within refugee populations and their respective relationships with individual economic outcomes is limited. Nevertheless, it is not nonexistent. While few papers have focused specifically on duration of statelessness and trauma as they pertain to economic outcomes, there is an array of research that still focuses on the potential pre- and post-arrival determinants of refugee employment outcomes.

Although some primarily empirical studies had been conducted during the 1980s, the first theory considered to be comprehensive in evaluating the determinants of refugee economic outcomes was developed by Tom Kuhlman in 1991. In this theory, Kuhlman identified six broader areas that serve as determinants in the economic integration of refugees in their respective country of resettlement. These include “characteristics of refugees, flight-related factors, host-related factors, policies, residence in host country, and non-economic dimensions of integration” (Kuhlman 1991, 20). Out of these identified determinants, by far the most researched has been characteristics of refugees.

Included in characteristics of refugees, Kuhlman specified “demographic variables, socio-economic background, and ethno-cultural affiliation” (Kuhlman 1991, 20). Most of these characteristics involve pre-arrival variables, or variables determined

and defined prior to a refugee being resettled. This could include things like gender, country of origin, family composition, age, education, and pre-arrival work experience. Since 1991, nearly all of these variables have been researched in detail regarding refugees and/or immigrants with sometimes mixed results. Much research supports the significance of these variables. For example, an abundance of prior literature suggests that education is a positive factor in economic outcomes for refugees (McDonald and Potocky 1995; Potocky 1997; Potocky 2003). Beyond education, gender (Collins and Mamgain 2003; McDonald and Potocky 1995; Potocky 1997, 2001, 2003, 2004), country of origin (Bevelander and Lundh 2007; Brell, Dustmann, and Preston 2020; Collins and Mamgain 2003; Potocky 2001), family composition (Potocky 2001), age (Borjas 1995; Brell, Dustmann, and Preston 2020, Friedberg 2000; Giri 2016; Potocky 2001; Schaafsma and Sweetman 2001), and work experience (Potocky 2001) all have research arguing for their significance in determining economic outcomes such as wages and/or employment rates.

For the most part, the prior literature suggesting a significant relationship between economic outcomes and one of the variables above, supports relationships between these variables that follow logically. As already noted, education is typically found to have a positive relationship with a refugee's individual economic outcomes (McDonald and Potocky 1995; Potocky 1997, 2003; Codell et al. 2011). In a similar sense, prior work experience and accumulation of human capital is also typically found to have a positive impact on an immigrant's economic outcomes (Fix and Passel 1994; Meisenheimer 1992; Portes and Rumbaut 1996; Potocky 2001). Furthermore, male refugees and immigrants

are also usually expected to have better economic outcomes than their female counterparts (Collins and Mamgain 2003; McDonald and Potocky 1995; Potocky 1997, 2001, 2003, 2004).

Country of origin, age, and family composition do not necessarily play out illogically in previous research but require perhaps a little more thought. For instance, while age for natives in the U.S. is correlated with increases in income (Stoeldraijer and van Ours 2010), most research on refugees and immigrants suggests that wages tend to be lower for those who are older upon arrival, usually due to difficulties in assimilation and lower productivity (Evans and Fitzgerald 2017; Giri 2016). Regarding family composition, Potocky finds that having a household with a married couple improves economic outcomes while the presence of children or elderly in a household have a negative effect on economic outcomes (2001). For countries of origin, the relationship with economic outcomes varies greatly simply depending on the country and study. For example, Potocky finds Cubans to have higher employment rates than Southeast Asians (2001). At the same time, Collins and Mamgain find that refugees from Asia tend to have higher wages than their European and African counterparts (2003).

This is not to say that all previous literature backs the significance of these variables. For instance, Brell, Dustmann, and Preston find in their research on labor market integration that age, education, and gender do not account for disparity in refugee labor market integration as it pertains to wages (2020). Similarly, Codell et al. find that, while there is a significant relationship between education and employment status, there is no such relationship between education and wages at six months post-arrival (2011).

However, the findings of these studies tend to be in the minority in terms of existing research.

Beyond characteristics of refugees, there is literature that touches on other aspects of Kuhlman's comprehensive theory. Numerous studies note the importance of acculturation factors, such as English proficiency (Adkins and Dunn 2000; Chin and Cortes 2015; Connor 2010; Evans and Fitzgerald 2017; Hagstrom 2000; Haines 1988; Schaafsma and Sweetman 2001; Waxman 2001) and the prevalence of relatives or an existing population from the country of origin in the host-country (Collins and Mamgain 2003; Potocky 2001). In general, the finding tends to be that increased English proficiency and the presence of relatives or at least those from the same country of origin result in better economic outcomes for immigrants and refugees. However, in the long-term, it has been shown that sometimes existing networks of relatives or ethnic networks can be a barrier over time to improvement in economic outcomes, as these may result in immigrants or refugees making less effort to learn English and integrate into the society of the host country (Collins and Mamgain 2003).

In addition to literature that touches on characteristics of refugees, there is some research that looks at the impact of length of residence in a host country as well as more macro-focused host-country related factors and policies. In terms of residence, nearly all literature finds that refugees and immigrants' economic outcomes improve over time. Albeit, there is some disparity on how much they improve (Borjas 1985, 1989, 1995; Brell, Dustmann, and Preston 2020; Chiswick 1978, 1982; Dauvergne and Kaushal 2011; Dowhan and Duleep 2002; Hall and Farkas 2008; Hu 2000; LaLonde and Topel 1992;

Lubotsky 2007; Potocky 2001; Tiagi 2013). The only partially dissenting research suggests that wages increase for most refugees over time but that there may be a decrease in wages over time for the oldest groups of refugees (Giri 2016).

It should also be noted that some literature does not just look at economic outcomes in an isolated sense but instead looks at economic integration of refugees over time as compared to other immigrants or their native counterparts. Brell, Dustman, and Preston do this in detail and note that “for the United States, the previous literature suggests that refugees’ employment rates are not dissimilar to those of other immigrants, but a large initial gap in earnings exists, with a subsequent relative improvement” (2020, 109). Auclair et al. (2015) and Fix, Hooper, and Zong (2017) take note of a similar thing, pointing out that, while refugee economic outcomes improve over time, a gap initially exists between them and their native counterparts. However, a study by the National Immigration Forum suggests that this gap disappears after roughly 25 years (Mason 2018).

For research focusing on host-country related factors, such as macroeconomic conditions and policies, there tends to be general agreement that these may play a role in the economic success of refugees and immigrants. For instance, as one would expect, increases in unemployment rates in the local economy of resettlement have a negative effect on the probability of employment for refugees (Bevelander and Lundh 2007). The same paper finds that the general structure of the economy can also impact refugee employment. More specifically, local economies with higher volumes of lower-skill jobs tend to increase rates of refugee employment (Bevelander and Lundh 2007).

Furthermore, a study done by Arnetz et al. finds that broad economic downturns and the business cycle can disproportionately affect refugee employment outcomes (2016). This is supported by other literature as well (Aycaan and Berry 1996; Haines 1988). Moreover, Arnetz et al. find that “host country attitudes and discrimination toward refugees have proved to also play a role in affecting a refugee’s chance of obtaining employment” (2016, 2).

Finally, the number of studies that focus on flight-related characteristics, as this one does, is limited. Similar to this study, a study by Codell et al. considers the length of statelessness for refugees in regards to wages and employment status. In their study they find a negative relationship between length of statelessness and employment status and no significant relationship between length of statelessness and wages (2011). Length of statelessness, however, is not the only flight-related characteristic. Trauma can also be a flight-related factor. Many studies agree that trauma is likely a negative factor in refugee employment outcomes (Arnetz et al. 2016; Brell, Dustmann, and Preston 2020), but few have actually endeavored to test this hypothesis empirically. The few that have, for the most part, found that history of trauma does, in fact, lead to expected worse economic outcomes (Chung and Uba 1991).

Given this prior literature, this paper looks to build off of previous findings and contribute to the field of existing knowledge in areas that are relatively under researched. Namely, as mentioned previously, a primary focus will be placed on the length of statelessness and trauma as they pertain to refugees’ economic outcomes in the initial

six-month period of resettlement, where vulnerability is highest. The following chapters delve into this in more detail.

CHAPTER 4

DATA

The data used in this paper ranges from 2009 to 2021 and, as previously mentioned, consists of employable (i.e., willing and able to work) refugees resettled during this time period in the Midlands of South Carolina. Overall, 456 refugees were observed, 361 of which (roughly 79.17 percent) had obtained employment by 180 days. The majority of the biographical data pertaining to the refugees observed was obtained through Lutheran Immigrant and Refugee Services' Immigration and Refugee Information System (IRIS), a database providing a common platform for several VOLAGs and their affiliates to input data regarding refugees both pre- and post-resettlement. Through the data pulled from IRIS, it was possible to determine each refugee's length of statelessness, pre-case type, nationality, education, and numerous other characteristics described in the table below.

Table 4.1 Relevant Variables

Variable	Description
Real Wages at 180 Days*	A refugee's real wages in U.S. dollars at 180 days post-arrival
Employment Probability by 180 Days*	The probability of a refugee finding gainful employment within 180 days of arrival <i>Employed at 180 days = 1</i>
Length of Initial Unemployment*	The number of days from when a refugee arrives in the U.S. to when they obtain their first job

Length of Statelessness	The length of a refugee's statelessness in years
Region	The region where a refugee's country of origin is located**
Pre-Case Type	A refugee's particular type of vulnerability, also known as pre-case type*** <i>High trauma pre-case types = 1</i>
Sex	A refugee's biological sex <i>Male = 1</i>
Age on Arrival	A refugee's age, in years, when they arrive in the U.S.
Case Size	The number of individuals in a case****
Employables in case	The number of employable individuals in a case
English Proficiency	A refugee's spoken English proficiency prior to resettlement, rated as none, some, or good <i>Some or good English = 1</i>
Education	A refugee's education prior to resettlement, characterized as none, primary, intermediate, secondary, or tertiary <i>Intermediate or more education = 1</i>
Employment Experience	Whether or not a refugee has worked in order to earn income prior to coming to the U.S. <i>A refugee does have work experience = 1</i>
US tie	Whether or not a refugee has a U.S. tie (i.e., relative in their area of resettlement) <i>A refugee has a U.S. tie = 1</i>

* *These variables are dependent variables in the models described in the next chapter.*

** *Regions consist of Southeast Asia, Middle East/North Africa, Central and South Asia, and Sub-Saharan Africa.*

*** *Pre-case types are divided into two categories – high trauma pre-case types (i.e., those pre-case types deemed by the UNHCR to have experienced higher levels of trauma) and low trauma pre-case types. High trauma pre-case types include the following – survivors of violence and torture, those with medical needs, women at risk, and those with legal and/or physical protection needs. Low trauma pre-case types include those with basic considerations, refugees without local integration prospects, family reunification, and*

several other more minor pre-case types that lean towards being less likely to be related to high levels of trauma.

***** Cases are typically nuclear families; however, it is possible that some family members come as separate cases.*

4.1 Data Weaknesses

It is first important to note some of the weaknesses in the data. Firstly, it is not uncommon for dates to be estimated when collecting data regarding refugees. Because of the situations and countries from which they come, many refugees have their date of birth and fled date estimated. Particularly, refugees from the DRC, Myanmar, and other lower income countries with less resources frequently have their birthday listed as January 1st of the year that they were born. Often, this is because their birth was outside of a hospital or because systems in their country of origin are unlike the US, where accurate personal documentation is prioritized. Similarly, the date that a refugee fled their country of origin is also often estimated as January 1st of the year that they fled. This is typically the result of the chaotic situations from which most refugees come. For many refugees, it is understandably unlikely that keeping track of the date that they fled their country is considered important when they are undergoing the process of fleeing violence, persecution, war, or natural disaster. As such, while the year that a refugee was born and fled their country is usually accurate, the specific date may be estimated and have some variability. This should be kept in mind when considering length of statelessness (in years calculated as $\frac{\text{date of arrival to the U.S.} - \text{date fled from country of origin}}{365}$) and age on arrival to the U.S.

Secondly, one should also take note of the inherent subjectivity of some of the variables. For example, a refugee's pre-case type and English proficiency are determined based on the opinion of the program officer conducting the refugee screening. As mentioned previously, with pre-case type, a refugee may qualify for more than one pre-case type. For instance, a female refugee who had been tortured could technically qualify for women and girls at risk and survivors of violence and torture. However, she would only be placed into one category based on what the program officer believes is most pertinent. Additionally, English proficiency is not measured through any formal written or standardized test but rather through general conversation in English with and subsequent evaluation by the program officer. While it is unlikely that a refugee would be classified as having "good" English when they actually have none, there could theoretically be some refugees classified by one program officer as having "some" English when another program officer would classify them as having good English and vice versa.

Thirdly, some variables, while not necessarily subjective, may have variation within the levels listed. This can be seen in the variables regarding previous employment, education, and U.S. ties. To explain more fully, multiple refugees may be categorized as having been previously employed. However, *type* of employment is not considered. One refugee may have been a college professor while another may have simply been a self-employed sustenance farmer. Both were previously employed, but their range of experiences are vastly different. In a similar way, education across countries and even within countries can vary greatly, and in this study, education is grouped into two broad

categories – no/primary education and intermediate or more education. Consequently, two refugees may be both categorized as having intermediate or more education, but in reality, one could have completed intermediate school while the other received their doctorate. Even if both had only attended intermediate school, the quality of schooling across countries may vary significantly, placing them at different levels of education. Finally, regarding U.S. ties, the relation and involvement of the U.S. tie can be different depending on the refugee. For one refugee, their U.S. tie may be a sibling who helps them significantly when they arrive in the U.S. For another refugee, their U.S. tie may be a cousin who is unwilling to provide much assistance during their resettlement.

That said, as noted earlier, the data used in this study does stand apart from many other studies in that it does not use predictive formulas to make an educated guess on whether an observation is a refugee. Since this data is directly from LIRS, one of the nine VOLAGs, it can be guaranteed that all observations are refugees.

4.2 Variations in Means and Proportions

Additionally, even prior to discussing the econometric models later developed, there are some interesting statistical findings from the data. Given the focus on employment probability, length of statelessness, and pre-case type, it made sense to divide and evaluate the data based on these variables. In Tables 4.2 and 4.3 below, the data is organized according to employment at 180 days post-arrival.

When looking at this data, there are a few things that immediately jump out. One of the first things is the variation in length of statelessness for those who are employed in

comparison to those who are not employed by 180 days post arrival. Across all refugees observed, the average length of statelessness, in years, is about 9.61 years. However, those who did not obtain employment by 180 days have an average (8.36 years) roughly 13.01 percent below the group average. This difference is statistically significant at the 90 percent level. Moreover, this average is substantially (significant at the 95 percent level) below – 15.81 percent to be exact – the average length of statelessness for those that do find employment within 180 days (9.93 years).

