Impact of the Syrian Refugee Influx on Turkish Native Workers: An Ethnic Enclave Approach

Bagir, Yusuf

15 August 2017

Impact of the Syrian Refugee Influx on Turkish Native Workers: An Ethnic Enclave Approach

(Working Paper)

by

Yusuf K. Bağır
(Central Bank of the Republic of Turkey)

August 2017

ABSTRACT

Turkey received about 2.7 million refugees between 2011 and 2015. This paper examines the causal relationship between the Syrian refugee induced increase in labor supply and natives' labor market outcomes in Turkey using the micro level Household Labor Force Surveys. The migration impact is analyzed in two distinct categories considering the motives behind the migration decision. The initial migration to the border regions is assumed to be completely exogenous and defined as the primary migration. Hence, a standard difference in differences strategy is employed to estimate the labor market impacts in those regions. On the other hand, migration from the primary regions towards the inner regions in Turkey (secondary migration) has suffered from the endogenous selection issues. To handle these concerns, I developed an instrumental variables estimation method following David Card (2009)'s ethnic enclave approach. I found statistically significant negative employment and wage effects on the low-skilled and less-experienced individuals in the primary migration analysis. The decline in the wages of informal workers is the main contributor of the negative wage effects. Secondary migration has no impact on the employment at all but there are statistically significant negative wage effects on the low-skilled and less-experienced workers.

1 Introduction

Immigration has become one of the most debated issues in the world as illegal and involuntary migration has risen in recent years. Income and population growth differences between developed and developing countries have made the migration from poor countries to relatively rich countries more attractive. Moreover, increasing political instability, civil wars, and wars especially in the low-income countries and recently in the Middle East have led to the inevitable migration crises. One of the most tragic and recent migration crises is the ongoing displacement of the millions of Syrians which led to the substantial migration flows throughout the region.

Turkey has been enormously affected by the Syrian Refugee influx as it has the longest continental border with Syria. Following an open border policy for those victims of the Civil War, Turkey received more than 2.7 million Syrian refugees in just 4 years (2011-2015). In this study, I aim to contribute to the literature on the labor market impacts of the immigrants by analyzing the labor market outcomes of this massive refugee influx from Syria to Turkey.

Several studies asking the same question have been published in the academic journals or as working papers very recently. Among those Akgunduz, Berk, and Hassink (2015) investigate the impact on several outcomes including the food and housing prices, employment rates and internal migration patterns through a difference-in-differences estimation method by using the aggregated province level data. They find no considerable negative impact on the employment level of natives in the region while the food and housing inflation gets disproportionately larger. Ceritoglu, Yunculer, Torun, and Tumen (2015) focus more specifically on the labor market outcomes including wages by making use of the individual level Household Labor Force Survey data. Following a similar difference-in-differences strategy with a narrower comparison group, the authors find considerable negative employment effects but no wage effects. Lastly, a working

paper by Del Carpio and Wagner (2015) follows a more sophisticated strategy than the typical difference-in-differences estimation by measuring the impact at national level and instrumenting the refugee intensity across regions with geographical distance from the conflict area in Syria. Authors argue that the refugee influx led to the displacement of informal, low-educated female Turkish workers and impacted average wages positively as a result of the low-skilled natives' displacement from the job market and the remaining natives' occupational upgrading.

In this study, I follow a different strategy from the previous studies in several ways.

Firstly, I analyze the Syrian refugee influx in two separate categories, which are determined according to the characteristics of the movement. I defined the initial migration from Syria towards the border regions of Turkey as the primary migration (exogenous) and the migration flow from these border regions towards the inner regions of Turkey as the secondary migration (endogenous). Because the primary migration is an unambiguous exogenous shock, a standard difference-in-differences estimation strategy is employed to estimate the primary migration effects as in Akgunduz et al. (2015) and Ceritoglu et al. (2015), with a different strategy in the formation of comparison group. The comparison group is synthetically constructed from the regions that did not receive many refugees but represent the highest positive historical correlation with the treatment regions in terms of labor force participation, employment, and average wages.

For the secondary migration analysis, I developed an instrumental variables (IV) approach to address the possible selection bias following the David Card's (2009) ethnic enclave design. Pre-existing migration pattern of Turkish natives from the primary migration regions is used as an instrument for the Syrian refugees' distribution across the country. The assumption is that the Syrian refugees share a common cultural and ethnical background with Turkish natives living in the Syrian border regions thus they are very likely to follow the migration path of these Turkish

natives. First stage estimates confirm this assumption showing that the ethnic enclave variable is highly positively correlated with the destination choice of refugees. Likewise, the IV estimates are consistently larger in magnitude than the OLS estimates', which is expected from a valid instrument addressing the problem of a downward bias (refugees may be migrating into the regions that have better economic outlook).

Secondly, I use the recently available Household Labor Force Survey data (2015) and take 2012 as the pre-treatment year rather than 2011 and 2010 in the previous studies. The conflict in Syria has affected the regional labor market through two main channels. The first channel is the refugee induced increase in labor supply (the question of interest in this study) and the second is the possible contraction in regional economy because of the War in Syria. My objective in considering 2012 as the pretreatment year is to disentangle these two competing effects and narrow the treatment period. The timeline of the number of Syrian refugees and a field survey with refugees (AFAD, 2013) also imply that 2012 is more relevant in terms of the presence of Syrians in the job market.

Finally, I use the confidential immigrant registration data to obtain the distribution of the refugees across regions whereas the previous studies rely on approximate numbers provided by some national news agencies.

In this study, I basically aim to test the theoretical predictions of the standard models with separable capital input and single output, on which many studies are based including Card (2001), Borjas (2003), and Ottaviano and Peri (2012). These models primarily assume that skilled and unskilled workers are two separate production inputs; capital supply is perfectly elastic; and skilled and unskilled labor supplies are perfectly inelastic. An immigration induced labor supply shock under these assumptions generates no change on the employment; however, we may experience

differential impacts on native workers' wages depending on the skill composition of immigrants. If the skill composition of immigrants is unskilled biased, unskilled (skilled) labor wages are predicted to decline (rise). The opposite is predicted if the skill composition of immigrants is skilled-biased. The model predicts no impact at all if the skill composition of new workers is exactly the same with natives. In all three cases, total output increases unambiguously. When the elastic capital assumption is relaxed, then we may observe a decline in the wages of both labor types. (Lewis, 2012)

A big majority of existing empirical studies generate contrasting results with these predictions and hardly finds negative wage effects of migration. Among those, David Card's widely cited "The Mariel Boatlift" (Card, 1990) study estimates the local labor market impact of 125,000 Cubans, who arrived Miami after Castro allowed people to flee in 1980. Following a difference-in-differences approach, he finds no employment or wage effect on native workers in response to an immigration induced 7% increase in the local labor force. However, these methodology and findings are criticized for not controlling for the endogenous distribution of workers across regions and the possibility of crowding out effect on native workers in destination cities.

