# Supply Shocks on Local Labor Markets: Evidence from the Syrian Crisis in Turkey

*By*

Neslihan Eryaman

*Submitted to*

Central European University

Department of Economics

*In partial fulfilment to the requirements for the degree of*

Master of Arts in Economic Policy in Global Markets



Supervisor: Professor Julius Horvath

Budapest, Hungary

2015

## Abstract

*The current humanitarian crisis in Syria has led to a massive labor supply shock in Turkey reaching more than 1.7 million people in 2015 according to the official figures. This study investigates the impact of the crisis on local labor markets by employing a difference-in-difference strategy supported with a fieldwork in the bordering regions for the years 2010-2013. The study finds evidence on negative effects of the crisis on unemployment, employment and labor market participation outcomes of the native population. Nevertheless, there is no evidence of adverse effect on wage outcomes of the native population, even for the less-skilled workers. The study contributes to the existing literature by supporting the econometric analysis with a fieldwork to analyze an exogenous shock through exploiting the individual micro dataset of Turkish Statistical Institute. The findings of this study point out to the urgency of implementing labor market integration policies in order to reduce the informal employment among the Syrians, which is considered as an important factor for the worsening labor market outcomes of the native populations.*

***This Thesis is Dedicated to all Displaced Persons of War…***

# Table of Contents

## List of Tables and Figures

## Abbreviations

AFAD-Turkish Prime Minister's Disaster and Emergency Management Agency

ECHO-European Commission Humanitarian Aid and Civic Protection Department

ILO- International Labor Organization

ISKUR- Turkish Labor Agency

NGO- Non Governmental Organization

ORSAM- Center for Middle East Strategic Studies

TURKSTAT-Turkish Statistical Institute

UNHCR – United Nations High Commissioner for Refugees

UNICEF- United Nations International Children's Emergency Fund

# Introduction

In all kinds of mass immigration events, 'labor' is the central subject as the labor supply shocks have considerable effects on the welfare of hosting communities and immigrants. Analyzing their impact on the local labor markets is of high importance, as in the case of the Syrian crisis. Starting as part of the Arab Spring movements in March 2011, the Syrian 'uprising' has turned into a disastrous civil war, which has caused millions of Syrians to flee away from their country to the bordering countries such as Turkey, Lebanon, Iraq, Jordan and Egypt. According to the recent estimates of United Nations High Commissioner for Refugees (UNHCR), there are more than 3.9 million registered Syrians who are mostly located in these five countries. Given its proximity as well as geopolitical and economic advantages, Turkey has been a very attractive destination for the Syrians searching for a host country. Moreover, Turkish government allowed the flow of thousands of Syrians into the country under the 'open border policy' without any condition. According to the most recent estimates of UNHCR, there are more than 1.7 million registered Syrians. This large influx has caused major disturbances in the local labor markets of the bordering provinces, given that they mostly engage in informal employment, not holding a formal work permit (ILO, 2015).

The Syrian crisis is an interesting case to study the labor market effects of immigration. First, the influx of Syrian refugees is massive[1]- Turkey is hosting the largest amount of refugees in the World in 2015.[2] Also, Turkey had never experienced such a rapid influx of immigrants from another country before or it had never been an attractive destination for economic migrants or refugees. The current registered number of Syrians make up of almost 2.3% of



[1] Refugee is a widely used term to describe the Syrians in Turkey. However, the Syrians in Turkey do not have a legal refugee status. For simplicity, the term 'refugee' to describe the Syrians throughout this study

[2] This was claimed by the UN Higher Commissioner for Antonio Guterres, in his speech at the UN Security Council on 26 February 2015, available at http://www.unhcr.org/54ef66796.html

Turkey's population (77.6 million in 2014) in 2014. Second, the refugee influx is highly concentrated near the Syrian border where the refugee camps are located.[3] Third, the Syrian case is an exogenous shock, where the influx had been precipitated due to a political instability- the economic, social or political condition of Turkey is independent of the migration event. Fourth, the skill composition of Syrians and natives living in these provinces are highly comparable implying that they can act as a substitute to the natives.

The objective of this study is to investigate the impact of Syrian influx on the local labor markets of bordering provinces of Turkey which host 47.3% of the total registered Syrian refugees. I analyze the changes in the unemployment rate, employment rate, labor force participation rate, unregistered employment and wage outcomes of natives using difference-in-difference strategy and I present the role of Syrian refugees in the labor markets using the findings from my fieldwork[4]. Labor market integration policies are presented at the end of the study highlighting the urgency to reduce the informal employment among the Syrian refugees. To the best of my knowledge, this study is the first to analyze the imopact of Syrian refugee crisis in the local labor markets by combining a fieldwork and the econometric evidence based on individual micro data from Turkish Statistical Institute's household labor force surveys.

The remainder of the thesis will be as follows: Chapter 1 provides the background of the Syrian crisis, Chapter 2 explains the theoretical framework, Chapter 3 presents the literature review, Chapter 4 explains the methodology, Chapter 5 analyzes the evidence from the fieldwork by providing an overview of the local labor markets and Chapter 6 describes the econometric analysis and discusses the results. The final section concludes the study with possible labor market integration policies.



[3] Refugee camps are officially called 'accommodation centers' by the Turkish government. In order to be clear, I use the term 'refugee camp' throughout my thesis, as they serve for the same purpose.

[4] I would like to express my deepest gratitude to my supervisor Prof Dr Julius Horvath and to the Department of Economics of Central European University for supporting me during this study and the fieldwork.

# 1. Background of the Syrian Influx in Turkey

## 1.1 Syrian Refugee Inflows

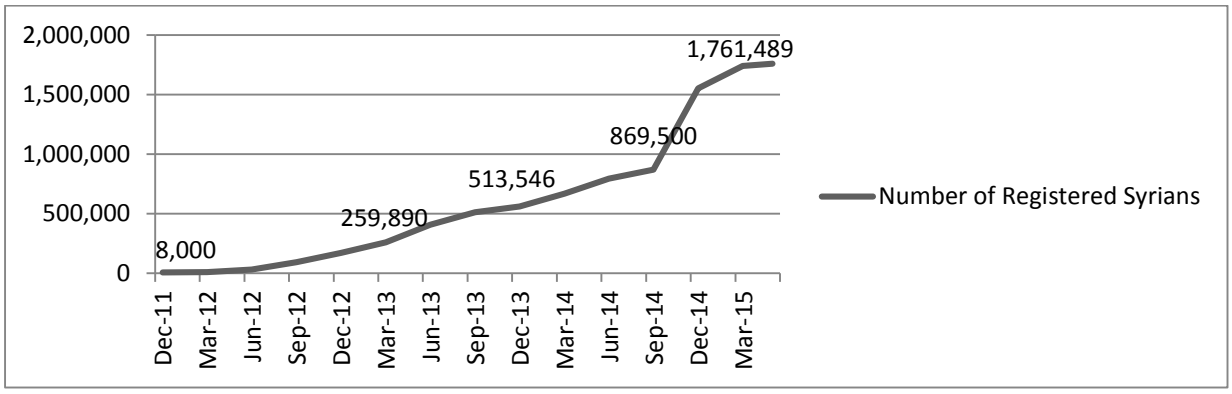
The beginning of 2011 is marked as the 'Arab Spring', named after the movements in the Middle East and North Africa against the state. Starting as a part of this movement, the uprising against the President Bashar al-Assad turned into a disastrous civil war with serious sectarian dimensions. The civil war has become a humanitarian disaster with the death toll reaching up to 210,000 by February 2015, 100,973 of whom are civilians according to the Syrian Observatory for Human Rights (SOHR, 2015). As of 2015, half of the country has been displace; with 3.9 million being internationally and 7.6 million internally, while a total of 12.2 million are in need of humanitarian assistance (UNOCHA, 2015).

Turkey is the leading host country for the Syrian refugees- as of 26 May 2015, it is hosting 1,761,486 registered Syrians (UNHCR, 2015) making up of 2.3% of the country's population. Anecdotal evidence suggests the actual number is around 2 million already, which is a number that Turkey had never experienced before. The first registration started in December 2011 and then it has increased sharply. Figure 1 shows the registration timeline of the refugees from December 2011 until May 2015. The inflow and registration trend shows no sign of deceleration.

Regarding the actual number of Syrians living outside of camps, there is no up-to-date source available online (UNHCR provides numbers for whole Turkey but not province by province). The most up-to-date data is for November 2014, confirmed by the Ministry of Interior of Turkey. Table 1 shows the numbers as well their share in the population in these four provinces. Evidence from my fieldwork suggests that the actual number is higher due to the reluctance of Syrians to register in order not to be tracked down by the Syrian government or due to their

willingness to be resettled in a Western country, which they are not able to do under temporary protection regime.[5]

***Figure 1 Number of Registered Syrians, 2011-2015***




*Source: UNHCR*

***Table 1 Number of Syrians Living Inside and Outside of Camps***

| Province of Turkey | In-Camp | Out-of Camp | Total | Share in Province Population |
|---|---|---|---|---|
| **Gaziantep** | **51,543** | **220,000** | **271,543** | **14.3%** |
| **Hatay** | **14,906** | **190,000** | **204,906** | **13.4%** |
| **Kilis** | **36,154** | **49,000** | **85,154** | **67.1%** |
| **Sanliurfa** | **102,317** | **170,000** | **272,317** | **14.7%** |

*Source: In-Camp numbers are extracted from AFAD's data, last updated on 1 June 2015, retrieved on 15 May 2015, from* https://www.afad.gov.tr/TR/IcerikDetay1.aspx?IcerikID=848&ID=16. *The out of camp numbers are the numbers declared by the Ministry of Interior in November 2014, also available in the report of Hacettepe University Migration and Politics Research Centre's Report 'Syrians in Turkey', (Erdogan, 2014, p.14) available at* http://www.hugo.hacettepe.edu.tr/HUGO-RAPOR-TurkiyedekiSuriyeliler.pdf



Next, I present the summary statistics of demographic characteristics of the Syrians living in Turkey. Table 2 shows the gender, age and educational attainment characteristics of Syrian refugees versus the natives. It clearly demonstrates the considerable similarities between Syrians and natives: the refugees have a balanced gender group-in the case of four provinces.

[5] This was mentioned by most of the NGOs interviewed including ASAM (Association of Solidarity with Asylum Seekers and Refugees), who is working actively on helping Syrians living outside of camps. The actual number is much higher than officially published.

Age group statistics show that 48.7% of the Syrians are within the working age group which is close to the percentage in four provinces, which are around 50-55%. Educational attainment also shows similarities with the natives living in these four provinces indicating that the skillset of Syrians are not much different than the natives. Considering the Syrians not living in camps, the percentage of literate and illiterate without degree is nearly the same in all provinces. The other educational groups do not show major differences either- total percentage of Syrians having education below high school is around 80%. The total amount of the same category in four provinces also sums up to a similar percentage at around 80-90%. The demographic characteristics of Syrians suggest that they are likely to be substitutes for natives in the local labor market.

***Table 2 Demographic Characteristics of Syrians and Natives living in four provinces***

| | **Syrians** | | **Natives** | | | |
|---|---|---|---|---|---|---|
| | **In Camps** | **Out-of Camps** | **Gaziantep** | **Hatay** | **Kilis** | **Sanliurfa** |
| ***Gender*** | | | | | | |
| **Male** | **51.4** | **51.4** | **50.5** | **50.3** | **50.0** | **50.0** |
| **Female** | **48.6** | **48.6** | **49.5** | **49.7** | **50.0** | **50.0** |
| ***Age-Groups*** | | | | | | |
| **0-18*** | **53.0** | **48.9** | **43.3** | **37.8** | **39.4** | **51.8** |
| **19-64*** | **45.2** | **48.7** | **51.7** | **55.7** | **52.4** | **46.7** |
| **65 and over** | **1.7** | **2.4** | **4.7** | **6.3** | **8.0** | **3.6** |
| ***Educational Attainment**** | | | | | | |
| **Illiterate** | **12.3** | **18.8** | **3.7** | **2.6** | **9.3** | **9.3** |
| **Literate, no degree** | **5.5** | **9.5** | **23.7** | **25.8** | **39.** | **39.9** |
| **Primary School** | **36.6** | **33.0** | **16.6** | **23.1** | **16.0** | **12.0** |
| **Middle School** | **24.7** | **19.4** | **20.7** | **23.8** | **22.1** | **20.2** |
| **High School or equivalent** | **13.2** | **9.6** | **10.4** | **14.3** | **12.4** | **7.9** |
| **Higher Education** | **7.8** | **9.7** | **6.7** | **7.9** | **6.3** | **4.4** |

*Source: Data for Syrians are obtained from AFAD's Field Survey in 2013. Sample size in the survey for Syrians living in camps is 6,230 and for out-of camp is 5,837. Data for natives are from Turkish Statistical Institute's Household Survey. *Age group for natives is 0-19 and 19-64 as it is the only available data on TURKSTAT. **Educational attainment data for natives have an 'unknown' part in data extracted from TUKSTART, which has not been put in the table. The percentages for that unknown part are 1.6, 2.2, 0.9 and 4.4 percent for provinces from left to right in the column, respectively. This is the reason why they don't sum up to 1.*

## 1.2 Legislative Status of the Syrian Refugees in Turkey

Turkey ratified the 1951 Geneva Convention on the Status of Refugees and acceded to the Protocol of 1967, while immediately maintaining a geographical reservation for only Europeans. As a result of this limitation, Turkey has no international legal obligation under the Geneva Convention towards the non-European refugees, which does not allow them to have permanent residency in Turkey. It only tolerates their temporary stay until resettled in a third country. In accordance to the 'geographical limitation', Syrians who fled to Turkey in 2011 were given an unofficial temporary protection under the 'guest' status which disables them to benefit from the rights under international refugee law.