Table 4.2 Summary Statistics - Employment by 180 Days (Continuous Variables)

Variable	Employment Status	Mean	Range	Standard Deviation
Real Wages at 180 Days	Employed by 180 Days	\$10.91	\$8.39, \$17.45	\$1.76
	Unemployed by 180 Days	–	–	–
	Total	\$10.91	\$8.39, \$17.45	\$1.76
Length of Initial Unemployment	Employed by 180 Days	92.43	14, 179	38.80
	Unemployed by 180 Days	–	–	–
	Total	92.43	14, 179	38.80
Length of Statelessness	Employed by 180 Days	9.93	0, 32.35	7.95
	Unemployed by 180 Days	8.36	0, 32.55	8.58
	Total	9.61	0, 32.55	8.10
Age on Arrival	Employed by 180 Days	32.22	15.66, 62.33	9.38
	Unemployed by 180 Days	32.09	18.08, 64.45	10.82
	Total	32.19	15.66, 64.45	9.68
Case Size	Employed by 180 Days	2.78	1, 11	2.24
	Unemployed by 180 Days	2.43	1, 9	1.83
	Total	2.71	1, 11	2.16

Employables in Case	Employed by 180 Days	1.29	1, 4	0.55
	Unemployed by 180 Days	1.35	1, 4	0.71
	Total	1.30	1, 4	0.59

Notes: 361 refugees were employed by 180 days. 95 did not obtain employment within 180 days. A total of 456 were observed. Average wage and duration of statelessness are conditional on individual refugees being employed by 180 days.

Table 4.3 Summary Statistics - Employment by 180 Days (Categorical Variables)

Variable	Category	Employed by 180 Days	Unemployed by 180 Days	Total
Region	Southeast Asia	152 (42.11)	27 (28.42)	179 (39.25)
	Middle East/North Africa	47 (13.02)	29 (30.53)	76 (16.67)
	Central and South Asia	61 (16.90)	12 (12.63)	73 (16.01)
	Sub-Saharan Africa	101 (27.98)	27 (28.42)	128 (28.07)
Pre-Case Type	High Trauma Pre-Case Types	116 (32.13)	36 (37.89)	152 (33.33)
	Low Trauma Pre-Case Types	245 (67.87)	59 (62.11)	304 (66.67)
Sex	Male	257 (71.20)	60 (63.16)	317 (69.52)
	Female	104 (28.81)	35 (36.84)	139 (30.48)
English Proficiency	None	199 (55.12)	46 (48.42)	245 (53.73)
	Some or Good	162 (44.88)	49 (51.58)	211 (46.27)
Education	None or primary	113 (31.30)	35 (36.84)	148 (32.46)
	Intermediate or more	248 (68.70)	60 (63.16)	308 (67.54)
Employment Experience	Has pre-arrival work experience	270 (74.79)	67 (70.53)	337 (73.90)
	No pre-arrival work experience	91 (25.21)	28 (29.47)	119 (26.10)
U.S. Tie	Has U.S. tie	183 (50.69)	41 (43.16)	224 (49.12)

	No U.S. tie	178 (49.31)	54 (56.84)	232 (50.88)
--	-------------	-------------	------------	-------------

Notes: Values without parentheses indicate the number of individuals observed in that respective category.

Values listed in parentheses reflect the percentage of the sample employed by 180 days, unemployed by 180 days or of the total sample.

In a similar, yet not quite as extreme, fashion, there is some notable variation in the average case size across those employed and those unemployed within 180 days. While the average total case size ratio sits around 2.71, those who are unemployed within 180 days have a slightly lower average at 2.43 (significant at the 90 percent level). At the same time, those who are employed within 180 days hold an average case size (2.78) about 14.40 percent above (with 90 percent significance) those who did not find employment within 180 days post-arrival. In other words, for this sample, those that are employed by the 180 day mark have a larger average number of people in their case relative to those unemployed by 180 days. Subsequent models will dive deeper into this finding.

Table 4.3 also holds some interesting findings for those who are employed by 180 days versus those who do not find employment within 180 days. Perhaps the most obvious statistic to point out is focused on the regions of Southeast Asia and the Middle East/North Africa. In this study, refugees from Iran, Iraq, and Syria are all included in the Middle East/North Africa, while refugees from Myanmar, Laos, and Vietnam are included in the Southeast Asia region. Both categories exhibit significant variation across employment groups. Refugees from the Middle East/North Africa category make up roughly 16.67 percent of the total refugees observed. However, that percentage nearly

doubles (30.53 percent) when looking at the number of refugees from the Middle East and North Africa that do not find employment by 180 days post-arrival, a difference significant at the 99 percent level. Conversely, those from Southeast Asia are about 39.25 percent of the total observations. Yet, when looking at those unemployed by 180 days, they are only 28.42 percent of the total (significant at the 95 percent level).

Although perhaps the most extreme, regions are not the only variable with variation across employment groups. Prevalence of a U.S. tie also sees some variation. More specifically, when looking at the sample of those employed by 180 days, those with a U.S. tie make up 50.69 percent while those with no U.S. tie make up the remaining 49.31 percent. However, those with no U.S. tie see an increase in their portion when those who are unemployed by 180 days are sampled. Specifically, their percentage increases to 56.84 percent (significant at the 90 percent level). For those without a U.S. tie, this is about a 15.27 percent increase in their proportion of the sample.

Nevertheless, while variation in mean or proportion exists for some variables across employment groups, including length of statelessness, it should be noted that variation for the other primary variable of interest – high trauma and low trauma pre-case types – is highly insignificant. This indicates little evidence for genuine variation in proportions of the sample divided by trauma level across those who are employed versus unemployed within 180 days.

Still, dividing the data by those who are employed versus those who are unemployed at 180 days is not the only perspective to take. Rather, given the focus of this paper on length of statelessness, it is also of interest to look at the data through that lens

as well. Tables 4.4 and 4.5 do just this by dividing each variable by length of statelessness according to a rough estimation of the median length of statelessness (about seven years).

Table 4.4 Summary Statistics - Length of Statelessness (Continuous Variables)

Variable	Length of Statelessness	Mean	Range	Standard Deviation
Real Wages at 180 Days	Statelessness \geq seven years	\$11.05	\$8.56, \$16.44	1.71
	Statelessness $<$ seven years	\$10.77	\$8.39, \$17.45	1.80
Length of Initial Unemployment	Statelessness \geq seven years	90.01	20, 179	39.22
	Statelessness $<$ seven years	94.95	14, 177	38.31
Age on Arrival	Statelessness \geq seven years	33.41	18.08, 64.45	10.33
	Statelessness $<$ seven years	31.03	15.66, 60.39	8.89
Case Size	Statelessness \geq seven years	3.14	1, 11	2.44
	Statelessness $<$ seven years	2.30	1, 9	1.76
Employables in Case	Statelessness \geq seven years	1.39	1, 4	0.67
	Statelessness $<$ seven years	1.22	1, 3	0.47

Notes: 361 refugees were employed by 180 days. 95 did not obtain employment within 180 days. A total of 456 were observed. Average wage and duration of statelessness are conditional on individual refugees being employed by 180 days. Totals are listed in Table 4.2.

Table 4.5 Summary Statistics - Length of Statelessness (Categorical Variables)

Variable	Category	Statelessness \geq seven years	Statelessness $<$ seven years	Total
Employment Probability by 180 Days	Employed by 180 Days	184 (82.51)	177 (75.97)	361 (79.17)
	Unemployed by 180 Days	39 (17.49)	56 (24.03)	95 (20.83)
Region	Southeast Asia	96 (43.05)	83 (35.62)	179 (39.25)

	Middle East/North Africa	6 (2.69)	70 (30.04)	76 (16.67)
	Central and South Asia	40 (17.94)	33 (14.16)	73 (16.01)
	Sub-Saharan Africa	81 (36.32)	47 (20.17)	128 (28.07)
Pre-Case Type	High Trauma Pre-Case Types	70 (31.39)	82 (35.19)	152 (33.33)
	Low Trauma Pre-Case Types	153 (68.61)	151 (64.81)	304 (66.67)
Sex	Male	144 (64.57)	173 (74.25)	317 (69.52)
	Female	79 (35.43)	60 (25.75)	139 (30.48)
English Proficiency	None	133 (59.64)	112 (48.07)	245 (53.73)
	Some or Good	90 (40.36)	121 (51.93)	211 (46.27)
Education	None or primary	92 (41.26)	56 (24.03)	148 (32.46)
	Intermediate or more	131 (58.74)	177 (75.97)	308 (67.54)
Employment Experience	Has pre-arrival work experience	140 (62.78)	197 (84.55)	337 (73.90)
	No pre-arrival work experience	83 (37.22)	36 (15.45)	119 (26.10)
U.S. Tie	Has U.S. tie	111 (49.78)	113 (48.50)	224 (49.12)
	No U.S. tie	112 (50.22)	120 (51.50)	232 (50.88)

Notes: Values without parentheses indicate the number of individuals observed in that respective category.

Values listed in parentheses reflect the percentage of the sample employed by 180 days, unemployed by 180 days or of the total sample.

The first findings of note undoubtedly have to do with real wages at 180 days and the length of initial unemployment. For real wages in particular, it is apparent that those with seven years or more of statelessness have higher average wages (\$11.05) than those with a duration of statelessness less than seven years (\$10.77). This difference is significant at the 90 percent level and appears small but is notable. As such, it merits a

deeper analysis through subsequent models. Duration of initial unemployment, on the other hand, does not have a significant gap across lengths of statelessness. More specifically, those with a length of statelessness of less than seven years have an average duration of initial unemployment of 94.95 days. Whereas, those with statelessness greater than or equal to seven years have an average duration of initial unemployment of 90.01 days, an insignificant difference of only 5.20 percent. Like wages, this may be a particular interest in the models subsequently developed.

Outside of real wages and duration of initial unemployment, a few other findings stick out. Notably, of those with statelessness of seven or more years, 82.51 percent are employed at 180 days while only 17.49 percent are unemployed during that same time. However, for those with less than seven years of statelessness, only 75.97 percent are employed by the 180 day mark. This difference in proportions across lengths of statelessness is significant at the 95 percent level, indicating a potential relationship between employment status at 180 days and length of statelessness.

Using Table 4.5 also characterizes the composition of the sample relative to length of statelessness. For instance, while those from the Middle East/North Africa and from Sub-Saharan Africa make up about 17 and 28 percent of the total sample, they comprise 30.04 and 20.17 percent of the subset of the sample that has a duration of statelessness less than seven years, respectively (both significant differences at the 99 percent level). Conversely, there is no statistically significant variation in proportions of the sample when divided by trauma level and length of statelessness.

Even more so, it should be noted that English proficiency and education vary greatly across lengths of statelessness. For the total sample, about 46.27 percent of observations have some or good English, and 67.54 percent have intermediate or more education. However, when a sub-sample is taken of the refugees with less than seven years of statelessness, those percentages increase to 51.93 percent and 75.97 percent each (differences both significant at the 95 and 99 percent respectively) Lastly, the variation in the proportion of refugees that have a pre-arrival employment experience should also be noted. In the total sample, the portion of refugees that have pre-arrival work experience is about 73.90 percent. However, When split by length of statelessness, that percentage increases (with 99 percent significance) to 84.55 percent for those with length of statelessness less than seven years.

Finally, dividing the means and proportions according to pre-type trauma levels yields some variation depending on the variable. This can be seen in Tables 4.6 and 4.7. Beginning with the employment outcome variables, we can see that there is a significant variation (at the 95 percent level) in average real wages across high and low trauma pre-case types. Specifically, high trauma pre-case types have higher average wages at

Table 4.6 Summary Statistics - Pre-Case Type Trauma Level (Continuous Variables)

Variable	Trauma Level	Mean	Range	Standard Deviation
Real Wages at 180 Days	High Trauma Pre-Case Types	\$11.20	\$8.57, \$17.23	2.05
	Low Trauma Pre-Case Types	\$10.77	\$8.39, \$17.45	1.59
Length of Initial Unemployment	High Trauma Pre-Case Types	91.05	28, 174	34.10
	Low Trauma Pre-Case Types	93.09	14, 179	40.88

Length of Statelessness	High Trauma Pre-Case Types	8.97	1.36, 32.55	6.80
	Low Trauma Pre-Case Types	9.93	0, 30.46	8.67
Age on Arrival	High Trauma Pre-Case Types	31.89	15.66, 64.45	10.31
	Low Trauma Pre-Case Types	32.34	18.47, 62.33	9.37
Case Size	High Trauma Pre-Case Types	2.71	1, 9	2.27
	Low Trauma Pre-Case Types	2.71	1, 11	2.11
Employables in Case	High Trauma Pre-Case Types	1.37	1, 3	0.63
	Low Trauma Pre-Case Types	1.27	1, 4	0.56

Notes: 361 refugees were employed by 180 days. 95 did not obtain employment within 180 days. A total of 456 were observed. Average wage and duration of statelessness are conditional on individual refugees being employed by 180 days. Totals are listed in Table 4.2.

Table 4.7 Summary Statistics - Pre-Case Type Trauma Level (Categorical Variables)

Variable	Category	High Trauma Pre-Case Types	Low Trauma Pre-Case Types	Total
Employment Probability by 180 Days	Employed by 180 Days	116 (76.32)	245 (80.59)	361 (79.17)
	Unemployed by 180 Days	36 (23.68)	59 (19.41)	95 (20.83)
Region	Southeast Asia	56 (36.84)	123 (40.46)	179 (39.25)
	Middle East/North Africa	21 (13.82)	55 (18.09)	76 (16.67)
	Central and South Asia	14 (9.21)	59 (19.41)	73 (16.01)
	Sub-Saharan Africa	61 (40.13)	67 (22.04)	128 (28.07)
Sex	Male	87 (57.24)	230 (75.66)	317 (69.52)
	Female	65 (42.76)	74 (24.34)	139 (30.48)
English Proficiency	None	83 (54.61)	162 (53.29)	245 (53.73)
	Some or Good	69 (45.39)	142 (46.71)	211 (46.27)
Education	None or primary	62 (40.79)	86 (28.29)	148 (32.46)
	Intermediate or more	90 (59.21)	218 (71.71)	308 (67.54)

Employment Experience	Has pre-arrival work experience	114 (75.00)	223 (73.36)	337 (73.90)
	No pre-arrival work experience	38 (25.00)	81 (26.64)	119 (26.10)
U.S. Tie	Has U.S. tie	49 (32.24)	175 (57.57)	224 (49.12)
	No U.S. tie	103 (67.76)	129 (42.43)	232 (50.88)

Notes: Values without parentheses indicate the number of individuals observed in that respective category.

Values listed in parentheses reflect the percentage of the sample employed by 180 days, unemployed by 180 days or of the total sample.

\$11.20 per hour than low trauma pre-case types at \$10.77 per hour. However, average duration of initial unemployment and the proportion of those employed at 180 days are not found to have statistically significant variation.