Borjas (2003), one of the criticizers of Card (1990), argues that the impact of immigration must be studied at national level otherwise we may not observe actual impact due to endogenous selection of destination. His main identification assumption is that individuals with the same education level but different experience are imperfect substitutes. Based on this assumption, Borjas breaks labor market into 32 sub-groups in order to identify the impact of immigrants at national level. He uses the increase in the proportion of high school dropouts due to immigration as the main source of the variation in the data. In contrast to the previous empirical studies, Borjas finds

a strong negative impact on native wages. He concludes that a 10% increase in labor supply due to immigration leads to 4% decline in overall wages.

In response to the endogeneity concerns, Card (2009) proposed the ethnic enclave approach to deal with the endogenous concerns. He states that family unification and cultural factors are important determinants in the endogenous selection of destination city as seen in the example of Middle Eastern immigrants in Detroit. Card instrumented immigrant inflows from a particular country on the lagged proportions of immigrants from that country across cities. Arguing that immigrants and natives are imperfect substitutes within the same education groups, he found that immigration accounts for a small share (5%) of the increase in U.S. skilled/unskilled wage inequality between 1980 and 2000.

Ottaviano and Peri also criticized Borjas (2003)'s findings arguing that he does not consider the cross-wage effects across skill groups that may lead to upward biased estimates. Authors also state that employers do not see domestic and immigrant workers identical therefore natives and immigrants are not perfect substitutes. Controlling for the elasticity of substitution across skill groups, they find that immigration to US (1980-2000) impacted wages very slightly in the short run and increased native wages in the long run.

My findings in this study somewhat differ from the previous empirical analyses for both Turkey and other countries but largely in line with the theoretical predictions. My results imply consistent and statistically significant negative employment effect on low-skilled and less-experienced individuals in the primary migration regions of Turkey. Accordingly, the probability of employment declined by 3.2 (4.2) percentage points among the male (female) individuals with less than 8 years of education in the treatment regions. These results may seem to be much larger than the findings of previous literature; however, they must be interpreted considering the size of

the migration shock in the case of Turkey (about 10% of the population in the treatment regions). Analysis for the secondary migration regions at the national level did not generate a statistically significant negative employment effect. Contrasting results between the primary migration regions and the secondary migration regions can be interpreted as that the economy is able to absorb the additional labor supply through the capital adjustment mechanism when the migration influx is at a reasonable level.

Wage estimations represented a similar pattern for the most vulnerable groups but the impact was also visible at the secondary migration areas. Overall male real hourly wages declined by 7.9% (not significant for females) in the treatment regions. The impact was much larger on the unskilled, less-experienced individuals. Disaggregation by sectors and firm size showed that the individuals working in those sectors that are more prone to informal employment are the ones most negatively affected. A further disaggregation between formal and informal employees, carried out in order to control for the possible heterogeneous treatment effects on informal employees, revealed that the decline in the wages of informal workers is the main contributor of the negative wage effects.

In the secondary migration regions, the overall wage impact for males (females) is found to be around 1.4% (.8%) in response to a one-unit increase in the ratio of migrants to the regional population. The impact was heterogeneous across various skill, age, and sector groups, here as well. Accordingly, a one-unit increase in the migration ratio led to 1.4% (2%) decline in the wages of male workers with less than 5 (5-8) years of education while the impact was not statistically significant among the individuals with higher education. Similarly, the negative impact was statistically significant only among younger individuals and those individuals working in the small firms.

The paper proceeds with a short background of the Syrian refugee crisis and its impacts on Turkey in sections 2. Section 3 and 4 cover the analysis of the primary migration and secondary migration impacts respectively. The paper ends with concluding statements and extension plans for the future.

2 Background of the Syrian Refugee Crisis

The nationwide uprising in Syria started in March 2011 following the Arab Spring movement across the Middle Eastern countries. Protestors were demanding the release of political prisoners initially but the Syrian government responded with violence. As protests widened across the country and the government response became more violent, it turned out to be a civil war as of May 2011. Intensifying clashes between the government forces and anti-regime groups especially in the Northern Syria gave rise to the first refugee crisis in June 2011 as 10,000 Syrian refugees fled into Turkey. (Timeline: Key moments in Syrian crisis, http://www.bbc.com/news/world-middle-east-18891150)

Since then, more than 4.8 million people fled to the neighboring countries including Turkey according to the United Nations estimates (OCHA). Figure 1 represents the growth trend of the number of Syrian refugees over time. While the numbers were at reasonable levels until 2013, the graph shows that the total amount rised sharply after early 2013.

2.1 Refugees' Entrance into Turkey

Having the longest continental border with Syria, Turkey is one of the countries that have been seriously affected from the Syrian Refugee Crisis together with Jordan and Lebanon. Turkey declared that it would have followed an "open border" policy for all the victims of the conflict since the start of the Civil War. The country responded to the refugee influx efficiently by rapidly building refugee camps and identity checking system thanks to the pre-existing institutional

capacity established for natural catastrophes such as earthquakes, from which Turkey suffered a lot in the past. However; as the numbers grew beyond the capacity of the camps, the Turkish government had to relax the controls and allow refugees entering into the inner regions as well. According to the Ministry of Interior in Turkey, the total number of registered refugees reached 2.747 million as of March 2015 and only 272 thousands of those were located in refugee camps while the rest migrated into the country.

Turkish government established a specific agency under the Ministry of Interior (Directorate General of Migration Management) for the administration of the immigrants and passed a law that granted a temporary protection status for the Syrian Refugees in April 2013. A biometric registration is required in order to be eligible for certain social benefits such as free education and health protection. This requirement encouraged Syrian migrants to apply for the temporary protection status thereby made the counting of Syrian refugees in Turkey more reliable. Temporary protection status does not provide work permit; however, many Syrians work informally mainly in unskilled labor-intensive sectors in practice.[1]

Ministry of Interior has not yet shared a detailed information regarding the demographics of Syrians in Turkey; however, the Disaster and Emergency Management Authority in Turkey (AFAD) published a comprehensive report on the Syrian refugees in 2013. This report includes the results of a broad survey conducted in 20 refugee camps and 10 cities with the refugees both living in the camps and out of the camps.

According to the results of this survey, most Syrian refugees came from the cities close to the Turkish border of Syria which were also the main conflict areas. When the refugees are asked

[1] Turkish government announced a roadmap for a regulation that will allow Syrian refugees to work under certain conditions on 1/11/2016.

about the primary reason for choosing Turkey as a safe destination, almost 80% of them indicated ease of transportation as the main factor. Only about 55% of refugees said they entered the country via official entrance points.

