

From Syria to Turkey: Age-Differentiated Employment Effects of Forced Migration on Syrian Women

by

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A Dissertation Submitted to the
Graduate School of Sciences and Humanities
in Partial Fulfillment of the Requirements for
the Degree of
Master of Arts

in

Economics



KOÇ ÜNİVERSİTESİ

October 02, 2025

**From Syria to Turkey: Age-Differentiated Employment Effects of
Forced Migration on Syrian Women**

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To My Dear Family

ABSTRACT

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This thesis examines the impact of forced migration on the employment of Syrian refugee women in Turkey using retrospective data from the 2018 Turkey Demographic and Health Survey. Unlike studies in the literature that only compare refugees to the host country population, this research examines employment changes before and after displacement. Additionally, this research examines the varying effects across different age groups across all main and sub-analyses. It is found that migration to Turkey increased the employment rates of Syrian women, but the effects differed significantly by age. Women under 18 experienced the largest gains (6.7 percentage points), those aged 18-24 experienced moderate increases (2.3-5.3 percentage points), and women over 24 experienced minimal changes. Our analysis of three mechanisms explains this heterogeneity: household dependency ratios influence young women's employment decisions; regional labor market concentration benefits young migrants while disadvantaging older women through competition; and pre-migration work experience positively impacts all groups but is diminished for older women due to skill transferability issues. These findings highlight the mistreatment of refugee women as homogeneous and put an importance on the need for age-targeted integration policies.

ÖZETÇE

Suriye’den Türkiye’ye: Zorunlu Göçün Suriyeli Kadınlar Üzerindeki Yaşa Göre Farklılaştırılmış İstihdam Etkileri

Mustafa Özer

Ekonomi, Yüksek Lisans

02 Ekim 2025

Bu tez, 2018 Türkiye Demografik ve Sağlık Araştırması’ndan elde edilen retrospektif veriler kullanarak zorunlu göçün Suriyeli mülteci kadınların Türkiye’deki istihdamına etkisini incelemektedir. Literatürde mültecileri yalnızca host country nüfusla karşılaştıran çalışmaların aksine, bu araştırma yerinden edilme öncesi ve sonrası istihdam değişikliklerini incelemektedir. Ek olarak bu araştırma tüm ana-alt analizlerde farklı yaş grupları arasındaki değişen etkileri de inceler. Türkiye’ye göçün Suriyeli kadınların istihdam oranlarını artırdığı ancak etkilerin yaşa göre önemli farklılıklar gösterdiği bulunmuştur. 18 yaş altı kadınlar en büyük kazanımları (6.7 yüzde puanı), 18-24 yaş arası orta düzeyde artışlar (2.3-5.3 yüzde puanı), 24 yaş üstü kadınlar ise minimal değişiklikler yaşamıştır. Bu heterojenliği üç mekanizma analizimiz açıklar: hane bağımlılık oranları genç kadınların çalışma kararlarını etkiler; bölgesel işgücü piyasası yoğunluğu genç göçmenlere yarar sağlarken yaşlı kadınları rekabet yoluyla dezavantajlı duruma sokar; göç öncesi iş deneyimi tüm grupları olumlu etkilerken beceri aktarılabilirliği sorunları nedeniyle yaşlı kadınlarda değeri azalır. Bu bulgular mülteci kadınları homojen kabul etmenin yanlışlığını ortaya koyar ve yaşa göre hedeflenmiş entegrasyon politikalarının gerekliliğini gösterir.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my supervisor, Associate Professor Murat Demirci, for his continuous guidance throughout my Master's degree and his valuable contributions to my research. Most importantly, I appreciate his encouragement of my passion for this field of study. My family's unwavering support and faith have been my safe harbor through the challenges I encountered during this journey. Their presence has been a constant source of strength. I acknowledge TÜBİTAK for the financial support they provided through the 2210-A scholarship programme during my studies. I extend my appreciation to Hacettepe University Institute of Population Studies for granting me access to their exceptional data that made this research possible. Finally, I am grateful to my close friends who have been by my side throughout all my journeys over the years, and my peers with whom I worked closely during my education at Boğaziçi University and Koç University. Their encouragement has been extremely valuable in my pursuit of academic studies.

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ABBREVIATIONS

AIDA	Asylum Information Database
DRC	Danish Refugee Council
ESSN	Emergency Social Safety Net
EU	European Union
GDP	Gross Domestic Product
HLFS	Household Labor Force Survey
LFPR	Labor Force Participation Rate
NGO	Non-Governmental Organization
NUTS	Nomenclature of Territorial Units for Statistics
OLS	Ordinary Least Squares
TDHS	Turkey Demographic and Health Survey
TP	Temporary Protection
UNHCR	United Nations High Commissioner for Refugees

Chapter 1

INTRODUCTION

The Syrian civil war erupted in 2011 during the wave of protests that began with the Arab Spring, leading to one of the largest forced displacement crises today. As violence escalated, millions of Syrians were forced to flee their country, migrating primarily to neighboring countries. Among these countries, Turkey has been hosting the largest number of Syrian refugees in the world since 2014. At the peak of the migration wave, more than 3.6 million Syrians, representing over half of all Syrian refugees worldwide, were under temporary protection (TP) in Turkey. This extraordinary influx of refugees had economic and social consequences for Turkey. The integration of Syrian women into the country's labor market emerged as a critical issue. Syrian refugee women face lots of challenges, including language barriers and cultural adaptation, family care responsibilities, rebuilding livelihoods, and finding a place to live. Their economic participation is crucial for both their own well-being and that of their households. Therefore, understanding how forced displacement affects Syrian women's employment is an important policy issue. This thesis was motivated by the need to enlighten Syrian refugee women's employment experiences in Turkey, paying attention to how these effects may differ according to age groups and different mechanisms.

While there is a wide range of research on the labor market outcomes of refugees, there are significant gaps in our knowledge regarding the employment of displaced Syrian women. One of the main limitations in most existing studies is the lack of pre-migration baseline data. Researchers have often been forced to examine post-arrival observations by comparing refugees with the host country's natives or other

migrant groups, without knowing the refugees' employment status prior to displacement. Consequently, it has been difficult to distinguish how much of the refugees' comparatively low labor outcomes stem from conditions related to their displacement and how much from pre-existing cultural and economic differences. Syrian women had relatively low rates of formal employment even before the war due to cultural and economic factors. However, previous studies have largely focused on post-migration cross-sectional comparisons and have been conducted without data on pre-migration employment, which may have resulted in an overestimation of the impact of forced migration. Another shortcoming is that age-specific effects and underlying mechanisms have not been sufficiently examined. The refugee population from Syria includes women at different stages of their lives during displacement (school-age girls, young adults, and older women) and is therefore heterogeneous. However, much of the literature treats refugee women as a homogeneous group without examining age-related differences. There is also very little analysis of different mechanisms such as the financial needs of the family, the state of the labor market in the destination country, or the contribution of previous work experience.

This research utilizes retrospective data from the 2018 Turkey Demographic and Health Survey (TDHS), which contains extensive details about the pre-migration period. TDHS enables us to observe individuals' pre- and post-migration employment status, overcoming the data limitations faced by previous studies. We analyze the results by different age groups to examine heterogeneity: adolescents (under 18), young adults (18-24), and adults (over 24 years old). This age classification stems from the expectation that the impact of migration on employment may vary by age. In this thesis, we also perform robustness checks using time-dependent sample selections. We also examine several intermediary mechanisms through which displacement may affect employment (household financial needs, past work experience, or regional economic conditions). Furthermore, we apply various time controls to isolate the findings from temporal effects.

Our analysis provides clear evidence that forced migration has generally increased the employment of Syrian women, but with different effects depending on age. Women in their early twenties and younger experienced a significant increase in

labor force participation rates after settling in Turkey. In contrast, women in their late twenties or older have not experienced a significant increase in employment on average. Most women in this group continue to remain outside the labor force or unemployed, similar to their situation before the war. These differing outcomes are supported by several mechanisms examined in the study. Financial needs emerge as a factor: younger women were more likely to be employed depending on the number of dependents in their families, while this was not a very effective determinant for older women. Another mechanism is competition based on the ease or saturation that labor market conditions can provide. In Turkey's provinces hosting refugees and with high LFPR (labor force participation rate), low-skilled job opportunities can become "saturated" due to the large labor supply and can have negative effects when considered across all age groups. While young migrants are less affected by this situation and can benefit more from opportunities in cities with high LFPR, the negative impact is more pronounced for older women. Previous work experience, another mechanism, is also an important indicator. While work experience has a consistent and positive effect for all groups, its contribution is significantly lower for older women compared to native women due to problems in the transferability of established skills.

This study contributes several new insights to the literature on the impact of forced displacement on women's employment. First, to our knowledge, it is the first quantitative analysis to use pre-migration data to assess the employment outcomes of Syrian women. By utilizing retrospective panel data, we go beyond post-arrival comparisons to provide a more accurate measure of how migration has changed women's employment patterns. This approach helps correct potential biases in previous studies that could not observe baseline data for refugees. Second, it offers new age-specific insights into the effects of migration on women. While previous studies often treated refugee women as a homogeneous group, our results reveal significant heterogeneity within the group. We identify the mechanisms (such as childcare burden, market competition, and skill transferability) that explain why young and older women achieve different outcomes. These findings enrich the understanding of refugee labor market integration by adding an age dimension. Third, my thesis con-

tributes to policy discussions by highlighting implications for targeted support. The age-differentiated perspective suggests that “one-size-fits-all” labor market policies for refugees may not be optimal. For example, young refugee women may benefit most from education and job matching services to capitalize on their apparent willingness to work, while older women may need childcare support or recognition of their qualifications to increase their employment chances. Ultimately, this research expands our understanding of the impact of migration in the context of developing economies. Much of the literature on refugee integration has focused on high-income countries. In summary, this thesis presents a more complete picture of how forced migration affects women’s economic lives and offers age-sensitive insights that are both academically novel and practically relevant for the design of refugee employment and social policies.

The remainder of this thesis is organized as follows. In Chapter 2, we provide background information on the Syrian refugee crisis and Turkey’s response. Chapter 3 reviews the literature on refugee labor markets. In Chapter 4, we describe the TDHS data and how we constructed the variables. Chapter 5 presents our empirical methodology. Chapter 6 reports the main results and mechanism analysis. Chapter 7 concludes with policy implications and directions for future research.

Chapter 2

BACKGROUND INFORMATION

The humanitarian crisis that is the subject of this study stems from the Syrian civil war that broke out in 2011. During the Arab Spring, protests demanding political reforms began in southern Syria and the Assad regime responded violently. By late 2011, the protests had escalated into an uprising and then a civil war involving multiple factions and international intervention. The conflict led to one of the largest forced displacements in recent history. By 2019, millions of people were internally displaced. More than 6.6 million Syrians had fled the country as refugees. Turkey accounted for the largest share of these migrations to neighboring countries. As of August 2019, Turkey was hosting 3.64 million registered Syrian refugees, representing approximately 54% of all Syrian refugees worldwide (Erdoğan (2019)).

Turkey's initial approach to refugees was to adopt an "open door" policy. Geographically adjacent to northern Syria, Turkey became the first refuge for many civilians fleeing the aftermath. In the early years of the war (2011-2014), the Turkish government allowed Syrians to enter freely, calling them temporary "guests." During this period, the number of refugees increased rapidly. The number of Syrians in Turkey, which was only around 14,000 at the end of 2011, rose to 225,000 by the end of 2012, 1.5 million in 2013, and 2.5 million in 2014. With the siege of Aleppo and the rise of ISIS in 2014, Turkey was hosting approximately 2.8 million Syrians by the end of 2015. This number reached 3.4 to 3.6 million in 2017-2018 (Erdoğan (2019)). However, starting in 2016, Turkey tightened its borders and visa policies, effectively ending its open-door policy. In March 2016, Turkey and the European Union signed an agreement to prevent irregular migrants from crossing into Europe in exchange for financial support. Subsequently, some refugees returned to their home countries or relocated elsewhere. By mid-2023, the total number of Syrians

under TP in Turkey was approximately 3.3-3.4 million. Turkey remains the largest host country in the world for Syrian refugees.

Legal status and policy frameworks in Turkey have evolved to manage the long-term presence of refugees. The Law on Foreigners and International Protection, which came into force in April 2013, established Turkey's first modern asylum framework. The Temporary Protection Regulation, enacted in 2014, granted TP status to Syrians. Under TP, Syrians benefit from protections such as the right to remain legally in Turkey with government-issued identity cards, access to basic public services, and participate in humanitarian aid programs. However, the TP was designed as a short-term status for emergencies. It does not provide a direct path to permanent residence or citizenship. Initially, TP holders were not granted work permits, leading many Syrians to work informally. However, regulations were amended in 2016, allowing Syrians to apply for permits after six months of residence in the country. Nevertheless, participation in formal employment is quite low (Danish Refugee Council (2021)). This suggests that the vast majority of Syrian refugees are working informally or are excluded from the labor force.

According to the Refugee Association, 47% of the Syrian refugee population in Turkey is female and 53% is male. Approximately one-third of Syrians in Turkey are under the age of 18, with an average age of 22. Syrian refugees generally have lower education levels than the Turkish population. Syrians are present in all 81 provinces of Turkey, but the vast majority are concentrated in metropolitan areas and cities in the south. Almost all Syrian refugees in Turkey live in urban or suburban communities, not in camps. As of 2023, only 1.4% of Syrians live in state-run camps. Most live in poor and crowded conditions, in low-income neighborhoods, informal housing, or affordable apartments. In cities where Syrians are concentrated, local infrastructure is severely strained. Consequently, the government and international organizations need to provide support to increase capacity.

Poverty rates among Syrian refugees are incredibly high. It's estimated that approximately 70-90% of Syrian refugee households live below the poverty line and are unable to meet their basic needs each month (UNHCR (2024)). Humanitarian aid programs, such as the EU-funded cash assistance program (ESSN), provide crucial

support to hundreds of thousands of vulnerable refugees. However, these aid programs are often insufficient to lift families out of poverty. Child labor has become a problem in some cases, as families in dire need are forced to send their young people to work in textile workshops, on farms, or as street vendors. The Turkish government and NGOs are implementing various programs to facilitate the integration of Syrians.

Syrian women's labor market participation has been extremely low, both historically and in the context of migration. According to the World Bank, in 2011, Syria had one of the lowest female labor force participation rates in the world (approximately 13-15%) (World Bank (2011)). The low employment of refugee women stems from a combination of socio-cultural factors and normative constraints. First, traditional gender roles in Syrian families place men as breadwinners, while women are responsible for household chores. Refugee households often have numerous young children, and affordable childcare is largely unavailable. Without the support of extended family networks, women cannot enter the workforce unless their childcare needs are met. Second, language and skill barriers severely impact Syrian women. Unlike many men who learn Turkish in the workplace, women tend to stay at home and are consequently less exposed to the Turkish language. Furthermore, the professional skills or qualifications they acquired in Syria are often not recognized in Turkey. Furthermore, retraining while also being busy with household chores is difficult. Third, the structure of Turkey's labor market and the job opportunities available to refugees tend to marginalize women to some extent. According to a report by the Refugee Information Database, Syrian women in Turkey are employed primarily as part-time jobs in food processing, agriculture, and textiles, remaining almost entirely in the informal economy (AIDA (2021)). As a result, young refugee women are becoming increasingly economically active, while older women remain largely excluded from the formal labor market. Consequently, the intergenerational gap is widening. However, it is crucial to note that even for young women, jobs are often informal and low-paid.

In summary, Syrian refugee women in Turkey face multiple challenges that keep employment levels low, including childcare burdens, conservative gender norms, lan-

guage barriers, and exploitative working conditions. Under current circumstances, fully realizing the productive potential of this population remains challenging. Understanding these dynamics is essential because refugee women's employment (or lack thereof) has significant impacts on household well-being, gender relations, and the overall economic integration of refugees.



Chapter 3

LITERATURE REVIEW

When evaluating the performance of refugee and migrant women in the labor market, the literature generally employs concepts such as economic integration or assimilation as a basis. Much research, beginning with Chiswick (1978), has attempted to measure the extent to which migrants' post-migration wages approach those of the native population. However, as Borjas (1985) later emphasized, different migrant groups may have different skills or backgrounds. Therefore, a simple cross-sectional comparison between migrants and the native population can be misleading. In other words, when the starting points and characteristics of migrants are not taken into account, their pre-existing disadvantages may be attributed to integration problems. Due to limitations in the data, these concerns are particularly important for refugee women, for whom baseline values prior to migration and long-term observation are difficult to obtain. Borjas's critique highlights that when migrant groups have different starting conditions, assimilation may be mismeasured in cross-sectional comparisons. This issue is particularly important when examining the effects of forced migration.

The main approach used in migration studies involves comparing the labor market outcomes of refugees with those of women in the host country. Such local-refugee comparisons emerge as a criterion for measuring employment status. A few studies exist in the Turkish context, using a cross-sectional comparison. Using the 2018 TDHS, Demirci and Kirdar (2023) analyzed the labor market outcomes of Syrian refugees. They published one of the first nationally representative studies on the employment of refugee women in Turkey and find a large initial difference (only 9% of Syrian women are employed, compared to 22% of Turkish women). Pinedo-Caro (2020) examined the labor force performance of Syrian migrants using Turkey's Household Labor Force Survey (HLFS). Using the observations' arrival year, they

inferred the refugee status of migrants. Their study, which highlighted the importance of background information and cultural norms, was not a proper counterfactual analysis due to the lack of pre-migration data and baseline information.

While employing a native sample as a control group, one of the most important issues is that in Turkey, native women operate within a completely different institutional and legal framework. Turkish women are citizens with full labor market rights, no language barrier, and familiarity with local norms and networks. In contrast, Syrian refugee women have TP status. Therefore, group-specific effects should be considered when making comparisons.

Some studies rely on longitudinal data to understand the integration of immigrants. For instance, Flavel et al. (2024) used a longitudinal survey of refugees in Australia to compare employment before and after migration. Their analysis revealed that refugee women's employment rates were lower after migration than before, and that they were most concentrated in less skilled jobs after arrival. In the context of the Syrian refugee crisis, Kumar et al. (2018) surveyed Syrian refugee households in the Middle East, collecting data on refugees' jobs in Syria and in host countries. Researchers found that very few refugees were doing the same job they had done in their home country, that their qualifications were often not transferable, and that refugees tended to work in less skilled jobs. They also claimed that in some cases, migration has been shown to increase women's labor force participation rates compared to what they would have achieved had they not migrated.

The literature published to date shows that gaps or shortcomings in the outcomes of refugee women may be exaggerated if pre-migration experiences are not taken into account. In this research, we utilize pre-migration data, which we obtained from the historical background information provided by retrospective questions in the 2018 TDHS. We contribute to the related literature by being the first quantitative analysis to utilize pre-migration baseline data for Syrian women to assess employment outcomes. Our results highlight that the impact of migration on employment varies across age groups. We also explore potential mechanisms behind the effects of migration on employment outcomes. We analyzed how regional conditions, household financial needs, and prior work experience affected migrants.