Beyond employment outcomes, it is worth looking at the variation in the average length of statelessness – the other independent variable of interest – across trauma levels. According to the findings in the sample, high trauma pre-case types are found to have a shorter average length of statelessness (8.97 years) than those who are classified as low trauma pre-case types (9.93 years). However, like duration of initial unemployment and employment status at 180 days, this is also found to be statistically insignificant.

For other control variables, some variation exists. More precisely, the average number of employables in the case, the proportion of those from Central and South Asia and Sub-Saharan Africa, and the proportion of the sample based on gender, those with different education levels, and those with U.S. ties varies significantly (at the 99 percent level or more) across trauma levels. For example, those from Central and South Asia make up 16.01 percent of the total sample. However, when subsamples are taken

according to trauma level, that proportion decreases to 9.21 percent for those with high trauma pre-case types. Conversely, those from Sub-Saharan Africa see an increase from 28.07 percent of the total sample to 40.13 percent of the high trauma subsample. Across genders, we see that the proportion of females greatly increases when looking specifically at high trauma cases from 30.48 percent to 42.76 percent. In a similar sense, those with no or primary education and those without U.S. ties also see increases in their proportion of the sample (32.56 to 40.79 percent and 50.88 to 67.76 percent respectively) when looking at high trauma pre-case types.

Nonetheless, analyzing variations in proportions and averages is valuable but not the only means of evaluating the initial data. It is also imperative to look at correlations across variables of interest and their distributions as well. These are broken down in more detail below.

4.3 Distributions and Correlations

While many of the variables included in the full models that will be developed in Chapter 5 are binary or categorical, a few are not. As such, it is important to look at the distribution of these variables to ensure that any non-normal distribution is accounted for in the interpretation of the results. Starting with continuous outcome variables, it is possible to see that length of initial unemployment is relatively normally distributed while real wages are somewhat skewed. In particular, real wages have a skewness of about 1.2202 and duration of initial unemployment has a skewness of roughly 0.3786. This is also supported by looking at the histograms below in Figures 4.3.1 and 4.3.2.

Outside of the distributions of the outcome variables, it is worth looking at the independent variables of interest. While pre-case trauma levels are binary, categorical variables, length of statelessness is continuous. As such, its distribution can be evaluated in a similar manner to the outcome variables already described. For example, length of statelessness is just slightly skewed beyond the standard threshold of 0.5 at a value of 0.6371. Even more so, it is worth noting the direction of the skewness. This is most easily ascertained from histogram in Figure 4.3.3. Notably, length of statelessness is skewed primarily right. It also has a kurtosis of roughly 2.2562, indicating a lack of heavy tails, or large outliers.

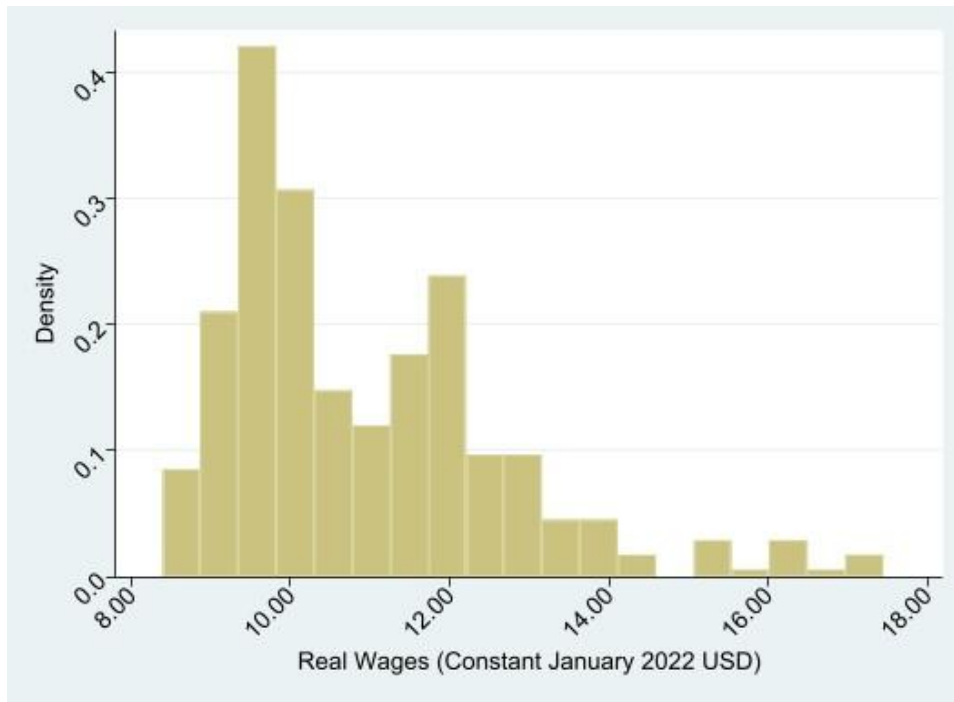


Figure 4.1 Histogram of Real Wages

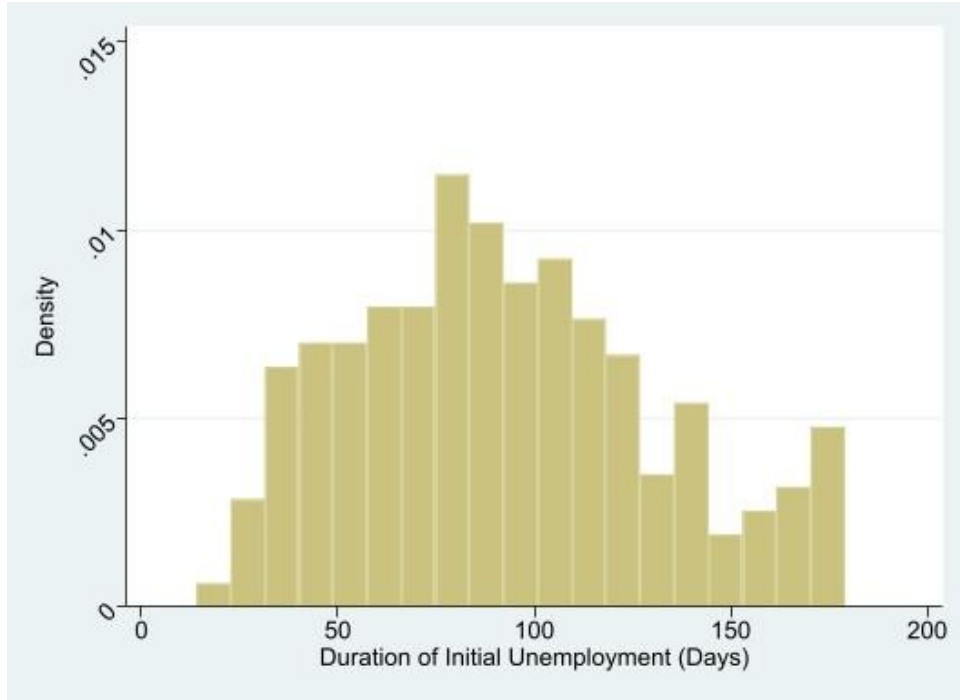


Figure 4.2 Histogram of Duration of Initial Unemployment

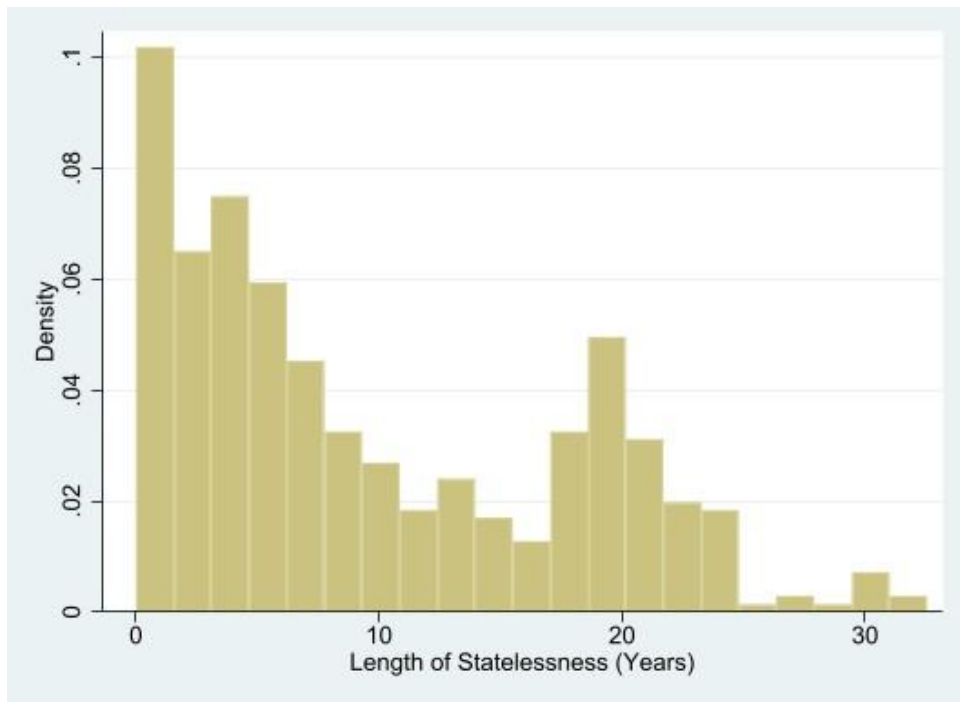


Figure 4.3 Histogram of Length of Statelessness

Although transformations are commonly used to help account for skewness in the distribution of variables and subsequent bias in the model, that does not necessarily necessitate their use. Rather, as will be discussed in the results and methodology, it may be more beneficial for purposes of interpretation and fitting the model properly to simply leave the variables untransformed. However, the skewness should still be accounted for, particularly in terms of wages, when interpreting the reliability and potential bias of the results.

That said, it is also important to look beyond the distribution of the variables to their correlations as well. Below, a table can be found with correlation coefficients focusing on the three outcome variables (real wages, employment probability, and unemployment duration) as well as the two independent variables of interest (length of statelessness and pre-case type trauma level). Note that variables that are binary have one category omitted to avoid repetition. The correlation coefficient for the omitted categories is simply the same magnitude but in the opposite direction (positive to negative and vice versa)

Table 4.8 Correlations

	Real Wages at 180 Days	Employed by 180 Days	Length of Initial Unemployment	Length of Statelessness	High Trauma Pre-Case Types
Length of Statelessness	0.1617	0.0790	-0.1010	–	–
High Trauma Pre-Case Types	0.1150	-0.0496	-0.0246	-0.0558	–
Southeast Asia	-0.0721	0.1138	-0.1057	0.0264	-0.0349

Middle East/North Africa	-0.0657	-0.1908	0.1667	-0.4085	-0.0541
Central and South Asia	0.0852	0.0472	-0.0547	0.1247	-0.1311
Sub-Saharan Africa	0.0575	-0.0040	0.0379	0.2083	0.1898
Male	0.0391	0.0709	-0.1822	-0.1439	-0.1886
Age on Arrival	0.0605	0.0052	0.1089	0.1154	-0.0221
Case Size	0.1193	0.0657	0.1452	0.2106	0.0007
Employables in Case	0.1830	-0.0392	0.1465	0.2559	0.0795
Some or Good English	-0.0194	-0.0546	-0.0499	-0.1429	-0.0124
Intermediate or More Education	0.0659	0.0481	0.0104	-0.1899	-0.1259
Has Pre-Arrival Work Experience	0.0530	0.0394	0.0123	0.0514	0.0177
Has U.S. Tie	0.0362	0.0612	-0.0028	0.0207	-0.2388

Notes: Values listed are Pearson's correlation coefficients. Correlation coefficients for employment by 180 days, length of statelessness, and high trauma pre-case types are based on a sample of 456 refugees. Correlation coefficients for real wages and length of initial unemployment are contingent on individuals working within 180 days, and as such are based on a sample of 361 individuals.

Upon evaluating the correlations, there are a couple observations that immediately jump out. Firstly, it is evident that, on the whole, there is weak direct correlation among both outcome and independent variables and among independent variables themselves. In fact, only one correlation is higher than 0.3. In terms of the independent variables themselves, this is a generally positive finding, as it alleviates concerns about possible multicollinearity among variables. In regards to the correlation between the outcome

variables and independent variables, a low correlation coefficient is not necessarily an indication of no relationship, as controls are not taken into account that could help reveal true relationships.

Secondly, it is worth pointing out the one correlation coefficient that could potentially be considered a moderate correlation. This exists between the Middle East and North Africa region and length of statelessness. In particular, the correlation coefficient between these two variables is -0.4085. This indicates a moderate possible relationship where a refugee being from the Middle East or North Africa likely results in a shorter length of statelessness. Of course, that is not to say there is a causation there, but rather a very mild correlation.

While correlations, in addition to the variations in averages and proportions, can offer some insight into possible relationships between variables of interest, an econometric model does a much more thorough job. As such, several models are developed in the following chapter to more exhaustively evaluate the possible relationships between length of statelessness, levels of trauma, and refugee employment outcomes.

CHAPTER 5

METHODOLOGY

As already mentioned, while basic statistics can provide some insight into trends in the data, alone they are not enough to make any strong claims about relationships between variables. Consequently, the remainder of this paper focuses on developing models that provide greater insight into the possible relationships among variables previously discussed. More specifically, this paper looks at three primary sets of models evaluating the effects of mostly pre-arrival determinants on a refugee's economic outcomes within the first six months of their arrival to the United States. Each model set focuses on a particular economic outcome – namely, real wages, probability of employment within 180 days, and duration of initial unemployment. As length of statelessness and level of trauma are the primary independent variables of interest, the sets of models are built initially on these variables alone and grow to include a range of controls to set forth a more complete model. Building the models a piece at a time helps provide insight into the intervariable interactions that may be biasing, or not biasing, the discovered relationships.

In developing the three sets of models focused on economic outcomes, Kuhlman's comprehensive theory of refugee economic status was used as the foundation. Recall that Kuhlman identified six primary components that play a part in determining a refugee's economic outcomes – demographic factors, flight factors, country of resettlement factors,

policy, residency/resettlement factors, and “noneconomic factors of adaptation” (1991). As this study focuses primarily on pre-arrival determinants of economic outcomes, an emphasis was placed on breaking down pre-arrival demographic, flight, and acculturation factors.

This is not to say that the other factors were not controlled for. Rather, they are included in the model indirectly through year fixed effects. Again, it is important to keep in mind that all refugees observed in this study were resettled through Columbia, South Carolina and were served through, for the most part, the same initial programs. As such, host-country or state factors and immigration and refugee policies and programs would be fairly constant across refugees at a given point in time. These could be broad characteristics such as the unemployment rate, the president at the time of arrival, or the general productivity of labor in South Carolina. It could also include more localized characteristics of the host-state, such as schools, local job markets, attitudes towards refugees and immigrants, and the employment specialist serving cases at a given point in time. Regardless, were one to pick a specific time of arrival, the factors would be relatively constant across refugees arriving around that time. Thus, as the scope and purpose of this paper does not focus on those determinants, year fixed effects are adequate to account for most post-arrival variables.