2.2 Labor Supply Effect

The AFAD survey provides significant information in determining the period in which we should have first seen the labor supply impacts of Syrian refugees, which is the main concern of this study. The survey results imply that a very big majority of refugees were living in the refugee camps as of early 2013[2] and those refugees living outside of the camps at that time had much better preexisting income than the refugees in the camps[3]. Since the diffusion of refugees to the inner cities started by the very end of 2012 and those choosing to reside outside of the camps had a better preexisting income level implying a lower necessity to work, we can argue that the labor supply impacts of Syrians were at an ignorable level before 2013.

The survey contains information on the refugees' demographics, as well. Almost 60% of the refugees are between the ages of 13 and 54, implying a large working age refugee influx. Another key issue is the distribution of education level among refugees. Overall, the Syrian refugees seem to have slightly lower educational attainment than the Turkish natives. However, female occupational attainment is very low among Syrian refugees such that only 10 percent of the females declared having a specific occupation. When asked about their employment status in Turkey, only 8% of males and 3% of females sad that they had been working in the last month. These results may not reflect the actual employment level of the refugees since they are not allowed to work legally but we may still infer that the labor force participation of Syrian refugees was very

[2] 63% of those living outside of the camps say that they first entered Turkey in 2013.
[3] The refugees living in cities (outside of the camps) declared higher household income. Also, passport ownership, as an indicator of wealth, was much higher among refugees living out of the camps (27% to 5%).

low as of 2013 probably due to the fact that the displacement from the homeland had been assumed to be temporal[4].

2.3 The Density of Syrian Refugees across Turkish Cities as of 2015

Figure 2 shows the spread of Syrian refugees across 26 statistical regions in Turkey as of October 2015 according to the official registration data. Three regions that are closest to the conflict areas have the highest density of refugees with 8%-14% of the regional native population. Regions that have borders to Syria but further from the conflict area have a density of 5%-6%. Those areas shaded with light color has relatively smaller densities ranging from 1% to 2.5%. And finally, not shaded areas represent the regions with less than 1% density.

The distribution of refugees across the regions implies that the distance from the Syrian border is the major factor in Syrian refugees' destination choice. However, when we look at the secondary migration, by which I mean the destination after the initial entrance to the border regions, the distance from the border matters less. While some regions with lower distance received almost no refugees, regions that are much further such as Istanbul and Izmir received refugees up to 2% of their population. By directly looking at the distribution map, it can be argued that the factors such as the economic opportunity and ethnic enclave play a significant role in the endogenous selection of the secondary destination. (Borjas, 2003; Card, 2009) Considering this fact, I carry out two distinct analyses for the primary migration (exogenous) and the secondary migration (endogenous).

[4] 95% of the respondents said that they plan to return to Syria as soon as the crisis settles down.

3 Primary Migration Analysis

This part of the study analyzes the labor market impacts of the refugee influx in the primary migration regions that consist of the three regions; TR13, TR24, and TR25 (Hatay, Gaziantep, and Sanliurfa), which are closer to the conflict area and received the highest number of refugees (8%-14%) relative to their native population.

3.1 Estimation Strategy

I employed a standard difference-in-differences approach in estimating the primary migration impact by forming a comparison group from the statistical regions that received an ignorable level of refugees relative to their population.

The construction of comparison group is the key factor in such a difference in differences setup because the validity of difference in differences estimation requires the comparison group (1) not to be affected from the treatment and (2) present parallel trends in terms of the outcome variables before and after the treatment. To satisfy these requirements; first, I formed a pool of potential control regions by excluding the regions refugee to native ratio of which exceeds 1%. Then, I ranked the potential control regions according to their correlations with the annual average of treatment regions in terms of the key outcome variables (labor force participation, employment, and wage) using the pre-treatment data (2005 to 2012). Taking the simple average of these rankings for each outcome variable, I chose three regions (TR5-Denizli, TR6-Manisa, and TR9-Ankara) that have the highest pre-existing correlation with the treatment regions as my control group.

Another important issue is the time of treatment. Since the labor supply impacts of Syrian Refugees starts after 2012, I selected 2012 as the base pre-treatment period (in contrast to 2011 in former studies) and 2015 as the post-treatment year. Doing so, the aim is to disentangle the labor market impacts of Syrian Civil War on the border treatment regions (due to overall economic

shock) from the labor supply impacts of the refugees. If there exists an impact on the overall economy in those treatment regions due to the conflict in Syria[5], these effects should have been already seen in 2012 since the conflict started around the mid of 2011. Selecting year 2012 as the base year also narrows the time between the pre-treatment and the post-treatment period. The longer the treatment period, the more likely to generate biased estimates because there may be other policies affecting the treatment regions differentially independent of the refugee shock. Nevertheless, for the sake of comparability I carry out robustness checks for various treatment periods and control groups.

One final concern in estimating the impact of such a large migration shock is the possibility of a downward bias in the treatment effects if immigrants are crowding out the natives from the treatment regions. I plotted the net internal migration pattern of natives over time on Figure 3 to check whether the Syrian refugee influx led to the outmigration of the natives in the treatment regions. The treatment regions experience net outmigration historically; however, we do not observe a significant change in the trend during the treatment period. Furthermore, the level of outmigration declines slightly between 2012 and 2015. The Household Labor Force Survey data also confirms this result. The survey includes information on individuals' mobility across provinces and shows that the ratio of the individuals that moved into the treatment regions in a year is volatile overtime but there is no substantial change from 2011 to 2015 (only around .5%).

Based on the above discussion, below is the reduced form estimating equation for the probability of being employed (an OLS version of this equation is used for the wage estimation):

[5] In September 2009 visa requirement was lifted mutually between the two countries. This policy change substantially increased the regional economic activity as can be noted from the differentially better employment levels in the region between 2009-2011 (Figure 5)

$$\text{Probit}(E_{ijt}) = \alpha_0 + X_{ijt}\beta + \alpha_1 Treat_j + \alpha_2 Post_t + \alpha_3 Post_t * Treat_j + \varepsilon_{ijt} \qquad (1)$$

where; E_{ijt} is the indicator of being employed conditional on labor force participation for the individual i in region j at time t, $Treat_j$ is a dummy variable and equal to 1 if the individual is living in a treatment region, $Post_t$ is a dummy variable and equal to 1 if the individual is surveyed in the post-treatment year, $Post_t * Treat_j$ is equal to 1 if the individual is living in a treatment region and surveyed after the treatment otherwise zero, α_0 is the constant term, X_{ijt} is a vector of explanatory variables including age, square of age, marital status, education dummies, region dummies, and the probability weight provided by the data source, and $\boldsymbol{\varepsilon_{ijt}}$ is the unobserved error term. The key coefficient in this equation is α_3 representing the impact of the refugee influx on the probability of employment for natives.