Chapter 4

DATA

In this study, we used data from the Turkish Demographic Health Survey, which Hacettepe University Institute of Population Studies conducts every five years. The survey provides detailed information about the employment, demographic, and health status of women and children in Turkey. In the 2018 survey, similar information was collected from Syrian refugees, which we analyze in this study. Two questionnaires were conducted in the 2018 TDHS: the Household and Women's Questionnaire. After the household survey, the women's eligibility for the women's questionnaire was determined. The subsequent Women's Questionnaire includes eligible women aged 15-49. In the 2018 data, 9,562 women were interviewed, with only one randomly selected eligible woman from each household using the Women's Questionnaire.

The women's questionnaire includes 2,216 Syrian immigrant women and 7,346 native women. The dataset involves various variables, which can be grouped under demographic information, fertility, family structure and planning, maternal and child health, health behaviors and service use, women's status, and migration history. The variables we used for this study are mainly about birthplace and place of residence history, migration history, employment history, work-family and education balance.

4.1 Panel Structure

Our analytical approach to examine employment trends over time requires us to convert cross-sectional survey data into a longitudinal panel structure. We decided on this data conversion to capture the dynamic nature of labor market participation decisions and determine the effect of migration on employment outcomes.

Employment History

The TDHS work history module provides detailed information on all jobs lasting six months or longer from age 12 onwards. We subjected the raw data to a comprehensive cleaning and processing procedure to create a reliable panel suitable for econometric analysis. We have encountered several data quality issues during the cleaning process. In the first stage, we combined the existing data for Syrian and native women. While creating the panel, the current age variable was formed by subtracting the year of birth from 2018. At this stage, for 1,196 people, 12.5% of the population, the interview was conducted in 2019. We take them as their interview was done in 2018 as well, because the interviews were conducted from October 2018 to February 2019. To use this data in its full form, we expanded the data from age 12 to the current age (in 2018, when the survey was conducted) to create a panel data set, thereby achieving a comprehensive year-by-woman data set. We decided to put this age threshold based on the survey's work history module, which records employment experiences starting at age 12.

The resulting panel structure allows us to track individual women's employment, education, and family planning decisions throughout their lives. Each year, the education level was recalculated using assumptions based on the Turkish and Syrian education systems. Specifically, we assumed that primary school begins at age 7. For women with more than five years of education, we recorded five years starting at age 12, with additional years added individually for subsequent ages. For women with five years or less of education, the education level was constant at all ages, starting at age 12. The in-school variable that we determined with this approach measures, in a binary way, whether the woman is in school in the relevant year of observation or not.

Women who answered "I do not know" to questions about their employment history were excluded from the analysis, 2 native women and 0 Syrian women. Similarly, work experiences with missing information on job start year (92 for natives and 119 for Syrians) or end year (10 for natives and 9 for Syrians) were excluded, as time precision is crucial for our longitudinal analysis. 2018 was used as the reference point in our study; therefore, we have excluded 1 work experience of a

Syrian woman that started in 2019. For observations with available job start or end year information but missing monthly details, we applied consistent imputation rules: job start months were coded as June, and job end months as December. This approach maintains temporal consistency across the dataset while also providing an estimate for job duration. For women still employed in their current jobs at the time of the survey, the job end year was recorded as 2018. Table 4.1 below presents the job distribution among native and Syrian women, respectively.

This comprehensive approach to processing employment history yields the following. Our analysis aims to capture both the broad margin (working or not working) and the intensive margin (type of work) of labor market participation. This offers a detailed understanding of the employment patterns among native and migrant women.

Table 4.1: Job Distributions of Natives and Syrians

	Panel A: Native	Panel B: Syrian
Number of Observations	7,346	2,216
Ever worked since age 12		
No	3,480 (47.37%)	1,637 (73.87%)
Yes	3,864 (52.60%)	579 (26.13%)
I do not know	2	0
Number of Jobs		
0	3,482	1,637
1	2,398	496
2	897	64
3	324	13
4	152	5
5	62	1
6	16	0
7	9	0
8	4	0
9	2	0
10	0	0

Notes: This table presents the employment history patterns of native Turkish and Syrian women from the 2018 Turkey Demographic and Health Survey. The sample includes 7,346 native women and 2,216 Syrian women aged 12-49. Employment is defined as any job lasting at least six months since age 12. The "Ever worked" variable indicates whether a woman has any employment history, while "Number of Jobs" captures job mobility over the life course. Two native women who responded "I do not know" to the "have you ever worked" question were excluded from the analysis. Also, the work experiences of 102 native and 118 Syrian women are excluded because of the missing job start/year information.

Migration History

In addition to work history, migration history is one of the most valuable parts of this data for us. This module provides essential information for determining Syrian women's arrival time in Turkey, their subsequent city changes, and their living conditions. This information was crucial for creating the fundamental analytical variables that distinguish experiences in our study, where we wanted to compare the pre- and post-migration periods. Questions related to migration history were designed and recorded to create a residence history for each individual.

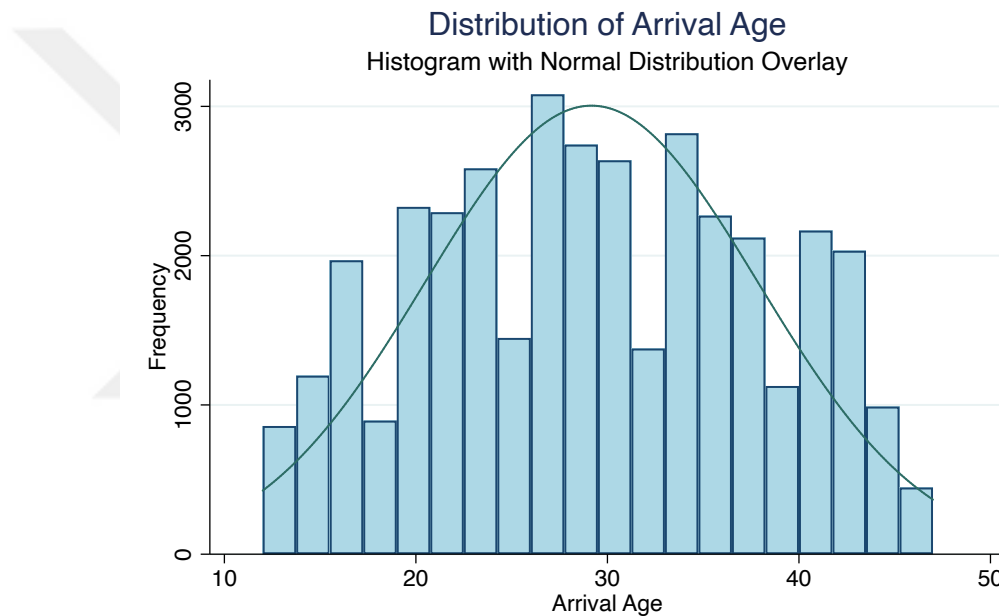
Our data contains information on up to ten migration periods per person. This information includes places of origin and destination, timing, and reasons for migration. At this point, using the province data they lived in, we focused specifically on determining the years of arrival in Turkey for Syrian women, which constituted a critical threshold in our analysis. We defined the arrival year variable by doing so and then combined this information with the panel data set.

In addition to identifying the year Syrian migrants arrived in Turkey, there are also regional analyses in this research, which we will discuss in detail in later sections. Therefore, using the migration history, we matched each woman-year observation with the province where she was located at the time of that observation. We made a few changes regarding specific issues in the data content that needed correction. For four Syrian women who reported arriving in Turkey before 2011, we have updated the arrival year to 2011, based on the assumption that large-scale Syrian migration began with the start of the conflict in Syria. Similarly, we have set this variable missing for some Turkish women with known arrival year information (likely due to internal migration) because they were not part of the international migration flow of interest. Using the arrival year information, we created binary indicators for each year specifying whether a Syrian woman resided in Syria (*inSyria*) or Turkey (*inTurkey*) that year. The *inTurkey* binary variable is the essence of our empirical strategy. This variable allowed us to create separate measures of work experience for before and after migration. It also allowed us to examine how work experience in Syria affected employment outcomes in Turkey.

Migration data facilitates the analysis of transition processes. We examined

the years since arrival in Turkey and the age at the time of arrival. With these variables, we can capture the potential non-linear effects of time spent in Syria and the impact of age at migration on subsequent outcomes. Figure 4.1 below presents the distribution of ages in the year of migration for 37,964 observations. The average age of arrival is 29.16, with a standard deviation of 8.68. As shown in the figure, the distribution behaves almost like a normal distribution.

Figure 4.1: Distribution of Arrival Age for Syrian Women



Notes: This histogram shows the age distribution of Syrian women when they arrived in Turkey. The data encompasses 37,964 person-year observations from Syrian women who migrated between 2011 and 2018. A normal distribution overlay is included for reference. Arrival age is calculated from the birth year and migration year reported in the TDHS migration history module. The mean arrival age is 29.16 years with a standard deviation of 8.68 years.

Marriage History

Marriage decisions, especially in traditional societies, are closely linked to women's participation in the labor market. The TDHS also provides information on marriage history. It includes detailed information on up to six marriages for each woman, including marriage and divorce dates. Just as we added migration history to the panel, we also integrated people's marriage histories.

When cleaning the marriage history, we created marriage periods for each woman.

This operation includes accounting for women who had multiple marriages and changes in marital status over time. For each marriage period, we identified the start year and month, the end year and month, and the current marital status. For women who were married at the time of the survey, we set the end date of the marriage as the end of 2018.

We addressed missing time-related information using similar assumptions. We coded unknown marriage months as June and unknown divorce months as December. We applied these adjustments in the same way as our logic for employment history, aiming for consistency across different data modules. With this adjustment, we created time-varying marital status indicators for each woman-year in the panel. We can also determine whether a woman has ever been married with this approach. More importantly, we can capture the timing of marriage relative to other life events, primarily migration for Syrian women and change of employment status for all women.

The key point here is that, in the Turkish context, understanding the intersection of marriage and employment reveals how traditional gender roles may influence women's participation in the labor market. The detailed marriage history allows us to examine the direct marriage effects of migration.

Household Composition and Dependency Measures

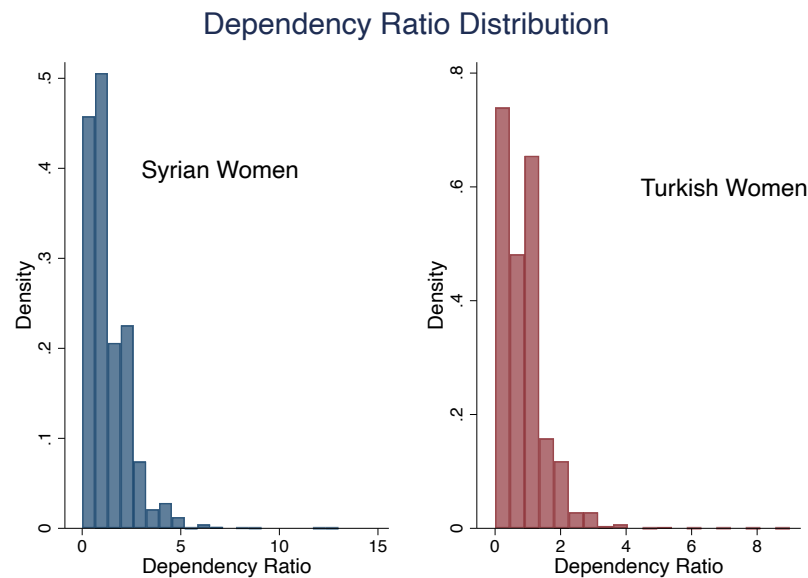
One of the factors affecting women's participation in the labor market is household structure and dependency burdens. We used household roster data from the TDHS household survey to understand these effects. With this study, we created measurements reflecting the demographic structure of households over time.

Household data provides information on all regular household members, including age, gender, and their relationship to the head of the household. Using this information, we estimated the ages of household members retrospectively based on their ages in 2018 and created a panel for household structure by generating annual observations from 1980 to 2018. First, we calculated the number of household members in different age categories for each household-year observation. We divided the age-based distinction into three groups: children (0-17 years), working-age adults (18-64 years), and older adults (65+ years). We calculated dependency ratios with

these counts by dividing the number of dependents (children and elderly adults) in the household by the number of working-age individuals. These measurements are particularly crucial for women, who are mostly responsible for care activities that may affect their decision or need for employment.

We established an essential control for our analysis using household composition variables, enabling the examination of the mechanism through which migration affects employment. For example, the household structures of Syrian families differ from those of Turkish families, and these differences may partially explain employment disparities. The mean dependency ratio for native women is 0.741, while for Syrian women it is 1.241. Figure 4.2 below presents the distribution of the dependency ratio for the two groups.

Figure 4.2: Dependency Ratio Distribution



Notes: These kernel density plots illustrate the distribution of household dependency ratios for Syrian women (left panel) and native Turkish women (right panel). The dependency ratio is calculated as the number of dependents (children under 18 plus elderly over 64) divided by working-age adults (18-64). The sample includes women aged 12-49 with complete household composition data from the 2018 TDHS. The mean dependency ratio is 1.241 for Syrian women and 0.741 for native women.

Regional Labor Market Conditions

We included detailed geographic information and created regional economic in-

dicators to account for spatial heterogeneity in labor market conditions and cultural factors that could affect women's employment. Since we have determined the provinces where individuals lived for each year, we coded provinces and regions according to Turkey's official NUTS (Nomenclature of Territorial Units for Statistics) classification system. We applied both the 12-region NUTS1 classification and a simplified 5-region grouping in addition to provincial accounting to enable analysis at different geographical aggregation levels. This trial approach enables detailed spatial analysis and broader regional comparisons while maintaining a sufficient sample size for reliable estimates.

Table 4.2: Provincial LFPR means by NUTS-1 Regions

NUTS 1 Regions	Mean	Std. Dev.	Min	Max
Istanbul	31.496	0.000	31.496	31.496
West Marmara	34.205	7.511	22.426	41.876
Aegean	36.727	6.041	22.683	53.455
East Marmara	28.472	7.040	18.753	57.229
West Anatolia	27.742	3.030	18.415	29.568
Mediterranean	24.915	6.683	17.347	46.007
Central Anatolia	21.974	6.226	8.438	33.283
West Black Sea	27.232	6.690	13.176	35.040
East Black Sea	29.029	4.061	24.231	37.461
Northeast Anatolia	13.288	5.992	5.496	27.821
Central East Anatolia	18.664	8.665	3.976	29.561
Southeast Anatolia	20.937	9.753	11.578	49.925
Total	25.986	9.097	3.976	57.229

Notes: This table displays female labor force participation rates across Turkey's NUTS-1 regions, calculated from native women in the TDHS data spanning 2000-2011. LFPR represents the percentage of women aged 15-49 who are employed or actively seeking work. The statistics cover 81 provinces grouped into 12 administrative regions, with survey weights applied to ensure representativeness. The pre-2011 period was chosen to capture baseline labor market conditions before the Syrian refugee influx, avoiding potential endogeneity from refugee settlement patterns.

We obtained regional labor market conditions by constructing labor force participation rates (LFPR) of native women by region and province between 2000 and 2011. Also, we calculated the LFPR of provinces in Syria using Syrian observations that reside in Syria in those years. This calculation yields a fixed LFPR value for each province. In our calculations, we used observations from the 10 years before the

Syrian war and migration began. This prevented migrants from affecting the general labor market conditions of Turkish cities. Furthermore, by using the 10 years before the start of the Syrian civil war, we excluded the effects of internal migration and war in this region. Women received a fixed LFPR value for each province/region they resided in each year. With these measures, we aimed to provide contextual information about local labor market opportunities and cultural attitudes toward women's work that could influence the employment decisions of both native and migrant women. To ensure representativeness and implement the survey's sampling design, we calculated regional LFPR measures using sampling weights. To capture labor market differences across different geographic scales, we calculated LFPR separately for NUTS1 regions (12 regions), NUTS2 regions (26 units), and individual provinces (81 units). Table 4.2 above presents the provincial LFPR means by NUTS-1 regions.

Prior Work Experience

We calculated the prior work experience variable to examine the impact of women's work experience on employment. 2011 was the year that conditions of the labor market may start to alter both in Turkey and Syria. Furthermore, prior work experience essentially represents the experience immigrant women had before migrating to Turkey. Therefore, in our panel, we examined employment status from age 12 to year of 2011 and defined a dynamic work experience variable. This variable was determined cumulatively for each year-female observation until 2011 and was considered fixed in the years after 2011 by taking the 2011 work experience value.

These contextual variables helped us in many analytical purposes. First, they provided essential controls for spatial heterogeneity, which could complicate comparisons between Syrian and Turkish women. We gain noteworthy insights into the role of local labor market conditions, household structure, and work experience in shaping the employment outcomes of migrants.

In this thesis, the constructed panel offers several analytical advantages. First, it allows us to examine employment status before and after significant life events such as migration and war, particularly for Syrian women. Second, it enables us to control for several heterogeneous factors that might affect women's employment

outcomes both before and after migration. Third, it facilitates observing dynamic effects following migration and the transition to new settlement conditions.

4.2 Summary Statistics

Table 4.3: Summary Statistics

Panel A: Syrian Women				
Variable	Observations	Mean	Std. Error	95% CI
Working	37,964	0.075	0.0014	[0.072, 0.077]
Married	37,964	0.492	0.0026	[0.493, 0.503]
In School	37,964	0.150	0.0018	[0.143, 0.151]
Years of Schooling	37,964	6.045	0.0188	[6.020, 6.090]
Age	37,964	22.354	0.0417	[22.38, 22.54]
In Turkey	37,964	0.279	0.0023	[0.266, 0.275]
Dependency Ratio	35,310	1.245	0.0056	[1.226, 1.248]
Work Experience	37,964	0.613	0.0137	[0.596, 0.651]
Labor Force Participation Rate	37,964	12.294	0.0488	[12.03, 12.22]
Panel B: Native Women				
Variable	Observations	Mean	Std. Error	95% CI
Working	155,478	0.251	0.0011	[0.248, 0.253]
Married	155,478	0.518	0.0013	[0.515, 0.520]
In School	155,478	0.200	0.0010	[0.198, 0.202]
Years of Schooling	155,478	7.260	0.0104	[7.240, 7.280]
Age	155,478	24.220	0.0226	[24.17, 24.26]
In Turkey	155,478	1.000	0.0000	[1.000, 1.000]
Dependency Ratio	142,372	0.723	0.0018	[0.719, 0.727]
Work Experience	155,478	2.590	0.0128	[2.560, 2.610]
Labor Force Participation Rate	155,478	26.840	0.0227	[26.79, 26.88]

Notes: This table provides descriptive statistics for the panel dataset constructed from the 2018 TDHS. Panel A encompasses 37,964 person-year observations of Syrian women, while Panel B covers 155,478 observations of native Turkish women, all aged 12-49. The "Working" variable is a binary employment indicator, while "In Turkey" marks whether a Syrian woman was in Turkey (=1) or Syria (=0) in a given year. Dependency ratio measures household burden as dependents per working-age adult. Work experience captures cumulative employment years through 2011, and LFPR indicates the female participation rate in the province of residence. Standard errors account for within-individual correlation across years.