As a result of an urgent need for a legal framework, Turkish government passed law on 'Foreigners and International Protection' in 2014, which is the first domestic law regulating the practices of asylum in Turkey. The law still keeps the geographical limitation as it grants refugee status to only victims of the events occurring in Europe. However, it also brings up a new term called 'conditional refugees' for those who come from outside of Europe, that is, allowing them to stay temporarily in Turkey until they are resettled in a third country. The major reform brought by the law is the establishment of the Directorate of Migration under the Ministry of Interior responsible for the management of the asylums and refugees. However, the law did not significantly change any legal practice for Syrian refugees as it still keeps the geographical limitation, does not give any room for the Syrians to apply for permanent resident status or does not guarantee that the Syrian asylum seekers can stay in Turkey for long term. The only difference is that their status had been 'upgraded' from guests to conditional refugees, which does not particularly bring them any advantage in practice. Yet, it is useful for mitigating contradictions and misinterpretations in practice due to application to secondary legislation.

A second and a more effective action was taken with the introduction of 'Temporary Protection Directive' in October 2014. This long waited regulation is highly significant as it grants the Syrians a secure and legal status by enabling them to receive identity cards with foreign ID number. As stated by the Article 25 of the Directive, 'the temporary ID card provides the right to stay in the country, but it is not equivalent to the residence permit and it does not entitle the right to obtain long term residence permit or to apply for Turkish citizenship'. The directive defines the temporary protection as 'the protection status granted to foreigners, who were forced to leave their country, cannot return to the country they left, arrived at or crossed our borders in masses or individually during a period of mass influx, to seek emergency and temporary protection and who international protection request cannot be taken under individual assessment', which is applicable to the Syrian nationals, refugees (including Palestinians) and stateless persons from Syria in Turkey including those without an identification document. The directive also guarantees that these persons will not be sent back to Syria against their own will. The directive allows the right to access to education and health; however, it postpones the implementation of the access to the labor market and social assistance to a later time which is to be decided by the Ministry of Labor.

Although after the introduction of directive, Syrian refugees have more secure status than 'guests', it still does not grant them official refugee status, which would entitle them to broader benefits such as housing, public relief and social services, such as access to labor.



## 1.3 Access to Labor Market

The Syrian refugees are not granted any work permit in Turkey. Under the law on Foreigners and International Protection, they can apply for a work permit; however, it is extremely hard to obtain one. All foreigners including Syrians can apply for a work permit provided that they have a valid passport, a residence permit and a job offer, and an additional document where the

employer should prove why a Syrian employee is preferred for the position rather than a native candidate. This last criterion actually makes it impossible for the Syrian refugees to obtain a work permit as most of them are trying to find a job in low-skilled jobs. There has not been a verified number obtained for how many Syrians could obtain a work permit. According to my fieldwork results, the fieldwork of Amnesty International (2014) along with the results of other fieldworks carried out by ORSAM (2014), the number is too low compared to the total number of Syrians. Given that there are 1.5 million refugees living outside of the camp, a considerable amount of Syrian population engage in informal employment in order to continue their living. My fieldwork findings together with other field studies (ORSAM, 2015; HUGO, 2015) confirm that the informal employment among Syrians is extremely high.[6]

As mentioned earlier, the Temporary Directive gives a 'sign' that a work permit will be granted to the persons under temporary protection, with a bylaw that will state the conditions of employment. The Minister of Labor, Faruk Celik, announced on November 14, 2014 that the work permit regulations specific to the Syrians are awaiting for the decision of Ministers of Cabinet. It will be issued for those who already hold a residence permit for at least 6 months (as stated by the law on employment or all foreigners) and who have a valid residence permit for 1 year. Nevertheless, the decision has not been finalized since his speech in November[7]. The Minister Celik stated that the employment rules applied to the Syrians will be different from the rules applied to other foreigners. First, they would be employed in the vacancies in the companies provided that their number does not exceed 10% of the Turkish workers in the



[6] It might be relevant to mention the cultural affinities between the Syrian and Turkish societies. First, both countries have Muslim population indicating a religion-based affinity. Second, there is an affinity based on religious sect, as the majority of Turkey is Sunni Muslims and the rebellions of Syria, the armed anti-government group as well as the first escapers from war, were also identified to be Sunni. Moreover, these two countries have a strong historical affinity as Syrians lived under the Ottoman Empire for 400 years.

[7] He gave this speech on 11 November 2014 and it was the headline in all the media in Turkey, in one of the most mainstream newspaper's news bulletin can be found at http://www.milliyet.com.tr/celik-suriyelilere-verilecek/ekonomi/detay/1968354/default.htm and in English at http://www.al-monitor.com/pulse/politics/2014/07/syrian-refugees-turkey-provide-work.html#ixzz3WiszsJtZ

company. Second, the premiums to be paid by the employer will be lower for the Syrian worker. They will only contribute to the work accident and occupational illness insurance, constituting only 2%, compared to the standard premium of around 32.5%. Moreover, Syrians can only apply to work in the cities of their residence in order to limit the on-going migration to the larger cities such as Istanbul and Ankara. Those who have a valid residence permit for at least 6 months together with an ID card and passport will be eligible to obtain a work permit.

## 1.4 Response from Turkey and International Community

Although Turkey's attitude towards refugees had always been avoidant, the government took an immediate action and accepted thousands of Syrians with an 'open-door policy' and declared a temporary protection regime towards all Syrians in 2011. Immediately after the first influx, refugee camps were established in the border cities by the Prime Minister's Disaster and Emergency Management Presidency (AFAD). By October 2011, there were already 8 refugee camps in border cities. Currently, there are 25 refugee camps in Turkey settling 259,323 Syrians[8]. The camp conditions are found to be sufficient by many international organizations as they provide food, healthcare and education to the camp residents and other survival facilities.

A number of 1.5 million registered refugees are living outside of camps due to lack of capacity. Main challenge that Turkey faces now is how to manage their rights to access to health, education and labor market. Only as of 18 January 2013, all Syrian refugees in the Syrian border provinces were entitled to access to free healthcare and in September 2013, this was extended to all Syrians in the country. Although the Temporary Protection Directive entitles



[8] *AFAD presents the in-camp numbers, last updated on June 1, 2015, accessed from* https://www.afad.gov.tr/TR/IcerikDetay1.aspx?IcerikID=848&ID=16.

them the right to access public education, only 27% of the refugee children living outside of camps actually attend to schools (UNICEF, 2014).

Turkey's reaction towards the Syrians had been favored by the international community and is found to be impressive by human rights organizations, although there were some delayed policies and legal actions from Turkish government side[9]. It is now facing major limitations, due to the large Syrian population, continuing war and unwillingness of the international community to share the burden. International response had not been adequate at all in handling the Syrian refugee crisis. The neighboring countries currently host 95% of the whole internationally displaced persons of Syria. European Union, on the other hand, gave a shelter to only 130,000 refugees, nearly equivalent to what Turkey took only on September 2014 as a result of unrest in Kobane.[10] European Commission's Humanitarian Aid and Response report published in 2015 states that the 'EU member states are collectively leading the international response', where they only mention EU's 'leading' international humanitarian response as 'funding' with 3.35 billion euros in four years, a number which is below what Turkey has spent so far on Syrian refugees which is around four billion euros (ECHO, 2015). Moreover, the strict Dublin regulations do not allow them to reach to Europe. As Michael Diedring, Secretary General of the European Council of Refugees and Exiles put into words, 'Syrians have a legal right to seek protection in Europe but how can we honor that right if they aren't provided with any legal way of getting here?'.[11]

Political background of the Syrian crisis is not within the scope of this study. However, besides the handling of the influx itself, it is worth to mention the response of Turkey and other



[9] Amnesty International 'Struggling To Survive', available at https://www.amnesty.org/download/Documents/208000/eur440172014en.pdf

[10] https://www.middleeastmonitor.com/news/europe/14335-un-turkey-received-as-many-syrian-refugees-in-three-days-as-europe-did-in-three-years

[11] The speech and news can be reached at Al Jazeera (March 14, 2015) http://www.aljazeera.com/news/2015/02/eu-criticised-syrian-refugees-policy-150223081057026.html

countries to the ‘inner-politics’ of the crisis. Being a product of Arab Spring, the Syrian movements had proved to be highly unsuccessful, like any other Arab Spring countries such as Egypt, Libya and Tunisia who had experienced resignation of the persons in power. All of these countries are still suffering from the unrest within the society. In Syria, although the movement seemed to arise for demands for a more ‘democratic and equal’ society, it had turned out to be a civil war, where some countries defend the ‘rebellions’ rising against the Assad regime, and others support the Syrian government to fight with the rebellions.

## 2. Theoretical Framework

Investigating the impact of labor supply shocks on labor market outcomes have been of interest for labor economists as the immigration patterns has begun to jump up massively following the World War II. There are numerous empirical studies as well as theories which try to explain the impact of immigration on the natives' labor market outcomes. Labor economics is unambiguous about the labor market effects of immigration. Borjas in his textbook Labor Economics (1996) and Immigration Economics (2014) analyses the short and long run impact of immigration on the labor market, both when the migrants are perfect complements and perfect substitutes of the natives. He suggests that in the short run when the migrants are perfect substitutes of natives, immigration shifts the labor supply curve outward, increasing total employment while decreasing average wages and employment of the natives as the two groups are now competing for the same market. This negative effect will be inflated if the immigrants are willing to work for less than the natives, making the labor supply curve more elastic (Friedberg and Hunt, 1995, p. 29). When the two groups are perfect complements, on the other hand, the short run impact of immigration will be higher wages and employment for natives now that they are not competing for the same labor market.

Examining the long run effects of labor supply shocks would lead to a different conclusion. In the case when the two groups are perfect substitutes, return to capital for the firms will increase as the wages fall allowing them to employ workers at a lower wage, while increasing their profitability and attracting more capital into the market. This will encourage new firms to enter to the market in order to take advantage of the falling wages. As a result, outward shift of labor supply curve will be accompanied by the shift of the labor demand curve, tending to offset the negative impacts of the initial labor supply shock. The extent of disappearance of negative impacts will depend on the technology underlying the production function, i.e., whether there is a constant or increasing returns to scale. As a result, the simple theoretical framework

suggests that although immigration has an adverse effect on the employment and wage outcomes of natives for a certain period, in the long run the economy adjusts itself to the labor supply shock, mitigating the negative effects that arise before. Hence, an open economy with a factor price equalization model where the wages are sticky, the wages will be lower for some time and there will be a period of unemployment until the prices are adjusted to the world level (Hunt, 1992, p. 559).

According to the classical labor economics model, the native born unskilled workers will be most harmed with the influx of foreign born unskilled workers. In contrast, the employers will benefit from the influx of unskilled immigrants as they are paying lower wages and they can employ more workers. As a result, production increases, contributing to the economic growth. With higher output and lower wages, total income that accumulates capital has expanded, again benefiting the capital owners (Raphael and Rocconi, 2007. 416).

Assuming that the natives and immigrants are perfect substitutes is clearly unrealistic, as they vary in many characteristics: the language skills, familiarity to the country's formal education and country specific occupational experience. Therefore, it is likely that the immigrants will be treated as 'unskilled' as they have major disadvantages in the labor market compared to natives, even if they are skilled in their home countries. The case of the Syrian crisis in Turkey is an example for this kind of a model, where Turkish nationals and Syrians are 'imperfect substitutes', which actually complicate the theoretical analysis of labor market effect of immigration. Under this case, natives who have similar skills to the immigrants are expected to be more affected compared to those having different skill sets. As Turkey is a labor-intensive country and have a considerable amount of unskilled labor, especially in the bordering cities where Syrians have flooded, it is expected that the unskilled and low educated part of the labor supply will be the most affected.

This chapter explained the existing theories for the labor market impacts of immigration. Although such theories demonstrate the final impact in each case, it would be hard to predict '*a priori'*, leading to a final conclusion. Therefore, the impact of immigrants on native labor markets would be an empirical rather than a theoretical question (Raphael and Rocconi, 2007, p.419). Next chapter provides the empirical evidence from other cases of labor supply shock due to immigration.

## 3. Literature Review

Despite the growing number of humanitarian crises around the world, the economics field had not been interested in investigating the consequences of forced immigration as a result of political conflicts, wars, natural disasters or policy changes. Most studied cases of forced immigration include Cuban influx in Miami (Card, 1990), return of repatriates to Portugal and France (Hunt, 1992; Carrington and Lima, 1996), Israeli-Palestinian conflict (Aranki, 2004; Masour, 2010), return of Jews to Israel after the collapse of Soviet Union (Goldner and Paserman, 2004) and unification of Germany in 1990 (Glitz, 2012). Even though the policy-makers and citizens of host countries are highly concerned on depressive labor market outcomes as a result of migration, most existing studies found no or little discernible negative impact on natives' labor market outcomes.