3.2 Data and Summary Statistics

Micro level annual Household Labor Force Survey data for the period from 2004 to 2015 is obtained from the Turkish Statistical Institute (TurkStat). These surveys are carried out annually with almost 400 thousand individuals and provide detailed information on both individual and work specific characteristics. The number of Registered Syrian immigrants at province level as of October 2015 is obtained confidentially from the Ministry of Interior. And finally the natives' internal migration data is obtained from TurkStat.

Table 1 presents the mean values of some key variables across the regions before and after the treatment. The table provides a preliminary evidence for the impacts of Syrian Refugee Crisis on Turkey at the regional level. Labor force participation rate substantially increases in the

treatment regions (by 4.3 percentage points for males and 4.0 percentage points for females) while the increase is much lower in the comparison regions. Such a big jump in the labor force participation rate might be result of the increase in the living expenses in the region.[6]

There is a differential change in the regional unemployment rates, as well. The male unemployment rate stays almost the same and the female employment declines by 1.4 percentage points in the comparison regions. However, the unemployment rate increases by 4.3 and 7.2 percentage points for males and females in the treatment region, respectively.

Informal employment share in total employment declines substantially in both treatment and comparison regions but the decline is higher especially for males in the treatment regions.[7] In Figure 4, I compared the informal employment trends across the treatment and comparison regions overtime to check if this decline is due to a trend shift after the migration shock. Graphical illustration shows that the informal employment trend is negative in both regions historically. However, the decline in the informal employment is faster in the treatment regions (probably more responsive to the government policies targeting informal employment because of the significant baseline differences across the regions). The graph does not provide any visual evidence for a migration induced trend shift in the informal employment. Thus, what captured by Wagner and Del Carpio (2015) after the migration shock (the native employees' upgrading to formal jobs) is likely to be a result of the differences in the pre-treatment trends across the regions. Nevertheless,

[6] According to the housing price index across provinces provided by the Central Bank of the Republic of Turkey, the housing prices increased around 50.1% in the treatment regions from 2011 to 2014 whereas the increase was about 32.5% in the control regions.

[7] An inter-ministerial strategic action plan was put into place for a more collaborative fight against the informal employment in Turkey in 2011. Since then, the informal employment across the country has significantly declined. We observe this dramatic change in the sample of this study as well. Overall formal employment rate rises for males (females) both in the treatment and comparison regions by 8.7 (9.7) and 4.6 (10.3) percentage points respectively. This historical trend shift needs to be taken into account while linking the impact of the refugee influx to the job upgrading of the natives over the treatment period.

we may expect a moderate increase in the formal employment because of the rise in the number of the public service workers that are classified as formal and skilled jobs. Another factor that may lead to increase in the formal employment is that the increase in the overall output disproportionately increases the skilled/unskilled jobs ratio due to the higher substitutability of the low-skilled labor with the immigrants.

There are also significant baseline differences in terms of skilled labor share, manufacturing employment share, and firm size between treatment and control regions. Considering baseline differences across the regions, making judgements simply based on the changes of the mean values may not represent the facts therefore we need to control for the individual characteristics to obtain a more reliable causal explanation.

I estimate the impact of the refugee influx on two outcome variables; employment and log real hourly wages (wage + bonus and other extra payments). The effect is estimated for each sub-groups of gender, skill, age, and industry to account for the heterogeneous impacts.

3.3 Employment Results

According to the previously mentioned AFAD survey results, refugees' skill composition is not very much different from the Turkish natives' skill composition in the region. However; the refugees are more likely to be a substitute for the unskilled native workers since the Syrian refugees do not speak Turkish language and they were not granted an official work permission until very recently. The migration theory predicts negative differential effects on unskilled native employees under such an unskilled biased labor supply shock.

Figure 5 shows the average employment trends in the treatment and comparison regions across genders. Overall, this graphical illustration confirms that the parallel trends assumption is

largely satisfied before the treatment period and shows that there is a big trend shift in both male and female employment after 2012 in the treatment regions.

Table 2a and Table 2b represent diff-in-diff estimates for the employment equation (1) for the overall sample and skill, experience and industry sub-samples for both genders. First four columns show the results of the specifications with additional control variables in each specification. The fourth column is the preferred specification in this study as it controls for the major factors that may impact the employment outcome. The fifth column is the replication of the specification (4) for the individuals that were also in the labor force the year before. The aim of doing this exercise is to check if there is a change in the overall employment particularly because of the increase in the native labor force participation as it has significantly increased throughout the observation period in the treatment regions. Overall estimates suggest a statistically significant (at the 1% level) and consistent negative treatment effect on both the male and female employment. The preferred specification in column 4 corresponds to a 3.4 and 4.2 percentage points decline in the probability of male and female employment conditional on being in labor force[8]. Controlling for the increase in the labor force participation (column 5) does not change the sign of the coefficient.

Figure 6a and Figure 7b illustrate the overall employment trends by education, age, and sector sub-groups. Like the overall employment trends, sub-group trends also satisfy the preexisting parallel trends assumption in general allowing us to use the difference-in-differences estimation strategy. As noted earlier, if the decline in the overall employment is due to the labor

[8] Differential change in the probability of employment in the treatment regions is calculated using the probability estimates provided with the margin command in the Stata.

supply impact of the refugees, we must observe a differential negative impact on those groups that are more vulnerable to the shock such as lower skilled and less-experienced individuals.

Both the graphical illustration in Figure 6a and Probit estimates in Table 2a indicate a statistically significant negative impact on all male education sub-groups but high school graduates. The probability of employment declined by around 3-6 percentage points for those with an education less than 11 years whereas the decline is not statistically significant among high school graduates and only significant at 10% level for college graduates with a lower magnitude (1.8 percentage points). Replicating the same regression by excluding those individuals that were not in the labor force in the previous year yields almost the same results for low-skilled individuals; however, the treatment effect on the high school graduates becomes statistically significant (column 5). Overall, these results suggest that unskilled male employment declined immensely independent of the native labor force increase. The impact is negligible for the male high school graduates and negative on the male college graduates with a lower magnitude.

Disaggregation by age sub-groups implies a larger and more precise negative treatment effect on the younger individuals. The probability of employment declines by about 6.1 percentage points among the male individuals between 15-25 years old whereas the decline is around 3 percentage points for the 26-55 age groups and not statistically significant for the 55-65 age group. Combining these results with the higher negative impact on the less-skilled individuals confirms the theoretical predictions regarding the vulnerability of the less-experienced and less-educated groups against the migration shock.