Table 4.3 above presents summary statistics for key variables aged 12–49. This table shows descriptive statistics for Syrian and native women across 37,964 and 155,478 person-year observations, respectively. As can be seen in the table, only 7.4–7.5% of Syrian observations are employed, while 25.1% of natives. Approximately 15% are in school, and 49% are married in the ages we analyze. The average number of

years of education completed in our sample is 6 years, corresponding to the primary education level, and the average age is 22.4. 28% of the observations are in Turkey, and 72% are in Syria. This data shows that our sample includes pre-migration (in Syria) and post-migration (in Turkey) observations. When we compare them with natives, four main differences are substantial. Mean employment is almost one-third of native's mean employment. The dependency ratio is 71.9% higher compared to that of natives. The mean work experience of Syrians is 76% lower than that of natives. Mean LFPR in the provinces where Syrians reside is 55.2% lower than that of natives.

Table 4.4: Distribution of Working Women

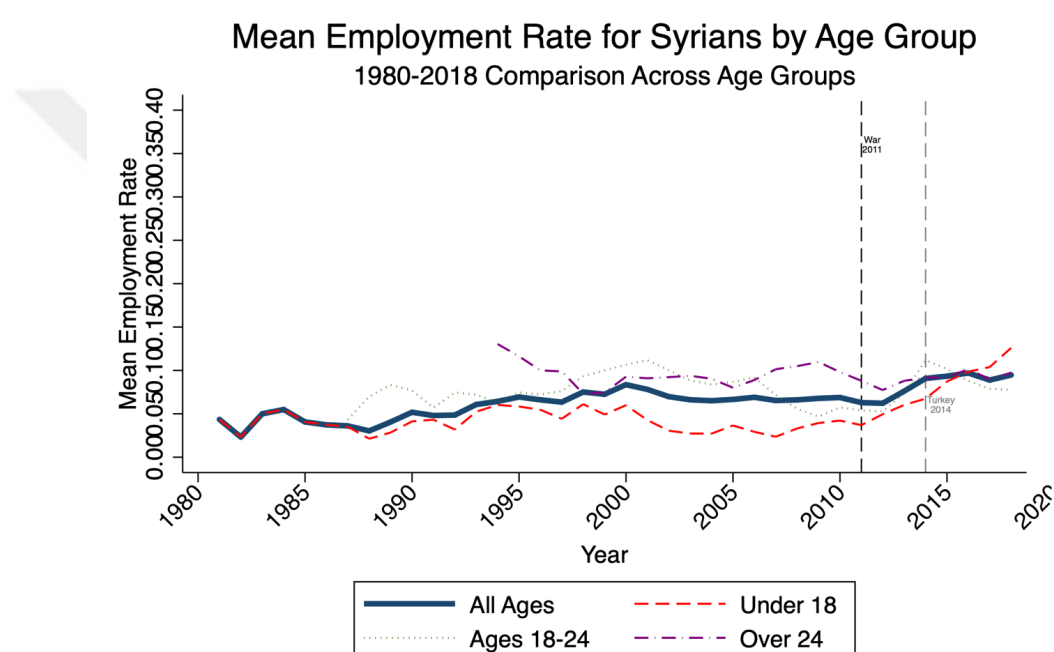
	Native	Syrian
Panel A: Sector		
Agriculture	30.45%	45.77%
Industry	9.09%	6.72%
Service	60.46%	47.51%
Total	100.00%	100.00%
Panel B: Security		
Informal	53.48%	97.54%
Formal	46.52%	2.46%
Total	100.00%	100.00%
Panel C: Full/Part-Time		
Full-Time	82.74%	77.55%
Part-Time	17.26%	22.45%
Total	100.00%	100.00%
Panel D: Work Type		
Employer	1.75%	2.03%
Wage Workers	64.18%	71.65%
Self-Employed	12.40%	11.04%
Unpaid Family Worker	21.02%	13.94%
Other	0.66%	1.33%
Total	100.00%	100.00%

Notes: This table characterizes the employment composition of working native and Syrian women in the 2018 TDHS. Panel A shows how workers distribute across agriculture, industry, and service sectors. Panel B distinguishes between formal employment (with social security coverage) and informal work. Panel C separates full-time from part-time employment, while Panel D categorizes workers by employment arrangement—employer, wage worker, self-employed, unpaid family worker, or other. The sample is restricted to women reporting current employment at the survey date.

In addition to what the average employment data reveals, Table 4.4 provides a general overview of some notable differences between working women in both groups. Panel A shows that Syrians are concentrated in the agricultural sector, while Turks

are more dominant in the service sector. Panel B shows the most critical difference: half of the Natives work in informal sectors, while nearly all of the Syrians work in these types of jobs. This is important for the heterogeneous effects discussed in the following sections. Both groups show similar full-time employment trends and work in similar proportions in various types of jobs.

Figure 4.3: Mean Employment Rate by Age Group (1980-2018)



Notes: This figure traces mean employment rates for Syrian women across different age groups from 1980 to 2018. The solid line represents all ages combined, while dashed lines distinguish age-specific patterns: red for women under 18, purple for ages 18-24, and blue for those over 24. Vertical dashed lines mark two critical periods: the start of the Syrian civil war in 2011 and the year 2014 when the majority of observations shift to Turkey. Employment is defined as working in jobs lasting at least six months. Data comes from the constructed TDHS panel for Syrian women aged 12-49.

Figure 4.3 shows the change in the mean employment rate by age groups between 1980 and 2018. Since the beginning of the war in 2011, the average employment rate has increased in subsequent years. By 2014, the majority of immigrants had arrived in Turkey, and during these years, as policies were broadened, the mean employment rate increased even further. This increase was greatest for women under 18. While the mean employment rate also increased for the 18-24 age group, women over 24

have followed this trend only slightly. In the appendix section, figures for each group with 95% confidence intervals are presented.



Chapter 5

EMPIRICAL STRATEGY**5.1 Identification Strategy**

In this study, our empirical strategy is to compare employment outcomes of Syrian women between their time in Syria and their time in Turkey. We aim to understand how migration to Turkey affects the employment trajectories of Syrian women using the longitudinal nature of the Turkey Demographic and Health Survey (TDHS). We analyze how the existing employment patterns of all migrated Syrian women change due to migration by tracking their outcomes before and after their arrival in Turkey. This approach enables us to assess the impact of migration on employment by examining women across various periods and locations. Our key identification assumption is that since people have migrated at different times, the decision to migrate to Turkey creates a quasi-experimental setting. This allows us to observe the employment outcomes and other characteristics of Syrian women, along with their variations over time. For each individual in the survey, we can distinguish between life in Syria and life in Turkey periods using their migration history.

5.2 Empirical Specifications

In this research, we estimate our basic model with 6 different specifications. These 6 specifications vary in their treatment of time trends. By doing so, we seek to ensure the robustness of our findings and address potential concerns about temporal confounding.

5.2.1 Specification 1: Basic Model

$$Working_{it} = \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + \varepsilon_{it} \quad (5.1)$$

In this model, $Working_{it}$ shows whether person i has a job at time t - it equals 1 if she is working and 0 otherwise. The key variable we care about is $InTurkey_{it}$, which equals 1 when we observe someone after they have moved to Turkey and 0 when we see them before migration, while they were still in Syria. We control for age in a detailed way using separate effects for each age. The part $\sum_{j=13}^{49} \alpha_j Age_{j,it}$ means we have a different coefficient α_j for each age j . So $Age_{j,it}$ equals 1 when person i is exactly j years old at time t , and α_j shows how being that specific age affects employment chances. We do the same thing for education with $\sum_{k=1}^{17} \delta_k Schooling_{k,it}$. This gives us a separate effect δ_k for each number of school years k . The indicator $Schooling_{k,it}$ equals 1 when person i has exactly k years of education, and δ_k captures how that education level affects their job prospects. The error term ε_{it} picks up all the other things that influence employment that we cannot measure or observe.

The basic model only includes fundamental demographic controls through age and schooling. With the basic model specification, we applied minimal assumptions about the functional form of temporal relationships and presented the simplest interpretation of the migration effect. In this model, the difference in pre-migration and post-migration employment rates reflects the effect of migration on the probability of being employed. However, if secular time trends affect the employment opportunities of all women in the region, regardless of their migration status, then this model may suffer from omitted variable bias. Economic cycles or broader socioeconomic developments may affect the estimated migration impact.

Women's work patterns change significantly over time for various reasons. More women join the workforce as society becomes more accepting of working mothers and economic needs grow. At the same time, women are having fewer children and waiting longer to start families, which affects when and how much they work. These changes also shift what kind of workers companies are looking for. As more educated women enter the job market, employers create new types of jobs and develop different workplace policies. Economic ups and downs, latest technology, and changing industries also play a role in determining how many jobs are available for women and what skills are needed.

All these dynamic variations make it essential to account for these broader trends

when studying how migration specifically affects Syrian women's employment, since we want to separate the migration effect from these other ongoing changes in society. As can be seen in Table 5.1 below, Syrian women's distribution in Turkey and Syria has changed over the years. This dramatic shift in Syrian women's location, where all Syrian women were in Syria until 2010, but then rapidly migrated to Turkey after the war in Syria, shows that a simple linear time trend is insufficient to capture this migration pattern.

5.2.2 Specification 2: Linear Time Trend

Our second specification improves the basic model with a linear time trend.

$$Working_{it} = \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + \beta_2 Year_t + \varepsilon_{it} \quad (5.2)$$

Here, all parameters preserve previous interpretations from the basic model. The new parameter β_2 captures the linear time trend effect on employment. $Year_t$ is a continuous variable representing the year of observation. It is generated by subtracting 1980 (earliest observation) from the actual year in our further polynomial specifications, not to mistreat the temporal effects.

With this model, we can control for changes in environmental or economic factors that could affect women's employment over time. Gradually changing economic conditions, evolving social norms, and the impact of reforms on society, even if only gradual, can be isolated from the basic model. However, assuming a linear trend for the real-time pattern can be restrictive. The data we use includes many women who migrated in different ways at different times. Estimating with this specification cannot adequately control for discrete shocks and policy changes that may coincide with the migration period.

Table 5.1: Syrian Women Distribution by Year: Turkey vs Syria

Year	Percentage of Women Living in Syria	Percentage of Women Living in Turkey	Total
1981	100	0	100
1982	100	0	100
1983	100	0	100
1984	100	0	100
1985	100	0	100
1986	100	0	100
1987	100	0	100
1988	100	0	100
1989	100	0	100
1990	100	0	100
1991	100	0	100
1992	100	0	100
1993	100	0	100
1994	100	0	100
1995	100	0	100
1996	100	0	100
1997	100	0	100
1998	100	0	100
1999	100	0	100
2000	100	0	100
2001	100	0	100
2002	100	0	100
2003	100	0	100
2004	100	0	100
2005	100	0	100
2006	100	0	100
2007	100	0	100
2008	100	0	100
2009	100	0	100
2010	100	0	100
2011	96.344	3.656	100
2012	83.486	16.514	100
2013	58.244	41.756	100
2014	38.231	61.769	100
2015	21.029	78.971	100
2016	10.379	89.621	100
2017	4.061	95.939	100
2018	0.181	99.819	100

Notes: This table tracks the geographic distribution of Syrian women in the panel dataset from 1981 through 2018. The percentages indicate what proportion of Syrian women observations occur in Syria versus Turkey each year. The data comes from all Syrian women aged 12-49 in the constructed TDHS panel. The table clearly shows that migration to Turkey begins in 2011 with the Syrian civil war, accelerating dramatically through 2014-2015 as the conflict intensified.

5.2.3 Specification 3: Nonlinear Time Trend

This specification extends the linear time trend model by incorporating a quadratic time trend.

$$\begin{aligned} Working_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} \\ & + \beta_2 Year_t + \beta_3 Year_t^2 + \varepsilon_{it} \end{aligned} \quad (5.3)$$

Here, in addition to the previous model, $Year_t^2$ is the squared value of the year variable, and β_3 represents the coefficient on the quadratic time trend. The terms $\beta_2 Year_t + \beta_3 Year_t^2$ together form a quadratic function that can capture nonlinear temporal patterns in employment rates. This specification allows us to capture trends that accelerate or decelerate in economic conditions or social changes over time. We can generate more realistic temporal patterns using this model than the linear model.

5.2.4 Specification 4: Cubic Time Trend

As we have previously discussed, Syrian distribution patterns change over time. Looking at Table 5.1, the Syrian migration crisis clearly had multiple phases: it started slowly in 2011-2012, then accelerated rapidly through 2013-2015, and was finalized by 2016-2018. To better capture this complex migration pattern, we also test third and fourth-order polynomial time trends. Here we are following standard econometric practice for modeling our temporal patterns since higher-order polynomials can provide more flexible approximations. The cubic time trend lets the model account for how the acceleration itself changed over time.

$$\begin{aligned} Working_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} \\ & + \beta_2 Year_t + \beta_3 Year_t^2 + \beta_4 Year_t^3 + \varepsilon_{it} \end{aligned} \quad (5.4)$$

Here, in addition to the quadratic model, $Year_t^3$ is the third polynomial value of the year variable, and β_4 represents the coefficient on the cubic time trend. The

terms $\beta_2 Year_t + \beta_3 Year_t^2 + \beta_4 Year_t^3$ together form a cubic function that can capture the temporal patterns in employment rates.

5.2.5 Specification 5: Quartic Time Trend

Our fifth model, the quartic time trend, adds even more flexibility to match the actual shape of this migration wave.

$$Working_{it} = \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + \beta_2 Year_t + \beta_3 Year_t^2 + \beta_4 Year_t^3 + \beta_5 Year_t^4 + \varepsilon_{it} \quad (5.5)$$

Here, in addition to the cubic model, $Year_t^4$ is the fourth polynomial value of the year variable, and β_5 represents the coefficient on the quartic time trend. The terms $\beta_2 Year_t + \beta_3 Year_t^2 + \beta_4 Year_t^3 + \beta_5 Year_t^4$ together form a quartic function that can capture the most flexible nonlinear temporal patterns in employment rates among the polynomial specifications. However, the polynomial form still requires a specific functional form assumption. It may not capture sudden, discrete changes that may affect the relationship between migration and employment. Therefore, our sixth model treats time by using year fixed effects.

5.2.6 Specification 6: Year Fixed Effects

This most flexible specification replaces the parametric time trends with year fixed effects.

$$Working_{it} = \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + \sum_{s=1982}^{2018} \gamma_s Year_{st} + \varepsilon_{it} \quad (5.6)$$

The term $\sum_{s=1982}^{2018} \gamma_s Year_{st}$ creates a separate dummy variable for each year in our data. Here, $Year_{st}$ equals 1 when we observe someone in year s and 0 otherwise, while γ_s tells us how that specific year affects employment compared to our reference year. This means we get a unique intercept for each year. Year fixed effects provide

the most comprehensive control for time-varying confounders. They absorb factors that affect all individuals equally within each year, such as discrete economic shocks, policy changes, and seasonal effects. However, by doing so, it may overcontrol if year-specific shocks are a part of the migration effect. In addition to that, since migration waves are concentrated in specific years, some year dummies may partially capture the variation in the *InTurkey* variable. This potential multicollinearity reduces the precision of our main coefficient of interest. Also, this is the most demanding approach in terms of degrees of freedom. It requires sufficient within-year variation for identification.

5.3 Extended Analysis: Including Turkish Native Women

This extended specification incorporates both Syrian and Turkish women into the analysis through interaction terms.

$$\begin{aligned}
 Working_{it} = & \beta_0 + \beta_1(InTurkey \times Syrian)_{it} + \beta_2Syrian_{it} \\
 & + \sum_{j=13}^{49} \alpha_j(Age_j \times Syrian)_{it} + \sum_{j=13}^{49} \eta_j(Age_j \times Turkish)_{it} \\
 & + \sum_{k=1}^{17} \delta_k(Schooling_k \times Syrian)_{it} + \sum_{k=1}^{17} \sigma_k(Schooling_k \times Turkish)_{it} + \varepsilon_{it}
 \end{aligned} \tag{5.7}$$

Now our dependent variable *Working_{it}* includes employment status for both Syrian and Turkish women in the same analysis. The key parameter β_1 measures the employment effect of being in Turkey specifically for Syrian women through the interaction term $(InTurkey \times Syrian)_{it}$, which takes the value 1 only when a Syrian woman is observed in Turkey, and 0 in all other cases. The coefficient β_2 captures the overall employment difference between Syrian and Turkish women through *Syrian_{it}*, a dummy variable that equals 1 for Syrian women and 0 for Turkish women.

This specification allows for group-specific age effects through separate interaction terms. The term $\sum_{j=13}^{49} \alpha_j(Age_j \times Syrian)_{it}$ creates age-specific effects for Syrian women, where $(Age_j \times Syrian)_{it}$ equals 1 when a Syrian woman is at age

j , and α_j represents how being age j affects employment for Syrian women. Turkish women have their own age effects through $\sum_{j=13}^{49} \eta_j (Age_j \times Turkish)_{it}$ where $(Age_j \times Turkish)_{it}$ equals 1 when a Turkish woman is age j , and η_j shows the employment effect of age j for Turkish women.

Education effects follow a similar structure. The term $\sum_{k=1}^{17} \delta_k (Schooling_k \times Syrian)_{it}$ allows education to have different effects for Syrian women, where the interaction $(Schooling_k \times Syrian)_{it}$ equals 1 when a Syrian woman has k years of education, and δ_k measures this effect. For Turkish women, $\sum_{k=1}^{17} \sigma_k (Schooling_k \times Turkish)_{it}$ captures education-specific effects through $(Schooling_k \times Turkish)_{it}$, with coefficient σ_k . This framework recognizes that age and education may have different implications for employment outcomes between Syrian and Turkish women due to various social, economic, and institutional factors.

This extended analysis which we have Turkish women as a comparison group helps us see whether Syrian women's employment patterns look normal or unusual compared to women already living in Turkey. With this analysis, we can control for general economic trends in Turkey that affect all women.

The biggest issue here is that Syrian and Turkish women face very different situations in the job market. They deal with different legal rules, social expectations, and barriers to work, so comparing them directly might not be insightful. Another downside of this comparison is that Turkish women chose to stay in Turkey and work in the regular economy. In contrast, Syrian women were forced to leave their country and might face special challenges that we cannot easily measure. Any differences we find between the groups might come from discrimination, language problems, or credential issues rather than migration itself.

To address these concerns, we can use a difference-in-differences analysis by checking whether Turkish women show similar trends over time. However, the specification with native women does not have separate period fixed effects. Therefore, our strongest approach is using year fixed effects in the model with natives. This creates a difference-in-differences setup that compares how Syrian women's employment changes compared to Turkish women during the same years.