The first and probably the most valuable natural experiment on the labor market impact of involuntary immigration was carried out by Card (1990), known as the Mariel boatlift case. He investigated the impact of Cuban influx in Miami following Castro's declaration where 125,000 less skilled Cubans arrived to Miami by boat in 1980, resulting in a 7% increase in Miami's labor force. Carrying out a natural experiment, he found no adverse effect of the Cuban influx on the unemployment and wage outcomes of the less skilled workers in Miami, including the other Cubans. His analysis suggests a rapid absorption of the labor supply shock, especially due to the distinct characteristic of Miami's labor market. Having experienced such an influx beforehand, many apparel and textile industries developed in Miami as a result of the influx.

Hunt (1992) investigated the French labor market as a result of repatriation of 900,000 people from Algeria in 1962, constituting 1.6% of total French labor force. She found that as a result of repatriation, unemployment rate of non-repatriates increased by 0.3 percentage points in

1968 and average annual salaries lowered by at most 1.3% in 1967 due to their arrival in the country. Carrington and Lima (1996) analyzed a similar case for the Portuguese labor market which experienced a 10% growth in mid 1970s as a result of expatriation from Mozambique and Angola. Through observing the variation of labor market outcomes compared to other countries (Spain and France) and within regions of Portugal, they found slower wage growth of natives in the districts where the repatriates were higher in number. However, they also highlight their concerns on reliability of the analysis within Portugal and conclude that immigration might not have large adverse impact on natives' labor market outcomes. These three studies are considered as the 'pioneers' of analysis of labor market effect of forced immigration.

Recent empirical evidence on supply shocks due to political instability is presented by Mansour (2010) where he analyzed the labor supply shock in West Bank of Palestine as a result of mobility restrictions to Israel, which increased the workers competing for local jobs in West Bank by 50%. He found that a 10% increase in supply of low skilled and high skilled workers reduced low skilled wages by 1% and 1.52%, respectively. His findings suggest that not only low skilled but also high skilled Palestinian workers who could not travel to Israel entered a competition in the low skilled labor market, pushing down the wages. He added that the unemployment among the high and low skilled workers in West Bank decreased as a result of the 'new comers' who used to work in Israel. High skilled wages on the other hand have only been 'weakly negatively affected'. Another study on the impact of the this restriction policy on West Bank and Gaza strip is presented by Aranki (2004), where he found that the labor market conditions for Gazan workers have been worsened compared to the West Bankers. He also showed that in both regions, wages have been significantly negatively affected by the labor supply shock.

Goldner and Paserman (2004) examined the mass migration of Jews from the former Soviet Union to Israel in 1990 and how it affected the employment transitions of natives. They found that immigrants' share in labor market segments is positively correlated with the probability of natives' transition from employed to non-employed with a very low correlation. Their results suggest that a 10% increase in immigrant share raises the probability of natives' transition from employment to non-employment by at most 0.49 %. Also, when controlled for labor market segments, the effects decreases for men and disappears for women. They concluded that the effect of immigration on natives' employment was not discernible. They also found no statistically significant evidence on negative effect of immigration on job finding probabilities or in-job transitions of natives.

Studies of the unification of Germany provide variety of empirical evidence on how such labor shocks are absorbed. Glitz (2012) carried out a quasi-experiment of immigration in order to find the impact of 2.8 million individual who migrated back to Germany from Soviet Union within a period of 15 years. He found a short run displacement effect where for every 10 immigrants who found a job, 3.1 residents became unemployed. He did not find a significant negative effect on wages, probably due to little wage flexibility.

Regarding the empirical research on Turkey, only few studies are available for the Syrians' impact on Turkish labor market. Akgunduz, Berg and Hassink (2015) studied the impact of Syrian refugee influx on commodity prices, housing prices, employment rates and internal migration rates in the border cities in Turkey by using a difference-in-difference approach. They found no impact on employment in border cities, in line with the existing literature, both in regional and provincial levels and different skill groups, and they found no impact of refugee influx on natives' exit rates in the period 2012-2013. However, the found a significant decline in the internal immigration rate to those provinces. Another study has been carried out by Ceritoglu, Yunculer, Torun and Tumen (2015) where they analyzed the impact of the refugee

influx on the employment, wages, informal employment, labor force participation and job finding and separation rates among the youth. By carrying out a difference-in-difference strategy, they found in overall a 'negative' impact of Syrians on the natives' labor market outcomes in the border provinces. While the wages of natives were not significantly affected, the employment to population ratio of male and female natives decreased by approximately 2.2 and 1.9 percentage points, respectively. Regarding the labor force participation rates, they found that the displaced male native after the refugee influx has become unemployed while the female natives have gone out of the labor force. The rest of the literature on the economic outcomes of the Syrian refugees has different methodology such as through qualitative data collection with a fieldwork with a sample size of up to 100-500 refugees (ORSAM, 2015; AFAD, 2013).

These studies are all relevant to the analysis in this paper, as they all investigate an exogenous shock, enabling to carry out a natural experiment. This study follows a similar approach, but it also supports the empirics with the findings from the fieldwork in the bordering regions. The methodology used in this study is described in detail in the next chapter.

## 4. Empirical Strategy

In this study, I pursue two main empirical strategies in order to investigate the consequences of the Syrian crisis for the local labor markets in bordering regions of Turkey. First, I present my findings from the fieldwork that I obtained through personal interviews, public hearings and social observations mainly on the new labor market dynamics and on the role of the Syrian refugees in the labor markets. I also present a comprehensive descriptive analysis of the labor markets of the provinces using TURKSTAT's and National Labor Agency's (ISKUR) publicly available data. In Chapter 6, I analyze the changes in unemployment, employment, unregistered employment, labor force participation and the wage outcomes for the natives by employing a difference-in-difference strategy and using the individual micro data from TURKSTAT's household labor force survey.

Chiswick (1991) criticizes using the difference-in-difference strategy to estimate the labor market effect of immigration due to the following facts: (1) migrants may choose to settle in the regions where there are better economic opportunities and where they have comparative advantages of finding employment opportunities (2) internal immigration to these regions may decrease, equalizing the labor supply changes (3) inter-urban capital flows may equalize capital/labor ratios, hence wages, and (4) shift of labor intensive industries towards the regions where the immigration took place may create more employment opportunities (Carrington and Lima, 1996, p.332).

The Syrian influx in Turkey does not constitute an example for the case (1) mentioned above, as the refugees running from the war chose the provinces close to the border, without considering the economic opportunities on the first hand. The timing of the refugee influx is not associated with the economic condition of Turkey. Also, there is no selection bias among the immigrants based on their skill or economic choice, but only based on their proximity to

the Turkish border which would not potentially create a bias in this analysis. Although some of them diffused to larger provinces like Ankara, Istanbul or Izmir later, a considerable amount of them stayed in the border cities.

Comparing the internal migration figures to the number of refugee inflows from 2010-2014 will show whether the case (2) is valid for Syrian case in Turkey. First column of Table 3 shows the figures of the net internal migration in these provinces. In all provinces, the net internal migration fell down considerably in 2011-2012, the first year of the crisis. This means that the Turkish citizens decreased their rate of moving into these cities after the Syrian crisis. This sharp decline in internal migration might help to balance the new foreign inflow in the labor market; however, comparing the amounts of Syrian inflow and native outflow (Table 3, second column), the net inflow extremely exceeds the outflow.[12] Therefore the case (2) is not valid for the Syrian case.

As per the issues (3) and (4), large geographically focused movements can 'temporarily limit the role of migration of native labor, capital and production' (Carrington and Lima, 1996, p.332). Also, although anecdotal evidence suggests that more industries are expected to be initiated in the border cities, the effect would be less for now as it has only been 4 years since the crisis began. It could be a bigger issue when the impact is analyzed at a later time. Moreover, only focusing on local markets would help to minimize the underestimation of immigration effect due to factor price equalization.



[12] The internal migration figures do not show the figures of foreigners. Therefore there is a discrepancy in the comparison caused by not including foreigners (other than Syrians). However, given the large number of Syrians, this would not change the claim.

***Table 3 Rate of Net Internal Migration and Net Migration in the four bordering provinces***

| | Net Internal Migration Rate | | | | | Native vs. Syrian Flows | |
|---|---|---|---|---|---|---|---|
| | **2009-2010** | **2010-2011** | **2011-2012** | **2012-2013** | **2013-2014** | **Net Native Outflow (2014-2011)** | **Net Syrian Inflow (2014-2011)** |
| **Gaziantep** | **2.4** | **4.2** | **1.3** | **-0.2** | **1.1** | **- 5 334** | **271,543** |
| **Hatay** | **-2.7** | **-5.2** | **-5.3** | **-6.8** | **-4.3** | **1 152** | **204,906** |
| **Kilis** | **-6.2** | **-13.8** | **-14.1** | **3.2** | **-13.1** | **- 7 678** | **85,154** |
| **Sanliurfa** | **-3.0** | **-3.3** | **-7.3** | **-7.8** | **-7.2** | **36** | **272,317** |

*Source: Numbers for Internal Migration are taken from Turkish Statistical Institute. The Syrian inflow numbers are taken from AFAD and Ministry of Interior's figures, as explained in Table 1*.

I supported my research with a fieldwork in these bordering provinces: Gaziantep, Kilis, Gaziantep and Sanliurfa, as I find it crucial in order to analyze a crisis with lots of 'informalities' behind. There are many benefits of supporting this study with a fieldwork, especially since its main unit is the 'laborers'. First, data do not always tell the full story, especially when there is uncontrollable informal employment. The way how data are collected and for what purpose is of much importance and could mislead to precise conclusions. For example, the informal employment figures of TURKSTAT (33.3% in Turkey, for agricultural sector it is 81.2% in 2014) might be misleading as they do not count the informal employment among Syrians, which has a major contribution on the informal economy. Apart from data-related problems, researchers can address their questions on objectives, constraints, and other issues that cannot be explained by data during the fieldworks (Helper, 2000). Finally, when there is no data, as in the case of Syrian crisis where more than one million working informally, it would not be easy to simply look at data of natives and conclude what actually happened in the region's labor market. As the study will conclude by suggesting labor market integration

policies, experiencing the region as well as collection of first-hand information from natives and Syrians, who are the main beneficiaries of the policies, is deemed crucial.

Overall, in order to make the analysis more accurate and reliable, this study follows two methodologies to analyze the impact of Syrian crisis on local labor markets. Next chapter describes the qualitative evidence obtained during the fieldwork as well as the descriptive statistics of the local labor markets, and then Chapter 6 provides the quantitative econometric analysis.

# 5. Evidence from the Field and Overview of the Local Labor Markets

This chapter provides evidence from my fieldwork, using personal interviews, public hearings and social observations[13] and the overview of the affected labor markets using descriptive statistics. The Syrian influx case can be considered as an exogenous shock in the local labor markets where the refugees flow into a more economically developed country. Exogenous shocks generally affect local labor markets more than the national markets (Belasen and Polachek, 2007). The study analyzes the impact of an exogenous shock, influx of almost 2 million people as a result of a civil war in a neighboring country, on the local labor markets of four border provinces of Turkey: Gaziantep, Hatay, Kilis and Sanliurfa. As can be seen from the map (Figure 2), they all have border and entry points with Syria and are located in the South Eastern region of Turkey with the exception of Hatay which is officially found in the 'Mediterranean' region. In total, more than 800,000 registered Syrians live in these provinces, almost 47% of the total registered Syrians in Turkey.

***Figure 2 Map of Turkey showing the Refugee Concentration***


*Source: UNHCR, April 2014.The data is for 2014, where there was no data for registered Syrians in other cities. Red lighted parts show the treatment group- the provinces that I carried out my fieldwork.*

[13] I carried out a fieldwork in Gaziantep, Hatay, Kilis and Sanliurfa in April 2015. I conducted interviews with NGOs, whose names are mentioned in Appendix B. I also interviewed with the Syrian refugees. I would like to thank to Merve Kan who gave me an incredible support during my fieldwork. I also would like to express my deepest gratitude to all the NGOs, Syrian refugees, municipalities and locals who agreed to share information with me.

Prior to the Syrian crisis, these provinces had been the main trade points with Syria and other Middle Eastern countries such as Lebanon, Iraq and Jordan. Especially upon the removal of visas between Syria and Turkey, there were many Turkish businessmen founding companies in Syria. Moreover, these regions are deemed as 'priority development regions' for the investment in Turkey, indicating that they are highly open to the foreign investment. For a foreigner to invest in these provinces, the minimum value of investment amount is less than other developed regions and also they benefit from lower taxes and interest rates. For the 'priority development provinces', which include Sanliurfa and Kilis, the Ministry of Finance can grant free land provided that the company runs for 5 years and that they create employment opportunity for at least 10 workers.[14] Hence, these provinces are expected to be attractive for Syrian investors who escaped from Syria to Turkey.

Another interesting fact about the region is noticed from the Turkish Statistical Institute's labor market household survey results. While the 2012 labor market analysis shows that the highest unemployment rate was in the South Eastern region, in 2013 the same region had experienced the highest employment rise in Turkey (TURKSTAT, 2012 & 2013).