Finally, the disaggregation by industry sub-groups[9] shows a decline in the male employment in all four main sectors in the treatment regions relative to the comparison regions. However, the Probit estimates suggest that the negative treatment effect is statistically significant only for manufacturing, construction, and services sectors with 3.6, 8.5, and 2.6 percentage points declines in the probability of employment respectively. The impact is not statistically significant in the agricultural sector[10].

Female employment by education sub-groups represents a similar pattern to the male employment (Figure 6b and Table 2b). The treatment effect is negative and statistically significant at 5% level for those individuals with the lowest (elementary) and highest educational attainment (college) while the impact is not statistically significant for high school graduates. Excluding those individuals who were not in the job market in the previous year does not impact the sign of the coefficients as shown on the column (5). Estimation by the age sub-groups generates similar results to the males as well. Those females between 15-25 years old are the ones most affected from the treatment with a 9.3 percentage point decline in the probability of employment. Lastly, when classified by the industry, treatment effects are negative and statistically significant in all sectors except construction but larger in magnitude in the agriculture and manufacturing sectors.

3.4 Wage Estimation and Results

Following is the estimating equation for the natural logarithm of the real hourly wage:

$$\mathrm{Ln}(W_{ijt}) = \gamma_0 + Q_{ijt}\beta + \gamma_1 Treat_j + \gamma_2 Post_t + \gamma_3 Post_t * Treat_j + \varepsilon_{ijt} \qquad (2)$$

[9] Unemployed individuals' industrial category is determined according to the information on their previous work experience.

[10] No impact on the males in the agricultural sector should not be surprising as majority (75% in 2012 in the treatment region) of them work as self-employed or family worker.

where W_{ijt} is the real hourly wage (wage + bonus and other payments) of an individual i working in the private sector[11] in region j at time t,[12] $Treat_j$ is equal to 1 if the individual is living in a treatment region, $Post_t$ is equal to 1 if the individual is surveyed in the post-treatment year, $Post_t * Treat_j$ is equal to 1 if the individual is living in a treatment region and surveyed after the treatment, Q_{it} is a vector of explanatory variables including age, square of age, marital status, education dummies, region dummies, work specific characteristics such as temporary job, part time, and informality status, firm specific characteristics such as industry type and firm size, and $\boldsymbol{\varepsilon_{ijt}}$ is the unobserved error term. The key coefficient in this equation is γ_3 representing the impact of the refugee influx on the log real hourly wages of the natives.

Figure 8, Figure 9a, and Figure 9b represent the historical trends of the weighted average of the hourly wages across regions by gender and the sub-groups of education, age, industry, and firm size. Pre-existing parallel trends assumption is satisfied almost perfectly in both overall and sub-categorical trends.

Graphically, it is difficult to observe a differential trend change in both male and female wages after the refugee shock. The mean wages increase in both regions; however, the magnitude of increase is relatively lower in the treatment regions. The picture becomes clearer when we look at the trends at more disaggregated level in Figure 9a and Figure 9b. Less-skilled and less-experienced individuals and those sectors composed of the more of the most vulnerable individuals

[11] Since public workers' wages are determined by the central government at national level, public sector workers are excluded from the sample.

[12] Real hourly wage is calculated by the following formula:

$W_{ijt} =$ ((earnings*12)/(52*weekly work hours))*(100/regional price index$_t$)

seem to be relatively worsened after the refugee shock in the treatment region. Nevertheless, graphical evidence does not present a dramatic shift in the relative wage trends.

Table 3a and Table 3b represent the OLS estimates of the treatment effect for the males and females including all individuals and sub-groups separately. By order, each column represents a specification with an additional control variable. The preferred specification in this table is the column (5), which controls for all the most relevant factors.

According to the preferred specification results, overall male real wages in the treatment regions decline by almost 7.9% after the treatment. The sign of the coefficient is negative and statistically significant in all specifications and becomes larger in magnitude and more precise with the addition of the other controls. Estimation by the sub-groups shows that the treatment effect is heterogeneous across skill and age groups and industries.

The negative wage impact is around 10% for those who have eight years or less education and statistically significant at the 1% level while the impact is negative in sign but insignificant on the high school graduates and even positive on the college graduates but not statistically significant. Disaggregation by the age categories yields very different results as well. Those between 15-25 years old experience the highest wage decline with 14% and those between 26-40 years old also receive a wage decline around 6.5% because of the shock. Both estimates are statistically significant at the 1% level. The sign of the treatment effect is still negative but small in magnitude and not statistically significant for the older age groups.

Sampling by the four main sectors generates more heterogeneous results. The most dramatic impact seems to be on those working in the agricultural sector, who experienced a 29% wage decline as a result of the migration shock. The second and third most effected sectors were the construction and services with declines by 15.3% and 4.6% respectively. Those impacts are all

statistically significant at the 1% level. The magnitude is lower and less precise for the manufacturing sector. Finally, sampling by the size of firm correlates with those results as well. Those employed in the firms with less than 10 workers had about 14.2% decline in their wages while there was no statistically significant impact on those employed in the larger firms. These findings are not much surprising as the individuals with lower skills and experience and those working in more informal sectors are expected to be the most vulnerable in response to such a big labor supply shock.

Treatment effects for the female wages are represented on the Table 3b. Results are not much different from the male estimation in terms of the most affected groups; however, the magnitude of the negative impact is substantially larger. Overall impact on the female wages is negative but statistically insignificant at the 10% level. Those with less than 6 years of education experience 13.1% decline in their wages while the impact is not statistically significant on those with middle school and high school education. Moreover, the college graduates receive 15.7% increase on their wages and this impact is statistically significant at the 10% level. The wages of the younger females (15-40 yo) decline around 8% while the rest has no statistically significant change in their wages. In accordance with these results, female workers in the agricultural sector experience the most dramatic decline in their wages with almost 41% loss as the lower skilled informal workers dominate this sector. The treatment effect is negative in the manufacturing and construction sectors as well. However, the impact is positive but not statistically significant in the services sector, which represents the 2/3 of all females in the sample. Finally, when the female workers are grouped by the size of the firm they work in, the impact is negative but statistically insignificant in the firms with less than 50 workers. The coefficient turns out to be positive and highly significant in the larger size firms (14%).

3.5 Heterogeneous Treatment Effect on the Informal Employees' Wages

Regression analysis by the sub-groups of individuals suggests that the higher the ratio of informal employment in a sample the larger the level of negative wage effect in that sample. Table 4 represent the comparison of the baseline specification from column 5 on Table 3a and Table 3b to a further difference-in-differences specification for the informal employees (not registered to the social security system) by regressing the same specification on formal and informal employees separately.

Indeed, both male and female wage results show that a very big portion of the negative wage effects are arising from the decline in the informal workers' wages suggesting that the informality plays a larger role among the youth and those working in the small firms.