The problem we face while doing so is that the parallel trend assumption does not

hold given how different these two groups' situations are. The idea that Syrian and Turkish women would have had similar employment paths without migration is hard to believe when we're looking at the whole population. So, beyond just comparing women in Turkey with Syrian women, we are employing a more focused approach. We compare Syrian women to Turkish women who have similar backgrounds and live in comparable areas.

Table 5.2: Demographics of Turkish Women in Specific Regions and Syrian Women

Variable	All Syrians	All Natives	Natives Central Anatolia	Natives Northeast Anatolia	Natives Central East Anatolia	Natives Southeast Anatolia	Natives East (Combined)
Key Variables:							
Working (Age 12-49)	0.0998	0.2507	0.2136	0.1586	0.1615	0.2024	0.1807
In School	0.0686	0.2001	0.1790	0.1379	0.1433	0.1614	0.1508
Schooling	6.4829	7.2628	7.1125	5.8001	5.2226	5.1694	5.3301
Ever Married	0.7755	0.8392	0.8704	0.8927	0.8136	0.8278	0.8388
Total Marriages	0.8024	0.8799	0.9093	0.9196	0.8469	0.8450	0.8628
Married	0.6583	0.5067	0.5480	0.5566	0.4989	0.5046	0.5150
Age	26.1556	24.2176	24.4456	24.2459	23.4357	23.1658	23.4917
Part/Full Distribution:							
Fulltime	80.060%	80.066%	72.734%	74.478%	72.888%	85.965%	79.362%
Parttime	19.940%	19.934%	27.266%	25.522%	27.112%	14.035%	20.638%
Security Distribution:							
Informal	98.006%	58.362%	58.525%	60.926%	72.986%	76.649%	71.686%
Formal	1.994%	41.638%	41.475%	39.074%	27.014%	23.351%	28.314%
Sector Distribution:							
Agriculture	37.986%	37.411%	35.252%	40.260%	31.385%	47.187%	40.939%
Industry	10.668%	8.824%	9.137%	7.002%	6.483%	6.685%	6.706%
Service	51.346%	53.765%	55.612%	52.739%	62.132%	46.128%	52.355%
Work Type Distribution:							
Employer	1.496%	1.620%	1.151%	1.694%	1.866%	0.968%	1.406%
Wage Workers	84.845%	57.964%	48.993%	53.586%	39.342%	59.226%	52.130%
Self Employed	9.272%	12.509%	26.942%	12.084%	14.784%	7.623%	10.783%
Unpaid Family Worker	2.891%	27.378%	22.086%	32.185%	43.762%	31.942%	35.386%
Other	1.496%	0.529%	0.827%	0.452%	0.246%	0.242%	0.295%
Sample Size	37,964	155,478	13,321	12,761	12,990	16,748	42,499

Notes: This table compares demographic and employment characteristics between Syrian women and native Turkish women in selected NUTS-1 regions. The data comes from women aged 12-49 in the 2018 TDHS. The chosen regions—Northeast Anatolia, Central East Anatolia, Southeast Anatolia, and Central Anatolia—were selected because they share similar socioeconomic characteristics with pre-war Syria. Employment statistics for job type, formality, and sector distribution are calculated only for currently employed women, while education and marriage variables cover the full sample.

In order to do this comparison, we chose similar NUTS-1 regions, which are Southeast Anatolia, Central East Anatolia, and Northeast Anatolia. In these regions, local Turkish women face more similar economic conditions, cultural contexts,

and job market structures compared to Syrian women. (See Table 5.2 above)

5.4 Alternative Outcome Variables

To analyze how migration affects the lives of Syrian women more broadly, we examine two additional variables to examine life trajectories. Using the six empirical specifications above, we analyzed the impact of migration to Turkey on marriage and schooling.

5.4.1 Marriage Outcomes Model

$$\begin{aligned} Married_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} \\ & + [Time\ Controls] + \varepsilon_{it} \end{aligned} \quad (5.8)$$

In this model $Married_{it}$ is a binary indicator equal to 1 if individual i is married at time t – and 0 otherwise. Similar to the previous models the key variable we care about is $InTurkey_{it}$, which equals 1 when we observe someone after they have moved to Turkey and 0 when we see them before migration, while they were still in Syria. $\sum_{j=13}^{49} \alpha_j Age_{j,it}$ means we have a different coefficient α_j for each age j . So $Age_{j,it}$ equals 1 when person i is exactly j years old at time t , and α_j shows how being that specific age affects being married. We do the same thing for education with $\sum_{k=1}^{17} \delta_k Schooling_{k,it}$. This gives us a separate effect δ_k for each number of school years k . The indicator $Schooling_{k,it}$ equals 1 when person i has exactly k years of education, and δ_k captures how that education level affects their marriage status. The term $[Time\ Controls]$ represents the same six different temporal specifications detailed in section 4.2 (from no time controls in Model 1 to year fixed effects in Model 6). The error term ε_{it} picks up all the other things that influence being married.

5.4.2 School Enrollment Model

$$Inschool_{it} = \beta_0 + \beta_1 InTurkey_{it} + \sum_{j=13}^{49} \alpha_j Age_{j,it} + [Time\ Controls] + \varepsilon_{it} \quad (5.9)$$

In this model $InSchool_{it}$ is a binary indicator equal to 1 if individual i is enrolled in a school at time t – and 0 otherwise. Similar to the previous models, the key variable we care about is $InTurkey_{it}$, which equals 1 when we observe someone after they have moved to Turkey and 0 when we see them before migration, while they were still in Syria. $\sum_{j=13}^{49} \alpha_j Age_{j,it}$ means we have a different coefficient α_j for each age j . So $Age_{j,it}$ equals 1 when person i is exactly j years old at time t , and α_j shows how being that specific age affects being married. Unlike the other specifications, we did not use schooling controls in this model to avoid multicollinearity. Since individuals in school increase the cumulative number of years of education in that year, this would have prevented us from observing the effect of the main parameter of interest. The term $[Time\ Controls]$ represents the same six different temporal specifications detailed in section 4.2 (Model 1 to Model 6). The error term ε_{it} picks up all the other things that influence being in school.

5.5 Mechanism Analysis

We are conducting three additional analyses to understand the channels through which migration affects the employment of Syrian women. Doing so will help explain why we observed positive effects on employment and provide insight into the underlying factors driving outcomes in the labor market. We are examining three potential mechanisms that may determine how migration to Turkey affects Syrian women's employment decisions: financial needs, local labor market conditions in the host region, and prior work experience. We use the household dependency ratio to measure the first, provincial labor market conditions for women to measure the second, and women's employment status up to 2011 (before the conflict) to measure the last.

5.5.1 Dependency Ratio Mechanism

The dependency ratio measures the economic pressure on households by using the ratio of non-working members (children under 18 and elderly people over 64) to working-age adults (18-64). This measure reflects the economic burden on working-

age household members and may affect women's employment decisions before and after migration in different ways. Some of the things traditional family structures and social norms in Syria offer are often extended family support for childcare and eldercare, along with more flexibility for women in their employment decisions. After migrating to Turkey, Syrian families may face the breakdown of their social networks and reduced access to informal support systems. As a result, working-age women who are responsible for the care of children and the elderly might become less likely to work. On the other hand, economic pressure on working-age women to join the labor force may increase in households with high household dependency ratios.

In our mechanism analysis to examine this situation, we interact the migration indicator (*InTurkey*) with household dependency ratios to test whether migration affects employment differently according to household structure. If economic necessity increases employment, we can expect more substantial positive effects for women in households with higher dependency ratios.

$$\begin{aligned}
 Working_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \beta_2 DependencyRatio_{it} \\
 & + \beta_3 (InTurkey \times DependencyRatio)_{it} \\
 & + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + [Time\ Controls] + \varepsilon_{it}
 \end{aligned} \tag{5.10}$$

This model analyzes only Syrian women and examines how the dependency ratio influences their employment status in the context of migration. β_1 reflects the main effect of migration for women whose dependency ratio is zero. $DependencyRatio_{it}$ is the dependency ratio for individual i at time t and β_2 shows the direct impact of the household dependency ratio. $(InTurkey \times DependencyRatio)_{it}$ is our primary interest and captures how the dependency ratio modifies the impact of migration. If β_3 is positive, it indicates a stronger impact of migration on employment for women living in households with high dependency ratios. If it is negative, a high dependency ratio reduces the positive effects of migration. Controls for age and schooling, and six different time control specifications are included in the model as in the previous

models.

$$\begin{aligned}
Working_{it} = & \beta_0 + \beta_1(InTurkey \times Syrian)_{it} + \beta_2DependencyRatio_{it} \\
& + \beta_3(InTurkey \times Syrian \times DependencyRatio)_{it} + \beta_4Syrian_{it} \\
& + \sum_{j=13}^{49} \alpha_j(Age_j \times Syrian)_{it} + \sum_{j=13}^{49} \eta_j(Age_j \times Turkish)_{it} \\
& + \sum_{k=1}^{17} \delta_k(Schooling_k \times Syrian)_{it} + \sum_{k=1}^{17} \sigma_k(Schooling_k \times Turkish)_{it} \\
& + [Time\ Controls] + \varepsilon_{it}
\end{aligned} \tag{5.11}$$

Model 11 analyzes Syrian women with Turkish women. Here β_1 captures the main effect of migration for Syrian women whose dependency ratio is zero. β_2 shows the direct impact of the household dependency ratio for both groups. β_3 , the coefficient of the triple interaction term, shows how the dependency ratio moderates the migration effect specifically for Syrian women. As in Model 7, this model also includes group-specific control variables. *[Time Controls]* refer to the six different time control specifications. While Model 10 examines heterogeneity within Syrian women, Model 11 tests whether this heterogeneity is specific to Syrian women by comparing them with Turkish women.

5.5.2 Labor Force Participation Rate Mechanism by Province

In this section, we analyze how LFPR affects the impact of migration on employment. Syrian women may achieve better employment outcomes in provinces where Turkish women's LFPR is higher. In provinces with higher LFPR, Syrian women may be able to find jobs that suit their background and may offer flexible working hours, thus encountering more suitable employment opportunities. In addition, these provinces may have more progressive social attitudes towards women working, which could reduce the cultural barriers Syrian women might encounter in the labor market. On the other hand, a high LFPR might indicate that Syrian women face relatively worse employment opportunities, resulting from a saturated labor mar-

ket environment. Jobs available to women in these provinces may already be filled mainly by natives, which can make it difficult for Syrian women to find work.

$$\begin{aligned} Working_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \beta_2 LFPR_{it} + \beta_3 (InTurkey \times LFPR)_{it} \\ & + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + [Time\ Controls] + \varepsilon_{it} \end{aligned} \quad (5.12)$$

β_1 reflects the main effect of migration for Syrian women located in a region where no women participate in the labor force. $LFPR_{it}$ is the LFPR where individual i at time t resides, and β_2 shows the direct impact of the LFPR in that province. $(InTurkey \times LFPR)_{it}$ is our primary interest and captures how the dependency ratio modifies the impact of migration. If β_3 is positive, it indicates a stronger impact of migration on employment for women living in provinces with high LFPR. If it is negative, a high LFPR reduces the positive effects of migration. Controls for age and schooling, and six different time control specifications are included in the model as in the previous models.

$$\begin{aligned} Working_{it} = & \beta_0 + \beta_1 (InTurkey \times Syrian)_{it} + \beta_2 LFPR_{it} \\ & + \beta_3 (InTurkey \times Syrian \times LFPR)_{it} + \beta_4 Syrian_{it} \\ & + \sum_{j=13}^{49} \alpha_j (Age_j \times Syrian)_{it} + \sum_{j=13}^{49} \eta_j (Age_j \times Turkish)_{it} \\ & + \sum_{k=1}^{17} \delta_k (Schooling_k \times Syrian)_{it} + \sum_{k=1}^{17} \sigma_k (Schooling_k \times Turkish)_{it} + \varepsilon_{it} \end{aligned} \quad (5.13)$$

Model 13 analyzes Syrian women with Turkish women. Here β_1 captures the main effect of migration for Syrian women located in a province with zero LFPR. β_2 shows the direct impact of the LFPR for both groups. β_3 , the coefficient of the triple interaction term shows how the LFPR moderates the migration effect specifically for Syrian women. As in the previous mechanism, this model also includes group-specific control variables. $[Time\ Controls]$ refer to the six different time control specifications. While Model 12 examines heterogeneity within Syrian women, Model

13 tests whether this heterogeneity is specific to Syrian women by comparing them with Turkish women.

5.5.3 Prior Work Experience Mechanism

To examine the mechanisms underlying Syrian women's employment gains from another perspective, we investigate how prior work experience interacts with the effect of migration on employment outcomes. This approach allows us to examine how Syrian women with more substantial pre-migration work experience perform in the Turkish labor market. The theoretical framework suggests that work experience can have an impact through multiple channels. Pre-migration employment history can signal transferable skills to potential employers, facilitating integration into the labor market. However, experience gained in the Syrian labor market may not directly affect employment outcomes in Turkey due to differences in technology, language requirements, or the transferability of qualifications.

$$\begin{aligned}
 Working_{it} = & \beta_0 + \beta_1 InTurkey_{it} + \beta_2 WorkExp_{it} + \beta_3 (InTurkey \times WorkExp)_{it} \\
 & + \sum_{j=13}^{49} \alpha_j Age_{j,it} + \sum_{k=1}^{17} \delta_k Schooling_{k,it} + [Time\ Controls] + \varepsilon_{it}
 \end{aligned}
 \tag{5.14}$$

β_1 reflects the main effect of migration for Syrian women who has zero year of work experience in Syria as of 2011. $WorkExp_{it}$ is the dynamic work experience of individual i at time t . It takes the work experience as of 2011 after the following years and β_2 shows the direct impact of it. $(InTurkey \times WorkExp)_{it}$ is our primary interest and captures how the work experience affects the impact of migration. If β_3 is positive, it indicates a more substantial impact of migration on employment for women who have more work experience. If it is negative, more experience reduces the positive effects of migration. Controls for age and schooling, and six different

time control specifications are included in the model, as in the previous models.

$$\begin{aligned}
Working_{it} = & \beta_0 + \beta_1(InTurkey \times Syrian)_{it} + \beta_2WorkExp_{it} \\
& + \beta_3(InTurkey \times Syrian \times WorkExp)_{it} + \beta_4Syrian_{it} \\
& + \sum_{j=13}^{49} \alpha_j(Age_j \times Syrian)_{it} + \sum_{j=13}^{49} \eta_j(Age_j \times Turkish)_{it} \\
& + \sum_{k=1}^{17} \delta_k(Schooling_k \times Syrian)_{it} + \sum_{k=1}^{17} \sigma_k(Schooling_k \times Turkish)_{it} \\
& + [Time\ Controls] + \varepsilon_{it}
\end{aligned} \tag{5.15}$$

Model 15 analyzes Syrian women with Turkish women. Here β_1 captures the main effect of migration for Syrian women with no work experience in Syria as of 2011. β_2 shows the direct impact of the work experience for both groups. β_3 , the coefficient of the triple interaction term, shows how each year of work experience moderates the migration effect specifically for Syrian women. Similar to before, this model also includes group-specific control variables. *[Time Controls]* refer to the six different time control specifications. While Model 14 examines heterogeneity within Syrian women, Model 15 tests whether this heterogeneity is specific to Syrian women by comparing them with Turkish women.

5.6 Estimation and Inference

In all these models, we use ordinary least squares regression with survey weights to match the TDHS sampling design. Since different people have varying chances of being selected, weights help us ensure that the results are representative of all Syrian women in Turkey. We cluster standard errors at the individual level because the same person appears multiple times in our panel data.

Our sample focuses on Syrian women who came to Turkey in 2011 or after. We analyze the outcomes of interest in their life span when they were 12 to 49 years old. We chose 12 as the lower bound because it allows us to see both school and work experiences. The upper bound is determined as 49 because in the TDHS, we are

not observing those older than 49. In our sample, each Syrian woman arrived from 2011 onwards. We run six different versions of our primary analysis to make sure our findings are significant. Each specification makes different assumptions about how time trends might affect both migration and employment. If our main results hold across all six approaches, we can be more confident that our findings reflect the real impact of migration. Furthermore, as in our primary analysis, in the robustness checks section and mechanism analyses, we examine each age group separately: under 18, 18-24, and over 24. Additionally, when comparing with natives, we compare both all natives and natives living in the four NUTS-1 regions separately, as will be detailed later.

Chapter 6

RESULTS

6.1 Main Results

In Table 6.1, we present our key findings on how migration to Turkey has affected the employment outcomes of Syrian women across different age groups and model characteristics. In this table, our dependent variable is the working variable, which measures employment status, while our main explanatory variable, *inturkey*, reflects the effect of Syrian women residing in Turkey on employment compared to their pre-migration period in Syria.

Our analysis reveals that Syrian women have consistently had a positive impact on employment after migrating to Turkey. Across all specifications, the probability of being employed increases by 2.50 to 3.38 percentage points (pps), with statistically significant coefficients at conventional levels. The basic model specification indicates a 2.50 pp increase in the probability of employment, while other models that address the time effect in different ways yield slightly larger estimates.

These effects demonstrate notable robustness across different modeling approaches. When using demographic controls for age and education status, employment gains remain positive and statistically significant regardless of whether linear time trends, nonlinear quadratic trends, cubic polynomials, quartic specifications, or year fixed effects are employed. This consistency across different model specifications makes us more confident in our interpretations and shows that issues with how we deal with the time do not affect our results.

The analysis reveals significant heterogeneity in employment outcomes across age groups, yielding essential findings on how migration affects different groups. Panels B to D in Table 6.1 demonstrate the effect for various age groups. Syrian women under 18 (Panel B) are experiencing the most significant increase in employment,

ranging from 6.15 pp to 6.81 pp, depending on the specification. All coefficients are statistically significant at the 1% level. The basic specification shows an increase of 6.72 pp, which can be interpreted as representing significant labor market integration for this demographic group. This large effect is likely due to this age group being more adaptable to new labor market conditions and facing fewer restrictions. Syrian women between 18 and 24 (Panel C) exhibit moderate but significant positive effects. The baseline specification yields a 2.25% increase (significant at the 10% level), while trend-controlled specifications produce larger estimates reaching 5.30 pp with nonlinear controls. When accounting for temporal models, the difference between specifications reveals that this group also exhibits strong employment integration. However, when year fixed effects are included, the estimated positive impact for this age group gets smaller and becomes statistically insignificant. For adult women older than 24 (Panel D), the effect of migration on employment is minimal. The coefficients range from 0.15 to 0.65 pps and are not statistically significant across all specifications. This model shows that older Syrian women face greater barriers to employment integration. This may reflect challenges related to the transferability of human capital, language acquisition, or institutional constraints.

These age-differentiated models are consistent with economic theory regarding labor market adaptation and the transferability of human capital. Younger individuals are generally more flexible in adapting to new environments and may encounter fewer barriers when demonstrating their qualifications or acquiring occupation-specific skill requirements.