Table 4 and 5 show the unemployment and employment rates in these cities, respectively. Surprisingly, the unemployment rates in these cities fell down considerably from 2008 to 2013, with the exception of Sanliurfa. In Gaziantep, unemployment rate declined by 59% compared to last year, above the Turkey rate of 11%; for Hatay decline is at a rate of 31%, and for Kilis it is 29%. There is also an increase in the number of labor force in these cities (TURKSTAT, 2014). There was an increase in employment by almost 76 thousand in total in Kilis and Gaziantep, meaning that these cities have been creating job opportunities. 47 thousand of this increase is in the services sector, indicating that the private sector is growing. On the other

[14] Foreign Investors' Association, December 2013, available at http://www.tbb.org.tr/en/research-and-publications/research/17

hand, the unemployment rate in Sanliurfa rose by 27%, reaching to 16.3%, highest among all 6 years. Looking at the employment rates in Table 5, all provinces including Turkey experienced an increase in their employment rates; however this increase is the lowest in Sanliurfa, below the Turkey average, while for others it is in accordance with the rise in whole Turkey. It is likely that Sanliurfa's labor market had been worst affected by the Syrian crisis.

***Table 4 Unemployment Rates (%) in four provinces and Turkey 2008-2013***

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| **Gaziantep** | **16.8** | **17.4** | **13.4** | **14.4** | **11.2** | **6.9** |
| **Hatay** | **17.7** | **19.0** | **13.9** | **12.7** | **11.4** | **12.2** |
| **Kilis** | **10.9** | **14.9** | **10.1** | **12.6** | **10.4** | **7.7** |
| **Sanliurfa** | **12.8** | **17.0** | **12.4** | **8.0** | **6.2** | **16.3** |
| **Turkey** | **11.0** | **14.0** | **11.9** | **9.8** | **9.2** | **9.7** |

*Source: Turkish Statistical Institute*

***Table 5 Employment Rates (%) in four provinces and Turkey 2008-2013***

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| **Gaziantep** | **36.5** | **35.3** | **39.3** | **39.3** | **39.2** | **43.6** |
| **Hatay** | **36.7** | **37.8** | **43.0** | **43.0** | **43.1** | **40.3** |
| **Kilis** | **37.9** | **37.7** | **44.2** | **44.2** | **40.9** | **41.1** |
| **Sanliurfa** | **31.5** | **30.0** | **31.1** | **31.1** | **28.5** | **32.4** |
| **Turkey** | **41.0** | **41.2** | **43.0** | **43.0** | **45.4** | **45.9** |

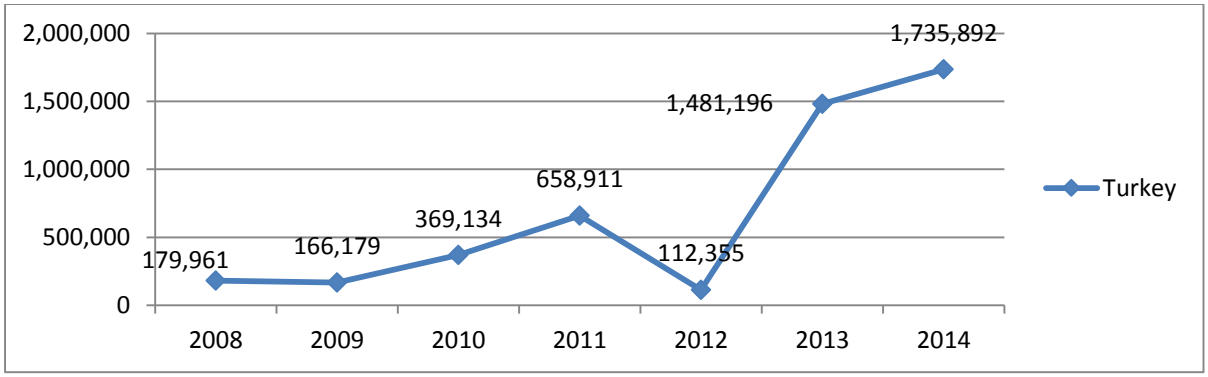
*Source: Turkish Statistical Institute*

Finally, I present the vacancies in Turkey in order to have a better picture of absorption potential of refugees in these provinces. Figure 3 shows the vacancies in Turkey from 2008 until 2014. With the exception of 2012[15], the vacancy number rose from 2011 until 2014, reaching 1.7 million in 2014. Table 6 shows the economic activity percentage of these vacancies in 2014. Industrial production has the largest number of vacancies among all. Also the construction sector has been seeking for almost 90 thousand persons to work and that of the transportation sector is 78 thousand. Bearing in mind that almost 75% of the Syrians living

[15] The correctness of the 2012 data is suspected.

in Turkey are looking for a job according to survey results (Ceritoglu et al, 2015, p. 9), Syrians could be absorbed in such considerable amount of vacancies which do not require any specific skill.

***Figure 3 Vacancies in Turkey 2008-2014***




*Source: ISKUR (Turkish Labor Agency) Corporate statistics, available at*

http://www.iskur.gov.tr/KurumsalBilgi/istatistikler.aspx#dltop

Provincial data suggest that there is a considerable amount of growth in the vacancies in all the provinces from 2008 until 2013 (Table 7). One reason why the numbers show a sharp increase could be due to data collection issues. The number of firms registered to Turkish Labor Agency (ISKUR) might have risen sharply in recent years allowing them to track the vacancies in provincial level in detail. Therefore, comparing the provincial growth of vacancies with the growth in Turkey would demonstrate more accurate results. The growth rate of vacancies in Gaziantep is in line with that of Turkey from 2011 to 2013. On the other hand, Sanliurfa and Hatay show almost 500% of growth from 2011 to 2013. In Kilis the growth is the least- around 50%. Having a considerable growth in their vacancies, these provinces might have an absorption capacity to offer employment opportunities for the Syrians on the condition that they have formal work permit. Next section explains labor market characteristics of these four provinces, presenting findings from my fieldwork.

*Table 6 Allocation of* **Vacancies** *in Economic Activity in Turkey in 2014*

| Economic Activity | Number | Percentage |
|---|---|---|
| **Industrial Production** | **603,627** | **34.77%** |
| **Wholesale Trade** | **198,690** | **11.45%** |
| **Administrative Services** | **152,208** | **8.77%** |
| **Accommodation and Food Services** | **134,899** | **7.77%** |
| **Technical, vocational and scientific activities** | **91,897** | **5.29%** |
| **Construction** | **89,328** | **5.15%** |
| **Transportation** | **78,513** | **4.52%** |
| **Information Services** | **48,722** | **2.81%** |
| **Health** | **29,777** | **1.72%** |
| **Education** | **23,493** | **1.35%** |
| **Agriculture, Forestry and Fish** | **13,780** | **0.79%** |
| **Mining** | **13,405** | **0.77%** |
| **Electricity, gas, steam production and distributon** | **10,470** | **0.60%** |
| **Finance Sector** | **10,330** | **0.60%** |
| **Water provision, sewage, garbage management and** | **9,698** | **0.56%** |
| **Art, Entertainment, Sports and Cultural Activities** | **7,692** | **0.44%** |
| **Public Sector** | **4,661** | **0.27%** |
| **Real Estate** | **4,183** | **0.24%** |
| **Self-Employment** | **1,043** | **0.06%** |
| **International Organizations** | **170** | **0.01%** |
| **Other Services Activities** | **209,306** | **12.06%** |
| **TOTAL** | **1,735,892** | **100.00%** |

*Source: ISKUR (Turkish Labor Agency) Corporate statistics, available at* http://www.iskur.gov.tr/KurumsalBilgi/istatistikler.aspx#dltop

*Table 7 Vacancies in four provinces 2008-2014*

| | Gaziantep | Hatay | Kilis | Sanliurfa | Turkey |
|---|---|---|---|---|---|
| **2008** | **2,854** | **1,025** | **261** | **689** | **179,961** |
| **2009** | **3,737** | **877** | **263** | **1,627** | **166,179** |
| **2010** | **7,064** | **1,905** | **943** | **3,201** | **369,134** |
| **2011** | **13,356** | **3,889** | **1,619** | **4,768** | **658,911** |
| **2013** | **28,996** | **15,450** | **1,921** | **26,613** | **1,481,196** |
| **2014** | **16,667*** | **5,489*** | **2,121*** | **9,332*** | **1,735,892** |

Source: ISKUR (Turkish Labor Agency) Corporate statistics, available at *http://www.iskur.gov.tr/KurumsalBilgi/istatistikler.aspx#dltop*. 2012 data could not be found and was not included.**Numbers are for January-August. End of 2014 figures in provincial level are not present yet.*



## 5.1 Gaziantep

Gaziantep is the 8th largest province in Turkey (out of 81), with a population of 1.88 million as of 2014 and is the most developed province in the South Eastern region with a growing export

driven industry. The province is ranked 30th among 81 in socioeconomic development index of Turkey in 2011, ranking the top among the analyzed provinces in this study (ISKUR, 2014). It is important to mention its role in exports as the exports from the province contributes considerably to the Turkish economy with export revenue per person reaching to 2,069 USD in 2011, making up of 3.1% of the total exports of the country (ranked the 6th in Turkey). Prior to the Syrian crisis, the internal immigration to the province was high (compared to the region) putting pressures on the social development. Although it has a developed industry, the social indicators are poor. Literacy rate is also below the average in Turkey, especially for the females. Enrolment to vocational or high school is fairly low (15.2%) which is below the Turkey average of 29.3% and the percentage of graduates from university or higher in the population is 5.6%, again below the Turkey average of 8.8%.[16]

Gaziantep fares much better than the neighboring provinces in term of the labor market indicators. As of 2013, the unemployment rate is 6.9% (TURKSTAT, 2013, below the Turkey average of 9.7%. The employment rate is 43.6% and the labor force participation rate is 46.9%. The type of employment for the most popular sectors is as follows: 51.6% of the employees work in industrial sector, 13.8% work in trade sector and 9.3% work in construction. Although agricultural seasonal workers also constitute a large part of the total employment, they are mostly working informally and are not counted in the statistics. The expected growth of net employment for 2015 is mainly in the crafting sector such as carpet weaving and textile (ISKUR, 2014).

According to the data of the Turkish Labor Agency in Gaziantep (ISKUR), total number of vacancies is 28,996. The ratio of vacancies to the total jobs is 2.2%, close to the Turkey average of 2.7%. 38.9% of all vacancies are for the manual workers, i.e., jobs only requiring physical

[16] All data in this paragraph are retrieved from SEGE, Ministry of Development of Turkey, 2011, http://www.ab.gov.tr/files/ardb/evt/2_turkiye_ab_iliskileri/2_2_adaylik_sureci/2_2_8_diger/tckb_sege_2013.pdf

strength, composed of cleaning workers (13.3% ), office workers 4.6%) and security staff (4.5%). These figures show that the current vacancies in Gaziantep are mostly for unskilled workers. ISKUR states that within time, the number of companies who consult them to find employees is increasing indicating that the number of vacancies for especially unskilled labor is in an increasing trend. Among all the registered companies to ISKUR, 44% apply to them in order to find unskilled employees. An interesting fact about Gaziantep is that among the companies looking for employees through ISKUR, those who require at least high school are only 13.5%. In fact, 34.2% of them require high school or lower 'sufficient' and 36.9% of them even mentioned that the education level does not matter. This fact about Gaziantep actually makes it an available environment for the Syrians to work.

As of May 2015, there are 271,543 Syrians registered in Gaziantep, making up of 14.3% of the population (Table 1). 51,543 of them live in camps indicating that there are 220,000 registered Syrians living in Gaziantep with their own resources. Evidence from the fieldwork shows that the actual number of Syrians living outside of the camps exceeds 220,000. The numbers predicted by authorities and general public reaches up to 300,000-350,000.[17]

The labor market integration of Syrians is not easy mainly due to institutional constraints. According to the interviews that I conducted during the fieldwork, although there are vacancies for mostly unskilled workers, the number of Syrians working legally is very low- in fact; only those who can start a business have an official work permit. On the other hand, I found evidence that Syrians are mostly working in small businesses for sectors of textile, shoe making, construction and agriculture, whereas large scale businesses do not hire Syrians illegally.[18] In

[17] The number exceeding 300,000 is a general opinion of everyone interviewed during the fieldwork. Also official declarations of head of Chamber of Commerce in Gaziantep ( 2 February 2015 in Hurriyet Newspaper http://www.hurriyet.com.tr/yerel-haberler/Gaziantep-Haberleri/suriyeliler-is-dunyasinda-ben-de-varim-diyor_49288 ) and of the governor of Gaziantep's declaration (on March, 14 2015 from http://www.dailymotion.com/video/x2jin5y , minute 4:27) confirms it.

[18] I gathered all the labor market condition information of Syrians in Gaziantep from my interview with the Association for Solidarity with Asylum Seekers and Migrants.

the first years of crisis as a response to huge influx, the Association for Businessmen in Gaziantep stated that the textile companies registered to the association would be willing to hire the Syrians with a minimum wage, however, under the illegal status, they cannot.[19] I found during my fieldwork that the business environment in Gaziantep is actually willing to integrate the Syrians to the labor market. As the Syrians are willing to work for any wage, they would be willing to hire them formally, mostly paying the minimum wage. Second, there were considerable investments by Syrian investors within the province, building new companies and hiring mostly Syrians. According to the data of Chamber of Commerce of Gaziantep, the Syrian firms that are registered increased from 10 to 272 by the end of 2014 (212 of them were established only in 2014) and are providing jobs for many Syrians and natives.[20]

The rising inflationary pressure on housing and food are also one of the main reasons why Syrians are not favored in Gaziantep. In 2013, the NUTS2 region group that Gaziantep is found (Adiyaman, Gaziantep, Kilis) had the highest inflation rate in Turkey as 8.51%, while the Turkey average was 7.4% (TURKSTAT, 2013). Therefore, even those who did not lose their jobs during the crisis now have lower real income due to inflationary prices on food and rent.