While year fixed effects help control for policy and host-country characteristics, one should also consider what Kuhlman cites as residency characteristics. This could be a refugee’s duration in the United States, naturalization, or movement within the United States from one state to another. However, as mentioned previously, this study analyzes

refugees within their first six months of resettlement, what is typically the most vulnerable period for refugees post-resettlement and when the largest gaps in economic outcomes usually occur compared to natives or non-refugee immigrants (Brell, Dustmann, and Preston 2020). With such a short period of time evaluated and with constraints in the data collected, this study uses pooled cross-sections to evaluate the economic outcomes of refugees. Subsequently, factors like naturalization, which occurs after five years, movement within the U.S., and duration of resettlement within the U.S. play little role in this study. That is not to say that residency characteristics are unimportant in general but rather that they are not pertinent for the scope and purposes of this paper.

That said, as discussed earlier, there was an adequate amount of previous research done on pre-arrival determinants of economic outcomes to establish core components of the three primary models. Demographic factors like nationality, sex, age on arrival, family composition, and education had an abundance of literature to suggest their importance in determining a refugee's wage, employment probability, and initial duration of unemployment post-resettlement. Prior literature suggests that most of these factors should play a role as logic would suggest. For example, whether due to discrimination or other factors, young men would be expected to earn more than those who are female or older (Jones 2021). Moreover, those who have more education would be expected to make more than those with less due to signaling or the accumulation of human capital (Kim, Sakamoto, and Tamborini 2015). These factors often hold in determining wages even for natives.

Nationality and family composition, on the other hand, are a little more complex. Nationality's complexity simply has more wrapped up into it, such as language, culture, religion, and customs. However, prior studies would still suggest the importance that nationality has in determining wages and employability (Collins and Mamgain 2003; Potocky 2001). Family composition often considers family size and marital status. This study chose to take a slightly different approach than simply looking at size and marital status. Instead, to account for family composition, the total case size and number of employables in each case was taken for each refugee observed. While perhaps a little harder to initially interpret, case size and number of employables seem to be the most relevant and logical measurement of family composition.

As laid out previously, refugees have about six months when they come to the United States to find employment and become self-sufficient. Often, this is made easier when there is more than one employable in a case or if the case is smaller in size (note that cases are usually, but not always, nuclear families or individuals). If there is a higher number of employables in a case or the case is smaller in size, then the less pressing it will be for each employable refugee to make a higher wage or perhaps to even be employed, as the refugee could theoretically rely on the other employable refugees in the case to make up the difference and help them achieve self-sufficiency. The opposite holds for larger cases or cases with few employable refugees. For instance, a case of eight with only one employable has a lot of pressure on the employable person to start working quickly and to make a higher wage to support the family. However, it should be noted that with large cases, there could also be a counteracting motivation to take more time

and be more selective so that a job with a higher wage is obtained to provide for the bigger family.

Beyond demographics, acculturation factors also needed to be accounted for. Perhaps the most evident acculturation factor is language, or in this case, English proficiency. The importance of English proficiency is not just backed up by prior literature (Adkins and Dunn 2000; Chin and Cortes 2015; Connor 2010; Evans and Fitzgerald 2017; Hagstrom 2000; Haines 1988; Schaafsma and Sweetman 2001; Waxman 2001) but also follows quite logically as well. In the U.S. most business and companies are run and conducted in English. As such, the ability to at least speak or understand a little English would seem to be of importance in some capacity when examining refugee wages and employability.

Yet, English proficiency is not the only factor that could potentially play a role in a refugee's acculturation. Things like prior work experience and pre-existing relationships could theoretically also have an impact. For instance, logically, a refugee that had prior work experience in a certain field, or at least familiarity with a formal work environment, would be expected to be able to find a job faster and potentially even be paid more than one who does not have that prior experience. Furthermore, the theoretical benefit of a pre-existing relationship with someone in the United States cannot be emphasized enough. Refugees who have relatives or close friends already established within their area of resettlement are considered to have what the resettlement community calls U.S. ties. U.S. ties can vary in their relation to the refugee and in how much they assist the refugee upon arrival in the U.S. Some provide an abundance of assistance,

including housing, job recommendations, financial assistance, and a means of cultural integration. Others tend to be a bit more hands off. Regardless, however, it follows that it would likely be an advantage to already know someone in the United States when looking for gainful employment. Yet, if the U.S. tie is providing financial assistance, there may be less willingness to accept employment quickly or to even work at all.

Lastly, considering Kuhlman's model, the only variables yet to be accounted for are variables regarding a refugee's flight from their country of origin to their country of final resettlement (1991). In this case nationality again plays a role, as each country often has a relatively unique time and basis for causing the flight of its citizens. For example, a refugee fleeing Syria would likely be fleeing post-2011 due to the Syrian Civil War. On the other hand, a refugee from Iran likely would not be fleeing due to war, but due to discrimination or persecution based on sex, religion, political affiliation, or some other factor.

This is also where the variables of interest – pre-case type trauma level and length of statelessness – come into play. Pre-case type is much more specific than nationality in terms of specific cause of refugee flight and vulnerability. As mentioned earlier, it can identify whether a refugee fled due to violence or torture, discrimination or persecution for being a female, legal or physical protection needs, or a number of other vulnerabilities. However, it is also important to once again point out that some of these categories could potentially overlap for any one refugee. As such, the models developed in this study evaluate those categories by grouping them two different levels based on likely exposure to trauma. More specifically, the three primary sets of models of refugee

economic outcomes include what this paper calls high trauma pre-case types and low trauma pre-case types. High trauma pre-case types include the following – survivors of violence and torture, those with medical needs, women at risk, and those with legal and/or physical protection needs. Low trauma pre-case types include those with basic considerations, refugees without local integration prospects, family reunification, and several other more minor pre-case types that lean towards being less likely to be related to high levels of trauma.

Survivors of violence and torture are described by the UNHCR as being those who “ may have lingering physical or psychological effects from the torture or violence... and could face further traumatization... and may require medical or psychological care, support or counseling” (UNHCR Resettlement Submission Categories, n.d.) Furthermore, refugees classified as having medical needs often have severe physical disabilities or impediments. In a similar sense, women at risk and those with legal and/or physical protection needs are also deemed by the UNHCR to have likely higher levels of trauma (UNHCR Resettlement Submission Categories, n.d.). As such, it follows logically that refugees who are survivors of violence or torture, have medical needs, have legal and/or physical protection needs, and women at risk may have a more difficult time obtaining or holding a job due to their physical and/or psychological barriers.

Unlike those who fall into one of the high trauma categories, refugees without local integration prospects, with basic considerations, or who are being resettled for purposes of family reunification or another more minor factor have not necessarily been

subject to such extreme physical or psychological trauma (in a relative sense). In fact, refugees without local integration prospects may have, on average, the relatively lowest levels of trauma exposure, as they are described by the UNHCR as having an “ongoing, *not an urgent*, need for resettlement” (UNHCR Resettlement Submission Categories, n.d.). This, of course, does not exclude these refugees from trauma, but rather indicates a likely lower level of trauma faced. As such, it would make sense that these refugees would have a slightly easier time adjusting to life and employment post-resettlement. However, it also would make sense that these refugees would perhaps be some of the ones with the longest periods of statelessness, the possible impact of which is discussed below.

The last factor regarding a refugee’s flight from their country of origin, and the other primary variable of interest in this study, is length of statelessness. As aforementioned, length of statelessness has only been included in one previous study. The logic behind its potential relationship to refugee wages and employability is twofold. Firstly, logic would suggest that the longer a refugee is in a temporary country of asylum – where poverty is often abundant and resources, schooling, and work opportunities are often scarce – the more their human capital would depreciate. For example, a refugee who has a college degree but has to flee and live in a refugee camp for years on end may slowly lose the value of the knowledge and skills they originally had. Moreover, as time goes on, an employer may not place the same value on the degree the refugee has. For instance, a refugee who studied computer science ten years ago but has not had the opportunity to continue refreshing their skills certainly will not be valued the same as a

recent graduate who is up-to-date on modern computer programming. The tendency for U.S. employers to value foreign diplomas and education less highly only serves to further the depreciation of a refugee's human capital and lower a refugee's wages and employability (Siar 2013). The only exception to this would be should the refugee be stateless for a long enough period of time that they actually start integrating into their temporary country of asylum to the point where they can actually start regaining their human capital.

Nevertheless, there is another possible side to the relationship that duration of statelessness may have with the probability of refugee employment and duration of initial unemployment. More precisely, it is reasonable to theorize that refugees who have been stateless – and subsequently often unemployed – longer may be more willing to accept employment offered to them. It is not unrealistic to hypothesize that a refugee who has been out of work for some time, and who may even understand in at least a rudimentary sense that their human capital is no longer valued as highly as it used to be, likely will be more willing to accept the first job that comes their way and will be less particular in terms of what job they go into and what wage they receive. On the other hand, refugees who have more recently been employed and have shorter periods of statelessness may be more picky regarding what employment they are willing to accept. If they have been working recently and have been stateless for a shorter period of time, it also follows that they may have more of their own money at their disposal, further allowing them to be more particular in their job choice and potentially extending the initial period of unemployment.

Given the reasoning and support for the above variables, it is then possible to develop the three primary sets of models, henceforth the wage models, employment probability models, and unemployment duration models. Each set of models is set up the same way apart from different dependent variables and includes five different models that build upon each other to reveal the interactions and bias between independent variables. That said, the first model takes the forms listed below in Figure 5.1. As one can see, this model starts simply with the length of statelessness variable and year fixed effects. Due to the two sided relationship with employment outcomes, length of statelessness is always listed as having a quadratic relationship with each employment outcome variable. For the models regarding real wages, year fixed effects were put into two year bins to prevent overfitting and line up with the change in the U.S. president, who can have a significant impact on refugee resettlement. Furthermore, real wages were derived by converting refugee wages at 180 days to constant January 2022 USD. Meanwhile, employment within 180 days is a binary variable, making the regression a linear probability model (i.e., the output is measured in probability points of how likely it is that the refugee is employed within 180 days post-arrival), and duration of unemployment is measured in days.

$$\left. \begin{array}{l} \textit{real wages} \\ \textit{employment within 180 days} \\ \textit{duration of unemployment} \end{array} \right\} = \beta_0 + \beta_1 \textit{length of statelessness} + \beta_2 (\textit{length of statelessness})^2 + \lambda_{3 \rightarrow 8 \textit{ or } 14} \textit{year fixed effects} + \varepsilon$$

Figure 5.1 Model One

While Model One focuses on length of statelessness, the second model is focused on the second independent variable of interest – pre-case type trauma level. As shown in Figure 5.2, Model Two looks at the relationship of high trauma pre-case types with the same three outcome variables. Again, year fixed effects are used as the only control variables in this model. High trauma pre-case types is a binary variable with one indicating that the case is, in fact, categorized as a high trauma pre-case type.

$$\left. \begin{array}{l} \textit{real wages} \\ \textit{employment within 180 days} \\ \textit{duration of unemployment} \end{array} \right\} = \beta_0 + \beta_1 \textit{high trauma pre case types} + \\ + \lambda_{2 \rightarrow 7 \textit{ or } 13} \textit{year fixed effects} + \varepsilon$$

Figure 5.2 Model Two

The third model (Figure 5.3) puts the two independent variables of interest together while controlling for year fixed effects. Like the Model One, this keeps the quadratic relationship between length of statelessness and the outcome variables due to the multiple opposing effects that length of statelessness may have.

$$\left. \begin{array}{l} \textit{real wages} \\ \textit{employment within 180 days} \\ \textit{duration of unemployment} \end{array} \right\} = \beta_0 + \beta_1 \textit{length of statelessness} + \beta_2 (\textit{length of statelessness})^2 \\ + \beta_3 \textit{high trauma pre case types} + \lambda_{4 \rightarrow 9 \textit{ or } 15} \textit{year fixed effects} \\ + \varepsilon$$

Figure 5.3 Model Three

In the fourth model (Figure 5.4), all additional control variables listed in Table 4.1 are included aside from region. Regions are not included due to their higher correlation and possible relationship with other independent variables. However, regions, in addition to all other control variables in Model Four, are included as dummy variables in the fifth model (Figure 5.5).

$$\begin{array}{l}
 \textit{real wages} \\
 \textit{employment within 180 days} \\
 \textit{duration of unemployment}
 \end{array}
 \left. \vphantom{\begin{array}{l} \textit{real wages} \\ \textit{employment within 180 days} \\ \textit{duration of unemployment} \end{array}} \right\}
 = \beta_0 + \beta_1 \textit{length of statelessness} + \beta_2 (\textit{length of statelessness})^2 \\
 \beta_3 \textit{high trauma pre case types} + \beta_{4 \rightarrow 11} \textit{control variables} \\
 + \lambda_{12 \rightarrow 17 \textit{ or } 23} \textit{year fixed effects} + \varepsilon$$

Figure 5.4 Model Four

$$\begin{array}{l}
 \textit{real wages} \\
 \textit{employment within 180 days} \\
 \textit{duration of unemployment}
 \end{array}
 \left. \vphantom{\begin{array}{l} \textit{real wages} \\ \textit{employment within 180 days} \\ \textit{duration of unemployment} \end{array}} \right\}
 = \beta_0 + \beta_1 \textit{length of statelessness} + \beta_2 (\textit{length of statelessness})^2 \\
 \beta_3 \textit{high trauma pre case types} + \beta_{4 \rightarrow 6} \textit{regions} + \\
 \beta_{7 \rightarrow 14} \textit{control variables} + \lambda_{15 \rightarrow 20 \textit{ or } 26} \textit{year fixed effects} + \varepsilon$$

Figure 5.5. Model Five

CHAPTER 6

RESULTS AND ANALYSIS

Given the models developed above, it was possible to use Ordinary Least Squares to run linear regressions on the pooled cross-sectional data. The findings of the three sets of models are laid out in Table 6.1, 6.2, and 6.3 below and are divided according to model. Beta coefficients (i.e., average marginal relationships) are laid out for each variable. Robust standard errors were used in each model to reflect unbiased estimates of the standard errors should there be evidence of heteroskedasticity.

6.1 Wage Models

As described earlier, the first set of models focuses on real wages as the output variables. Real wages are measured in January 2022 U.S. dollars per hour, and observations are included contingent on the individual being employed within 180 days. Those who did not find employment within 180 days are not included in the models. In these models, several estimates are found to be statistically significant, and Model Four, the likely best-fit model without overfitting, is estimated to explain about 49.21 percent of the variation in the dependent variable. As the focus of this paper is primarily on length of statelessness and trauma level, it makes sense to start by evaluating these variables and then to move on to briefly touch on other controls. The findings are in Table 6.1 below.