Results in Table 6.1 show that the employment trajectory of Syrian women is positively affected by migrating to Turkey. Yet, this positive effect is observed only for younger women. Since women's employment might increase over time, the estimated effect for migration in our study might stem from the underlying trend. While the robustness of our results to various parametric ways of controlling time trend is assuring about our interpretation, using a comparison group to control for time trends is another way to proceed. We next adopt this approach, which can be described as a difference-in-differences methodology.

Table 6.1: Effect of Being in Turkey on The Probability of Working

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0250*** (0.00796)	0.0280*** (0.00734)	0.0338*** (0.00872)	0.0307*** (0.00923)	0.0303*** (0.00925)	0.0255** (0.0101)
Observations	37,964	37,964	37,964	37,964	37,964	37,964
Panel B: Syrians Younger Than 18						
inturkey	0.0672*** (0.0132)	0.0681*** (0.0136)	0.0670*** (0.0149)	0.0622*** (0.0153)	0.0615*** (0.0156)	0.0681*** (0.0161)
Observations	13,051	13,051	13,051	13,051	13,051	13,051
Panel C: Syrians Between 18 and 24						
inturkey	0.0225* (0.0116)	0.0393*** (0.0138)	0.0530*** (0.0172)	0.0441** (0.0177)	0.0440** (0.0177)	0.0270 (0.0182)
Observations	11,651	11,651	11,651	11,651	11,651	11,651
Panel D: Syrians Older Than 24						
inturkey	0.00147 (0.0114)	0.00556 (0.0131)	0.00323 (0.0145)	0.00305 (0.0144)	0.00649 (0.0151)	0.00391 (0.0161)
Observations	13,262	13,262	13,262	13,262	13,262	13,262

Notes: This table reports OLS regression results where the dependent variable is employment status. The sample consists of Syrian women aged 12-49. The key variable "inturkey" takes value 1 for observations after migration to Turkey and 0 for pre-migration years in Syria. Each column represents a different approach to controlling for time trends: (1) baseline with only age and education controls, (2) linear time trend, (3) quadratic polynomial, (4) cubic polynomial, (5) quartic polynomial, and (6) year fixed effects. Panel A pools all Syrian women, while Panels B-D separate results by age group. All specifications include fixed effects for each age (13-49) and education year (0-17). Robust standard errors are clustered at the individual level. Statistical significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In Table 6.2, we address this issue by presenting our expanded analysis, which includes both Syrian and Turkish women. In our extended analysis, we used interaction terms to isolate the employment effects of Syrian women while controlling for Turkish women's labor market models. The primary coefficient of interest measures the employment effect of being in Turkey for Syrian women through the (*inturkey* $\times$ *Syrian*) interaction term. With this specification, we acknowledge that demographic characteristics may affect the employment of Syrian and Turkish women differently due to varying institutional, social, and economic contexts, and we use group-specific age and education effects.

When we analyze Syrian women together with the entire population of Turkish women, the employment effects remain strongly positive. The quartic time trend specification yields a 3.70 pp increase in employment probability for Syrian women,

while the year fixed effects specification yields a 3.63 pp increase. Both estimates are statistically significant at the 1% level, and the sample size of over 193,000 observations provides substantial statistical power. These findings provide important insights into understanding the dynamics of refugee integration. When analyzed in the broader context of the Turkish labor market, the continued positive effects on employment demonstrate that Syrian women's gains in employment represent true economic integration, in addition to what our methodology controls.

Table 6.2: Effect of Being in Turkey on The Probability of Working with Different Native Groups & Different Age Groups

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	Quartic Trend	Year FE	Quartic Trend	Year FE	Quartic Trend	Year FE	Quartic Trend	Year FE
Panel A: All Syrians + All Natives								
inturkey_syria	0.0370*** (0.00958)	0.0363*** (0.00970)	0.0727*** (0.0146)	0.0727*** (0.0147)	0.0354** (0.0149)	0.0359** (0.0152)	0.00410 (0.0138)	0.00348 (0.0139)
Observations	193,442	193,442	56,631	56,631	54,805	54,805	82,006	82,006
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_syria.all	0.0224** (0.0102)	0.0164 (0.0109)	0.0692*** (0.0148)	0.0732*** (0.0152)	0.0338* (0.0178)	0.0181 (0.0186)	-0.0108 (0.0162)	-0.0137 (0.0171)
Observations	50,725	50,725	16,893	16,893	15,257	15,257	18,575	18,575
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_syria.all	0.0366*** (0.0108)	0.0334*** (0.0115)	0.0573*** (0.0169)	0.0618*** (0.0173)	0.0649*** (0.0176)	0.0555*** (0.0183)	0.00566 (0.0163)	0.00262 (0.0173)
Observations	50,954	50,954	17,034	17,034	15,405	15,405	18,515	18,515
Panel D: All Syrian + Natives in Southeast Anatolia								
inturkey_syria.all	0.0465*** (0.0117)	0.0455*** (0.0124)	0.0609*** (0.0173)	0.0619*** (0.0179)	0.0480** (0.0205)	0.0440** (0.0215)	0.0256 (0.0170)	0.0251 (0.0176)
Observations	54,712	54,712	18,356	18,356	16,529	16,529	19,827	19,827
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_syria.all	0.0334*** (0.0114)	0.0310** (0.0122)	0.0582*** (0.0155)	0.0634*** (0.0159)	0.0418** (0.0177)	0.0323* (0.0186)	0.0114 (0.0191)	0.0101 (0.0201)
Observations	51,285	51,285	16,748	16,748	15,345	15,345	19,192	19,192

Notes: This table presents OLS estimates that compare employment outcomes between Syrian and native Turkish women. The coefficient *inturkey_syria* captures the differential effect of being in Turkey for Syrian women relative to natives. Columns 1 and 2 employ quartic time trends and year fixed effects, respectively. Panel A uses all native women as the comparison group, while Panels B-E restrict comparisons to natives from specific NUTS-1 regions that share characteristics with Syria. The models allow for group-specific age and education effects, recognizing that these factors may influence Syrian and Turkish women differently. The sample includes women aged 12-49 from the TDHS panel. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

When comparing Syrian women with the entire female population of Turkey, we discussed possible concerns related to the parallel trend assumption in Section 4. Our analysis in Table 6.2 focuses on specific NUTS-1 regions where economic conditions, cultural contexts, and labor market structures are more comparable between Syrian and Turkish women. In the regional analysis, we examine the Northeast Anatolia,

Central East Anatolia, Southeast Anatolia, and Central Anatolia regions.

The estimated positive effect is the largest when Turkish women from Southeastern Anatolia are used as a comparison group. Syrian women have experienced an employment increase of 4.65 pps in quartic trends and a 4.55 percentage point increase in year fixed effects (both changes are statistically significant at the 1% level). This is one of the regions most similar to Syria in terms of characteristics that could affect labor market outcomes. Also, it shares a border with Syria, and many Syrians migrated to this region. Since migration would impact the employment likelihood of Turkish women in this region, the results from this comparison should be interpreted with caution. Central East Anatolia, another culturally similar region to Syria, shows significant positive effects of 3.66 pp (quartic) and 3.34 pp (year fixed effects). Both are statistically significant at the 1% level. Central Anatolia shows moderate employment gains of 3.34 pp in fourth-order polynomial time trends and 3.10 pp in year fixed effects (both statistically significant at the 5% level). Northeastern Anatolia presents the most challenging results, with fourth-order trends yielding effects of 2.24 pp (significant at the 5% level), and these effects become statistically insignificant when adjusted for annual fixed effects.

6.2 Other Relevant Outcomes

This section examines how migration affects Syrian women's preferences for education and marriage decisions, beyond employment. Tables 6.3 and 6.4 show that when we properly control for time trends, migration has very minor effects on these outcomes—in contrast to the strong employment effects we identified earlier.

Table 6.3 presents our results on whether being in Turkey has affected Syrian women's decision to enroll in school. In this table, we control for temporal factors in 6 different ways. The basic model without time control in the first column suggests that migration decreases enrollment by 4.86 pps. With a linear time trend, the magnitude of this effect becomes 7.32 pps. However, the effects become minor and statistically insignificant when we use more advanced time controls such as quadratic, cubic, and quartic polynomials. In addition to this, when we employ

year fixed effects, being in Turkey has a small positive coefficient of 0.64 pps that is statistically indistinguishable from zero.

Table 6.3: Effect of Being in Turkey on The Probability of Being in School

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	-0.0486*** (0.00550)	-0.0732*** (0.00672)	-0.0217*** (0.00752)	-0.0100 (0.00758)	-0.00972 (0.00749)	0.00640 (0.00826)
Observations	37,964	37,964	37,964	37,964	37,964	37,964
Panel B: Syrians Age<18						
inturkey	-0.0489*** (0.00927)	-0.0679*** (0.0113)	-0.0317** (0.0136)	-0.0186 (0.0154)	-0.0202 (0.0158)	0.00212 (0.0160)
Observations	13,051	13,051	13,051	13,051	13,051	13,051
Panel C: Syrians 18≤Age≤24						
inturkey	-0.0261*** (0.00460)	-0.0237*** (0.00642)	0.00315 (0.00841)	0.00768 (0.00889)	0.00767 (0.00888)	0.0181* (0.00964)
Observations	11,651	11,651	11,651	11,651	11,651	11,651

Notes: This table examines how migration affects school enrollment among Syrian women. The dependent variable equals 1 if enrolled in school, 0 otherwise. The sample and estimation approach mirror Table 6.1, though education controls are excluded to avoid multicollinearity with the enrollment outcome. Panel A includes all Syrian women aged 12-49, Panel B focuses on those under 18, and Panel C examines ages 18-24. Women over 24 are excluded due to near-zero enrollment rates in this age group. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

This model holds for all age groups that were defined earlier. For women under age 18, the basic model shows a 4.89 pps decrease in enrollment, while the linear trend model in the second column suggests a 6.79 pps decline. Like the first panel, polynomial specifications yield minor and insignificant effects. The 18-24 age group in Panel C follows similar results to those in Panel B. This group's year fixed effect specification shows a marginally significant positive effect of 1.81 pps. Women over 24 are not included in the analysis because the mean value for being in school is 0.

Table 6.4 presents the results of our models examining the marital status of Syrian women. Although we again see significant positive effects in the simple specifications, these effects disappear with better time controls. The basic model shows that migration increases the probability of marriage by 9.64 pps—a significant impact. The linear trend specification still indicates a substantial increase of 7.04 pps. However, all polynomial specifications produce small and insignificant coefficients

ranging from 0.94 to 1.46 points. We have insignificant coefficients for all panels in the sixth column with year fixed effect.

Table 6.4: Effect of Being in Turkey on The Probability of Being Married

	(1) Basic	(2) Linear Trend	(3) Nonlinear Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0964*** (0.0112)	0.0704*** (0.0104)	0.0146 (0.0128)	0.00991 (0.0138)	0.00944 (0.0138)	0.00818 (0.0157)
Observations	37,964	37,964	37,964	37,964	37,964	37,964
Panel B: Syrians Age<18						
inturkey	0.0823*** (0.0140)	0.0699*** (0.0152)	0.0237 (0.0173)	0.0129 (0.0191)	0.0133 (0.0196)	0.00608 (0.0212)
Observations	13,051	13,051	13,051	13,051	13,051	13,051
Panel C: Syrians 18≤Age≤24						
inturkey	0.147*** (0.0183)	0.0802*** (0.0236)	0.00823 (0.0279)	-0.0115 (0.0281)	-0.0117 (0.0280)	-0.0135 (0.0301)
Observations	11,651	11,651	11,651	11,651	11,651	11,651
Panel D: Syrians 24<Age						
inturkey	0.0532*** (0.0174)	0.0146 (0.0174)	0.0213 (0.0211)	0.0216 (0.0210)	0.0231 (0.0224)	0.0267 (0.0246)
Observations	13,262	13,262	13,262	13,262	13,262	13,262

Notes: This table investigates migration's impact on marriage outcomes. The dependent variable indicates current marital status (1=married, 0=not married). The sample includes Syrian women aged 12-49, with model specifications matching those in Table 6.1. Panel A presents results for the full sample, while Panels B-D show age-specific effects for women under 18, ages 18-24, and over 24, respectively. All models control for age and education with varying time trend specifications. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

When we examine age groups, we observe similar patterns of results. Women under 18 show an 8.23 pp increase in the likelihood of marriage in the basic model, but this effect disappears with polynomial controls. The 18–24 age group shows the strongest marriage effects in simple models (14.7 pp in the base specification), but these also disappear with sophisticated time controls. Women over 24 show more modest effects, which become insignificant when we appropriately control for time trends.

The critical point is that when we properly control for time trends, the effects of being in Turkey on school enrollment and marriage disappear, while the impact on employment remain significant across all specifications. This difference is important for two reasons. First, it shows that our findings on employment do not merely reflect

general time trends affecting Syrian women. Second, it validates our methodological approach—if time trends were affecting all our results, we would expect them to affect all results similarly.

Migration changes Syrian women’s work patterns, and these effects are meaningful. However, when we account for broader social changes occurring during this period, migration does not appear to alter education or marriage decisions. This makes sense: while employment opportunities can respond quickly to new conditions, education and family formation decisions typically follow long-term trends that are less directly linked to migration.

6.3 Robustness

Our main findings indicate that migration to Turkey has increased the likelihood of Syrian women, especially young women, being employed. To test the robustness of these findings, we examined our analysis by changing the samples included in our analysis. In our data, we examine women from 1980 to 2018, and in this section, we examine different sample characteristics by changing the time periods. This helps us understand whether our results are dependent on specific sample selections or whether they reflect the actual effects of migration.

6.3.1 2011 Specification

One of the things we encounter when measuring the impact of migration is the employment status of Syrian women who remained in Syria after 2011, which may have been affected by the war, depending on when they migrated. We are using an approach focused on 2011: This study includes observations of Syrian women who have been in Turkey since 2011 and those who were in Syria before 2011. For Turkish women, we use all available observations. This specification allows us to have pre-migration data for Syrian women while also covering the most relevant migration period.

Table 6.5 presents our analysis for Syrians only, using this 2011 specification. The results are largely consistent with our main findings. The effects of being in Turkey

on employment range from 1.19 to 4.18 pps, and polynomial specifications provide us with the strongest results. The quartic specification yields a 4.18 percentage point increase (significant at the 1% level), while the year fixed effects produce a smaller and insignificant 1.19 percentage point effect.

Table 6.5: Effect of Being in Turkey on The Probability of Working (2011 Specification)

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0237*** (0.00911)	0.0249*** (0.00856)	0.0399*** (0.0108)	0.0384*** (0.0110)	0.0418*** (0.0109)	0.0119 (0.0390)
Observations	31,733	31,733	31,733	31,733	31,733	31,733
Panel B: Syrians Younger Than 18						
inturkey	0.0684*** (0.0134)	0.0716*** (0.0147)	0.0750*** (0.0199)	0.0634*** (0.0233)	0.0644*** (0.0231)	0.0588 (0.0485)
Observations	11,174	11,174	11,174	11,174	11,174	11,174
Panel C: Syrians Between Age 18 and 24						
inturkey	0.0174 (0.0127)	0.0354* (0.0183)	0.0804*** (0.0241)	0.0745*** (0.0237)	0.0941*** (0.0255)	0.0394 (0.0406)
Observations	9,807	9,807	9,807	9,807	9,807	9,807
Panel D: Syrians Older Than 24						
inturkey	-0.00469 (0.0139)	-0.00987 (0.0174)	-0.0133 (0.0162)	-0.0178 (0.0173)	-0.00232 (0.0207)	-0.0310 (0.0644)
Observations	10,752	10,752	10,752	10,752	10,752	10,752

Notes: This table provides a robustness check by excluding potentially war-affected observations. The sample includes Syrian women observed in Turkey from 2011 onward and those observed in Syria only before 2011. This approach eliminates Syrian women who remained in Syria after the war began, thereby avoiding conflation of war effects with migration effects on employment. The dependent variable and model specifications follow the structure of Table 6.1. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Age distributions are consistent with our main analysis. Women under 18 years old showed employment increases of 5.88 to 7.50 pp in the polynomial specifications, all of which are statistically significant. The 18-24 age group demonstrated strong effects, reaching 9.41 pp in the quartic model. Women older than 24, on the other hand, showed minimal and mostly insignificant effects, confirming our finding that young women were most affected by migration.

Table 6.6 presents the results of our analysis, which we expanded to include Turkish women as a comparison group for this 2011 specification. When comparing Syrian women with all Turkish women, the impact on employment remains strong:

4.34 pps in the quartile specification and 4.32 pps with year-fixed effects (both statistically significant at the 1% level). This suggests that the increase in employment among Syrian women does not reflect broader trends affecting all women in Turkey. The regional comparisons in Table 6.6 provide particularly compelling evidence.

Table 6.6: Effect of Being in Turkey on The Probability of Working with Different Native Groups & Different Age Groups (2011 Specification)

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	Quartic Trend	Year FE	Quartic Trend	Year FE	Quartic Trend	Year FE	Quartic Trend	Year FE
Panel A: All Syrians + All Natives								
inturkey_syria_war	0.0434*** (0.0116)	0.0432*** (0.0119)	0.0768*** (0.0155)	0.0780*** (0.0158)	0.0354** (0.0173)	0.0371** (0.0178)	0.00114 (0.0179)	0.000925 (0.0181)
Observations	187,211	187,211	54,754	54,754	52,961	52,961	79,496	79,496
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_syria_war	0.0317** (0.0129)	0.0201 (0.0214)	0.0738*** (0.0186)	0.0729*** (0.0231)	0.0616** (0.0281)	0.0326 (0.0439)	-0.0213 (0.0245)	-0.0210 (0.0331)
Observations	43,192	43,192	14,707	14,707	13,156	13,156	15,329	15,329
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_syria_war	0.0647*** (0.0154)	0.0747*** (0.0231)	0.0775*** (0.0239)	0.0768** (0.0326)	0.0937*** (0.0239)	0.0873*** (0.0328)	0.0303 (0.0296)	0.0436 (0.0369)
Observations	43,726	43,726	14,970	14,970	13,355	13,355	15,401	15,401
Panel D: All Syrian + Natives in South East Anatolia								
inturkey_syria_war	0.0583*** (0.0166)	0.0654*** (0.0211)	0.0613*** (0.0235)	0.0663** (0.0286)	0.0660** (0.0299)	0.0521 (0.0382)	0.0358 (0.0266)	0.0406 (0.0297)
Observations	47,104	47,104	16,191	16,191	14,175	14,175	16,738	16,738
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_syria_war	0.0423** (0.0166)	0.0466* (0.0252)	0.0588*** (0.0197)	0.0755*** (0.0247)	0.0455* (0.0260)	0.0278 (0.0395)	0.0159 (0.0338)	0.0149 (0.0408)
Observations	44,044	44,044	14,698	14,698	13,139	13,139	16,207	16,207

Notes: This table extends the 2011 specification robustness check to include native comparison groups. Syrian women are included only if observed in Turkey from 2011 onward or in Syria before 2011, while all available observations are used for native women. The model structure follows Table 6.2, with both quartic time trends and year fixed effects specifications. Regional panels restrict native comparisons to specific NUTS-1 regions that share characteristics with Syria. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Syrian women show the greatest impact on employment when compared to Turkish women in Central East Anatolia, the region which is similar to Syria in terms of culture and economy (6.47–7.47 pps). Comparisons with Southeast Anatolia reveal significant effects of 5.83–6.54 pps. These regional results are important because they compare Syrian women with Turkish women who have similar local conditions.