Overall, the labor market conditions in Gaziantep changed considerably with unskilled unemployed going up, reaching 76,367 people in 2014. According to the latest report of ISKUR, 88% of the registered unemployed are unskilled labor (ISKUR, 2014, p.9).[21] Although the overall unemployment decreased, the unskilled labor is suffering from the crisis. With the introduction of 'cheaper' labor into the market, it is expected to worsen for unskilled workers in coming years if there is no regulation enacted regarding issuing a work permit for Syrians.



[19]Chamber of Commerce of Gaziantep, January 5, 2014, retrieved from http://www.gto.org.tr/Gaziantepin-Yukunu-Hafifletin-haberler-123.html

[20] Data are taken from the interview during fieldwork. Also, seeHurriyet news (in Turkish) on February 2, 2015. http://www.hurriyet.com.tr/yerel-haberler/Gaziantep-Haberleri/suriyeliler-is-dunyasinda-ben-de-varim-diyor_49288

[21] Unskilled labor is taken as those occupations which do not require any training. Chef, accountant, office assistant, marketing staff are the occupation not counted as the unskilled labor.

On the other hand, I found that the business environment seems to favor the current conditions as they can employ much cheaper labor.

## 5.2 Kilis

Kilis is one of the smallest provinces of Turkey, with a population of 128,000 within the province and 85,000 in the center (excluding the surrounding towns). The province is not economically active or industrialized- economy is based mainly on transportation and construction with 22% of the total firms (all small-sized) are working in construction sector and 21.40% working on transportation (ISKUR, 2014) In fact, transportation exceeded construction before the Syrian civil war, however after the conflicts in the border, many transportation firms went bankrupt or had to move away.

Located very close to the Syrian border, Kilis has been one of the popular destinations for the Syrians. 2014 figures show that 85,154 Syrians are living in Kilis, 49,000 of which live outside of camps, making up of 66.1% of its population. Kilis experienced the highest population growth after the Syrian influx in Turkey. Evidence from the fieldwork suggests that the actual number exceeded 100,000, almost doubling the population[22]. The Chamber of Commerce in Kilis also confirms that the number is much higher than the official figures and that they expect 98% of them not to turn back.[23] Therefore, they are suggesting long term solutions for the crisis.

Kilis has different characteristics than Gaziantep. It is not an industrially developed province. The dominant sector is agriculture and others generally carry on the family businesses. In fact, my interviews with the locals show that employers of services sector in Kilis are complaining

[22] This number had been declared by most of the NGOs interviewed, including Danish Refugee Council who are actively working in Kilis, and from the governor's office.
[23] News of Milliyet (Turkish), 14 February 2014, retrieved on 12 May 2015, from http://www.milliyet.com.tr/sirket-rekoru-suriyelilerde/ekonomi/detay/1836464/default.htm

of lack of young people willing to work from Kilis and that the Syrians were like a 'remedy' to them as they are young and cheap labor.

According to the report of Turkish Labor Agency (ISKUR) in 2014, vacancy rate is 1.3% in Kilis and the firms that declared that they have vacancies is 9.3% indicating that 1 in every 10 company is actually looking for worker. 43.6% of these firms require only secondary school education level while only 7.7% require high school or equivalent. The sector which has the highest proportion of vacancies is in the mining sector as well as sales clerk, truck driver, construction worker and weaver worker.

Another finding from the ISKUR report and the fieldwork is that there is fall in the unemployment rate in the province. Table 4 shows that the unemployment rate had its minimum value of the last five years in 2013 with a rate of 7.7%, much below the Turkey average of 9.7%. In fact, according to my public hearings and personal observations in the field and my interview with Danish Refugee Council, many groceries, small markets, restaurants, barber shops, coffee shops, boutiques and pastries were opened by the Syrians.[24] They are providing employment opportunities for many Syrian and Turkish people. Also, an interesting fact is that the first large scale company of Kilis had been opened in 2014 by a Syrian investor. This shows that after the crisis, the working population is growing and the economy seems to be reviving.

Overall, data and figures about Kilis show that the local labor market do not seek for skilled workers and that it can actually absorb the unskilled labor supply of Syrians. Moreover, as a result of the young Syrian population, the province seems to be growing and developing. The social tensions remain due to the Syrian percentage being very large (at 66% in whole province, more than 100% in the center excluding the surrounding towns); however, the fact that the

[24] Most of them are illegal or under the contract of a Turkish citizen but ran by a Syrian

province is now getting more economically developed is actually leading to lower social tensions.

## 5.3 Hatay

Hatay is the 13th largest province in Turkey (out of 81), with a population of 1.5 million in 2014. It is a multicultural city, hosting considerable amount of both Sunni and Arab Alevis.[25] Having Arab Alevis as natives, Arabic language is daily used within the province. Therefore, the Syrians do not have major disadvantage in the labor market due to language issues. There are 204,906 Syrian refugees registered within Hatay amounting to 13.4% of the population. Other registered Syrians, whose amount is 190,000, live outside of the camps.

There was a misperception in Hatay that those who escaped from the war were considered as Sunnis (as Alevis were the 'rebellions' against the government) therefore it created even more sect-based segregation in labor market. According my findings in the fieldwork, Syrians are working as cleaning staff, porter, agricultural and construction workers. In fact, currently most of the porters are Syrians as they supply very cheap labor at around 10-20 (4-7 euros) liras per day while the Hatay locals demanded 50 liras (around 17 euros) per day. Also, animal husbandry increased after the crisis with many animals smuggled from the border. Agricultural work is also very common for Syrians as they work for even less than the half price of natives. Regarding the average wages, evidence from my fieldwork provides that it fell considerably in Hatay. The weekly wage fluctuates around 80-100 liras (30-35 euros) for Syrians which amounts to half of the monthly minimum wage. The purchasing power fell down considerably- due to proximity to Syria, many people would pass the border to buy goods for lower prices.

[25] Sunni is sect of Islam common in Turkey. Alevi refers to heterodox Muslim minority belonging to the Shia sect of Islam.Turkey has a majority Sunni population, however one of the largest minority are Alevis reaching to 15-20% of population in Turkey.

The evidence that I obtained suggest that the food and rent prices are also rising in Hatay and that the locals have to spend more with real purchasing power going down.

There is a common sense in Hatay that many unskilled people lost their jobs due to Syrians. In fact, information I obtained during my interview with the Community Center in Hatay shows that the workers of a cleaning company who replaced all the Turkish workers with Syrians demonstrated against the Syrians, raising the tensions between the two groups. Therefore, Syrians continue to work for self-employed people or small scale firms without social security and with half of minimum wages, mostly in irregular jobs. Construction is among the sectors which grew after the crisis due to supply of cheap labor while the transportation sector shrank significantly as many companies went bankrupt after the crisis. Another sector that expanded is the 'organized industrial zones' which refer to the compound of industrial firms in one place. Hatay's first organized industrial zone had been established after the crisis. Regarding the potential outcomes of issuing a work permit, many large scale agricultural companies are likely to hire more Syrians as the young population is emigrating from the province.

According to the labor market survey conducted by ISKUR which includes all the firms having more than 10 employees, summing up to 2081 companies, the vacancy rate in Hatay is 1,7% and 17.6% of the companies interviewed have a vacancy in Hatay. Of those companies, 68.5% of them require only secondary education while only 15.1% of them require higher education. The sectors with the highest percentage of vacancies are the accommodation and food sector. Other occupations include truck driver, manual worker, nurse, accountant, marketing staff and secretary. Another interesting fact from the survey is that 42% of the companies stated that they had difficulties in filling the vacancies. In the first period of 2014, a total of 2,739 vacancies could not be filled, especially for the positions of the truck driver, nurse, waiter,

marketing stuff and sales clerk. Another result from the survey is that the employers expect that by June 2015, there will be a 4.3% growth in the total employment accounting for 2,870 persons. The sectors where the employment growth is expected most are construction (26.4%), industrial sector (23.3%) and wholesale trade (18.9%). The occupations that are expected to grow in number are security guard, salesclerk, construction worker, truck driver and machinery maintenance. In overall, the findings of Labor Market survey of ISKUR shows that in Hatay there is a demand for unskilled worker which can be supplied by the Syrians. There is a potential for economic growth in Hatay. Issuing a work permit could actually create job opportunities for Syrians in Hatay.

## 5.4 Sanliurfa

Sanliurfa is a Kurdish-populated province of Turkey, located in the South Eastern region with a population of 1.84 million (ranked the 9$^{th}$ largest of 81 provinces in Turkey). Sanliurfa is not industrialized- majority of people work in the construction sector. The labor force participation rate is very low with 38.7% in 2013 which is lower than the other provinces that received Syrians and lower than the Turkey average of 50.8% in 2013. The female participation to the labor market is one of the lowest in Turkey as well- only 14% of the total employees are female. The employment rate was 32.4% in 2013, around 10 percentage points lower than Turkey average. It can be a result of Sanliurfa being a rather 'traditional' province of Turkey where the landlords (*toprak agasi* in Turkish) constitute the richer part of the society. Within the province it is highly common that young people carry on the family farm holdings.

In Sanliurfa, there is not a considerable number of skilled worker supply- 39% of the working age population work in agricultural sector which is a high percentage compared to Turkey average of almost 20% (TURKSTAT). Industrial sector only accounts for 19.9%. Data of ISKUR (2014) also shows the significance of the amount of employed unskilled labor: almost

all of the unemployed workers belong to occupation groups which do not require any skill such as manual worker (accounts for more than 50% of the total registered unemployed), driver, secretary, security etc. (ISKUR, 2014, p.4). 44.3% of the currently employed people work in the occupations which do not require any skill, while the industrial sector only accounts for 12.4% of the total.

According to the official numbers, there are an estimated 170,000 Syrians living outside of camps and 102,317 living inside the camps making Sanliurfa the largest province hosting the Syrians (272,317) according to the latest publicly available figures by June 1, 2015. It is a popular destination especially for the Kurds living in Syria, as they have kinship connections. Moreover, Sanliurfa's entry point is very close to the city 'Ar-Raqqah' in Syria which was occupied by ISIS in 2013, increasing the Syrian population flooding into the province.[26]

According to my interviews conducted with the local NGOs, self-employment is actually getting more and more common among the Syrians living in Sanliurfa. As a result of the vocational training courses offered by some local NGOs (among them IMPR-International Middle East Peace Research Center and Support to Life who built community centers in the province), many Syrians are now working as hairdresser, tailor, technicians, language teachers etc. Most Syrians work in agricultural or construction sectors; however there is a limitation even in these occupations. Evidence from the fieldwork suggests that Syrians are working for half price of locals, for about 25 liras for a day in construction and agricultural sector compared to natives' daily wage of 50-60 liras. Syrians are not much active in labor market compared to Gaziantep due to worsening economic conditions in the province.



[26] ISIS refers to the Islamic State of Iraq and Syria (or Sham) or simply Islamic State, which is an extremist Islamic Terrorist group controlling some of territory of Iraq and Syria.

Job vacancies in total are 1.6% of the total number of jobs in 2014 which is higher than the Turkey average of 2.7%. As the industry is not developed, the main employment sources are construction, transportation and agricultural sectors. For women it is mainly cleaning and cooking. The Syrians could well fit to these vacancies as they do not require high skilled work. However, the problem is that there are not many job opportunities as well as no potential for growth (as in the case of Gaziantep) and therefore the general public opinion does not think that Syrians are economically reviving the city.

Overall, descriptive statistics as well as the evidence from fieldwork suggests that labor market in Sanliurfa is likely to have been negatively affected from the Syrian influx. The number of Syrians is growing and informal employment is large. Syrians replacing the Kurds in seasonal agricultural work as well as the constructions with really low wages increase the tensions.

My findings from the fieldwork are consistent with the labor economics theory discussed in Chapter 2. In these provinces which have a significant amount unskilled native population, the employment outcomes have been seriously affected following 2011. There is a huge informal employment - almost all the Syrians are working informally. There is also a wide perception that Syrians are 'stealing' the jobs of natives, especially in the seasonal jobs in agriculture and construction. Tolerance towards Syrians used to be much more in the first years of crisis; however, it has declined in years as they do not seem to leave soon. However, in some of these provinces, especially in Gaziantep and Kilis, the evidence that I obtained suggests a revival in the economy with many Syrians engaging in business, which is also in line with the theory which states that in the long run, the negative labor market outcomes for the native will decline as more capital flows into the market, leading to growth in employment opportunities an production. Moreover, the wages are expected to adjust in the long run. Therefore, there is a possibility that the region can absorb the influx of Syrians under a legal institutional framework.