Table 6.1 Wage Model Results

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Length of Statelessness	-0.0998*** (0.0369)	–	-0.0896** (0.0353)	-0.0704* (0.0359)	-0.0947** (0.0404)
(Length of Statelessness) ²	0.0038*** (0.0014)	–	0.0032** (0.0013)	0.0027** (0.0014)	0.0035** (0.0015)
Pre-Case Type					
High trauma pre-case types	–	-0.3614** (0.1672)	-0.3011* (0.1735)	-0.1182 (0.1689)	-0.1139 (0.1735)
Region					
Middle East/North Africa	–	–	–	–	-0.5604* (0.3115)
Central and South Asia	–	–	–	–	0.0145 (0.2119)
Sub-Saharan Africa	–	–	–	–	-0.2055 (0.1954)
Sex					
Male	–	–	–	0.4130** (0.1743)	0.3963** (0.1761)
Age on Arrival	–	–	–	-0.0022 (0.0089)	-0.0015 (0.0090)
Case Size	–	–	–	0.0405 (0.0358)	0.0427 (0.0360)
Employables in Case	–	–	–	-0.1222 (0.1892)	-0.1375 (0.1914)
English Proficiency					
Some or good English	–	–	–	-0.0524 (0.1446)	-0.0209 (0.1552)
Education					
Intermediate or more education	–	–	–	0.2870* (0.1674)	0.3125* (0.1687)
Employment Experience					
Has pre-arrival work experience	–	–	–	0.1672 (0.1723)	0.1657 (0.1722)
U.S. Tie					
Has U.S. tie	–	–	–	0.3731** (0.1998)	0.2840* (0.1659)
Observations	361	361	361	361	361

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Notes: The reference group for pre-case type is low trauma pre-case types. Additionally, the reference group for region is Southeast Asia. All other reference groups for categorical variables are simply the opposite or inverse of the variables listed. As stated previously, all five wage regressions only include those that were employed within 180 days – 361 observations out of a larger sample of 456 observations. Values listed outside of the parentheses reflect the coefficients (betas) on each independent variable and their subsequent relationship with real wages (in constant January 2022 USD). Robust standard errors are reported in parentheses. Year fixed effects grouped into two-year bins were included as controls in all five models but are not reported in the table.

Length of statelessness, the first independent variable of interest, is significant at the 90 percent level or higher for all four models in which it is included, in both the linear and quadratic terms. As length of statelessness (in years) has a quadratic relationship with real wages, it is important to interpret the marginal relationship correctly. This is done by taking the derivative with respect to length of statelessness and is shown in a general form below.

$$\beta_1 + 2\beta_2 \text{length of statelessness}$$

Figure 6.1 Marginal Effect of Length of Statelessness

To interpret the marginal effect of each year, it is then helpful to find where the marginal effect changes directions (positive to negative or vice versa)/equals zero and to also find the marginal yearly effect using the median length of statelessness. Using the median length of statelessness, one can see how adding other variables affects the relationship that length of statelessness has with real wages. In particular, given the

median length of statelessness of roughly 6.7466 years, Model One shows a marginal yearly relationship of about -0.0485. Essentially, at 6.7466 years of statelessness, a refugee can expect a marginal yearly increase in statelessness to result in a decrease in wages of \$0.0485. This marginal relationship changes just slightly to a decrease of \$0.0464 in Model Three, \$0.0340 in Model Four, and \$0.0475 in Model Five.

With the results described above, it is clear that, at the median length of statelessness, marginal yearly increases in statelessness result in expected decreases in real wages of about three to five cents. While not an overwhelmingly large number, this is still statistically significant, and in terms of yearly earnings, this difference can result in a decrease of roughly \$101. However, due to the quadratic relationship, the relationship between length of statelessness and real wages is not necessarily always constant or negative even. Instead, the quadratic relationship laid out here implies that the magnitude of the marginal yearly relationship becomes larger as length of statelessness moves toward extremes on either the low or high end of its range. For example, Model Four, the best fit model, reveals that at one year of statelessness, the marginal yearly relationship of statelessness with real wages is up (in magnitude) from -\$0.0340 at the median length of statelessness to -\$0.065. A similar effect is observed at the higher end of length of statelessness as well.

Yet, as mentioned already, the relationship between length of statelessness and real wages is not necessarily negative at all values of statelessness. Instead, it is possible to see that, by setting the marginal effects equal to zero, the relationship moves from a negative one to a positive one at about 13.04 years in Model Four, a value which changes

only slightly in Models One, Three, and Five (13.13 years, 14 years, and 13.53 years respectively). As such, any length of statelessness above roughly 13 years has a positive marginal yearly relationship with real wages.

That said, it can still be concluded that, for the majority of sampled refugees, length of statelessness has a negative, statistically significant relationship with real wages that is more pronounced in earlier years of statelessness and that diminishes in magnitude each year statelessness increases. This happens until about 13 to 14 years, where the marginal yearly relationship becomes positive and starts increasing in magnitude once again. However, as the median length of statelessness is between six and seven years, a minority of refugees actually experience a positive marginal relationship between statelessness and real wages.

Given the statistically significant, primarily negative relationship between duration of statelessness and real wages, one may wonder of the potential driving force behind this relationship. According to basic economic theory, real wages are very much impacted by the marginal product of labor, which in turn can be determined by numerous factors, such as relative labor supply, human capital, and total factor productivity. In this case, it seems likely that length of statelessness may be correlated with human capital, or more specifically, the skills, knowledge, and experience that a refugee brings to a country. Particularly there are two thoughts that may serve to describe the negative relationship between length of statelessness and human capital and subsequently

Firstly, it could be reasoned that an increase in length of statelessness results in a depreciation in human capital. Often, refugees residing in a temporary country of asylum

may not have access to education or legal employment opportunities. As such, the knowledge and skills they have may diminish over time. Even those with advanced degrees or extensive experience may have their human capital become outdated, forgotten, or irrelevant as time goes on without refreshing or using it. Consequently, their human capital would depreciate in value with an increase in length in statelessness resulting in a subsequent decrease in real wages.

Secondly, it could also be postulated that increases in the length of statelessness result in deskilling and devaluation of credentials and experience by employers. This varies slightly from genuine depreciation of human capital. When there is actual depreciation of human capital, the refugee is losing their skills and knowledge that they used to have. Deskilling and devaluation, on the other hand, are not necessarily because the refugee has lost their skills or knowledge. Rather, it is because employers value skills and credentials from overseas less highly, particularly the longer it has been since those skills and credentials have been obtained (Siar 2013). For instance, a refugee with a graduate degree could theoretically retain over time all the knowledge that they obtained in graduate school; however, when they arrive in the United States, an employer may not value that knowledge as highly simply because it was obtained outside the U.S. and because it was garnered several years ago. This process is known as deskilling and may contribute to the negative relationship between duration of statelessness and real wages.

Nevertheless, the positive relationship between length of statelessness and real wages that takes place after 13 or so years should not be overlooked in any analysis. As mentioned briefly in Chapter 5 Methodology, it is possible that after this extended period

of time in a temporary country of asylum, a refugee may actually start integrating into the local society. This would, in turn, theoretically open opportunities for them to begin to build back their human capital. Consequently, after roughly 13 years on average, this change occurs and can be observed through a positive marginal yearly relationship with real wages.

Length of statelessness is not the only independent variable of interest, however. Pre-case type level of trauma is also a variable of interest. Unlike length of statelessness, the relationship of high trauma pre-case types is not as clear or statistically significant across the board. In fact, while high trauma pre-case types are significant at the 95 and 90 percent level in Models Two and Three respectively, they are not found to be statistically significant in the more complete Models Four and Five. In Models Two and Three, it is found that, on average, high trauma pre-case types can expect to see a decrease in real wages of about \$0.3614 and \$0.3011. This is a much larger magnitude in relationship than that seen with length of statelessness. However, the magnitude of the relationship decreases in Model Four and Five to \$0.1182 and \$0.1139 and also loses statistical significance. Given this finding it is clear that, when other controls are taken into account, trauma level does not have a significant relationship with real wages, indicating potential bias in Models Two and Three. Given more data, it is possible that a negative relationship between trauma level and wages would result, but that finding is not necessarily supported by the data in this sample.

These findings are, in part, both surprising and not surprising. Contrary to what logic and previous research would indicate, refugees who potentially have faced the

highest levels of trauma do not have empirical support to suggest that their wages at 180 days post-arrival are any lower than those with other low trauma pre-case type designations. On the other hand, the variation of the outcome variable in Model Four and Five of the wage model is highly fitted to the data – perhaps too highly fitted. Should that actually be the case, then Model Two and Three may be better indicators of the relationship between trauma level and real wages. If so, then it would be clear that high levels of trauma have a large negative relationship with real wages at 180 days post-resettlement.

Beyond primary variables of interest in length of statelessness and pre-case type level of trauma, the findings of the model suggest that a refugee's real wage has a statistically significant relationship with certain regions, gender, level of education, and existence of a U.S. tie. For the most part, these relationships play out as one would expect. For instance, male refugees are, holding other controls constant, expected to have higher real wages than females. More precisely, Model four shows that males refugees are expected to earn roughly \$0.4130 more than their female counterparts due simply to gender. This changes only slightly in Model Five to \$0.3963. This inequity in pay across genders is expected, as women in the U.S. earn about 18 percent less than men according to the Department of Labor (Jones 2021). Interestingly enough, however, this gender wage gap is actually much smaller for refugees in the first six months than it is for the U.S. as a whole. For male refugees in the sample, the average real wage was about \$10.95 per hour. For female refugees, the average wage was about \$10.80 per hour. This represents an unadjusted wage gap of roughly 1.39 percent. Given the average wage for

male refugees sampled of \$10.95 and the findings in Model Four, the “controlled” wage gap for refugees in the first 180 days post-arrival sits around 3.77 percent (i.e., women make roughly 3.77 percent less than men). Controlled or adjusted wage gaps in the U.S. are typically measured to be anywhere from about eight percent to 14 percent (Geier, Gould, and Shieder 2016). A notable increase in disparity compared to the gap exhibited by refugees.

However, the reality that most of the jobs for refugees observed in the sample tend to be lower-wage jobs must also be considered. Given this fact, the disparity in the refugee gender wage gap is not quite as different from the overall gender wage gap as it would initially seem. According to Geier, Gould and Shieder, “there is much greater parity at the lower end of the wage distribution, likely because minimum wages and other labor market policies create a wage floor” (2016). In particular, at the tenth percentile of wages, women only make eight percent less than their male counterparts as opposed to 18 percent for the population as a whole (Geier, Gould, and Shieder 2016). This is still more than the refugee wage gap, but is much closer than when comparing it to the U.S. population as a whole.

More education, like the male gender, has a positive relationship with real wages. Refugees who have intermediate or more education are, on average, expected to earn about \$0.2870 (Model Four at 90 percent significance) more than their counterparts with no or primary education. This is unsurprising, as education builds a refugee’s human capital and theoretically grows their marginal product and capacity for higher wages. It is worth pointing out, however, that other factors that previous literature suggested would

also grow a refugee's human capital and subsequent wage do not have empirical support to suggest a relationship. This includes English proficiency and existence of pre-arrival work experience. On one hand, it is somewhat unsurprising that pre-arrival work experience does not have evidence to indicate a correlation with wages, as U.S. employers' deskilling of international work experience puts many refugees on a somewhat level playing field.

The insignificance of English is a little harder to explain. This could be due to increased selectivity or ease of job placement of refugees with English proficiency in terms of what industries they are willing to go into. For instance, the average real wage for refugees that go into the production, warehouse, construction, landscaping, or agricultural industries is about \$11.10 per hour. All of these industries typically require very low levels of English and are general labor jobs. On the other hand, refugees that go into industries that usually require more English, such as the health and social service fields, business, information technology, hospitality, restaurant, or retail, make an average of \$10.52 per hour (a difference significant at the 99 percent level). The percentage of refugees with some or good English in the fields listed above that require more English is roughly 54 percent. Conversely, for the fields that require little English, that percentage drops to about 40 percent (a difference significant at the 99 percent level). This may be because refugees with more English have a tendency to prefer jobs that are deemed more prestigious than general labor jobs, because refugees with more English want jobs where they can utilize their English, or simply because refugee employment specialists are more likely to place refugees with high English proficiency in jobs that require more English.

However, these are all simply postulations. Furthermore, one must keep in mind that this study focuses on the first six months post-resettlement. It could be that over longer periods of time, English proficiency is more significant.

In terms of other controls, existence of a U.S. tie understandably has a positive relationship with real wages at 180 days post-arrival. For those with a U.S. tie, it is likely that the tie is able to help use their experience and knowledge in the United States to help the refugee find a better paying job. As such, in Model Four, those with a U.S. tie make an expected \$0.3731 more than those without a U.S. tie. Model Five suggests a slightly smaller but still significant difference at \$0.2840.

Lastly, the evidence suggests that those from the Middle East/North Africa are expected to make less than those from Southeast Asia – \$0.5604 specifically. Nationality and region come tied with so many factors, from language and culture to expectations and history, that it is well beyond the scope of this paper to pull these components apart. The disparity could be due to any of the elements named above or even more subtle things like willingness to work, selectivity, employment of those within friend groups, and country of origin education quality.

6.2 Employment Probability Model

The employment probability models take slightly different forms than the wage models, with the focus being the relationship between probability of being employed by 180 days and length of statelessness and trauma level. Overall, these models explain much less variation than the wage models (about 11.42 percent in Model Four) and have

fewer statistically significant variables than the wage models. However, the length of statelessness is still found to be significant across all models at the 95 percent level or higher.

Table 6.2 Employment Probability Model Results

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Length of Statelessness	0.0244*** (0.0087)	–	0.0258*** (0.0088)	0.0307*** (0.0088)	0.0211** (0.0094)
(Length of Statelessness) ²	-0.0008** (0.0003)	–	-0.0009** (0.0004)	-0.0010*** (0.0004)	-0.0008** (0.0004)
Pre-Case Type					
High trauma pre-case types	–	-0.0416 (0.0430)	-0.0516 (0.0447)	-0.0094 (0.0462)	-0.0140 (0.0463)
Region					
Middle East/North Africa	–	–	–	–	-0.1635** (0.0701)
Central and South Asia	–	–	–	–	0.0009 (0.0614)
Sub-Saharan Africa	–	–	–	–	-0.0096 (0.0618)
Sex					
Male	–	–	–	0.0725 (0.0450)	0.0678 (0.0454)
Age on Arrival	–	–	–	-0.0018 (0.0023)	-0.0015 (0.0023)
Case Size	–	–	–	0.0183** (0.0088)	0.0200** (0.0087)
Employables in Case	–	–	–	-0.0056 (0.0426)	-0.0092 (0.0424)
English Proficiency					
Some or good English	–	–	–	-0.0540 (0.0409)	-0.0402 (0.0450)
Education					
Intermediate or more education	–	–	–	0.0909* (0.0450)	0.0950** (0.0454)
Employment Experience					

Has pre-arrival work experience	–	–	–	0.0724 (0.0451)	0.0614 (0.0452)
U.S. Tie Has U.S. tie	–	–	–	0.0704* (0.0397)	0.0641 (0.0471)
Observations	456	456	456	456	456
* $p < 0.10$	** $p < 0.05$	*** $p < 0.01$			

Notes: The reference group for pre-case type is low trauma pre-case types. Additionally, the reference group for region is Southeast Asia. All other reference groups for categorical variables are simply the opposite or inverse of the variables listed. All five employment probability regressions include both those that were employed within 180 days and those who did not find employment within 180 days— a total of 456 observations. Values listed outside of the parentheses reflect the coefficients (betas) on each independent variable and their subsequent relationship with the probability of employment by 180 days (measured in probability or percentage points). Robust standard errors are reported in parentheses. Individual year fixed effects were included as controls in all five models but are not reported in the table.