6.3.2 2000 Specification

With the 2000 specification, we employed a different approach by limiting all observations to Syrian and Turkish women from 2000 onwards. This allowed us to make a more balanced comparison of temporal effects. We excluded observations for Syrian

and Turkish women before 2000.

Table 6.7 presents the results specific to Syrian women under this specification. Employment effects remain positive and significant, ranging from 2.57 pps to 3.30 pps. Most specifications yield significant results, confirming that our findings are not dependent on including very early periods. Age-specific effects persist: Younger women continue to exhibit the strongest effects (6.47-6.84 pps), women aged 18–24 show moderate effects, and women aged 24 and older exhibit minimal effects.

Table 6.7: Effect of Being in Turkey on The Probability of Working (2000 Specification)

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0257*** (0.00751)	0.0330*** (0.00792)	0.0285*** (0.00934)	0.0286*** (0.00933)	0.0284*** (0.00981)	0.0257** (0.0101)
Observations	31,244	31,244	31,244	31,244	31,244	31,244
Panel B: Syrians Younger Than 18						
inturkey	0.0684*** (0.0132)	0.0647*** (0.0143)	0.0591*** (0.0153)	0.0612*** (0.0155)	0.0658*** (0.0156)	0.0680*** (0.0161)
Observations	9,064	9,064	9,064	9,064	9,064	9,064
Panel C: Syrians Between Age 18 and 24						
inturkey	0.0249** (0.0117)	0.0546*** (0.0151)	0.0407** (0.0177)	0.0409** (0.0176)	0.0321* (0.0181)	0.0272 (0.0181)
Observations	9,419	9,419	9,419	9,419	9,419	9,419
Panel D: Syrians Older Than 24						
inturkey	0.00173 (0.0111)	0.00528 (0.0134)	0.00393 (0.0144)	0.00471 (0.0146)	0.00738 (0.0155)	0.00422 (0.0161)
Observations	12,761	12,761	12,761	12,761	12,761	12,761

Notes: This table presents another robustness test that restricts the sample to observations from 2000 onward for both Syrian and native women. This specification ensures more balanced temporal coverage between groups and addresses concerns about including very early periods that may not reflect contemporary labor market conditions. The dependent variable remains employment status, with model specifications following Table 6.1's structure. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6.8 presents an expanded analysis that includes Turkish women under the 2000 specification. Syrian women maintain an impact of 3.57 and 3.53 pps on employment compared to all Turkish women (both significant at 1%). Regional comparisons again show the strongest effects in Southeastern Anatolia (4.30 and 4.20 pps) and Central Anatolia (3.64 and 3.48 pps). The analyses specific to age groups are also consistent with our main results, as in the 2011 specification.

Table 6.8: Effect of Being in Turkey on The Probability of Working With Different Native Groups & Different Age Groups (2000 Specification)

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1) Quartic Trend	(2) Year FE	(1) Quartic Trend	(2) Year FE	(1) Quartic Trend	(2) Year FE	(1) Quartic Trend	(2) Year FE
Panel A: All Syrians + All Natives								
inturkey_2000_plus	0.0357*** (0.00912)	0.0353*** (0.00915)	0.0765*** (0.0147)	0.0765*** (0.0147)	0.0358** (0.0151)	0.0349** (0.0152)	0.00223 (0.0134)	0.00201 (0.0135)
Observations	147,033	147,033	31,381	31,381	38,240	38,240	77,412	77,412
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_2000_plus	0.0244** (0.00963)	0.0222** (0.00987)	0.0665*** (0.0148)	0.0672*** (0.0151)	0.0301* (0.0179)	0.0272 (0.0180)	-0.000618 (0.0146)	-0.00347 (0.0151)
Observations	39,848	39,848	10,976	10,976	11,786	11,786	17,086	17,086
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_2000_plus	0.0364*** (0.0101)	0.0348*** (0.0103)	0.0603*** (0.0161)	0.0625*** (0.0165)	0.0454*** (0.0170)	0.0417** (0.0170)	0.0144 (0.0160)	0.0126 (0.0164)
Observations	40,482	40,482	11,220	11,220	12,050	12,050	17,212	17,212
Panel D: All Syrian + Natives in South East Anatolia								
inturkey_2000_plus	0.0430*** (0.0109)	0.0420*** (0.0110)	0.0637*** (0.0174)	0.0633*** (0.0176)	0.0426** (0.0198)	0.0408** (0.0199)	0.0244 (0.0158)	0.0238 (0.0161)
Observations	43,311	43,311	12,177	12,177	12,683	12,683	18,451	18,451
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_2000_plus	0.0321*** (0.0107)	0.0299*** (0.0109)	0.0678*** (0.0157)	0.0696*** (0.0159)	0.0271 (0.0177)	0.0208 (0.0178)	0.00854 (0.0173)	0.00743 (0.0177)
Observations	40,146	40,146	10,713	10,713	11,544	11,544	17,889	17,889

Notes: This table implements the 2000 specification with native comparison groups. By restricting both Syrian and native observations to 2000-2018, the analysis ensures comparable temporal coverage. The model structure follows Table 6.2, with regional comparisons using natives from selected NUTS-1 regions. Both quartic time trends and year fixed effects are employed. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

These alternative specifications strengthen our confidence in our main findings in several ways. First, the 2011 specification confirms that focusing on the most relevant migration period and removing observations from post-war Syria does not change our results. Syrian women, especially among younger cohorts, still have significant effects on employment. Second, the 2000 specification shows that our results are not driven by the inclusion of very early observations that may not be representative. Even when we restrict the sample to more recent decades, the effect of being in Turkey on employment persists. Third, both specifications preserve the core model we identified: the migration-related employment effect is strongest for young Syrian women, while older women experience very little change in employment. This age difference appears consistently across different sample definitions. Finally, the comparison with Turkish women in Tables 6.6 and 6.8, in both specifications, confirms that the increase in employment among Syrian women reflects the real effects of migration rather than general trends in the Turkish labor market. The fact that these effects persist in similar patterns across different regional comparisons further

supports our interpretation that migration has created real opportunities for Syrian women's participation in the labor market.

6.4 Mechanism

In this section, we present the results of our analysis of three mechanisms that show how the impact of migration on employment status changes. We analyze the household dependency ratio, provincial female labor market conditions, and women's work experience, which are discussed in detail in the methodology section.

6.4.1 Dependency Ratio Mechanism

In Panel A, for all Syrian women, the main migration effect (*inturkey*) varies between 1.21 and 1.87 pps depending on the specifications, but statistical significance varies. The dependency ratio has a 5% significant negative effect on the probability of employment (-0.84 to -0.87 pps), indicating that household dependency ratios generally reduce women's employment probabilities. However, the interaction term (*inturkey* $\times$ *dependency_ratio*) produces small, statistically insignificant coefficients (0.86 to 0.90 pps), indicating that dependency ratios do not significantly alter the effect of migration on employment for the general sample.

Results by age reveal different patterns and interpretations. In Panel B, for Syrian women under 18, both the main migration and dependency ratio effects are small and largely insignificant. Still, the interaction term consistently shows positive and significant effects (approximately 3.1 pps across specifications). This suggests that economic pressure within the household increases the likelihood of post-migration employment for very young women, likely reflecting the economic needs of families with high dependency burdens. These results for this age group explain the finding in the main analysis that the increase in employment are highest in the under 18 age group.

In Panel C, Syrian women aged 18–24 exhibit more significant main migration effects (3.01 to 5.82 pps) and negative dependency ratio effects (-1.47 to -1.68 pps). However, the interaction term remains small and insignificant, suggesting that em-

ployment gains from migration for this most productive age group are not strongly dependent on household structure.

Table 6.9: Effect of Dependency Ratio and Being in Turkey on The Probability of Working

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0131 (0.0125)	0.0137 (0.0125)	0.0187 (0.0131)	0.0162 (0.0135)	0.0161 (0.0136)	0.0121 (0.0141)
dep_r_d	-0.00875** (0.00404)	-0.00867** (0.00399)	-0.00865** (0.00399)	-0.00852** (0.00399)	-0.00853** (0.00399)	-0.00845** (0.00399)
inturkey_dep_r_d	0.00896 (0.00677)	0.00888 (0.00679)	0.00881 (0.00679)	0.00866 (0.00677)	0.00868 (0.00678)	0.00855 (0.00679)
Observations	35,310	35,310	35,310	35,310	35,310	35,310
Panel B: Syrians Younger Than 18						
inturkey	0.0120 (0.0221)	0.0137 (0.0226)	0.00995 (0.0242)	0.00481 (0.0253)	0.00595 (0.0258)	0.0124 (0.0261)
dep_r_d	0.00462 (0.00417)	0.00480 (0.00417)	0.00476 (0.00418)	0.00490 (0.00416)	0.00490 (0.00416)	0.00452 (0.00415)
inturkey_dep_r_d	0.0309** (0.0134)	0.0307** (0.0134)	0.0308** (0.0134)	0.0306** (0.0134)	0.0306** (0.0134)	0.0310** (0.0134)
Observations	10,543	10,543	10,543	10,543	10,543	10,543
Panel C: Syrians Between Age 18 and 24						
inturkey	0.0301 (0.0211)	0.0432* (0.0225)	0.0582** (0.0244)	0.0500** (0.0249)	0.0500** (0.0249)	0.0322 (0.0253)
dep_r_d	-0.0168** (0.00838)	-0.0147* (0.00849)	-0.0153* (0.00847)	-0.0148* (0.00845)	-0.0150* (0.00843)	-0.0152* (0.00841)
inturkey_dep_r_d	-0.00533 (0.0197)	-0.00697 (0.0197)	-0.00593 (0.0197)	-0.00678 (0.0197)	-0.00684 (0.0197)	-0.00613 (0.0196)
Observations	11,536	11,536	11,536	11,536	11,536	11,536
Panel D: Syrians Older Than 24						
inturkey	-0.00156 (0.0213)	-0.00548 (0.0228)	-0.00430 (0.0228)	-0.00432 (0.0227)	-0.000337 (0.0226)	-0.00372 (0.0232)
dep_r_d	-0.0206*** (0.00761)	-0.0209*** (0.00757)	-0.0210*** (0.00758)	-0.0210*** (0.00759)	-0.0213*** (0.00764)	-0.0213*** (0.00765)
inturkey_dep_r_d	0.00360 (0.00947)	0.00399 (0.00949)	0.00408 (0.00957)	0.00408 (0.00957)	0.00456 (0.00964)	0.00456 (0.00965)
Observations	13,231	13,231	13,231	13,231	13,231	13,231

Notes: This table explores how household dependency ratios shape employment responses to migration. The dependent variable is employment status for Syrian women aged 12-49. The variable *dep_r_d* measures the household dependency ratio (number of dependents per working-age adult), while *inturkey_dep_r_d* is an interaction term testing whether migration effects vary with household composition. The sample size reduces to 35,310 observations due to missing household data. All specifications control for age and education with different time trend treatments as in the main analysis. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Looking at Panel D for women aged 24 and above, migration effects are minimal and insignificant, consistent with our main findings. Here, the dependency ratio shows strong negative effects (-2.06 to -2.13 pps), but the interaction term remains

small and insignificant. This suggests that household dependency burdens influence older women's employment decisions, but migration does not significantly alter this relationship.

The dependency ratio mechanism provides mixed evidence on the role of economic necessity as a driver of employment growth. While the household dependency burden generally reduces the likelihood of employment, its interaction with migration status yields significant results only for the youngest women. This suggests that economic pressure may play a role in encouraging very young women to work after migration.

Table 6.10 presents an expanded analysis comparing Syrian women and local Turkish women in different regions and reveals several important patterns in our regression results. Among these, the most notable finding concerns the age group under 18. Across all panels, the interaction term shows distinctively strong and consistent effects for the under-18 age group compared to the 18-24 and 24+ age groups.

In Panel A, our interaction term indicates that the dependency ratio has a more positive effect of 3.4 to 3.6 pps on the employment status of Syrian women compared to local women. This suggests that household economic pressure pushes Syrian women into the labor force at higher rates than Turkish women. The interaction coefficient for women under 18 reaches 3.63 pps (significant at the 1% level), indicating that increases in dependency rates increase the employment probability of Syrian girls by 3.63 pps more than Turkish girls. This effect is significantly larger than the overall sample average. For the 18-24 age group, the interaction term is insignificant, with a 2.6 pps difference. For older women, this coefficient yields 3.56 pps, significant in 1% level. However, the magnitude and significance do not hold when we check for Panel B, C, D, and E.

Table 6.10: Effect of Dependency Ratio on The Probability of Being Employed With Different Native Groups & Different Age Groups

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE
Panel A: All Syrians + All Natives								
inturkey_syria	-0.00977 (0.0136)	-0.0102 (0.0137)	0.0108 (0.0233)	0.0112 (0.0234)	0.0150 (0.0226)	0.0157 (0.0228)	-0.0550** (0.0225)	-0.0558** (0.0226)
dep_r_d	-0.0377*** (0.00405)	-0.0377*** (0.00405)	-0.000770 (0.00362)	-0.000786 (0.00361)	-0.0498*** (0.00729)	-0.0499*** (0.00730)	-0.0548*** (0.00688)	-0.0548*** (0.00688)
inturkey_dep_r_d_syria	0.0340*** (0.00712)	0.0340*** (0.00713)	0.0363*** (0.0134)	0.0363*** (0.0134)	0.0262 (0.0193)	0.0260 (0.0193)	0.0356*** (0.0100)	0.0356*** (0.0100)
Observations	177,682	177,682	41,624	41,624	54,366	54,366	81,692	81,692
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_syria	0.0102 (0.0135)	0.00716 (0.0139)	0.00897 (0.0248)	0.0129 (0.0250)	0.0439* (0.0248)	0.0316 (0.0252)	-0.00756 (0.0221)	-0.01000 (0.0226)
dep_r_d	-0.0100*** (0.00376)	-0.0100*** (0.00376)	0.00470 (0.00400)	0.00438 (0.00400)	-0.0179** (0.00779)	-0.0183** (0.00778)	-0.0215*** (0.00704)	-0.0215*** (0.00705)
inturkey_dep_r_d_syria	0.0101 (0.00673)	0.00998 (0.00673)	0.0309** (0.0133)	0.0312** (0.0134)	-0.00434 (0.0195)	-0.00355 (0.0194)	0.00470 (0.00939)	0.00471 (0.00940)
Observations	45,937	45,937	13,272	13,272	14,858	14,858	17,807	17,807
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_syria	0.0264* (0.0140)	0.0236 (0.0143)	0.00602 (0.0256)	0.00854 (0.0258)	0.0597** (0.0241)	0.0486** (0.0244)	0.0120 (0.0231)	0.00987 (0.0237)
dep_r_d	-0.00819** (0.00385)	-0.00812** (0.00385)	0.00534 (0.00386)	0.00517 (0.00386)	-0.0174** (0.00796)	-0.0175** (0.00795)	-0.0179** (0.00702)	-0.0179** (0.00703)
inturkey_dep_r_d_syria	0.00820 (0.00679)	0.00807 (0.00680)	0.0302** (0.0133)	0.0303** (0.0133)	-0.00421 (0.0195)	-0.00360 (0.0195)	0.00109 (0.00944)	0.00112 (0.00945)
Observations	46,323	46,323	13,419	13,419	15,038	15,038	17,866	17,866
Panel D: All Syrian + Natives in South East Anatolia								
inturkey_syria	0.0308** (0.0147)	0.0308** (0.0151)	0.00900 (0.0258)	0.0110 (0.0261)	0.0581** (0.0255)	0.0504* (0.0261)	0.0208 (0.0245)	0.0206 (0.0248)
dep_r_d	-0.00983** (0.00442)	-0.00986** (0.00443)	0.00425 (0.00435)	0.00406 (0.00436)	-0.0131 (0.00840)	-0.0132 (0.00841)	-0.0204** (0.00825)	-0.0204** (0.00826)
inturkey_dep_r_d_syria	0.00969 (0.00712)	0.00972 (0.00713)	0.0313** (0.0135)	0.0315** (0.0135)	-0.00816 (0.0197)	-0.00778 (0.0197)	0.00345 (0.0105)	0.00350 (0.0105)
Observations	49,279	49,279	14,235	14,235	15,865	15,865	19,179	19,179
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_syria	0.0153 (0.0146)	0.0128 (0.0151)	0.00252 (0.0251)	0.00803 (0.0253)	0.0391 (0.0247)	0.0278 (0.0253)	-0.00143 (0.0253)	-0.00415 (0.0259)
dep_r_d	-0.0119*** (0.00427)	-0.0119*** (0.00427)	0.00377 (0.00400)	0.00353 (0.00399)	-0.0191** (0.00849)	-0.0194** (0.00849)	-0.0253*** (0.00825)	-0.0253*** (0.00826)
inturkey_dep_r_d_syria	0.0115* (0.00696)	0.0114 (0.00697)	0.0318** (0.0133)	0.0320** (0.0134)	-0.00299 (0.0197)	-0.00240 (0.0197)	0.00797 (0.0102)	0.00789 (0.0102)
Observations	46,549	46,549	13,036	13,036	14,847	14,847	18,666	18,666

Notes: This table extends the dependency ratio analysis by incorporating native women as a comparison group. The triple interaction term *inturkey_dep_r_d_syria* identifies how dependency ratios differentially affect Syrian women's employment response to migration compared to natives facing similar household burdens. The analysis employs both quartic time trends and year fixed effects. Panel A uses all natives as the comparison, while Panels B-E focus on specific NUTS-1 regions. Group-specific age and education controls are included throughout. Sample sizes vary due to missing household composition data. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Regional analysis reveals significant heterogeneity in interaction effects across different regions of Turkey, but the under-18 model holds consistently across all regions. In Panel B, which focuses on Northeast Anatolia, although the overall interaction coefficients are small and statistically insignificant (1.01 pps), the under-18 group shows stronger effects (3.09 pps-3.12 pps). This indicates that in this

region, where overall effects are weak, young Syrian women respond more strongly to the dependency ratio than their Turkish peers. In Panel C, which examines Central Anatolia, the interaction term is 0.8 pps in the general sample and is statistically insignificant. However, the coefficients for those under 18 are 3.02 and 3.03 pps, maintaining statistical significance. The results for Southeastern Anatolia in Panel D are similar. The interaction term, which is 0.9 pps in the general sample, is 3.13 and 3.15 pps for the under-18 group. This region shows strong effects for the youngest cohort, while the 18-24 and older groups show much smaller, insignificant coefficients. In Panel E, covering Central Anatolia, the interaction term is 1.15 pps, statistically almost insignificant and it is only slightly higher than Panels C and D. However, the under-18 group again stands out with coefficients ranging from 3.18 to 3.20 pps. Even in regions where the effects of other age groups are minimal, the coefficient of the interaction term for the under-18 group remains consistently positive and significant.