# 6. Econometric Analysis

## 6.1 Data

In order to analyze the labor market outcomes through econometric evidence, this study exploits the data of the national labor force statistics of Turkey compiled by the Turkish Statistical Institute (TURKSTAT). TURKSTAT annually carries out an extensive Household Labor Force Survey using a large sample covering all settlements in Turkey in NUTS2 regional level[27] and it includes a rich set of questions that constructs the structure of labor force statistics of individuals[28]. The Syrian citizens are not included in the national data of Turkey- therefore the statistics will only represent the native population. The micro dataset comprises cross sectional surveys annually, each year having more than 500,000 individual observations collected from more than 140,000 households. Every year the number of individuals in a household does not remain the same, due to birth, death, migration and so on, therefore the sample size for each year differs. Since I intend to investigate the effect over time in individual level, I gave my data a panel dimension with the cost of losing observations for those who were not included in the survey during the whole period. Reconstructing my sample leads to a dataset with 158,130 individual observations in 26 NUTS2 regions from 2010 to 2013, amounting to 632,520 observations for four years. I omitted the years before 2010 for the sake of not losing too many observations by including one or two more years[29]. Since the main cut off year is the 2012, defining the pre-treatment as 2010-2012 and post treatment as 2012-2014 would be sufficient to track the changes between the two periods.



[27] NUTS2 regions are divided based on the proximity of their economic and geographical characteristics. *See* Appendix A for more details on the regions.

[28] TURKSTAT publishes the macro data set of the Labor Force Survey results annually online; however, the micro dataset is not publicly available. I am very grateful to the Turkish Statistical Institute for providing me the micro dataset for the purpose of using in my study.

[29] I would like to express my sincere gratitude to Ipek Mumcu from the Institute of Social and Economic Research at University of Essex for helping me with arrangements of data.

Data for the refugee presence (used for choosing the treatment group) are obtained from UNHCR's Sitreps for December 2012 and 2013 (UNHCR, 2013 & 2014) and from Ministry of Interior's and AFAD's data for 2014.[30] The control variables, population and economic activity, are obtained from publicly available foreign trade statistics of Turkish statistical Institute in regional level.

## 6.2 Identification Strategy and Econometric Specification

The aim of this study is to compare the labor market outcomes of the natives in the regions that host refugees to the rest of Turkey. I employ a basic difference-in-difference strategy where I construct two groups--treatment and control- within two time periods -pre and post immigration- in order to estimate the unemployment, employment, unregistered employment, labor market participation rate and wage outcomes of natives.

The main criterion for the treatment group is defined as the bordering regions which host Syrian refugees more than 10% of their population (three regions, see Appendix A for their names). Control group is chosen as the rest of Turkey which are 23 regions. Choosing such a large control group might lead to several problems: first, in some regions there is a significant number of refugees, such as in Istanbul, where an estimated amount of 300,000 Syrians reside. However, given the large population of Istanbul (14.3 million in 2014 according to TURKSTAT) and its high level of economic development, the effect on the labor market outcomes in Istanbul would be less than these regions. This problem is expected to be overcome



[30] *AFAD presents the in-camp numbers, last updated on 11 May 2015.The out of camp numbers are taken from Minister of Interior's numbers declared in November 2014.* Bear in mind that the out-of-camps numbers are roughly estimated and anecdotal evidence suggests that there is more Syrians than registered or estimated.

by the robustness checks, in chapter 6.4, where the industrial regions of Turkey including Istanbul are omitted from the control group.

In the natural experiments using difference-in-difference, deciding on the control group is tricky for the cases where there are no effective measures that allow migrant to choose among the regions of the host country (Dustman, Glitz and Frattini, 2008). I do not encounter with such a problem since the refugee camps are located in bordering cities and the refugees choose the regions closest to the border due to proximity (discussed in Chapter 4). This helps me to bypass the exogeneity issues that can arise while choosing the control group. Therefore, the geographical limitation that the Syrian refugees face and the size of the refugees found in the treatment regions enable the estimation of the impact on labor market outcomes using provincial data in a difference-in-difference framework. The cut-off date is the first registration data available (Figure 1), December 2011, and so 2012-2013 is defined as the post-immigration while 2010-2011 is taken as the pre immigration period.

I identify two variables, presence of refugee (R) and time period (T), in order to indicate the refugee presence and period of the exogenous shock within individual, region and time dimensions. The main model to analyze the impact of the shock on a specific labor market outcome (Y) is:[31]

$$Y(U_{i,n,,t},E_{i,n,t},L_{i,n,t},UR_{int},W_{i,n,t}) = \alpha + \beta R_i + \gamma T_i + \theta (R*T)_i + \varepsilon_{it} \quad (1)$$

,where i denotes individuals, n denotes regions and t denotes time. R is a binary variable indicating the regions which received an inflow of refugees more than 10% of their population after the introduction of the shock. It takes the value regardless of the time dimension- 1 for all the provinces with a refugee number of 10% or more of the population and 0 otherwise. T is a

[31]The models that I used in this study are originated by using the models used in Hunt (1992) and Ceritoglu et al (2015).

binary variable indicating the time period of treatment. It takes 1 for the post-treatment years (2012-2013) and 0 in pre-treatment years (2010-2011). R*T, interaction term, is the main treatment variable, showing the treatment impact. θ is the main coefficient of interest indicating to what extent the refugee inflow had an impact on the specific labor market outcome in treatment regions. In order to have a better picture, Table 8 shows the difference-in difference framework in pre and post immigration in control and treatment. My strategy leads to an identification framework in 4 groups, explained in detail in Table 8.

***Table 8 Difference-in-Difference Framework***

| | **Control (R=0)** | **Treatment (R=1)** | **Difference** | **Dif-in-Dif (Interaction)** |
|---|---|---|---|---|
| **Pre-Treatment (T=0)** | **A** | **α +β** | **-β** | **Pre-Post= θ** |
| **Post-Treatment (T=1)** | **α +γ** | **α+ β+ γ+ θ** | **- β- θ** | |

Originating from the model (1), 3 regressions are fitted in order to estimate 4 labor market outcomes, using control variables:

$$Y\,(U_{i,n,,t}, E_{i,n,t}, L_{i,n,t}, UR_{int}, W_{i,n,t}) = \alpha + \beta\, R_i + \gamma\, T_i + \theta\, (R*T)_n + f_i + f_t + \delta\, P_{n,t} + \rho\, Z_{it} + \varepsilon_i \qquad (2)$$

E is the employment outcome, defined as the employment as a ratio of population, U is the unemployment outcome defined as ratio of unemployed to labor force and L is the labor force participation, ratio of total number of labor force to population. W is the wages and UR is the unregistered employment. $f_i$ and $f_t$ denote the region and time fixed effects, respectively. Control variables are P and Z: P is the population, taken in logarithms and Z represents a proxy for economic activity of the provinces, which is the total trade volume in the province taken as the sum of imports and exports, in logarithms. This variable is put into the equation in order to control for the trade shocks in the provinces due to crisis. In order to track the impact on the

unskilled, defined as those having education level lower than high school (no school, primary school, middle school), I include a skill dummy, S, and its interaction to the model:

$$Y(U_{i,n,,t},E_{i,n,t},L_{i,n,t},UR_{int},W_{i,n,t})=\alpha + \beta R_n + \gamma T_n + \theta (R*T)_i + S_i + \mu(S*T*R)i + f_i + f_t + \delta P_{n,t} + \rho Z_{it} + \varepsilon_i \quad (3)$$

where S is a binary variable taking 1 if the person has an educational attainment lower than high school (unskilled) and 0 if s/he has high school or higher (skilled)[32]. S*T*R is the interaction term showing the difference between the skilled and unskilled in treatment areas in post treatment period. The coefficient μ is the main variable of interest in this model as it shows the extent that the unskilled labor got affected from the refugee inflow compared to the skilled in treatment areas in post treatment period.

Table 9 shows the summary statistics for the labor market outcomes. Treatment group refers to the average value for three regions who host refugees more than 10% of their population, and control group is the average for the rest of Turkey (23 regions). Pre and post treatment period seem to move in same directions, except for the unemployment. While the difference between the unemployment rates of treatment and control groups were very low in pre-treatment period with 0.01 percentage point difference (treatment group had lower rate of unemployment), in post treatment period it reaches 0.54 percentage point difference, with control group having a lower rate. The employment rate, labor force participation rate and wages of treatment group are lower in both pre and post treatment, and the difference becomes even more in post treatment. Therefore, the labor market conditions were already poorer in the treatment group even in pre immigration period.



[32] I only take educational attainment into account while defining the skill of the natives since questions related to 'work experience' is not that replied by a significant portion of surveyors.

***Table 9 Summary Statistics***

| | Pre-treatment: 2010-2011 | | | Post-treatment: 2012-2013 | | | |
|---|---|---|---|---|---|---|---|
| | **Treatment** | **Control** | **Difference** | **Treatment** | **Control** | **Difference** | **Difference-in-difference** |
| **Employment** | **0.3723** | **0.4671** | **0.0948** | **0.3708** | **0.4805** | **0.1097** | **-0.0148** |
| **Unemployment** | **0.0553** | **0.0552** | **-0.0001** | **0.0422** | **0.0476** | **0.0054** | **-0.0055** |
| **Labor force participation rate** | **0.4277** | **0.5241** | **0.0963** | **0.4130** | **0.5281** | **0.1151** | **-0.0187** |
| **Wages (Turkish Liras)** | **516.91** | **658.85** | **141.90** | **956.39** | **1193.26** | **236.87** | **-94.96** |
| **Sample Size** | **33,355**[33] | **307,793** | **-** | **30,916** | **307,902** | **-** | **-** |

*Source: Turkish statistical Institute individual micro data*

## 6.3 Results and Discussions

In this chapter, I present my results on five labor market outcomes: unemployment, employment, labor force participation, unregistered employment and wages for the native working age population in Turkey. Except for wages, they are all binary variables. The interaction term R*T denote by the 'refugee impact' in the tables is the main variable of interest. I run all the models with the control variables, economic activity (Z) and population (P), as including these parameters gives more significant results. For each variable, I have two models: one with only refugee presence interaction, the other one includes the skill dummy S and its interaction, which is described in the tables as 'refugee impact on unskilled'. I intend to find the main impact of hosting refugee presence in the regions who host more than 10% of their population.

I begin with unemployment which is a binary variable taking 1 if the individual has replied that s/he is not working but looking for a job, 0 if s/he is currently working. Column 1 of Table 10 shows the unemployment outcomes for the natives following the Syrian refugee crisis. It

[33] Sample size for 2011 is 31,086, as it is different for two years. For 2012 and 2013 it is not.

suggests that the unemployment rate for the native population in treatment group has increased by 1.3 percentage points in the post treatment period. Model 2 of unemployment suggests that in treatment regions, the unemployment rate was higher for the unskilled labor by 6.2 percentage points than the skilled labor compared to the pre-treatment period. Looking at the employment column, we see that the employment rate of native population in treatment regions have decreased by 1.52 percentage points in post treatment period, compared to the native population in the control areas. Model 2 shows the unskilled labor compared to the skilled. Decline in employment was more for unskilled native population compared to skilled, with a 5.4 percentage points difference in treatment areas. These findings are in line with the theory that suggests the native skill group which has similar skillset with the immigrants will be more affected than the others.

Third Column of Table 10 shows the labor force participation for native population. It is a binary variable taking 1 if the person is in the labor force and 0 ifs/he is not. The findings suggest that the likelihood of labor force participation rates of native population have decreased by 2.2 percentage points in treatment areas after 2012 compared to the rest of Turkey. This decrease if even more (3.9 percentage points) for the unskilled native population compared to the skilled native population in the treatment areas.

Table 11 shows the results for unregistered employment of native population. It is a binary variable for the employed people taking 1 if the person replied that they are not registered to any social security institution in their occupation and 0 if they are registered. This variable might be biased- people do not tend to reveal that they are not registered. Keeping this bias in mind, I tried to find how the informal unemployment changed for the natives in the treatment regions. I found no evidence that the informal employment increased in the treatment regions in post treatment period. This might be due the biasedness of this variable for the reason

mentioned above. Looking at the model 2 of the registered employment, I found that the informal employment among the unskilled portion of the native population is 9 percentage points higher than the skilled portion of native population for the treatment regions in pot treatment period. This is actually in line with my findings from the fieldwork- I observed that the unskilled native population are forced to work informally in the regions more than the skilled, in the bordering provinces that received refugees after 2012. However, this finding is still interesting given the biasedness of this variable itself.

***Table 10 Results for Unemployment, Employment and Labor Force Participation***

| | **Dependent Variable: Unemployment** | | **Dependent Variable: Employment** | | **Dependent Variable: Labor Force Participation** | |
|---|---|---|---|---|---|---|
| **Variables** | **(1)** | **(2)** | **(1)** | **(2)** | **(1)** | **(2)** |
| **Refugee Impact (R*T)** | **0.013*** (0.005)** | **-0.044*** (0.008)** | **-0.0152*** (0.005)** | **-0.037*** (0.008)** | **-0.022*** (0.0051)** | **0.018** (0.008)** |
| **Refugee Impact on Unskilled (S*R*T)** | **-** | **0.062*** (0.008)** | **-** | **-0.054*** (0.008)** | **-** | **-0.039*** (0.008)** |
| **Population** | **0.02*** (0.002)** | **0.02*** (0.002)** | **-0.029*** (0.0029)** | **-0.033*** (0.002)** | **-0.034*** (0.0029)** | **-0.039*** (0.0028)** |
| **Economic Activity** | **-0.002** (0.001)** | **-0.001** (0.001)** | **0.0018* (0.001)** | **0.0006 (0.001)** | **0.0065*** (0.001)** | **0.0053*** (0.001)** |
| **Time Fixed Effects** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Region Fixed Effects** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Constant** | **1.22*** (0.02)** | **1.01*** (0.011)** | **0.871*** (0.279)** | **1.09*** (0.02)** | **0.92*** (0.02)** | **1.63*** (0.027)** |
| **R squared** | **0.25** | **0.27** | **0.25** | **0.25** | **0.25** | **0.27** |
| **Number of Observations** | **632,520** | **632,520** | **632,520** | **632,520** | **632,520** | **632,520** |

Robust standard errors in parenthesis. ***, **,* shows significance in 1%, 5% and 10% respectively. Model 1 shows the refugee impact in treatment regions in post treatment period. Model 2 includes the skill interaction, S*R*T. Population and Economic activity are in logarithms.