3.6 Robustness and Placebo Tests

The comparison group in the previous part is constructed in a way that it follows a very similar pre-existing trend to the treatment group. The aim was to reduce the probability that the differential change in both the employment and wage outcomes in the treatment regions are because of the pre-existing differential trends between the treatment and comparison regions. However, the differential change in the outcomes may be arising from some other sources that are affecting the certain parts of the country including the treatment region. Moreover, it is likely to have some other random shocks happening in the selected comparison regions during the treatment period.

To address such concerns, a larger set of comparison group that is including all regions that received negligible number of refugees is formed as a robustness check. Further, some placebo

tests are carried out by arbitrarily forming treatment regions from the west, middle, and east of the country.

Table 5a and Table 5b show the comparison of these tests to the baseline estimates for the male and female employment respectively. Similarly, Table 6a and

Table 6b represent the comparisons for the wage estimation. In each table, column (1) shows the results of the preferred specification from the baseline estimations, column (2) represents the results when 2011 is chosen as the pre-treatment year, column (3) represents the results when all immigrant-free regions are included as the comparison regions, and finally columns (4) through (6) provide the results of the placebo tests.

Comparing the results in column (1) through (3), the results in both the employment and wage estimation are in the same direction and close to each other in terms of the signs and magnitudes. Analysis of the placebo tests shows that the treatment effect becomes insignificant and takes the opposite sign to the baseline estimations in most of the cases. Moreover, those regions in the eastern part of the country (column 6) that are sharing the common labor market characteristics with the baseline treatment regions represent a completely opposite outcome. These placebo tests confirm that the treatment regions did not experience differential employment and wage effects randomly but because of the migration effect.

4 Secondary Migration Analysis

The refugees' possibility of returning to the home country has declined over time because of the increasing level of tension in the Syrian conflict. This fact has turned the refugee migration phenomena from being a temporary and regional issue to a one permanent and national level in Turkey. The official registration data has shown that the Syrian refugee population has spread across all the cities in the country as of 2015 October. But of course, the allocation of Syrian

refugees across the cities is not homogenous. Some parts of the country have received more refugees relative to the other regions depending on the distance from the conflict area and the region level factors such as the economic conditions and cultural similarity to the origin region. A specific estimation strategy is constructed to estimate the labor market impacts of Syrian refugee shock in these secondary migration regions, which do not have border to the conflict area in Syria.

4.1 Estimation Strategy

The biggest concern for the area approach in estimating the labor market impact of immigration is the endogeneity associated with immigrants' selection of destination region. If immigrants are choosing to reside in those regions with better economic conditions, a standard OLS estimation is likely to produce downward biased negative impacts on the labor market outcomes. To handle this problem, I employed an instrumental variable strategy following the ethnic enclave approach of the Card (2009).

There is no information on the ethnicity of Turkish citizens at regional level therefore we are not able know how many Arabs or other ethnicities live in a region. However, the address based population data contains information on the original province of ancestries of an individual. I postulate that the Turkish natives living in the primary migration regions must be the best proxy for the cultural and behavioral tendencies of Syrian refugees in Turkey since the natives living in those regions share the most common ethnical, geographical, and historical characteristics with the Syrians.[13] In other words, the Syrian refugees in Turkey are very likely to follow the pre-existing within country migration pattern of the natives living in the primary migration regions. Using the pre-treatment 2011 Address Based Population Registration data, I calculated a ratio

[13] Both regions were part of the Ottoman Empire until the early 20th century.

representing the density of individuals originally from the primary regions among native immigrants for each region. This ratio is constructed as the instrumental variable for the migration density (MR) of Syrian refugees across the 26 statistical regions in Turkey. It takes into account not only the geographical distance factor but also the cultural and ethnic factors affecting the migration destination decision. This IV should not carry information on the economic trends in the destination regions because it measures the ratio of the native immigrants from the primary regions relative to the native immigrant population not to the total regional population. The IV can be formulated as follows:

$$NMR_j = \frac{Primary_j}{\sum_{k=1,\, k\neq j}^{n} R_{jk}} \tag{3}$$

where NMR_j is the ratio of the native immigrants from the primary regions to the total native migrants in region j in 2011, $Primary_j$ is the total number of the native immigrants from the primary migration regions in the region j in 2011, and R_{jk} is the number of native immigrants from region k in the region j in 2011. The correlation between MR and NMR is highly positive (0.72) suggesting a powerful relationship between the instrument and the instrumented variable.

4.2 Employment Estimation

Below is the estimating equation for the impact of the migration shock on the employment level in the secondary migration destinations.

$$\text{Probit}(E_{ijt}) = \rho_0 + X_{ijt}\beta + \rho_1 Post_t + \rho_2 Post_t * MR_j + \varepsilon_{ijt} \tag{4}$$

where E_{ijt} is the indicator of being employed conditional on being in the labor force for the individual i in region j at time t, $Post_t$ is equal to 1 if the individual is surveyed in post-treatment year, MR_j is the ratio of the number of Syrian refugees registered in region j to the native

population in that region in 2015, X_{ijt} is a vector of explanatory variables including age, age square, marital status, education dummies, and ε_{ijt} is the unobserved error term. The key coefficient in this equation is ρ_2 representing the impact of the refugee influx on the probability of employment for natives. Differently from the standard difference-in-differences estimation, the treatment is assumed to be affecting all the regions but at a varying degree. The aim of instrumenting MR with NMR is to identify an unbiased estimate for the employment effect. The estimates from a specification in which the geographical distance from the conflict area is used as an IV are also provided among the results as a comparison to the IV in Del Carpio and Wagner (2015).

Table 7a and Table 7b represent the Probit and ivProbit results from the regressions for the overall male and female employment and by sub-education groups for each gender. First two columns represent the Probit estimates with no instruments, the third and the forth columns represent the results from an ivProbit estimate when the treatment variable is instrumented with the geographical distance from the conflict area, and finally columns five and six show the ivProbit estimates from the proposed IV in this study, which is the pre-existing within country migration pattern of the natives from the primary migration region. Column 6 is the preferred specification in both tables. The standard errors are clustered by region and year.

The coefficient on the treatment variable is negative in some cases for both males and females when all skill groups are included in the regressions. However, those effects are not statistically significant. Running the regressions for sub-samples of education deso not generate a consistent negative or positive impact on the skilled or unskilled native employees. Based on these estimates, we cannot conclude a negative causal relationship between the refugee influx and

natives' employment in the secondary migration regions as we did so in the primary migration regions.