As with the wage models, with length of statelessness taking a quadratic form, the results are a little more difficult to initially interpret. Furthermore, as mentioned earlier, there are likely two separate effects that come into play when discussing length of statelessness and probability of employment: 1) depreciation in human capital over time and 2) increased willingness to accept employment over time. These likely lead to the quadratic form found to be significant by the model. More specifically, the empirical findings suggest that there are two periods where the dual effects of length of statelessness have differing weights on probability of employment. In a similar fashion to the wage models, one can see that the expected relationship that length of statelessness

(in years) has with probability of employment can be best described through a linear function of length of statelessness itself. This is shown again below.

$$\beta_1 + 2\beta_2 \text{length of statelessness}$$

Figure 6.2 Marginal Effect of Length of Statelessness

Unlike the wage model, which starts negative and becomes positive with higher lengths of statelessness, the above function shows where the marginal yearly relationship between length of statelessness and probability of employment shifts from a positive one to a negative one. More specifically, in Model Four, at around 15.35 years of statelessness (15.25 in Model One, 14.33 in Model Three, and 13.19 in Model Five), a refugee's probability of being employed starts decreasing with yearly duration of statelessness instead of increasing. This suggests that initially, the impact of increased willingness to accept employment with increased duration spent in a temporary country of asylum outweighs the depreciation in a refugee's human capital over the same time. As such, during the first 13 to 15 years or so, a refugee's probability of being employed within 180 days post-arrival to the U.S. is impacted (or at least related) positively by a marginal yearly increase in length of statelessness. However, like the wage models, during these years, each additional year has a diminishing marginal positive relationship with probability of employment.

After roughly 13 to 15 years of statelessness, the probability of being employed within 180 days starts decreasing with each subsequent year. This is when the

depreciation in human capital begins to outweigh the increased willingness to accept work. For instance, using Model Four, after 20 years of statelessness a refugee's probability of employment at 180 days decreases by an expected 0.0093 with a marginal yearly increase in statelessness. Twenty years may seem unrealistic. Yet, one should remember that refugees in the sample taken have lengths of statelessness that range all the way up to 32 years, with the average just below ten.

That said, it is important to not just look at the turning point in direction of the relationship but to also interpret it in terms of the median length of statelessness (6.7466 years). In particular, Model One shows that, at the median length of statelessness, there is a positive marginal yearly relationship between length of statelessness and probability of employment at 180 days of roughly 0.0136. This changes just slightly across models to 0.0137 in Model Three, 0.0172 in Model Four, and 0.0103 in Model Five. Essentially, using Model Four, this indicates that at 6.7466 years of statelessness, there is an expected marginal yearly increase in the probability of employment of 0.0172. Since this is interpreted at the median length of statelessness, one can conclude that, for the majority of refugees, there is a positive relationship between length of statelessness and probability of employment at 180 days.

Outside of the relationship that length of statelessness holds with probability of employment, pre-case type trauma level is also a variable of interest. However, interestingly enough, high trauma pre-case types are not found in any model to have a significant relationship with probability of employment at 180 days. These results are somewhat surprising, as one would typically expect those with higher levels of trauma to

have more difficulty in obtaining a job by 180 days. Yet, that does not appear to be the case. Again, this is not to say that findings may differ after six months. However, for the initial six month period, the data indicates that there is not a significant difference in employment probability within 180 days between those with likely higher levels of trauma and those with lower levels of trauma.

Besides duration of statelessness and trauma level, four other variables in the employment probability model are found to be significant at the 90 percent level or higher. One of these, the existence of a U.S. tie, is only significant in Model Four but not Model Five. As one would expect, having a U.S. tie increases the probability of employment at 180 days. This is likely due to the connections that a U.S. tie may have to help the refugee obtain a job within the first six months. Specifically, Model Four shows that those with a U.S. tie have an expected probability of employment at 180 days that is 7.04 percentage points higher than those without a U.S. tie, a fairly large difference. However, in Model Five, this variable is no longer significant at the 90 percent level.

The second significant control variable, the regional variable for Middle East/North Africa, is significant at the 95 percent level. In fact, holding all other controls constant, a refugee from the Middle East or North Africa is expected to have a probability of being employed within 180 days post-arrival that is about 0.1635 less than refugees from Southeast Asia. This is a seemingly large difference, and as mentioned in the analysis of the wage model, this difference could be caused by numerous possible regional disparities that would require a deep analysis likely beyond the scope of this paper.

However, it is worth pointing out the income disparities in the two regions that could potentially suggest an increased selectivity among refugees from the Middle East/North Africa. According to the World Bank, the 2018 (the most recent year that all data is available) GDP per capita across Middle East and North African countries from which refugees came is about \$3,806 (in constant 2015 USD). Comparatively, the GDP per capita in Southeast Asian countries from which refugees came is just \$2,335, less than two thirds of the GDP per capita in the Middle East (The World Bank 2021). While it is wholly probable that numerous factors are at play in the relationship disparities between refugees from the Middle East, Southeast Asia, and their relative probabilities of employment, it is not unreasonable to postulate that refugees coming from higher income countries may come with more of their own money, and as such, may be less driven to quickly accept work within 180 days post-arrival. This selectivity and willingness (or lack thereof) to accept employment is similar to the thought behind its possible relationship with length of statelessness as well.

Aside from length of statelessness, presence of U.S. ties, and region, the only other variables that are found to be significant in the employment probability models are level of education and case size. In particular, in Model Four, it is found that refugees with intermediate or higher education are expected to see an average increase in probability of employment of about 0.0909. This value is not much different in Model Five, sitting at roughly 0.0950. This is unsurprising given the theoretical increase in human capital that education leads to, which in turn leads to an expected increase in the probability of being employed within 180 days.

Lastly, increases in case size are found with 95 percent significance in both Models Four and Five to result in expected increases in probability of employment by 180 days. Compared to some of the other variables, this relationship is not too large in magnitude, as Model Four indicates that an increase in case size of one person results in an expected increase in probability of employment of 1.83 percentage points (2.00 percentage points in Model Five). Given this finding, it can be reasoned that perhaps the larger case size may put more pressure on an individual to find employment and start working within 180 days to be able to provide for the larger group of people in the family or case.

6.3 Unemployment Duration Model

Like the employment probability model, the unemployment duration model explains much less – about 24.33 percent in Model Four – of the variation in the dependent variable (duration of initial unemployment in days) than the wage model. Additionally, similar to the wage model, the unemployment duration model does not include those who were not able to find a job within 180 days post-arrival, as their unemployment may have continued well beyond 180 days. However, dissimilar to the employment probability model and wage model, there is notably less significance in the quadratic portion of the length of statelessness variable. In fact, none of the models including length of statelessness as an independent variable find the squared term of length of statelessness to be significant. However, all models find length of statelessness and its squared term to be jointly significant at the 99 percent level. Yet, Model Five does

not find the linear or quadratic term to be individually significant. As such, interpretation of the relationship that length of statelessness (in years) has with duration of initial unemployment is not quite as clear as previous models with their respective outcome variables.

Table 6.3 Unemployment Duration Model Results

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Length of Statelessness	-2.1970** (0.8753)	–	-1.9861** (0.8743)	-1.9415** (0.9114)	-1.1688 (0.9698)
(Length of Statelessness) ²	0.0504 (0.0346)	–	0.0389 (0.0346)	0.0235 (0.0362)	0.0006 (0.0385)
Pre-Case Type*****					
High trauma pre-case types	–	-5.0350 (4.1245)	-6.6659 (4.2364)	-10.5102** (4.2677)	-10.4452** (4.2571)
Region****					
Middle East/North Africa	–	–	–	–	16.5843** (6.6620)
Central and South Asia	–	–	–	–	0.4772 (6.2971)
Sub-Saharan Africa	–	–	–	–	5.2823 (5.6984)
Sex					
Male	–	–	–	-18.1026*** (4.7010)	-17.7262*** (4.6202)
Age on Arrival	–	–	–	0.4607** (0.2272)	0.4434** (0.2192)
Case Size	–	–	–	1.9974* (1.0505)	1.9518* (1.0756)
Employables in Case	–	–	–	-5.2943 (4.7295)	-4.9689 (4.7185)
English Proficiency					
Some or good English	–	–	–	-0.6271 (4.3492)	-1.8486 (4.3819)
Education					
Intermediate or more education	–	–	–	0.3175 (4.4638)	-0.2235 (4.5422)

Employment Experience					
Has pre-arrival work experience	–	–	–	-6.0052 (4.4804)	-5.8447 (4.6024)
U.S. Tie					
Has U.S. tie	–	–	–	0.5164 (4.0123)	2.8437 (4.8217)
Observations	361	361	361	361	361
<i>* p < 0.10</i>	<i>** p < 0.05</i>	<i>*** p < 0.01</i>			

Notes: The reference group for pre-case type is low trauma pre-case types. Additionally, the reference group for region is Southeast Asia. All other reference groups for categorical variables are simply the opposite or inverse of the variables listed. All five unemployment duration regressions only include those that were employed within 180 days – 361 observations out of a larger sample of 456 observations. Values listed outside of the parentheses reflect the coefficients (betas) on each independent variable and their subsequent relationship with initial duration of unemployment (in days). Robust standard errors are reported in parentheses. Individual year fixed effects were included as controls in all five models but are not reported in the table.

Despite the more convoluted data, there are still findings to be garnered from the models. Because of the lack of significance in the length of statelessness quadratic term, the point at which the relationship between unemployment duration and length of statelessness changes from negative to positive is of less interest than in the other sets of models. Instead, more value is found from interpreting the results at the median length of statelessness (6.7466 years of statelessness). The marginal relationship is still found through the same equation laid out in Figure 6.1.1 and 6.2.1. Subsequently, using Model Four and holding all other controls constant, a marginal yearly increase in length of statelessness (at the median length of statelessness) results in an expected decrease in

duration of initial unemployment of about 1.6244 days. This is just slightly different in the other two significant models – 1.5169 in Model One and 1.4612 in Model Three.

While not a very large number of days, this relationship is still notably significant, and given the statistical insignificance of the quadratic terms, is likely more linear in nature than quadratic. Regardless, this nuance should not overshadow the finding of a statistically significant, yet somewhat minor, negative relationship between length of statelessness (in years) and duration of initial unemployment (in days).

Given the negative relationship described above, one could postulate that a refugee's willingness to accept employment and its likely tie to length of statelessness once again plays a potential role in the duration of initial unemployment. In particular, similar to probability of unemployment, it follows that refugees who have been stateless and likely unemployed for longer would more willing to quickly accept employment offered to them, whether because of depletion of their own money over time, acknowledgement and general understanding of their depreciating human capital, or simply a desire to get back into the workforce after being unable to work for so long.

Yet, just because the relationship is primarily negative does not mean that human capital depreciation does not play a role. Rather, as noted previously, the relationship between length of statelessness and duration of unemployment is significant statistically but small in magnitude. This could potentially be due to an offsetting positive effect brought about by depreciation in human capital that minimizes the negative impact of increased willingness to accept employment. However, unlike the employment probability model, where the weight of depreciation in human capital eventually becomes

clearly strong enough to change the direction of the relationship (from positive to negative), depreciation of human capital over time is questionable in whether it actually changes the direction of the relationship in this set of models due to the insignificance of the quadratic terms.

Still, length of statelessness was not the only variable in this model found to be at least partially significant. Rather, pre-case type trauma level, the second variable of interest, was also found to be significant at the 95 percent level in Model Four and Model Five. In particular, Model Four finds that high trauma pre-case types are expected to have initial durations of unemployment about 10.5102 days less than those who are categorized as low trauma pre-case types. This finding is similar in Model Five at 10.4452 less, indicating a fairly large difference in duration of unemployment.

These results are quite intriguing, as one would not typically expect those with higher levels of trauma to be able to more quickly find jobs. However, like several other variables, this could potentially be tied to willingness to accept offered employment. For instance, should a refugee be somewhat cognizant of their trauma and perhaps more limited employment opportunities as a result, they may have a higher willingness to more quickly accept jobs that are offered to them. However, this is perhaps presumptuous in its assumptions that refugees are both aware of their trauma and the fact that it may limit their range of jobs in which they can perform.

Other potential explanations of this finding could perhaps be somewhat more exogenous in nature. For one, refugees with higher levels of trauma are often identified early on by refugee social workers and employment staff, and as such, may be provided

with more resources to address their trauma and the employment barriers that it may create. In a sense, this may actually give them an advantage over refugees with lower levels of trauma that do not necessarily receive the same support. Furthermore, while perhaps not trauma-informed, there is always a possibility that, knowing the barriers to obtaining gainful employment that trauma can create, refugee employment specialists more strongly encourage high trauma refugees to take the first jobs offered to them. Again, this is postulation but worth consideration.

Outside of the variables of interest, other control variables found to be significant at the 90 percent level or higher in both Models Four and Five include the Middle East/North Africa region, sex, age on arrival, and case size. These four variables all have somewhat unsurprising relationships with duration of initial unemployment. Like the employment probability models, refugees from the Middle East and North Africa seem to stick out in the sense that they are less likely to find employment as quickly compared to those from Southeast Asia. Specifically, with all other controls constant, the fact that a refugee is from the Middle East or North Africa increases their average duration of initial unemployment – as compared to those from Southeast Asia – by 16.5843 days, a relationship quite large in magnitude. Once again, this could be due to differences in income and the relationship that may have with willingness to accept offered employment or it could be due to a range of other cultural or national factors. Either way, there certainly seems to be a trend in terms of employment probability and initial unemployment with those from the Middle East or North Africa.

Beyond regional differences, gender, age, and case size play out mostly as one would expect. On average, male refugees have a duration of initial unemployment that is roughly 18.1026 days (17.7262 in Model Five) less than that of their female counterparts, which lines up with possible discrimination or biases in the workplace that are all too common. That is not to say that there could be other gender-related factors at play. Regardless though, a difference of about 18 days is quite large in magnitude.

The findings for age, like those of gender, are unsurprising yet small in magnitude. A positive, significant relationship in both Models Four and Five indicates that those who arrive in the U.S. at an older age are more likely to have a longer initial duration of unemployment. More precisely, holding all other controls constant, an increase in age on arrival of one year results in an expected increase in initial length of unemployment of 0.4607 days (0.4434 days in Model Five). This finding lines up with what one would expect in that those who are older have a harder time finding employment. While age discrimination may be a factor, there also may just be less jobs for elderly refugees that are not able to perform more physically strenuous positions.