The last column shows the wage outcomes of native population. The wage variable is a problematic variable itself as in the survey it takes value 0 if the person does not want to answer. I take the logarithm of the variable as in the data there are many zeros due to people not willing to reply. Also, in most of the labor force survey it is a known fact that people might want to understate their wages for tax or other reasons. In line with these biases of wage variable, I

found no evidence of increase in wages in treatment areas compared to the control groups. This is consistent with the findings of other papers presented in my literature review. Another reason of this insignificance is due to the fact that wages need time to adjust to the changes in labor market conditions. It has only been two years since the Syrian refugees have flooded in Turkey and it is not expected that the ages of natives will be adjusted in such a short period of time.

***Table 11 Results for Unregistered Employment and Wages***

| | **Dependent Variable: Unregistered Employment** | | **Dependent Variable: Wage** | |
|---|---|---|---|---|
| **Variables** | **(1)** | **(2)** | **(1)** | **(2)** |
| **Refugee Impact (R*T)** | **0.008**<br>**(0.009)** | **-0.074*****<br>**(0.011)** | **-0.019**<br>**(0.018)** | **0.044***<br>**(0.023)** |
| **Refugee Impact on Unskilled (S*R*T)** | **-** | **0.0901*****<br>**(0.02)** | **-** | **-0.048****<br>**(0.024)** |
| **Population** | **-0.009***<br>**(0.001)** | **0.007***<br>**(0.004)** | **0.13*****<br>**(0.009)** | **0.13*****<br>**(0.008)** |
| **Economic Activity** | **-0.042*****<br>**(0.0018)** | **-0.04*****<br>**(0.001)** | **-0.03*****<br>**(0.003)** | **-0.02*****<br>**(0.003)** |
| **Time Fixed Effects** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Region Fixed Effects** | **Yes** | **Yes** | **Yes** | **Yes** |
| **Constant** | **2.16*****<br>**(0.046)** | **1.64*****<br>**(0.43)** | **5.34**<br>**(0.09)** | **5.55**<br>**(0.07)** |
| **R squared** | **0.48** | **0.56** | **0.43** | **0.57** |
| **Number of Observations** | **314,394** | **314,394** | **116,921** | **116,921** |

Robust standard errors in parenthesis. ***,**,* shows significance in 1%, 5% and 10% respectively. Model 1 shows the refugee impact in treatment regions in post treatment period. Model 2 includes the skill interaction, S*R*T. Population, economic activity and Wage are in logarithms.

The results that I obtained are in line with the theory I discussed in Chapter 2- as a result of the immigrant inflow in local labor markets, the native labor market outcomes are expected to deteriorate for the natives if the immigrants are substitutes. The Syrians can be considered as substitutes to natives- in addition to not holding a formal work permit, they also lack the Turkish language skills and educational attainment in Turkey making them unfavourable for the Turkish employers. Therefore, they are competing with the unskilled portion of natives. Except for unregistered employment and wages, I found significant evidence on worsening labor market outcomes, although to a little extent, for the native population in bordering cities

after the crisis. The unskilled native population appears to have affected more by the influx compared to the skilled which is also suggested by the immigration theory.

I also compare my results with the other empirical findings presented in Chapter 3 (Hunt, 1992; Goldner and Paserman, 2004; Glitz, 2012; Ceritoglu et al, 2015) who found evidence on adverse impact of immigration on unemployment and employment outcomes of natives. Nevertheless, this impact remains little, as this study have also suggested. No adverse effect on wages was found similar to the studies of Card (1990), Hunt (1992), Glitz (2012). The important highlight of my findings, however, is that the worsening labor market conditions for native population is mostly through the 'informality' channels of immigrants. Therefore, it is crucial to put forward long term labor policies which are discussed in the last part of this study, following the robustness checks.

## 6.4 Robustness Checks

I carried two robustness checks, holding treatment group constant and changing the control group: first, I omitted the regions which are developed hosting considerable amount of refugees. The three largest provinces of Turkey, Ankara, Istanbul and Izmir, do not have any refugee camp but they host a considerable amount of refugees. As mentioned before, according to the Minister of Interior's declaration in November 2014, Ankara is hosting 30,000 (0.5% of the population), Istanbul is hosting 300,000 (2.2% of its population) and Izmir is hosting 13,000 (0.3%) refugees. Although they do not host high number of refugees compared to the treatment regions, anecdotal evidence suggests that their number is much higher in these provinces, especially in Istanbul. These three provinces are classified as regions in TURKSTAT's NUTS2 category (see Appendix A). The new control group will consist of 20 regions. In my second robustness check, I changed the control group to those regions who received no refugees at all (according to the official estimates). In this way, the control group includes three regions:

region 19 (Black Sea provinces), 20 (Eastern provinces) and 21 (North Eastern provinces). I run the same model with the replaced control groups. The descriptions of variables are the same as my original regressions.

The result of the first robustness check, omitting Ankara, Istanbul and Izmir from control group can be seen in Table 12. The unemployment and employment variable remain significant, although now in 5% level. The unemployment outcome in treatment regions in the post treatment period decreases by 0.3 percentage points when the control group is replaced. Employment outcome, however, decreased by 0.7 percentage points and the impact of labor force participation decreased by 0.3 percentage points. Fall in the values of these three labor market indicates that in the replaced control group the negative impact of unemployment, employment and labor marker outcomes have declined. Unregistered employment and wages remain insignificant as mentioned in the interpretations of the original data, due to the biasedness of the variables.

Table 13 shows the results of the second robustness check when the control group was replaced as three regions who do not host refugees. The results remain significant for unemployment and employment but the significance of both declined: they were both significant in 1% level but now it is 10% level. The coefficient for unemployment decreases by 0.3 percentage points when I replace the control group meaning that unemployment effect is slightly less. For employment the coefficient lost its negative value by 1 percentage points, suggesting that the employment outcomes for native are less affected in the new control group. For labor force participation it remains significant in 1% level and the change is only by 0.2% more, meaning that it remained highly robust. Unregistered employment and wages remain insignificant.

The results of the robustness checks imply that the results obtained in original models may not have been exclusively driven by the control regions, but by the characteristics of treatment

region. Therefore, there is evidence that the treatment group is affected from the inflow of the Syrians.

***Table 12 Robustness Check 1: Omitting 3 Regions (Ankara, Istanbul and Izmir)***

| Variables | Unemployment | Employment | Labor Force Participation | Unregistered Employment | Wages |
|---|---|---|---|---|---|
| Refugee Impact (R*T) | 0.0106** (0.005) | -0.008* (0.006) | -0.016*** (0.005) | 0.008 (0.009) | 0.0354 (0.019) |
| Population | 0.025** (0.003) | -0.024 (0.003) | -0.027*** (0.003) | -0.004 (0.005) | 0.03*** (0.012) |
| Economic Activity | -0.002** (0.001) | 0.009*** (0.001) | 0.005*** (0.001) | -0.043*** (0.001) | -0.03*** (0.003) |
| Time Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Constant | 1.18*** (0.06) | 0.84*** (0.036) | 0.86*** (0.036) | 2.12*** (0.06) | 5.45*** (0.13) |
| R squared | 0.25 | 0.25 | 0.25 | 0.48 | 0.65 |
| Number of Observations | 420,976 | 420,976 | 420,976 | 212,542 | 112,682 |

Robust standard errors in parenthesis. ***,**,* shows significance in 1%, 5% and 10% respectively. Population and Economic activity are in logarithms.

***Table 13 Robustness Check 2: Changing Control Grup to 3 Regions***

| Variables | Unemployment | Employment | Labor Force Participation | Unregistered Employment | Wages |
|---|---|---|---|---|---|
| Refugee Impact (R*T) | 0.0107* (0.006) | -0.0053* (0.006) | -0.020*** (0.006) | 0.003 (0.011) | -0.0301 (0.02) |
| Population | 0.05*** (0.002) | -0.027*** (0.005) | -0.044*** (0.005) | -0.005 (0.01) | 0.05*** (0.02) |
| Economic Activity | -0.032** (0.001) | 0.034** (0.001) | 0.041*** (0.001) | -0.008** (0.003) | -0.03*** (0.006) |
| Time Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Region Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Constant | 1.20*** (0.06) | 0.49*** (0.068) | 0.67*** (0.068) | 1.58*** (0.12) | 6.55*** (0.26) |
| R squared | 0.26 | 0.30 | 0.25 | 0.47 | 0.70 |
| Number of Observations | 114,664 | 114,664 | 114,664 | 57,062 | 27,746 |

Robust standard errors in parenthesis. ***,**,* shows significance in 1%, 5% and 10% respectively. Population and Economic activity are in logarithms.

## Concluding Remarks and Policy Recommendations

Representing a massive labor supply shock in Turkey, the Syrian refugee crisis provides an occasion to investigate the impacts of immigration on the local labor markets. In this study, I analyzed the labor market changes after the influx of Syrians in the bordering provinces using two methodological approaches. First, I presented findings from my fieldwork in the provinces which received the highest amount of refugees- Gaziantep, Kilis, Hatay and Sanliurfa. I gathered evidence on their labor market conditions through interviews, public hearings and social observations. Evidence from my fieldwork suggest that the Syrian refugees are suffering from high unemployment rates; they work for very low wages (below the minimum wage) and the informal employment among them is extremely high as they do not hold a formal work permit. In my second empirical analysis, I provided evidence by employing a difference-in-difference strategy using individual micro data from national labor force statistics. I found evidence on negative effects on unemployment, employment and labor force participation outcomes for natives in the bordering cities after the Syrian influx, while there is no evidence of an adverse effect on wages or unregistered employment among natives. I discuss that these negative effects on labor market outcomes are mainly driven by high level of informal employment of Syrians in these provinces.

The overall labor market situation in these provinces deteriorated, especially for the unskilled native population working in seasonal jobs such as in agriculture or construction sectors. The entrance of Syrians in labor market drives the informal employment, which is already high in Turkey (33.3%) even further, which cannot be captured by the existing data. Nevertheless, there is some evidence of revival in few of these provinces who experienced growth in businesses and employment in the last few years. Also, vacancies grew significantly, with the exception of Sanliurfa, indicating a sign of future absorption. The absorption of Syrians into the labor market is fundamental; however mostly through long term development policies

rather than short term relief-oriented policies. The war in Syria is far from coming to an end- only the 'actors' change; however the conflict remains. Even if the war ends, having started a life in Turkey, many of them might be willing to stay. Although the Turkish government addressed some legal issues (explained in Chapter 1.2), they do not go further than being temporary solutions.

The first and the most urgent policy is formalizing the work permit for the Syrians in Turkey. The labor market for Syrians can be regulated by providing them permissions to work in the industries where there are vacancies for unskilled workers. As analyzed in Chapter 5, there are plenty of sectors that Syrians can work formally with a social security. Moreover, since the economic pressure on the bordering provinces is very high, the government should reallocate some part of the Syrian population into other industrialized cities in Western Turkey such as Bursa, Kocaeli or Manisa. Second, the language issue should be solved by offering free Turkish language courses to the Syrians which was implemented in some Western immigrant receiving countries such as Sweden, Germany, and United States which have been found to be effective in facilitating migrants' integration to the labor market (Borjas, 1985; Chiswick and Miller, 1995; Dustman, 1994; Lindley, 2002). Investing on such a human capital would be much more beneficial for Turkey and for Syrians in the near future.

Issuing a work permit to the Syrians would imply major decline in informal employment in the bordering provinces. Turkish employers would be able to employ up a considerable amount of Syrians, although there could be some exemptions to be applied based on geographical regions, sectors and occupations. The importance of work permit should not be undermined: the right to work offers the immigrants the opportunity to provide living for themselves and to have access to education and health services even if they are not fully provided by the host government. Only by an access to employment, their well-being and stay will be more secured

and their burden on the government will be less. Their economic integration therefore can only be maintained by allowing their access to the Turkish labor market.

It is expected that the negative labor market outcomes of such exogenous shocks for the host country as well as the exploitive employment conditions for the refugees is likely to decline in coming years when the Syrians invest more in their human capital in Turkey by obtaining new skills (such as acquiring Turkish, attaining Turkish formal education, having experience in Turkish working places). Being an emerging economy with a considerable amount of private investment, the Syrian crisis can be turned into an 'advantage' where the economy grows with new investments and where Turkish society become more diversified with the social inclusion of the Syrians.

Further study is needed by exploiting the Syrian refugee data, which is not available at the moment. If the skill and educational background of the refugees were available and if their current employment statistics were official, a more accurate and definite estimation on their impact could be made. This study was written with the support of national labor statistics, however further research should include econometric evidence by including the Syrians who are currently working. Also, within time, the real impact can be tracked in a better way, and the extent of absorption can be seen clearly. Without a sufficient institutional framework that would enable labor market integration of the refugees, the informal economy will continue to grow. Moreover, the natives in the bordering provinces will continue to suffer from worsening labor market conditions, making the costs of crisis higher and irreversible for Turkey.