4.3 Wage Estimation

The wage outcomes are estimated with a similar OLS and IV version of the equation (4) by adding the work specific controls. The impact of the refugee influx on the real hourly wages of the natives is illustrated on the Table 8a and **Table 8**b. Like the employment estimate results, here also first two columns represent the results from the baseline OLS, next two columns results from the geographical distance IV, and the last two columns results from the preferred ethnic enclave IV.

The coefficient on the treatment variable for the entire male sample is negative and statistically significant in the baseline and preferred IV specifications. According to the preferred specification in column (6), a one percent refugee influx to the regional population leads to 1.4% decline in the overall male wages. Running the regression for the sub-samples of education, age, industry, and firm size generates significant heterogeneous negative impacts on the most vulnerable groups as it was the case for the primary migration region. the results of the preferred specification implies that a one-unit increase in the refugees to regional population ratio decreases the real hourly wages of the natives with less than 6 years of education and between 6-8 years of education by 1.4% and 2.0% respectively. The impact is lower on the high school graduates with a lower precision. There exists no statistically significant impact on the college graduates. Comparing the baseline OLS specifications to the preferred IV specification, the size of the treatment coefficient gets larger in magnitude and becomes more precise for low-skilled groups with the ethnic enclave IV. This result explains the downward bias concerns for the OLS estimation. On the other hand, geographical distance IV in columns 3 and 4, which is included to

be a comparison for Carpio and Wagner (2015)'s suggestion, produces results that are lower in magnitude relative to the OLS.

When the individuals are categorized by their age group, the negative impact becomes lower in magnitude as the age increases. The youngest group with ages between 15-25 years old experiences 2.1% decline in their wages in response to a unit increase in the migration ratio. Combining this result with the previous education sub-group estimations it can be argued that the less-skilled and lower educated male individuals are the most affected group from the refugee influx among the male in the secondary migration areas. Further analysis of the male wages with the sector groups shows that the only negative and statistically significant impact is on those working in the services and manufacturing sectors with 1.9% and 2.2% declines, respectively. Finally, those working in the small firms with less than 10 workers are the mainly affected group with 1.7% decline in overall wages.

The female wages for the entire sample generates a statistically significant migration impact as well with a magnitude of 0.8%. The age and sector sub-samples results conforms with the male results suggesting a statistically significant impact on the youth with ages 15-25 years old and on those in the services and manufacturing sectors. However; in contrast to the male wages, there exists a statistically significant impact on the higher skilled female workers while the impact on the low-skilled females is statistically insignificant. Similarly, those working in the larger firms seem to be negatively impacted whereas the impact is not statistically significant on those working in the small firms. This kind of contradictory results hardly make economic sense as they conflict with the theoretical predictions of a low-skilled labor intensive migration shock. On the other hand, this may be a sign of the replacement of the native female workers with the male native workers.

The upgrading of native male workers from small firms to larger firms and more skilled jobs may lead to more competition in these categories across genders.

4.4 Robustness Checks

Table 9a and Table 9b represent the results of the various robustness exercises for males and females respectively. Column (1) represents the results from the baseline ethnic enclave IV estimation, column (2) represents the results from the baseline specification when the informal workers are excluded from the sample, column (3) shows the results when 2011 is chosen as the pre-treatment year, and finally column (4) illustrates the falsification test results when the baseline estimation is carried out with the false treatment period (2009-2011) to see if there exists a preoccupying trend on those groups that are being negatively affected from the migration shock.

As oppose to the primary migration results, excluding informal workers from the sample does not affect the treatment coefficient. Even the magnitude and the significance gets larger. The differential outcomes across the primary and secondary migrations may be arising due to the differential size of the informal sectors in those regions.

Changing the pre-treatment year to 2011 as in the column (3) does not affect the results significantly for both males and females. Falsification test in the column (4) generates completely different results to the baseline estimation suggesting no pre-existing trend for those groups that are affected from the refugee influx.

5 Conclusion

This paper investigates the causal relationship between the Syrian refugee induced increase in labor supply and natives' labor market outcomes in Turkey using the micro level Household Labor Force Surveys. Migration impact is analyzed in two distinct categories considering the

motives behind the migration decision. The initial migration to the border regions is assumed to be completely exogenous and defined as the primary migration. Thus, a standard difference in differences strategy is employed to estimate the labor market impacts in those regions. On the other hand, migration from the primary regions towards the inner regions in Turkey (secondary migration) has suffered from the endogenous selection issues. To handle these concerns, I developed an instrumental variables estimation method for the secondary migration impact following David Card (2009)'s ethnic enclave approach.

The analysis of primary migration effect suggests that both the male and female employment are being negatively impacted with declines in the probability of employment by 3.4 and 4.2 percentage points, respectively, conditional on labor force participation. The negative employment impact is much larger among the less-educated males with less than 11 years of schooling (around 5 percentage points), not statistically significant for the high school graduates, and statistically significant at the 1 percent level for college graduates (1.8 percentage points). The impact is negative and statistically significant across all age groups that are younger than 55 years old and larger in magnitude among the youth. Female employment results are largely in parallel with the male results. Wage impact is negative across both genders as well; however, the negative impact is clearer on the least educated and less experienced individuals and in the sectors that are more prone to the informal employment. Males with less than 5 years and 5-8 years of education experienced a wage decline of about 10.2% and 12% respectively whereas the impact on those with higher education is statistically insignificant. Females with less than 5 years of education, accounting for 36% of the female workers, had a wage decline of 12.7% with no statistically significant impact on those with higher education as well. Disaggregation by age, sector, and firm size show that the negative wage impact is larger on the less experienced individuals, the sectors

with larger informal employment, and the small firms. A further disaggregation by the informality status that, indeed, the decline in the wages of informal workers is the main contributor of the negative wage effects.