In terms of case size and Model Four, an increase in one person in the case results in an expected increase in duration of initial unemployment of 1.9974 days (1.9518 in Model Five). This positive relationship that is smaller in magnitude could be the result of more pressure on an employable refugee in a large case to find a job that pays well enough to provide for the whole family. As such, on one side, they may be more selective in terms of what jobs they are willing to take. Moreover, should those that are part of large cases have children, they could potentially also have less time to job search due to

having to take care of more individuals in their family. At the same time, however, the somewhat smaller magnitude of the relationship between case size and duration of unemployment may be due to an offsetting negative effect that comes from an increased pressure to find any employment quickly so as to start providing for their family.

Lastly, it should again be noted that some variables that could be theoretically impactful in the duration of initial unemployment are not significant in this model. This notably includes English proficiency, education, and prevalence of a U.S. tie. It could be argued that some of these variables have offsetting effects that lead to their insignificance for example, those with higher English proficiency or education may have more human capital, leading to what one would expect would be a decrease in duration of unemployment. However, this could be offset by an increase in selectivity associated with increased human capital that makes a refugee less willing to accept initial unemployment if the job is not deemed to meet their expectations or standards.

CHAPTER 7

DISCUSSION AND IMPLICATIONS

The findings above exhibit four primary results regarding the variables of interest, namely length of statelessness and pre-case type. Firstly, increased lengths of statelessness appear to lead to decreases in wages over time, likely an indication of depreciation in a refugee's human capital over time. This relationship, however, changes after about 13 years or so when a refugee starts integrating into their temporary country of asylum and building back human capital. Secondly, increased duration of statelessness has an initially positive relationship with probability of employment within 180 days post-arrival that eventually becomes negative after a length of statelessness of about 13 to 15 years. This quadratic relationship is characterized by the opposing effects of human capital depreciation and increased willingness to accept employment over time. Thirdly, increases in length of statelessness result in a relationship indicating decreased durations of initial unemployment post-arrival in the U.S. Like a refugee's probability of employment, this is potentially the result of an increased willingness to accept employment as statelessness progresses but that becomes somewhat offset by depreciation in human capital the longer a refugee is stateless. Fourth and finally, refugees categorized as having high levels of traumas may possibly earn lower wages than their counterparts with lower levels of trauma. At the same time, however, they are more likely to obtain work in a shorter period of time post-arrival in the U.S. Yet, this

does not indicate an increased probability of them working by 180 days. Rather, those with high levels of trauma that do work within 180 days simply find their employment faster than those with lower levels of trauma.

7.1 Comparative Analysis

As other literature specifically looking at refugee statelessness and trauma and their potential effects on individual economic outcomes is quite scarce, comparative analysis of the findings of this study with other similar studies is somewhat limited. However, for what literature does exist, there are some similarities and several noticeable differences regarding the variables of interest that should be examined. In terms of duration of statelessness and its relationship with real wages, probability of employment, and duration of initial unemployment, there appear to be disparities in findings. Contrary to this study, the only other study found looking at length of statelessness indicates that there is no significant relationship between statelessness and real wages (Codell et al. 2011). Furthermore, it finds that there is a negative relationship between length of statelessness and probability of employment, a finding that only lines up with this study, which proposes a quadratic relationship between these variables, after a little more than 13 to 15 years of statelessness. However, the study on length of statelessness conducted by Codell et al. analyzes a sample of only 85 refugees (a number significantly smaller than the total used in this study) and looks at “meaningful employment,” as opposed to the evaluation of all forms of employment used in this study (2011).

While no other literature was found specifically looking at refugee pre-case type trauma level and its relationship with economic outcomes, other literature on trauma and its effect on employment outcomes seems to line up a little more with the findings in this study. Much previous literature suggests that trauma typically leads to lower wages and difficulty retaining and finding employment (Arnetz et al. 2016; Brell, Dustmann, and Preston 2020; Chung and Uba 1991). The outcome found in this study, that refugees with higher trauma levels may tend to earn lower real wages, lines up with other literature. On the other hand, this study differs from other literature in the context of employment probability and duration of unemployment, where other literature suggest that trauma leads to lower employment probability and an increased duration of unemployment (Arnetz et al. 2016; Brell, Dustmann, and Preston 2020; Chung and Uba 1991) while this study finds no significant relationship with trauma and employment probability and a negative relationship between higher trauma levels and duration of unemployment. However, this is not to say that this study directly contradicts other literature. Rather, categorization of pre-case type in this study and measurements of trauma in other studies may very well not line up as well as one would hope. As previously mentioned, pre-case type can be somewhat subjective based on the UNHCR program officer and is not necessarily a perfectly consistent measurement of trauma. Subsequently, results should be interpreted with an appropriate level of context and broader understanding.

In terms of other control variables, the majority of findings in this study line up fairly well with most prior literature. As one would expect and prior literature suggests (McDonald and Potocky 1995; Potocky 1997; Potocky 2003), higher levels of education

seem to have a mostly beneficial relationship with refugee employment outcomes. Similarly, gender and case size also, for the most part, have significant relationships with employment outcomes that line up with prior research (Mamgain 2003; McDonald and Potocky 1995; Potocky 1997, 2001, 2003, 2004). In terms of its positive relationship with real wages, the existence of a U.S. tie does not vary from what previous research would lead one to expect (Mamgain 2003; Potocky 2001).

Still, not all control variables line up exactly with previous literature. Rather, some have mixed or opposing findings. Three of these variables that stick out in particular are English proficiency, pre-arrival work experience, and age. Most, but not necessarily all, prior research would suggest that higher levels of English proficiency are a strong indicator of economic/employment success for those from other countries living in the United States (Adkins and Dunn 2000; Chin and Cortes 2015; Connor 2010; Evans and Fitzgerald 2017; Hagstrom 2000; Haines 1988; Schaafsma and Sweetman 2001; Waxman 2001). Notably, this study finds no significant relationship between English proficiency and economic outcomes examined in any of the three models. Pre-arrival work experience follows a similar trend, in that other research would typically indicate a positive relationship between work experience and employment outcomes (Fix and Passel 1994; Meisenheimer 1992; Portes and Rumbaut 1996; Potocky 2001), but this study finds no significant relationship. Age differs somewhat, as other studies are mixed on its potential significance. This study reports no significance between age, real wages, and employment probability; however, other research tends to be split on the significance (or insignificance) of age in determining economic outcomes for international peoples

residing in the United States (Borjas 1995; Brell, Dustmann, and Preston 2020, Friedberg 2000; Giri 2016; Potocky 2001; Schaafsma and Sweetman 2001).

In cases of seeming disparities between this study and other research, several factors should be considered to ensure that proper context is maintained. For one, unlike many other studies, this study focuses specifically on the first 180 days post-arrival in the U.S. Comparatively, other research often looks at refugee or immigrant outcomes over a much longer period of time, often five, ten, or even 20 years (Borjas 1985, 1989, 1995; Brell, Dustmann, and Preston 2020; Chiswick 1978, 1982; Dauvergne and Kaushal 2011; Dowhan and Duleep 2002; Farkas and Hall 2008; Hu 2000; LaLonde and Topel 1992; Lubotsky 2007; Potocky 2001; Tiagi 2013). Consequently, variables, such as age on arrival, education, and English proficiency, could theoretically have varying impacts on economic outcomes based on how long an individual has been in the U.S. Following the same line of thought, it is important to note the difference between pre-arrival and post-arrival variables. This study looks exclusively at pre-arrival variables and controls post-arrival variables through year fixed effects as well as through dependent variables that are measured after only a short period in the United States. Other research often considers post-arrival variables more explicitly or variables in both a pre- and post-arrival sense (Arnetz et al. 2016; Aycan and Berry 1996; Bevelander and Lundh 2007; Haines 1988). For example, the study by Brell, Dustmann, and Preston looks at English proficiency when an immigrant arrives in the U.S. but also how their English proficiency changes *after* they have spent time in the U.S (2020). Consequently, this cannot be interpreted in an exact comparison to this study, which only considers initial English

proficiency level upon arrival. Finally, it should be mentioned that other literature frequently evaluates immigrants as a whole (Brell, Dustmann, and Preston 2020; Chung and Uba 1991; Cortes 2004). This is in contrast to this paper which examines refugees specifically. Immigrants who come to the United States for economic or family reasons may vary significantly from refugees that come to the U.S. to flee violence, persecution, war, or natural disaster. A few studies do compare economic outcomes of immigrants to those of refugees (Brell, Dustmann, and Preston 2020; Cortes 2004). However, that undertaking is beyond the scope of this study. Regardless, all of these factors should be taken into consideration to ensure a proper comparison and understanding of the findings in context.

7.2 Policy and Resettlement Implications

The findings above warrant further discussion, not just on potential reasoning behind the results or on comparisons to existing literature but on the possible larger impacts that they could have on refugee resettlement policy and practice. While not exclusively under the control of the United States, a refugee's length of statelessness can be highly impacted by its policies and practices. Currently, the processing time for a refugee, from when they first apply with the UNHCR to when they arrive in the U.S., takes an average of roughly two years. During this time, a refugee's human capital may continue to depreciate, resulting in lower average real wages, and depending on their length of statelessness prior to applying for status, their probability of employment at 180 may eventually start decreasing. As such, refugee processing times may play a critical

role in determining, not just the economic success of a refugee when they arrive in the U.S., but the impact they have on the broader economy as a whole. This paper is certainly not a policy paper, nor is it meant to promote certain advocacy or agendas, but it is worth pointing out the potential importance of U.S. policies and practices considering refugee processing times when setting its yearly refugee capacity as well as putting systems and laws in place that affect how long a refugee remains in a temporary country of asylum.

Beyond policy, findings of the significant relationship between length of statelessness and employment outcomes may better inform refugee resettlement practices at a more local level. For one, the depreciation of a refugee's human capital over time that a refugee is stateless emphasizes the importance of taking steps to quickly rebuild an individual's human capital when they arrive in the U.S. This may include a stronger emphasis post-arrival education, training, or English classes. This may also serve to inform employment specialists' approaches as they advocate for employment for their refugee clients. As this study indicates, pre-arrival English proficiency and work experience do not appear to have a significant relationship with wages or duration of initial unemployment. However, level of education still plays a role in these outcome variables. As a result, it may be beneficial in certain cases to focus employment advocacy on the prevalence of a refugee's education as opposed to other factors.

Human capital and its potential tie with length of statelessness should not be the only factor considered in the implementation of local resettlement. Rather, willingness to accept employment also likely plays a primary role in employment probability and duration of initial unemployment post-arrival and could be argued to be tied to several

independent variables, including length of statelessness and region. For example, those from the Middle East and North Africa appear to have some region-related factor that drives them to have lower expected probability of employment at 180 days and a longer initial duration of statelessness. This could very well be due to income, cultural, expectations, or other factors that are potentially tied with willingness to accept employment. While this is simply a postulation that warrants further research, it could certainly be valuable in tailoring employment services to clients, not in a discriminatory fashion, but in a way that works to benefit refugees by considering and being sensitive to differences in their background and culture.

Finally, the findings regarding pre-case type trauma levels may also serve to improve local resettlement efforts. As the data indicates, refugees with higher likely levels of trauma may be expected to earn lower real wages. From a humanitarian perspective, the mental health of refugees and healing processes taken to help refugees recover from trauma are vital to a refugee's integration into life in the United States. This research serves to emphasize the importance of considering trauma and taking a trauma-informed approach in services, not just for humanitarian or social reasons, but for reasons regarding economic integration as well.

CHAPTER 8

CONCLUSION

While the hope is that this study contributes to the existing, limited research on refugee statelessness, trauma, and economic outcomes, that does not imply that this study is comprehensive or that additional research is not needed. Rather, several topics discussed in this paper warrant further study. For one, this paper notably studies the length of statelessness and its impact on refugee economic outcomes in the first six months post-arrival. However, it would be worthwhile to further study the relationship that length of statelessness may have with economic outcomes over a longer period of time – perhaps five, ten, or even 20 years post-resettlement.

Beyond this, other worthwhile topics of study would be to evaluate and measure in more detail the potential tie between willingness to accept employment and variables like length of statelessness, income, region, and human capital. Additionally, while there is already existing research comparing economic outcomes between refugees and economic immigrants, further study of how duration of statelessness and trauma play into this subject may provide more clarity on the disparities previously found. In that same line of thought, the impact of trauma and the role it plays in economic outcomes for refugees could also use additional research.

Nevertheless, the findings of this study should not be disregarded. In particular, the quadratic relationship of length of statelessness with real wages as well as its

relationship with probability of employment and negative relationship with duration of initial unemployment are all worth meaningful consideration. With this comes the importance of considering potential mechanisms driving these relationships, such as depreciation in human capital and willingness to accept employment. Moreover, the relationships between refugees with higher likely levels of trauma, their real wages, and their initial duration of unemployment should not be overlooked.

Ultimately, for better or worse, politics and opinion often guide refugee resettlement, both in policy, funding, and programming. However, through the empirical analysis that this study undertakes, it is clear that length of statelessness and trauma in many cases may play a significant role in economic outcomes for refugees as well as their broader economic contributions to the greater economy. Combined with basic humanitarian concerns for bettering the lives of a large and vulnerable population, it can be concluded that it is undeniably important to take into serious consideration this research and others that address these issues.

REFERENCES

- “About Statelessness.” IBELONG Campaign to End Statelessness. United Nations High Commissioner for Refugees. Accessed November 12, 2022.
<https://www.unhcr.org/ibelong/about-statelessness/#:~:text=What%20is%20statelessness%3F,the%20nationality%20of%20any%20country>.
- Adkins, M. A., and B. Dunn. “Education and English Language Training.” *Proceedings of the 2000 Office of Refugee Resettlement National Symposium*. Lecture presented at the Proceedings of the 2000 Office of Refugee Resettlement National Symposium, n.d.
- Arnetz, Bengt B., Judith E. Arnetz, Monty Fakhoury, Hikmet J. Jamil, and Jolin B. Yamin. “Determinants of Employment Among Well-Educated Refugees Before and After the 2007 U.S. Economic Recession.” *Letters in Health and Biological Sciences* 1, no. 1 (June 2016): 1–6. <https://doi.org/10.15436/2475-6245.16.004>.
- Auclair, Gregory, Randy Capps, Michael Fix, Susan Fratzke, Susan Dancs Groves, Margie McHugh, and Kathleen Newland. “Integrating refugees in the United States: The successes and challenges of resettlement in a Global Context.” *Statistical journal of the IAOS* 31 (2015): 341-367.
- Aycan, Zeynep and John W. Berry. “Impact of employment-related experiences on immigrants' psychological well-being and adaptation to Canada.” *Canadian Journal of Behavioural Science* 28 (1996): 240-251.
- Bevelander, Pieter, and Christer Lundh. Tech. *Employment Integration of Refugees: The Influence of Local Factors on Refugee Job Opportunities in Sweden*. Institute for the Study of Labor, January 2007. <https://docs.iza.org/dp2551.pdf>.
- Borjas, George J. “Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants.” *Journal of Labor Economics* 3, no. 4 (1985): 463–89.
<http://www.jstor.org/stable/2534922>.