## Bibliography


Akdeniz, E. (2014). *Multeci Isciler: Suriye Savasinin Golgesinde*. Istanbul: Doga Basim Yayin

Akgunduz, Y. E., Berg M. & Hassink, W. (2015). *The Impact of Refugee Crises on Host Labor Markets: The Case of the Syrian Refugee Crisis in Turkey*. IZA Discussion Paper 8841

Al Monitor (July 22, 2014). *Syrian refugees get to work in Turkey*. Retrieved from http://www.al-monitor.com/pulse/politics/2014/07/syrian-refugees-turkey-provide-work.html#ixzz3WiszsJtZ

AFAD (2013): *Syrian Refugees in Turkey 2013: Field Survey Results*. Disaster and Emergency Management Presidency, Republic of Turkey

– – – (2015). *Barinma Merkezlerinde Son Durum [Updates from Accommodation Centers]*. Disaster and Emergency Management Presidency, Republic of Turkey. Retrieved from https://www.afad.gov.tr/TR/IcerikDetay1.aspx?IcerikID=848&ID=16

Al Jazeera (March 14, 2015). *EU Criticized over Syrian Refuge Policy.* Retrieved from http://www.aljazeera.com/news/2015/02/eu-criticised-syrian-refugees-policy-150223081057026.html

Amnesty International (2014). *Struggling to Survive: Refugees from Syria in Turkey.* Amnesty International Turkey

Aranki, T. N. (2004). *The Effect of Israeli Closure Policy on Wage Earnings in the West Bank and Gaza Strip*. Örebro University Working Paper Series No 4.

Belasen R. A. & Polachek, S. (2007). *How Disasters Affect Local Labor Markets: The Effects of Hurricanes in Florida*. Journal of Human Resources, 44 (1), 251 – 276

Bevalander, P. and Lundh, C. (2007). *Employment Integration of Refugees: The Influence of Local Factors on Refugee Job Opportunities in Sweden*. IZA Discussion Paper No 2551

Borjas, G. J. (1985), 'Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants', Journal of Labor Economics, 3(4), s. 463-489

– – – – – – – (2003) "The Labor Demand Curve Is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market." Quarterly Journal of Economics, Vol. 118, No. 4 (November), pp. 1335–74

– – – – – – – (1996). *Labor Economics (*6th edition*)*.McGraw Hill Education

– – – – – – – (2014). *Immigration Economics*. Harvard University Press

Card, D. (1990). *The Impact of the Mariel Boatlift on the Miami Labor Market*. Industrial and Labor Relations Review, 43 (2), 245–257.

Carrington, W. J. & Lima, P. J. F. (1996). *The Impact of 1970s Repatriates from Africa on the Portuguese Labor Market*. Industrial & Labor Relations Review, 49(2), 330-347.

Ceritoglu, E, Yunculer B., Torun H. & Tumen, S. (2015). "*The Impact of Syrian Refugees on Natives' Labor Market Outcomes in Turkey: Evidence from a Quasi-Experimental Design*. MPRA Paper No. 61503

Chamber of Commerce of Gaziantep (January 5, 2014). *Gaziantep'in Yukunu Hafifletin. [Share the burden of Gaziantep]*. Retrieved from http://www.gto.org.tr/Gaziantepin-Yukunu-Hafifletin-haberler-123.html

Chiswick, B. R. (1991). *Speaking, Reading, and Earnings among Low-Skilled Immigrants*. Journal of Labor Economics, University of Chicago Press, 9(2), 149-70

Chiswick, B. R. & Miller, P. W. (1995). *The Endogeneity between Language and Earnings: International Analyses.* Journal of Labor Economics, 13(2), 246-288.

Dustmann, C. (1994). *Speaking Fluency, Writing Fluency and Earnings of Migrants.* Journal of Population Economics, 7(2) 33-156

Dustmann, C., Glitz, A. & Frattini T. (2008). *The labor market impact of immigration*. Oxford Review of Economic Policy, 24(3), 477-494.

Erdogan. M.(2015) *Syrians in Turkey: Social Acceptance and Integration*. Istanbul Bilgi University. Retrieved from http://www.hugo.hacettepe.edu.tr/HUGO-REPORT-SyriansinTurkey.pdf.

ECHO (2015) *Syria Crisis-Internal Displaced Persons and Syrian Refugees in the region* ECHO Factsheet. European Commission Humanitarian Aid and Civil Protection. Retrieved from http://ec.europa.eu/echo/files/aid/countries/factsheets/syria_en.pdf

Foreigner Investments Association Turkey (2003). *The New Turkish Investment Environment*. Retrieved from http://www.tbb.org.tr/en/Content/Upload/Dokuman/35/the_new_turkish_investment_environment.doc

Friedberg, R.M. and Hunt, J. (1995). *The Impact of Immigrants on Host Country Wages, Employment and Growth.* The Journal of Economic Perspectives, 9(2), 23-44.

Glitz, A. (2012). *The Labor Market Impact of Immigration: A Quasi-Experiment Exploiting Immigrant Location Rules in Germany*. Journal of Labor Economics, 30(1), 175-213

Goldner, S. and Paserman, D.M. (2004). *The Dynamic Impact of Immigration on Natives' Labor Market Outcomes: Evidence from Israel*. IZA Disucssion Paper No 1315

Helper, S. (2000). *Economists and Field Research: "You Can Observe a Lot Just by Watching"*. The American Association Review, 90(2), 228-232

Hunt, J. (1992). *The Impact of the 1962 Repatriates from Algeria on the French Labor Market.* Industrial and Labor Relations Review, 45(3), 556–572

Hurriyet (February 2, 2015). *Suriyeliler is dunyasinda 'ben de varim' diyor. [Syrians say 'I exist' in the business world].* Retrieved from http://www.hurriyet.com.tr/yerel-haberler/Gaziantep-Haberleri/suriyeliler-is-dunyasinda-ben-de-varim-diyor_49288

ILO (2015). *The ILO Response to the Refugee Crisis*. International Labor Organization. Retrieved from http://www.ilo.org/beirut/areasofwork/syrian-refugee-crisis

ISKUR (2014). *Statistics Archive*. National Labor Agency of Turkey. Retrieved from http://www.iskur.gov.tr/KurumsalBilgi/istatistikler.aspx#dltop

Lindley, J. (2002). *The English language fluency and earnings of ethnic minorities in Britai*n. Scottish Journal of Political Economy, 49(4), 467-487.

Mansour, H. (2010). *The Effects of Labor Supply Shocks on Labor Market Outcomes: Evidence from the Israeli-Palestinian Conflict*. Labor Economics, 17(6), 930–939

Middle East Monitor (September 24, 2014). *UN: Turkey received as many Syrian refugees in three days as Europe did in three years.* Retrieved from https://www.middleeastmonitor.com/news/europe/14335-un-turkey-received-as-many-syrian-refugees-in-three-days-as-europe-did-in-three-years

Milliyet (November 11, 2014). *Celik Suriyelilere verilecek iznin calismalarini anlatti [Celik explains the details of the work permit for Syrians]*. Retrieved from http://www.milliyet.com.tr/celik-suriyelilere-verilecek/ekonomi/detay/1968354/default.htm

– – – – (June 9, 2014). *Kilis'te ilk holdingi Suriyeliler kurdu. [First company of Kilis was found by Syrians]*. Retrieved from http://www.milliyet.com.tr/kilis-te-ilk-holdingi-suriyeliler-gundem-1894476/

– – – – (February 14, 2014). *Sirket rekoru Suriyelilerde. [Syrians hit a record for number of companies]*. Retrieved from http://www.milliyet.com.tr/sirket-rekoru-suriyelilerde/ekonomi/detay/1836464/default.htm

Ministry of Development (2013). *SEGE-2011 (Socioeconomic Development of Provinces 2011*. Ministry of Development, Republic of Turkey, Ankara

Ministry of Interior, General Directorate for Migration (2014). Temporary Protection Regime. Retrieved from http://www.goc.gov.tr/files/_dokuman28.pdf

Ministry of Interior, General Directorate for Migration (2014). Temporary Protection Regime. Retrieved from http://goc.gov.tr/files/files/YUKK_I%CC%87NGI%CC%87LI%CC%87ZCE_BASKI.pdf

NY Times (October 7, 2013). *Erdogan Stokes the Sectarian Fires*. Retrieved from http://www.nytimes.com/2013/10/08/opinion/erdogan-stokes-the-sectarian-fires.html?_r=1

OCHA (2015*). Syrian Arab Republic*. United Nations Office for Coordination of Humanitarian Affairs. Retrieved from http://www.unocha.org/syria

ORSAM (2015). Effects of the Syrian Refuges in Turkey. Middle East Strategic Research Center, Report No 195.

SOHR (February 8, 2015). *Over 200,000 people killed in Syrian conflict so far.* Syrian Observatory for Human Rights. Retrieved from http://www.syriahr.com/en/2015/02/over-200000-people-killed-in-syrian-conflict-so-far-sohr/

TURKSTAT (2014). *Turkish Regional Statistics from 2008-2014.* Turkish Statistical Institute Ankara.

– – – – – – – (2014). *Turkish Household Labor Survey from 2008-2014.* Turkish Statistical Institute Ankara.

UNCHR (2014). *UNCHR Turkey Syrian Refugee Daily Sitreps Dec-2012 and Dec-2013.* United Nations High Commissioner for Refugees

– – – – – (2015). *Syria Regional Response- Regional Overview*. United Nations High Commissioner for Refugees.Retrieved from http://data.unhcr.org/syrianrefugees/regional.php

– – – – – (February 26, 2015) *UN High Commissioner for Refugees Antonio Guterres - Written text of speech to the UN Security Council (Press Release).*Retrieved from http://www.unhcr.org/54ef66796.html

UNICEF. (2014). *UNICEF Syrian education response host community.* United Nations International Children's Emergency Fund.

# Appendix A-NUTS2 Region Category in Turkey

| | Provinces in the NUTS2 Region | Original Model | RobustnessCheck1 | RobustnessCheck2 |
|---|---|---|---|---|
| | | Treatment/Control | Treatment/Control | Treatment/Control |
| 1 | TR10 İstanbul | Control | - | - |
| 2 | TR21 Tekirdağ, Edirne, Kırklareli | Control | Control | - |
| 3 | TR22 Balıkesir, Çanakkale | Control | Control | - |
| 4 | TR31 İzmir | Control | - | - |
| 5 | TR32 Aydın, Denizli, Muğla | Control | Control | - |
| 6 | TR33 Manisa, Afyon, Kütahya, Uşak | Control | Control | - |
| 7 | TR41 Bursa, Eskişehir, Bilecik | Control | Control | - |
| 8 | TR42 Kocaeli, Sakarya, Düzce, Bolu, Yalova | Control | Control | - |
| 9 | TR51 Ankara | Control | - | - |
| 10 | TR52 Konya, Karaman | Control | Control | - |
| 11 | TR61 Antalya, Isparta, Burdur | Control | Control | - |
| 12 | TR62 Adana, Mersin | Control | Control | - |
| 13 | TR63 Hatay, Kahramanmaraş, Osmaniye | Treatment | Treatment | Treatment |
| 14 | TR71 Kırıkkale, Aksaray, Niğde, Nevşehir, | Control | Control | - |
| 15 | TR72 Kayseri, Sivas, Yozgat | Control | Control | - |
| 16 | TR81 Zonguldak, Karabük, Bartın | Control | Control | - |
| 17 | TR82 Kastamonu, Çankırı, Sinop | Control | Control | - |
| 18 | TR83 Samsun, Tokat, Çorum, Amasya | Control | Control | - |
| 19 | TR90 Trabzon,Ordu,Giresun,Rize,Artvin,Gumushane | Control | Control | Control |
| 20 | TRA1 Erzurum, Erzincan, Bayburt | Control | Control | Control |
| 21 | TRA2 Ağrı, Kars, Iğdır, Ardahan | Control | Control | Control |
| 22 | TRB1 Malatya, Elazığ, Bingöl, Tunceli | Control | Control | - |
| 23 | TRB2 Van, Muş, Bitlis, Hakkari | Control | Control | - |
| 24 | TRC1 Gaziantep, Adıyaman, Kilis | Treatment | Treatment | Treatment |
| 25 | TRC2 Şanlıurfa, Diyarbakır | Treatment | Treatment | Treatment |
| 26 | TRC3 Mardin, Batman, Şırnak, Siirt | Control | Control | - |

## Appendix B- Organizations Interviewed in Fieldwork

Amnesty International- Ankara

Association for Solidarity with Asylum Seekers and Migrants (ASAM)

Chamber of Commerce- Gaziantep and Kilis

Community Centers (Halkevleri) - Hatay

Danish Refugee Council- Kilis

International Middle East Peace Research Center (IMPR)-Sanliurfa

International Organization for Migration (IOM) - Gaziantep and Hatay

ISKUR- Ankara

Support to Life- Sanliurfa

Middle East Technical University, Department of Economics- Ankara

United Nations High Commissioner for Refugees (UNHCR) - Gaziantep and Hatay

United Nations Population Fund (UNFPA) - Gaziantep

Welt Hunger Hilfe – Gaziantep & Kilis

Yuva Community Centers –Hatay