As we observe in this age-specific study, there is a sharp contrast between age groups. For women aged 18-24, the interaction coefficients are generally much smaller and statistically insignificant in most panels. For women over 24, the effects are even weaker; the coefficients are generally close to zero and statistically insignificant across all panels.

The main dependency ratio effect consistently shows negative and highly significant coefficients across all panels and age groups, except for the 18-24 age group. These coefficients generally range from -1.00 pps to -5.48 pps, indicating that a higher dependency burden, regardless of its origin, reduces typically women's employment probability. Syrian girls under 18 who are facing high dependency rates are significantly more likely to enter the labor force than Turkish girls of the same age. This effect varies consistently across regions between 3.0 and 3.6 pps. This may reflect the greater economic vulnerability of Syrian refugee households, different cultural attitudes towards young women working, limited access to education, or the necessity to contribute to household income in the absence of other support mechanisms. These regional age group analyses explain why young women have the highest increase in their employment status.

6.4.2 Labor Force Participation Rate Mechanism by Province

Tables 6.11 and 6.12 present our findings that constitute evidence for the labor market saturation in the literature, and also the opportunity side of high LFPR. Table 6.11, which examines only Syrian women, shows consistent positive main effects ranging from 0.73 pps to 1.17 pps. This confirms that employment opportunities for all women improve in provinces with higher female labor force participation rates. However, the interaction term ($inturkey \times provincial_lfpr$) shows consistent and statistically significant negative effects ranging from -0.64 to -1.17 in all specifications. According to these results, provinces with high LFPR generally offer better employment conditions, but at the same time create relatively greater difficulties for Syrian women when they are in Turkey compared to local women.

Our analysis by age group in Table 6.11 reveals notable heterogeneity in these saturation effects. As seen in Panel B, the interaction effect for Syrian women under 18 is small (-0.13) and statistically insignificant, indicating that very young Syrian women face little additional competitive pressure in provinces with high LFPR. This may reflect the flexibility and complementarity of young workers in local labor markets, as these workers can fill roles that do not directly compete with established local workers.

Panel C shows negative interaction coefficients ranging from -0.68 to -0.69 (1% significance level) for the 18-24 age group, which is different from the others. This indicates moderate saturation effects in the labor market. This age group faces particular challenges in provinces where female labor force participation was previously high. This may be caused by direct competition with young Turkish women in labor markets where LFPR is significantly higher. It is also noteworthy that there is persistent and increasing youth unemployment in Turkey for this age group.

As seen in Panel D, the strongest saturation effects are among Syrian women over the age of 24. The interaction term coefficients range from -1.11 to -1.12 pps when LFPR increases from 0 to 1. These negative effects indicate that older Syrian women face the most intense competition in provinces with high female labor force participation, and that they compete directly with established Turkish workers for

Table 6.11: Effect of LFPR and Being in Turkey on the Probability of Being Employed

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0620*** (0.0181)	0.0658*** (0.0190)	0.0748*** (0.0200)	0.0727*** (0.0199)	0.0726*** (0.0199)	0.0695*** (0.0206)
lfpr_d	0.00739*** (0.00164)	0.00740*** (0.00164)	0.00746*** (0.00165)	0.00746*** (0.00165)	0.00746*** (0.00165)	0.00742*** (0.00165)
inturkey_lfpr_d	-0.00649*** (0.00173)	-0.00649*** (0.00173)	-0.00653*** (0.00173)	-0.00653*** (0.00174)	-0.00654*** (0.00174)	-0.00650*** (0.00174)
Observations	37,964	37,964	37,964	37,964	37,964	37,964
Panel B: Syrians Younger Than 18						
inturkey	0.0374 (0.0280)	0.0390 (0.0285)	0.0409 (0.0284)	0.0382 (0.0277)	0.0382 (0.0275)	0.0451 (0.0280)
lfpr_d	0.00383*** (0.00107)	0.00384*** (0.00108)	0.00386*** (0.00108)	0.00385*** (0.00108)	0.00385*** (0.00108)	0.00387*** (0.00108)
inturkey_lfpr_d	-0.00135 (0.00150)	-0.00136 (0.00150)	-0.00137 (0.00150)	-0.00138 (0.00150)	-0.00138 (0.00151)	-0.00135 (0.00151)
Observations	13,051	13,051	13,051	13,051	13,051	13,051
Panel C: Syrians Between Age 18 and 24						
inturkey	0.0562** (0.0275)	0.0730** (0.0290)	0.0920*** (0.0311)	0.0843*** (0.0310)	0.0844*** (0.0310)	0.0682** (0.0315)
lfpr_d	0.00810*** (0.00198)	0.00811*** (0.00198)	0.00826*** (0.00199)	0.00827*** (0.00198)	0.00826*** (0.00198)	0.00807*** (0.00199)
inturkey_lfpr_d	-0.00683*** (0.00218)	-0.00682*** (0.00217)	-0.00693*** (0.00217)	-0.00698*** (0.00218)	-0.00699*** (0.00218)	-0.00681*** (0.00218)
Observations	11,651	11,651	11,651	11,651	11,651	11,651
Panel D: Syrians Older Than 24						
inturkey	0.0950*** (0.0281)	0.0995*** (0.0310)	0.101*** (0.0318)	0.101*** (0.0318)	0.106*** (0.0324)	0.105*** (0.0334)
lfpr_d	0.0117*** (0.00287)	0.0117*** (0.00288)	0.0117*** (0.00288)	0.0117*** (0.00288)	0.0118*** (0.00288)	0.0117*** (0.00289)
inturkey_lfpr_d	-0.0117*** (0.00297)	-0.0117*** (0.00297)	-0.0117*** (0.00297)	-0.0117*** (0.00297)	-0.0118*** (0.00298)	-0.0118*** (0.00298)
Observations	13,262	13,262	13,262	13,262	13,262	13,262

Notes: This table examines how provincial female labor force participation rates influence migration's employment effects. The variable *lfpr_d* represents the female LFPR in the province of residence, calculated from native women during 2000-2011 to avoid endogeneity from refugee settlement patterns. The interaction *inturkey_lfpr_d* tests whether local labor market conditions moderate the migration effect. The sample includes all Syrian women aged 12-49 with standard age and education controls under various time trend specifications. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

similar positions.

Table 6.12 extends this analysis and elaborates on our findings by comparing Syrian women in different regions with local Turkish women, similar to the procedure in our previous analyses. In Panel A, which covers all regions, the interaction term is -0.56 pp in our study, which includes all age groups. While it is small and statistically

insignificant in the under-18 group, it is close to the value for the entire group in the 18-24 age range (-0.53 pps) and has a negative effect of -0.85 pps for the over-24 group.

Regional analysis reveals that this measure of saturation is consistently valid across Turkey's various geographical regions. In the Northeast Anatolia (Panel B), Central East Anatolia (Panel C), Southeast Anatolia (Panel D), and Central Anatolia (Panel E) regions, interaction terms remain negative and significant, ranging from -0.052 to -0.65 for all age groups. For all regions, the negative interaction is highest and consistently ranges between -0.08 and -0.12 for women over 24 years of age. On the other hand, the group under 18 shows very small negative effects; these effects are generally between -0.01 pps and -0.02 pps and are often statistically insignificant.

When we examine the coefficient sizes, we can say that there are systematic cancelling effects that vary by age group. Looking at the entire sample, the positive main effect of LFPR (0.064 pps) is almost completely offset by the negative interaction term (-0.056 pps). In other words, the net effect is close to zero for Syrian women in provinces with high LFPR. However, for women under 18, the minimal interaction effects largely preserve the positive coefficients of LFPR, creating net positive employment effects. For women aged 18-24, the magnitude of the negative interaction terms is almost offset by the positive coefficients of LFPR, although a slight positive effect remains. For women over 24, the negative interaction effects generally exceed the positive main effects. Therefore, this creates net negative consequences for older women, suggesting that this group would benefit more from settling in provinces with low LFPR.

Table 6.12: Effect of Labor Force Participation Rate on the Probability of Being Employed With Different Native Groups & Different Age Groups

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE
Panel A: All Syrians + All Natives								
inturkey_syria	0.0636*** (0.0157)	0.0630*** (0.0158)	0.0440 (0.0278)	0.0449 (0.0280)	0.0531** (0.0260)	0.0539** (0.0262)	0.0678*** (0.0220)	0.0671*** (0.0221)
lfpr_d	0.00648*** (0.000432)	0.00648*** (0.000432)	0.00423*** (0.000371)	0.00423*** (0.000372)	0.00658*** (0.000534)	0.00657*** (0.000534)	0.00843*** (0.000675)	0.00843*** (0.000675)
inturkey_lfpr_d	-0.00560*** (0.000680)	-0.00560*** (0.000680)	-0.00175 (0.00116)	-0.00178 (0.00116)	-0.00531*** (0.00106)	-0.00532*** (0.00106)	-0.00849*** (0.000945)	-0.00849*** (0.000945)
Observations	193,442	193,442	56,631	56,631	54,805	54,805	82,006	82,006
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_syria	0.0651*** (0.0180)	0.0617*** (0.0184)	0.0401 (0.0273)	0.0427 (0.0277)	0.0781*** (0.0292)	0.0673** (0.0297)	0.0953*** (0.0279)	0.0949*** (0.0286)
lfpr_d	0.00744*** (0.00135)	0.00742*** (0.00135)	0.00435*** (0.000946)	0.00433*** (0.000946)	0.00838*** (0.00165)	0.00827*** (0.00166)	0.0115*** (0.00225)	0.0115*** (0.00225)
inturkey_lfpr_d	-0.00656*** (0.00146)	-0.00652*** (0.00146)	-0.00190 (0.00143)	-0.00183 (0.00144)	-0.00712*** (0.00188)	-0.00702*** (0.00189)	-0.0115*** (0.00237)	-0.0116*** (0.00237)
Observations	49,423	49,423	16,584	16,584	15,000	15,000	17,839	17,839
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_syria	0.0735*** (0.0172)	0.0709*** (0.0176)	0.0408 (0.0279)	0.0436 (0.0284)	0.0800*** (0.0282)	0.0702** (0.0284)	0.0909*** (0.0255)	0.0906*** (0.0262)
lfpr_d	0.00678*** (0.00102)	0.00677*** (0.00102)	0.00398*** (0.000810)	0.00397*** (0.000809)	0.00697*** (0.00129)	0.00694*** (0.00129)	0.00974*** (0.00167)	0.00974*** (0.00167)
inturkey_lfpr_d	-0.00587*** (0.00115)	-0.00585*** (0.00115)	-0.00154 (0.00136)	-0.00148 (0.00136)	-0.00569*** (0.00158)	-0.00566*** (0.00158)	-0.00978*** (0.00182)	-0.00980*** (0.00182)
Observations	49,957	49,957	16,847	16,847	15,199	15,199	17,911	17,911
Panel D: All Syrian + Natives in South East Anatolia								
inturkey_syria	0.0684*** (0.0182)	0.0679*** (0.0186)	0.0247 (0.0294)	0.0262 (0.0300)	0.0737** (0.0309)	0.0665** (0.0314)	0.0890*** (0.0270)	0.0895*** (0.0274)
lfpr_d	0.00613*** (0.00108)	0.00612*** (0.00109)	0.00299*** (0.000896)	0.00299*** (0.000896)	0.00690*** (0.00142)	0.00686*** (0.00142)	0.00856*** (0.00194)	0.00857*** (0.00195)
inturkey_lfpr_d	-0.00520*** (0.00121)	-0.00519*** (0.00121)	-0.000570 (0.00141)	-0.000566 (0.00142)	-0.00560*** (0.00169)	-0.00557*** (0.00169)	-0.00857*** (0.00206)	-0.00858*** (0.00206)
Observations	53,335	53,335	18,068	18,068	16,019	16,019	19,248	19,248
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_syria	0.0635*** (0.0186)	0.0610*** (0.0191)	0.0321 (0.0274)	0.0377 (0.0279)	0.0550* (0.0293)	0.0453 (0.0298)	0.0882*** (0.0291)	0.0859*** (0.0297)
lfpr_d	0.00653*** (0.00126)	0.00652*** (0.00126)	0.00357*** (0.000861)	0.00359*** (0.000866)	0.00608*** (0.00150)	0.00600*** (0.00150)	0.00987*** (0.00214)	0.00986*** (0.00214)
inturkey_lfpr_d	-0.00562*** (0.00137)	-0.00561*** (0.00137)	-0.00110 (0.00138)	-0.00111 (0.00139)	-0.00482*** (0.00175)	-0.00476*** (0.00175)	-0.00991*** (0.00226)	-0.00991*** (0.00226)
Observations	50,275	50,275	16,575	16,575	14,983	14,983	18,717	18,717

Notes: This table extends the LFPR analysis using native comparison groups. The triple interaction *inturkey_lfpr_d_syria* captures how provincial female participation rates differentially affect Syrian women's employment gains from migration relative to natives in similar labor markets. Provincial LFPR is calculated from native women during 2000-2011. The models employ quartic trends and year fixed effects, with regional panels varying the native comparison group. All specifications include group-specific age and education controls. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

This study reveals that provinces with higher LFPR rates, calculated over the entire 2000-2011 period, do indeed offer better employment opportunities. However, we can argue that Syrian women already face intense competition from local workers with higher labor force participation. Employment patterns calculated over more than a decade before the large-scale migration from Syria created both opportunities and competition for Syrians. In light of these results, we suggest that settlement

policies that direct Syrian refugees to regions with low/medium female labor force participation rates may be more effective than directing them to provinces with high rates. Such regions may offer an optimal balance between employment opportunities and competitive pressure from local workers. Furthermore, the significant age heterogeneity in these effects suggests the need to consider demographic characteristics when determining settlement and integration policies. Young Syrian women under 18 face minimal competitive pressure, while women over 24 face the strongest saturation effects. This pattern suggests that different age groups may benefit from different geographic placement strategies, and older women may potentially achieve better employment outcomes in provinces with lower LFPR values.

6.4.3 *Prior Work Experience Mechanism*

Tables 6.13 and 6.14 present our analysis results for work experience. In Table 6.13, when only Syrian women are examined, the main effect of work experience is 6.34 pps, which is statistically significant at the 1% level. When examined by age group, consistent, positive coefficients are observed. These coefficients range from 4.93 pps for older women to 3.11 for women under 18 (both statistically significant at the 1% level). These effects confirm that having work experience increases the likelihood of employment, and that this effect is particularly pronounced in the youngest and oldest cohorts.

We measure the heterogeneity in how post-migration employment status changes using the interaction term. The interaction coefficient in Panel A is consistently negative (-3.69) and statistically significant. This indicates that the employment advantage decreases after migration to Turkey. In other words, although experience is valuable, we can conclude that gains are almost halved in the context of the Turkish labor market.

Using age-specific models, we can draw some conclusions about this relationship. For women under 18 years old, as shown in Panel B, the interaction effects are small and statistically insignificant (1.12 pps to 1.97 pps). In other words, young women do not lose their work experience-related gains after migration. As seen in Panel

C, interaction effects are variably negative (-3.58 pps to -3.69 pps) but statistically insignificant for women aged 18-24. These results allow us to notice that the value of experience has declined somewhat for this group. However, looking at Panel D, the interaction terms are consistently negative and significant (-2.39 pps to -2.40 pps) specifically for women over the age of 24, indicating that older women experience the greatest loss of their pre-migration work experience.

Table 6.13: Effect of Prior Work Experience on The Probability of Being Employed

	(1) Basic	(2) Linear Trend	(3) Quadratic Trend	(4) Cubic Trend	(5) Quartic Trend	(6) Year FE
Panel A: All Syrians						
inturkey	0.0635*** (0.00607)	0.0670*** (0.00665)	0.0646*** (0.00821)	0.0580*** (0.00835)	0.0576*** (0.00834)	0.0518*** (0.00897)
workexp_d	0.0634*** (0.00281)	0.0634*** (0.00281)	0.0635*** (0.00280)	0.0635*** (0.00281)	0.0635*** (0.00281)	0.0635*** (0.00281)
inturkey_workexp_d	-0.0369*** (0.00339)	-0.0369*** (0.00337)	-0.0369*** (0.00337)	-0.0369*** (0.00338)	-0.0369*** (0.00338)	-0.0369*** (0.00338)
Observations	37,964	37,964	37,964	37,964	37,964	37,964
Panel B: Syrians Younger Than 18						
inturkey	0.0965*** (0.0126)	0.0902*** (0.0126)	0.0757*** (0.0133)	0.0636*** (0.0144)	0.0611*** (0.0149)	0.0610*** (0.0152)
workexp_d	0.311*** (0.00627)	0.311*** (0.00626)	0.312*** (0.00624)	0.312*** (0.00624)	0.312*** (0.00625)	0.312*** (0.00624)
inturkey_workexp_d	0.0112 (0.0380)	0.0115 (0.0380)	0.0138 (0.0382)	0.0180 (0.0385)	0.0197 (0.0387)	0.0185 (0.0388)
Observations	13,051	13,051	13,051	13,051	13,051	13,051
Panel C: Syrians Between Age 18 and 24						
inturkey	0.0609*** (0.00938)	0.0634*** (0.0109)	0.0558*** (0.0144)	0.0502*** (0.0159)	0.0505*** (0.0159)	0.0369** (0.0163)
workexp_d	0.112*** (0.00351)	0.112*** (0.00352)	0.113*** (0.00352)	0.112*** (0.00352)	0.113*** (0.00351)	0.113*** (0.00350)
inturkey_workexp_d	-0.0364 (0.0243)	-0.0364 (0.0243)	-0.0363 (0.0243)	-0.0358 (0.0243)	-0.0363 (0.0243)	-0.0369 (0.0244)
Observations	11,651	11,651	11,651	11,651	11,651	11,651
Panel D: Syrians Older Than 24						
inturkey	0.0488*** (0.00773)	0.0522*** (0.0104)	0.0405*** (0.0111)	0.0397*** (0.0110)	0.0417*** (0.0115)	0.0377*** (0.0121)
workexp_d	0.0493*** (0.00219)	0.0493*** (0.00219)	0.0494*** (0.00219)	0.0494*** (0.00219)	0.0494*** (0.00219)	0.0493*** (0.00219)
inturkey_workexp_d	-0.0240*** (0.00310)	-0.0240*** (0.00311)	-0.0240*** (0.00312)	-0.0240*** (0.00312)	-0.0240*** (0.00312)	-0.0239*** (0.00312)
Observations	13,262	13,262	13,262	13,262	13,262	13,262

Notes: This table analyzes how pre-migration work experience influences post-migration employment outcomes. The variable *workexp_d* measures cumulative years of employment through 2011, capturing pre-war experience and held constant for subsequent years. The interaction *inturkey_workexp_d* tests whether the value of work experience changes after migration to Turkey. The sample includes Syrian women aged 12-49, with all models incorporating age and education controls under various time trend specifications. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6.14: Effect of Prior Work Experience on The Probability of Being Employed With Different Native Groups & Different Age Groups