- Borjas, George J. "Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrant Earnings in the 1980s?" *Journal of Labor Economics* 13, no. 2 (1995): 201–45. <http://www.jstor.org/stable/2535103>.
- Borjas, George J. "Immigrant and Emigrant Earnings: A Longitudinal Study." *Economic Inquiry* 27, no. 1 (January 1989): 21. doi:10.1111/j.1465-7295.1989.tb01161.x.
- Brell, Courtney, Christian Dustmann, and Ian Preston. "The Labor Market Integration of Refugee Migrants in High-Income Countries." *Journal of Economic Perspectives* 34, no. 1 (2020): 94–121. <https://doi.org/10.1257/jep.34.1.94>.
- Chin, Aimee, and Kalena E. Cortes. "The Refugee/Asylum Seeker." Essay. In *Handbook on the Economics of International Immigration* 1, Vol. 1, 2015.
- Chiswick, Barry R. "Immigrants in the U. S. Labor Market." *The Annals of the American Academy of Political and Social Science* 460 (1982): 64–72. <http://www.jstor.org/stable/1044598>.
- Chiswick, Barry R. "The Effect of Americanization on the Earnings of Foreign-Born Men." *Journal of Political Economy* 86, no. 5 (1978): 897–921. <http://www.jstor.org/stable/1828415>.
- Chung, Rita Chi-Ying, and Laura Uba. "The Relationship Between Trauma and Financial and Physical Well-Being Among Cambodians in the United States." *The Journal of General Psychology* 118, no. 3 (July 1991): 215–25. <https://doi.org/10.1080/00221309.1991.9917782>.
- Codell, Jonathan D., Robert D. Hill, Dan J. Woltz, and Paul A. Gore. "Predicting Meaningful Employment for Refugees: The Influence of Personal Characteristics and Developmental Factors on Employment Status and Hourly Wages." *International Journal for the Advancement of Counseling* 33, no. 3 (July 1, 2011). <https://doi.org/10.1007/s10447-011-9125-5>.
- Collins, Karen, and Vaishali Mamgain. "Off the Boat, Now Off to Work: Refugees in the Labour Market in Portland, Maine." *Journal of Refugee Studies* 16, no. 2 (June 2003): 113. doi:10.1093/jrs/16.2.113.
- "Congo, Democratic Republic of The." The World Factbook. Central Intelligence Agency, November 8, 2022. <https://www.cia.gov/the-world-factbook/countries/congo-democratic-republic-of-the/#people-and-society>.

- Connor, Phillip. "Explaining the Refugee Gap: Economic Outcomes of Refugees versus Other Immigrants." *Journal of Refugee Studies* 23, no. 3 (September 2010): 377–97. doi:10.1093/jrs/feq025.
- Cortes, Kalena E. "Are Refugees Different from Economic Immigrants? Some Empirical Evidence on the Heterogeneity of Immigrant Groups in the United States." *The Review of Economics and Statistics* 86, no. 2 (2004): 465–80. <http://www.jstor.org/stable/3211641>.
- Dauvergne, Catherine, and Asha Kaushal. "The Growing Culture of Exclusion: Trends in Canadian Refugee Exclusions." *International Journal of Refugee Law* 23 (2011): 54-92.
- Dhingra, Reva, Mitchell Kilborn, and Olivia Woldemikael. Issue brief. *Does Refugee Resettlement Impact State and Local Finances? The Fiscal Effects of the Refugee Resettlement Program*. U.S. Immigration Policy Center, September 2021. <https://usipc.ucsd.edu/publications/usipc-fiscal-impact-refugee-resettlement.pdf>.
- Dowhan, Daniel J., and Harriet Orcutt Duleep. "Insights from Longitudinal Data on the Earnings Growth of U.S. Foreign-Born Men." *Demography* 39, no. 3 (August 1, 2002): 485–506. <https://doi.org/10.1353/dem.2002.0026>.
- Evans, William N., and Daniel Fitzgerald. Working paper. *The Economic and Social Outcomes of Refugees in the United States: Evidence from the ACS*. National Bureau of Economic Research, June 2017. <https://www.nber.org/papers/w23498>.
- Farkas, George, and Matthew Hall. "Does Human Capital Raise Earnings for Immigrants in the Low-Skill Labor Market?" *Demography (Springer Nature)* 45, no. 3 (August 2008): 619–39. doi:10.1353/dem.0.0018.
- Fix, Michael, and Jeffrey S. Passel. Rep. *Immigration and Immigrants: Setting the Record Straight*. The Urban Institute, May 1994. https://webarchive.urban.org/UploadedPDF/305184_immigration_immigrants.pdf
- Fix, Michael, Kate Hooper, and Jie Zong. Rep. *How Are Refugees Faring? Integration at U.S. and State Levels*. Migration Policy Institute, June 2017. <https://www.migrationpolicy.org/sites/default/files/publications/TCM-Asylum-USRefugeeIntegration-FINAL.pdf>.

- Friedberg, Rachel M. “You Can’t Take It with You? Immigrant Assimilation and the Portability of Human Capital.” *Journal of Labor Economics* 18, no. 2 (2000): 221–51. <https://doi.org/10.1086/209957>.
- “GDP per Capita (Constant 2015 US\$) - Iraq, Syrian Arab Republic, Iran, Islamic Rep., Vietnam, Lao PDR, Myanmar” Chart. *World Bank National Accounts Data*. The World Bank, 2021. <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD?locations=IQ-SY-IR-VN-LA-MM>
- “GDP per Capita (Current US\$) - Iraq, Congo, Dem. Rep.” Chart. *World Bank National Accounts Data*. The World Bank, 2020. <https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=IQ-CD>.
- Geier, Kathleen, Elise Gould, and Jessica Schieder. Rep. *What Is the Gender Pay Gap and Is It Real?* Economic Policy Institute, October 20, 2016. <https://www.epi.org/publication/what-is-the-gender-pay-gap-and-is-it-real/>.
- Giri, Animesh. “From Refugee to Riches? An Analysis of Refugees’ Wage Assimilation in the United States.” *International Migration Review* 52, no. 1 (Spring 2018): 125–58. doi:10.1111/imre.12285.
- Hagstrom, Paul. Publication. *The Fiscal Impact of Refugee Resettlement In the Mohawk Valley*. Hamilton College, June 2000. https://www.hamilton.edu/levitt/pdfs/hagstrom_refugee.pdf.
- Haines, David W. *Refugees as Immigrants: Cambodians, Laotians, and Vietnamese in America*. Totowa, NJ: Rowman and Littlefield, 1988.
- Hu, LuoJia. Working paper. *Use of Means-Tested Transfer Programs by Immigrants, Their Children, and Their Children's Children*, 2000. <https://ideas.repec.org/p/wop/jopovw/71.html>.
- “Iraq Education.” Iraqi Research Foundation for Analysis and Development. Iraqi Research Foundation for Analysis and Development. Accessed November 12, 2022. <http://www.irfad.org/iraq-education/>.
- Jones, Janelle. “5 Facts About the State of the Gender Pay Gap.” United States Department of Labor. United States Department of Labor, March 19, 2021. <https://blog.dol.gov/2021/03/19/5-facts-about-the-state-of-the-gender-pay-gap>.

- Kim, ChangHwan, Arthur Sakamoto, and Christopher R. Tamborini. "Education and Lifetime Earnings in the United States." *Demography* 52, no. 4 (2015): 1383–1407. <http://www.jstor.org/stable/43697596>.
- Kuhlman, Tom. "The Economic Integration of Refugees in Developing Countries: A Research Model." *Journal of Refugee Studies* 4, no. 1 (January 1, 1991): 1–20. <https://doi.org/10.1093/jrs/4.1.1>.
- Labott, Elise, Yoram Hazony, Farah Pandith, and Jerry Seib. The Rise of Nationalism at Home and Abroad. Other. *Council on Foreign Relations*, March 9, 2021.
- LaLonde, Robert J., and Robert H. Topel. "The Assimilation of Immigrants in the U.S. Labor Markets." Essay. In *Immigration and the Workforce: Economic Consequences for the United States and Source Areas*, 67–92. Chicago, IL: University of Chicago Press, 1992.
- Linn, Margaret W., Richard Sandifer, and Shayna Stein. "Effects of Unemployment on Mental and Physical Health." *American Journal of Public Health* 75, no. 5 (May 1985): 502–6. <https://doi.org/10.2105/ajph.75.5.502>.
- Lubotsky, Darren. "Chutes or Ladders? A Longitudinal Analysis of Immigrant Earnings." *Journal of Political Economy* 115, no. 5 (2007): 820–67. <https://doi.org/10.1086/522871>.
- Mason, Jeff. "Immigrants as Economic Contributors: Refugees Are a Fiscal Success Story for America." National Immigration Forum. National Immigration Forum, November 5, 2018. <https://immigrationforum.org/article/immigrants-as-economic-contributors-refugees-are-a-fiscal-success-story-for-america/>.
- Mayda, Anna Maria. Working paper. *The Labor Market Impact of Refugees: Evidence from the U.S. Resettlement Program*. U.S. Department of State, April 2017. <https://www.state.gov/wp-content/uploads/2018/12/The-Labor-Market-Impact-on-Refugees-Evidence-form-the-U.S.-Resettlement-Program-1.pdf>.
- Meisenheimer, Joseph R. "How Do Immigrants Fare in the U.S. Labor Market?" *Monthly Labor Review* 115, no. 12 (1992): 3–19. <http://www.jstor.org/stable/41843902>.
- "Population, Total - Lebanon." Chart. *United Nations World Population Prospects*. The World Bank, 2022. <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=LB>.

- “Population, Total - United States.” Chart. *U.S. Census Bureau*. The World Bank, 2022.
<https://data.worldbank.org/indicator/SP.POP.TOTL?locations=US>.
- Portes, Alejandro, and Rumbaut Rubén G. *Immigrant America: A Portrait*. 2nd ed.
 Oakland, CA: University of California Press, 1996.
- Potocky, Miriam. “Micro and Macro Determinants of Refugee Economic Status.”
Journal of Social Service Research 27, no. 4 (January 1, 2001): 33–60.
https://doi.org/10.1300/j079v27n04_02.
- Potocky, Miriam, and Thomas P. McDonald. “Predictors of Economic Status of Southeast Asian Refugees: Implications for Service Improvement.” *Social Work Research* 19, no. 4 (December 1995): 219–28.
<https://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=a9h&AN=9512191911&site=ehost-live>.
- Potocky, Miriam. “Predictors of Refugee Economic Status.” *Journal of Social Service Research* 23, no. 1 (1997): 41–70. https://doi.org/10.1300/j079v23n01_03.
- Potocky, Miriam. “Refugee Economic Adaptation: Theory, Evidence, and Implications for Policy and Practice.” *Journal of Social Service Research* 30, no. 1 (November 2003): 63–91. doi:10.1300/J079v30n01_04.
- Potocky, Miriam. “The Role of Social Capital in Immigrant and Refugee Economic Adaptation.” *Journal of Social Service Research* 31, no. 1 (September 2004): 59–91. doi:10.1300/J079v31n01_04.
- “Reception and Placement - United States Department of State.” U.S. Department of State. U.S. Department of State, February 1, 2021.
<https://www.state.gov/refugee-admissions/reception-and-placement/>.
- “Refugee Admissions - United States Department of State.” U.S. Department of State. U.S. Department of State, September 28, 2022.
<https://www.state.gov/refugee-admissions/>.
- “Refugee Statistics.” USA for UNHCR. United Nations High Commissioner for Refugees, 2021.
<https://www.unrefugees.org/refugee-facts/statistics/#:~:text=By%20the%20end%20of%202021,53.2%20million%20internally%20displaced%20people>.

- “Refugees.” USCIS. United States Customs and Immigration Services, March 2, 2022. <https://www.uscis.gov/humanitarian/refugees-and-asylum/refugees>.
- Schaafsma, Joseph, and Arthur Sweetman. “Immigrant Earnings: Age at Immigration Matters.” *The Canadian Journal of Economics / Revue Canadienne d’Economie* 34, no. 4 (2001): 1066–99. <http://www.jstor.org/stable/3131938>.
- Siar, Shelia V. Rep. *From Highly Skilled to Low Skilled: Revisiting the Deskilling of Migrant Labor*. Philippine Institute for Development Studies, April 2013. <https://www.econstor.eu/bitstream/10419/126949/1/pidsdps1330.pdf>.
- Stoeldraijer, Lenny, and Jan C. van Ours. Rep. *Age, Wage and Productivity*. The Institute for the Study of Labor, February 2010. <https://docs.iza.org/dp4765.pdf>.
- Taylor, J. Edward, Mateusz J. Filipiński, Mohamad Alloush, Anubhab Gupta, Ruben Irvin Rojas Valdes, and Ernesto Gonzalez-Estrada. “Economic Impact of Refugees.” *Proceedings of the National Academy of Sciences of the United States of America* 113, no. 27 (2016): 7449–53. <https://www.jstor.org/stable/26470706>.
- Tiagi, Raaj. “Economic Assimilation of Asian Indians in the United States: Evidence from the 1990s.” *Journal of International Migration and Integration* 14, no. 3 (June 30, 2013): 511–34. doi:10.1007/s12134-012-0252-6.
- “UNHCR Lebanon at a Glance.” UNHCR Lebanon. United Nations High Commissioner for Refugees, 2022. <https://www.unhcr.org/lb/at-a-glance>.
- “UNHCR Resettlement Submission Categories.” UNHCR, The UN Refugee Agency. United Nations High Commissioner for Refugees. Accessed November 12, 2022. <https://www.unhcr.org/558bff849.pdf>.
- “United States of America.” International Organization for Migration. International Organization for Migration. Accessed November 12, 2022. <https://www.iom.int/countries/united-states-america>.
- “U.S. Annual Refugee Resettlement Ceilings and Number of Refugees Admitted, 1980-Present.” Migration Policy Institute. Migration Policy Institute, October 6, 2022. <https://www.migrationpolicy.org/programs/data-hub/charts/us-refugee-resettlement>.

“U.S. Resettlement Facts.” UNHCR, The UN Refugee Agency | U.S.A. United Nations High Commissioner for Refugees, July 2022.
<https://www.unhcr.org/en-us/us-refugee-resettlement-facts.html>.

“Voluntary Agencies Matching Grant Program.” Office of Refugee Resettlement. Office of Refugee Resettlement, June 10, 2022.
<https://www.acf.hhs.gov/orr/programs/refugees/matching-grants>.

Waxman, Peter. “The Economic Adjustment of Recently Arrived Bosnian, Afghan and Iraqi Refugees in Sydney, Australia.” *The International Migration Review* 35, no. 2 (2001): 472–505. <http://www.jstor.org/stable/2675877>.