	All Age Groups		Younger Than 18		Between 18 and 24		Older Than 24	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE	Quartic	Year FE
Panel A: All Syrians + All Natives								
inturkey_syria	0.0107 (0.00780)	0.00763 (0.00788)	0.0464*** (0.0139)	0.0447*** (0.0140)	-0.0157 (0.0128)	-0.0203 (0.0130)	-0.0233** (0.0106)	-0.0260** (0.0107)
workexp_d	0.0510*** (0.000578)	0.0511*** (0.000579)	0.301*** (0.00156)	0.301*** (0.00156)	0.108*** (0.000994)	0.108*** (0.000994)	0.0411*** (0.000599)	0.0411*** (0.000600)
inturkey_wexp_syria	-0.0249*** (0.00301)	-0.0249*** (0.00301)	0.0343 (0.0389)	0.0337 (0.0387)	-0.0289 (0.0240)	-0.0299 (0.0240)	-0.0157*** (0.00308)	-0.0158*** (0.00308)
Observations	193,442	193,442	56,631	56,631	54,805	54,805	82,006	82,006
Panel B: All Syrian + Natives in Northeast Anatolia								
inturkey_syria	0.0492*** (0.00838)	0.0435*** (0.00891)	0.0613*** (0.0142)	0.0607*** (0.0144)	0.0367** (0.0160)	0.0256 (0.0165)	0.0309*** (0.0113)	0.0272** (0.0117)
workexp_d	0.0625*** (0.00225)	0.0625*** (0.00225)	0.304*** (0.00527)	0.304*** (0.00521)	0.112*** (0.00300)	0.112*** (0.00300)	0.0484*** (0.00176)	0.0484*** (0.00176)
inturkey_wexp_syria	-0.0358*** (0.00316)	-0.0359*** (0.00316)	0.0272 (0.0387)	0.0253 (0.0386)	-0.0346 (0.0243)	-0.0355 (0.0243)	-0.0230*** (0.00302)	-0.0229*** (0.00302)
Observations	49,423	49,423	16,584	16,584	15,000	15,000	17,839	17,839
Panel C: All Syrian + Natives in Central East Anatolia								
inturkey_syria	0.0499*** (0.00868)	0.0443*** (0.00911)	0.0509*** (0.0151)	0.0490*** (0.0155)	0.0391*** (0.0148)	0.0288* (0.0152)	0.0280** (0.0125)	0.0243* (0.0131)
workexp_d	0.0607*** (0.00194)	0.0607*** (0.00194)	0.309*** (0.00482)	0.309*** (0.00480)	0.109*** (0.00290)	0.109*** (0.00289)	0.0477*** (0.00160)	0.0477*** (0.00160)
inturkey_wexp_syria	-0.0343*** (0.00309)	-0.0343*** (0.00309)	0.0250 (0.0388)	0.0244 (0.0389)	-0.0328 (0.0243)	-0.0337 (0.0243)	-0.0223*** (0.00304)	-0.0223*** (0.00304)
Observations	49,957	49,957	16,847	16,847	15,199	15,199	17,911	17,911
Panel D: All Syrian + Natives in South East Anatolia								
inturkey_syria	0.0494*** (0.00920)	0.0462*** (0.00958)	0.0381** (0.0160)	0.0346** (0.0165)	0.0333** (0.0162)	0.0247 (0.0167)	0.0364*** (0.0124)	0.0345*** (0.0126)
workexp_d	0.0580*** (0.00159)	0.0580*** (0.00159)	0.302*** (0.00374)	0.302*** (0.00373)	0.109*** (0.00228)	0.109*** (0.00227)	0.0446*** (0.00146)	0.0446*** (0.00146)
inturkey_wexp_syria	-0.0317*** (0.00307)	-0.0317*** (0.00307)	0.0362 (0.0392)	0.0369 (0.0391)	-0.0322 (0.0242)	-0.0331 (0.0243)	-0.0194*** (0.00312)	-0.0194*** (0.00312)
Observations	53,335	53,335	18,068	18,068	16,019	16,019	19,248	19,248
Panel E: All Syrian + Natives in Central Anatolia								
inturkey_syria	0.0340*** (0.00886)	0.0278*** (0.00935)	0.0609*** (0.0146)	0.0608*** (0.0149)	0.0353** (0.0155)	0.0238 (0.0159)	0.00348 (0.0131)	-0.00169 (0.0135)
workexp_d	0.0565*** (0.00151)	0.0565*** (0.00151)	0.304*** (0.00401)	0.304*** (0.00400)	0.111*** (0.00249)	0.111*** (0.00250)	0.0453*** (0.00131)	0.0453*** (0.00131)
inturkey_wexp_syria	-0.0302*** (0.00300)	-0.0302*** (0.00299)	0.0272 (0.0386)	0.0268 (0.0388)	-0.0341 (0.0242)	-0.0348 (0.0243)	-0.0199*** (0.00302)	-0.0199*** (0.00303)
Observations	50,275	50,275	16,575	16,575	14,983	14,983	18,717	18,717

Notes: This table extends the work experience analysis by comparing Syrian women to natives with similar employment histories. The triple interaction *inturkey_work_exp_syria* identifies differential returns to work experience for Syrian women relative to natives. Work experience is measured as cumulative employment years through 2011. The models include both quartic trends and year fixed effects, with regional panels varying the native comparison group. Group-specific age and education controls are included throughout. Robust standard errors clustered at the individual level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

When we compare Syrian women with local Turkish women across regions, we can detect regional differences. The results in Table 6.14 show these differences and confirm our findings when we examined only Syrian women. In Panel A, the interaction term shows negative coefficients (-2.49), indicating that, compared to native women with similar experience levels, work experience has less of an effect on the employment status of Syrians. When examined regionally, we observe similar

adverse interaction term effects at the 1% level of significance for all age groups. The effect value of the interaction term is -3.59 pps and -3.58 in Northeast Anatolia (Panel B), -3.43 in Central East Anatolia (Panel C), -3.17 pps in Southeast Anatolia (Panel D), and -3.02 in Central Anatolia (Panel E). Examining the age-specific models in Table 6.14 reveals patterns similar to those observed in the analysis conducted only for Syrians. In all regional panels, women under the age of 18 show minimal or positive interaction effects (2.44 pps to 3.69 pps, statistically insignificant). Women aged 18-24 show mixed results ranging from -2.55 pps to -3.55, which are statistically insignificant. The situation is slightly different for women over 24 years old, as shown in the last two columns. For this group, the interaction variable values are consistent and significant at the 1% level, ranging from -1.94 pps to -2.30. With this model, we can conclude that post-migration work experience has clearly become undervalued for older women who may have accumulated specialized human capital that cannot be effectively transferred to the Turkish labor market.

In light of these findings, we can infer that pre-migration work experience provides significant employment advantages for migrants in Turkey, but has lost much of its magnitude, especially for older women. The different effects observed across age groups suggest that young women's work experience may be more general and transferable, while older women's experience may be more context specific. This model has important implications for migration policies. We can conclude that programs aimed at recognizing pre-migration work experience and facilitating adaptation to Turkish conditions could make a valuable contribution for Syrian women over the age of 24 seeking employment in Turkey.

Chapter 7

CONCLUSION

This thesis aims to investigate the effect of the Syrian war on the employment status of women migrating to Turkey. In our analysis, we utilize TDHS data that covers the pre- and post-migration periods of Syrian women. Our empirical results indicate that migrating to Turkey led to a modest but significant increase in Syrian women's overall employment status. Female labor force participation in Syria was very low before the war; therefore, this effect is noteworthy. This average effect varies across different age groups. The youngest Syrian women experienced the most significant increase in employment after migrating. The employment status of women in early adulthood increased by about 5 to 10 pps compared to if they had remained in Syria. These effects are statistically significant in many model specifications. In contrast, we find that migration has little or no impact on employment for older women. Their probability of working in Turkey is not significantly different from what it would have been if they had not migrated.

Our results are robust when examined with various controls and checks. To ensure that the observed employment changes are genuinely related to the migration experience in Turkey rather than to differential trends, we also included time trends and regional effects in the analysis. When we included controls for general temporal effects, the impact on employment remained robust. In contrast, the significant effects of migration on other outcomes (such as school enrollment or marriage timing) disappeared. This strengthens our confidence that we have isolated the causal impact of migration context on women's employment decisions. Being a refugee in Turkey, combined with the economic pressures and opportunities it brings, has led to increased employment among young Syrian women.

We conducted three additional analyses to understand the determinants of Syrian women's employment attainment. Household economic pressure (dependency

ratio) primarily increased employment for the youngest Syrian women (under 18). We observed that provinces with higher female labor force participation (female LFPR by province) generally presented better employment opportunities. Still, Syrian women faced competitive disadvantages in these provinces, with the strongest negative effects for older women (24+). We also found that prior work experience yields advantages, but these advantages are less transferable to migrated countries, particularly for older women with specialized skills. These findings suggest that labor market participation is influenced by both household economic conditions, past experience, and local labor market dynamics.

From a theoretical perspective, this thesis contributes to the literature on the labor market behavior of women under forced migration. The observed increase is most pronounced among those young enough to adapt to new opportunities. Younger women, who have not yet fully embraced the traditional housewife role, have been more flexible in assuming work responsibilities in a different socioeconomic context. Older women, on the other hand, maintain predetermined patterns for various reasons, including cultural norms and the burden of childcare responsibilities.

The findings of this study have important implications for policymakers in Turkey and international organizations assisting refugees. Syrian women, particularly those who are willing and able to work, should be provided with support differentiated by age groups and family structures to enable their participation in the labor force. Experienced, older women are unable to work due to their inability to transfer their skills and their childcare responsibilities within their families. Language training and retraining initiatives are needed to address this issue. Policymakers should also invest in childcare solutions accessible to refugee families. For this purpose, daycare centers may be established in communities with high concentrations of refugees. Finally, officials should settle refugees in different areas by targeting young people who can adapt to new conditions and older women who face disadvantages due to competition in places with higher LFPR.

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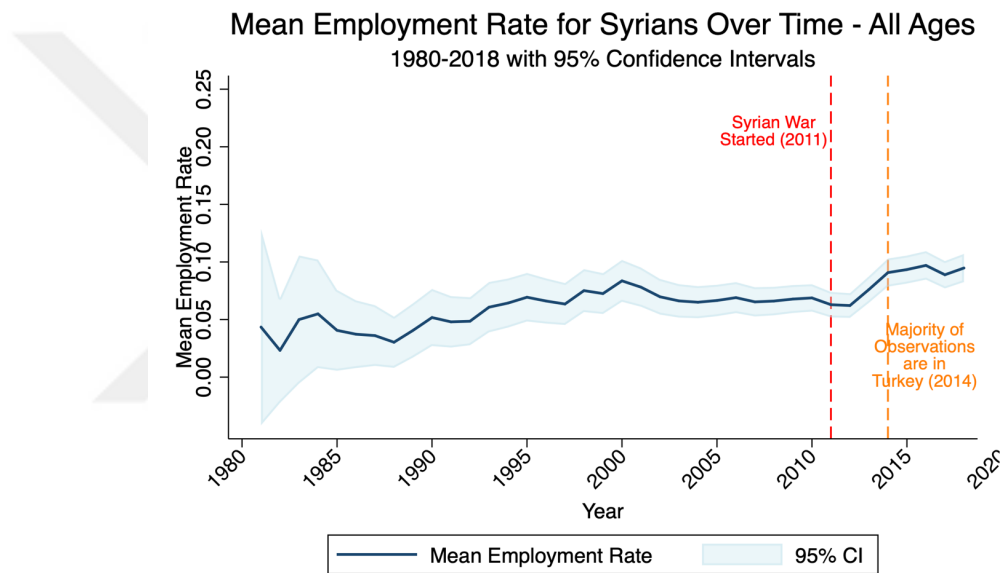
World Bank (2011). Labor force participation rate, female - syrian arab republic.
Technical report, World Bank. World Development Indicators.



Appendix A

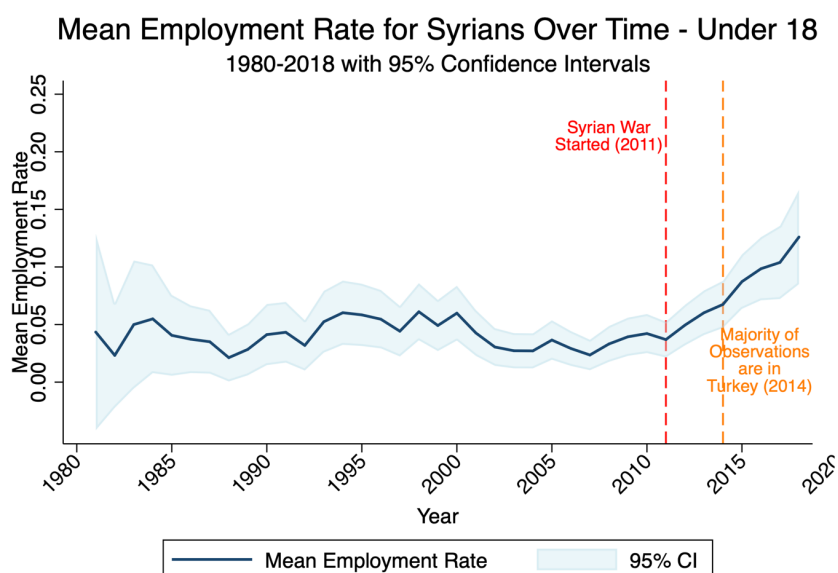
FIGURES

Figure A.1: Mean Employment Rate for Syrians Over Time - All Ages



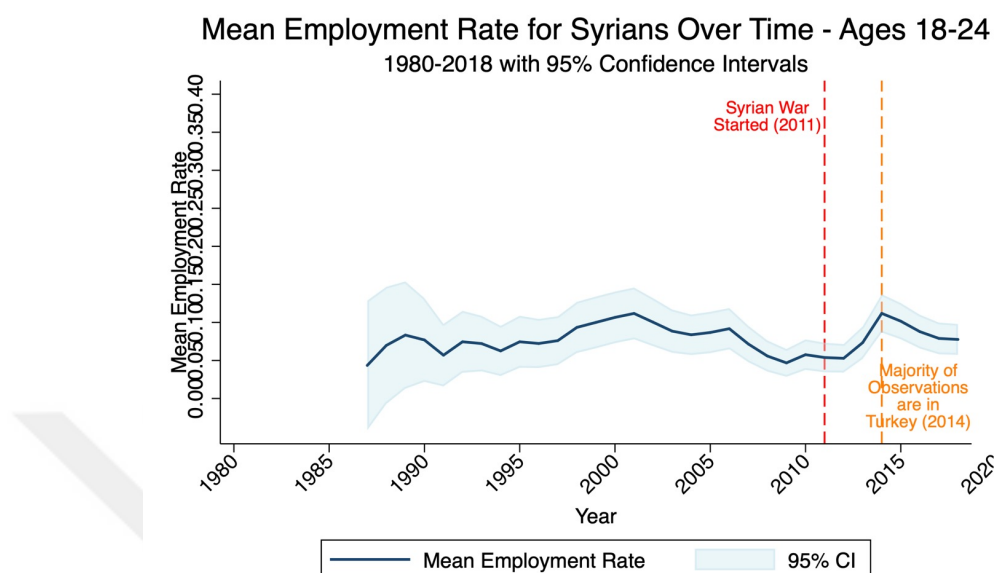
Notes: This figure displays the time series of mean employment rates for all Syrian women aged 12-49 from 1980 to 2018. The shaded area represents the 95% confidence interval calculated using robust standard errors. Vertical reference lines mark two critical events: the onset of the Syrian civil war in 2011 and the period in 2014 when the majority of Syrian women in the sample had migrated to Turkey. Employment is defined as a binary indicator for working in jobs lasting at least six months. The data comes from the constructed panel dataset based on the 2018 Turkey Demographic and Health Survey.

Figure A.2: Mean Employment Rate for Syrians Over Time - Under 18



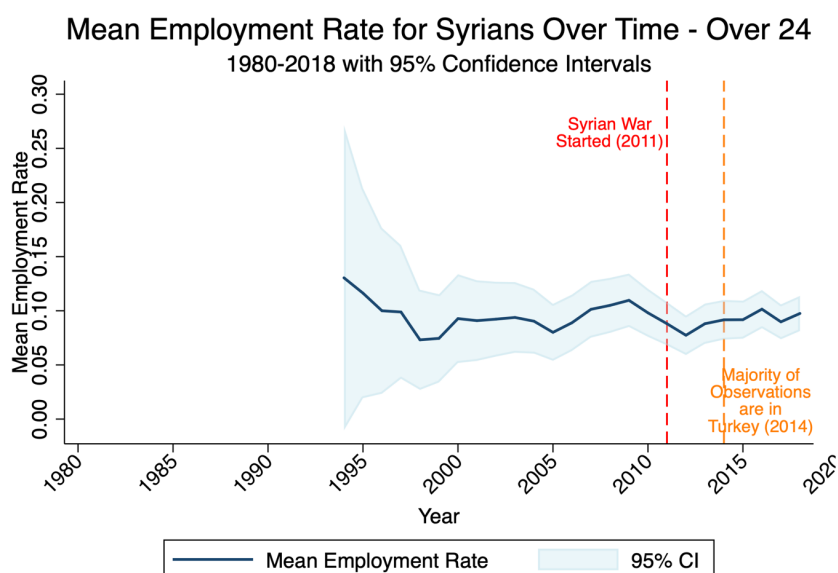
Notes: This figure presents the mean employment rate trajectory specifically for Syrian women under age 18 from 1980 to 2018. The shaded area indicates the 95% confidence interval computed with robust standard errors. The two vertical dashed lines mark the beginning of the Syrian conflict in 2011 and the peak migration year of 2014. Employment is measured as working in any job lasting six months or longer. The figure shows employment patterns for this youngest age group both before and after migration to Turkey.

Figure A.3: Mean Employment Rate for Syrians Over Time - Ages 18-24



Notes: This figure tracks the mean employment rate for Syrian women aged 18-24 across the period 1980-2018. The 95% confidence interval is displayed as a shaded area around the mean trend line, calculated using robust standard errors. Vertical reference lines indicate the start of the Syrian war (2011) and when most observations shift to Turkey (2014). Employment status is defined as having worked in jobs of at least six months duration. The data captures this age group's employment trajectory through both the pre-migration period in Syria and post-migration period in Turkey.

Figure A.4: Mean Employment Rate for Syrians Over Time - Over 24



Notes: This figure illustrates the mean employment rate evolution for Syrian women over age 24 from 1980 to 2018. The shaded region represents the 95% confidence interval based on robust standard errors. Two vertical dashed lines mark key transition points: the Syrian civil war onset in 2011 and the year 2014 when the majority of observations are in Turkey rather than Syria. Employment is defined as engagement in jobs lasting at least six months. This figure captures the employment patterns of older Syrian women across both their years in Syria and their post-migration experience in Turkey.