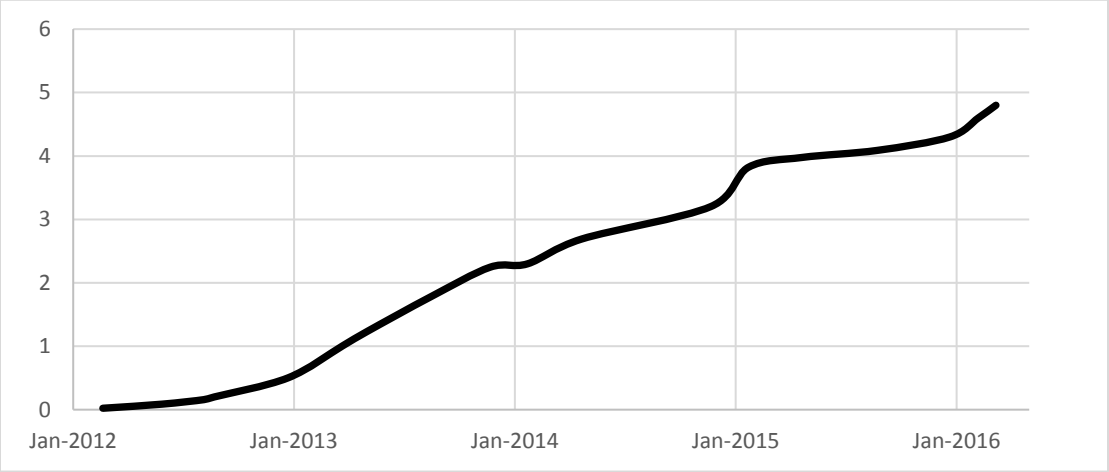
Secondary migration estimation generates no statistically significant employment effect on both genders but negative wage effects primarily on males. The negative wage effects are more prominent on the natives that are more likely to be substituted by the informal employment of the refugees. Accordingly, a one-unit increase in the refugees to regional population ratio reduces the wages of males with an education less than five years and 5-8 years by 1.4% and 2.0% respectively. The negative impact is statistically significant for those between ages 15-25 (2%), working in the services sector (1.9%), and working in small firms (1.7%). The female wage estimates are not in line with the male results and requires a further analysis for the possible causes.

Findings in this study confirm the wage predictions of classical models such that an unskilled intensive migration shock reduces the wages of unskilled native workers. Contradicting employment results between the primary migration analysis (strongly negative) and the secondary migration analysis (no impact) are also in line with the theory suggesting that migration may result in unemployment among natives in case of an inelastic capital in an economy. The capital stock was probably elastic enough to adjust the additional labor supply due to relatively lower levels of refugee to regional population ratio in the secondary migration regions and vice versa in the primary migration regions.

The future extension plan for this study is to examine the impacts on the production structure of Turkish manufacturing using the firm level panel data. Such an exercise will make possible to test the theoretical predictions of the various adjustment approaches such as the capital/skill complementarity, technology adjustment, and variety effect approaches.

Figures and Tables

Figure 1: The Total Number of Syrian Refugees over Time (Millions)

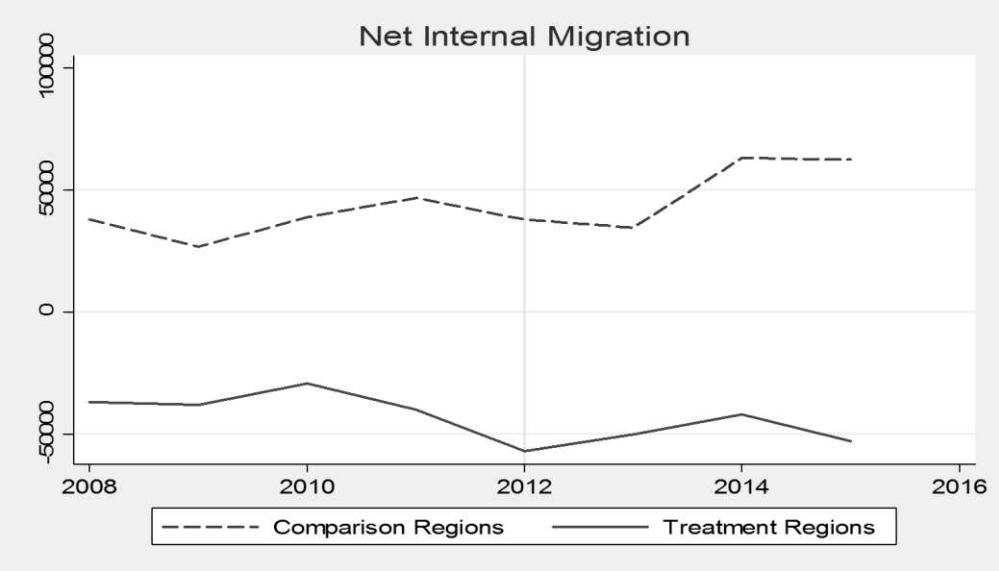


Source: United Nations (OCHA)

Figure 2: Ratio of Refugees to the Regional Population (October 2015)

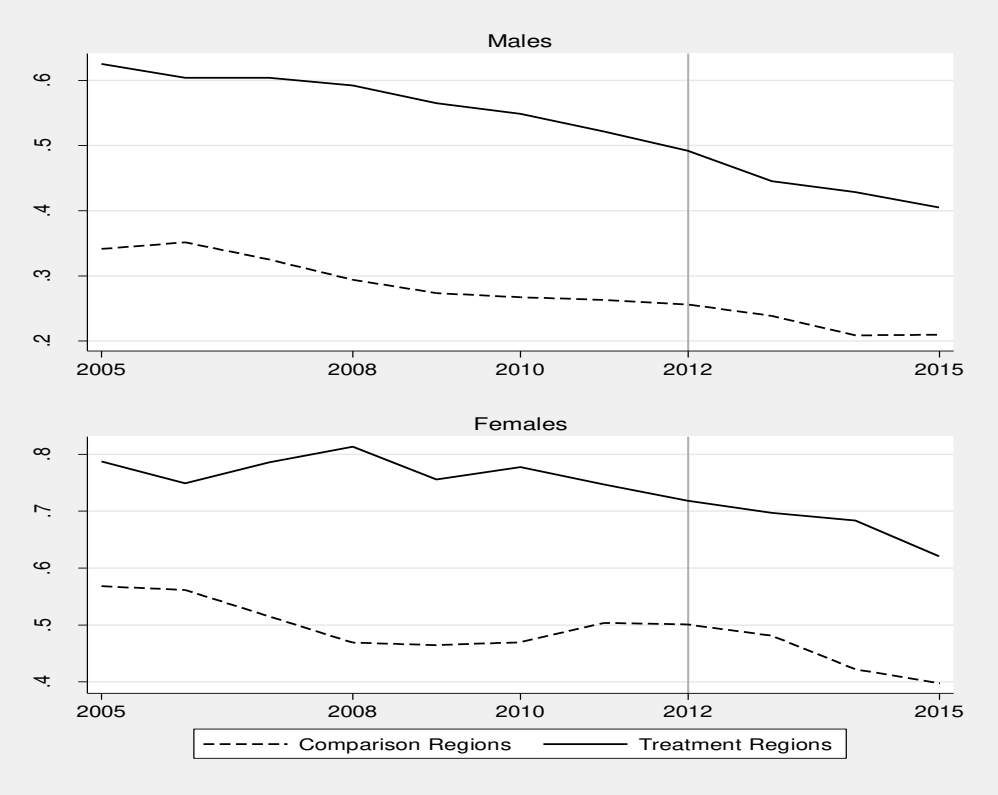
Source: Directorate General of Migration Management, Ministry of Interior, Turkey

Figure 3: Net within Country Migration by Regions



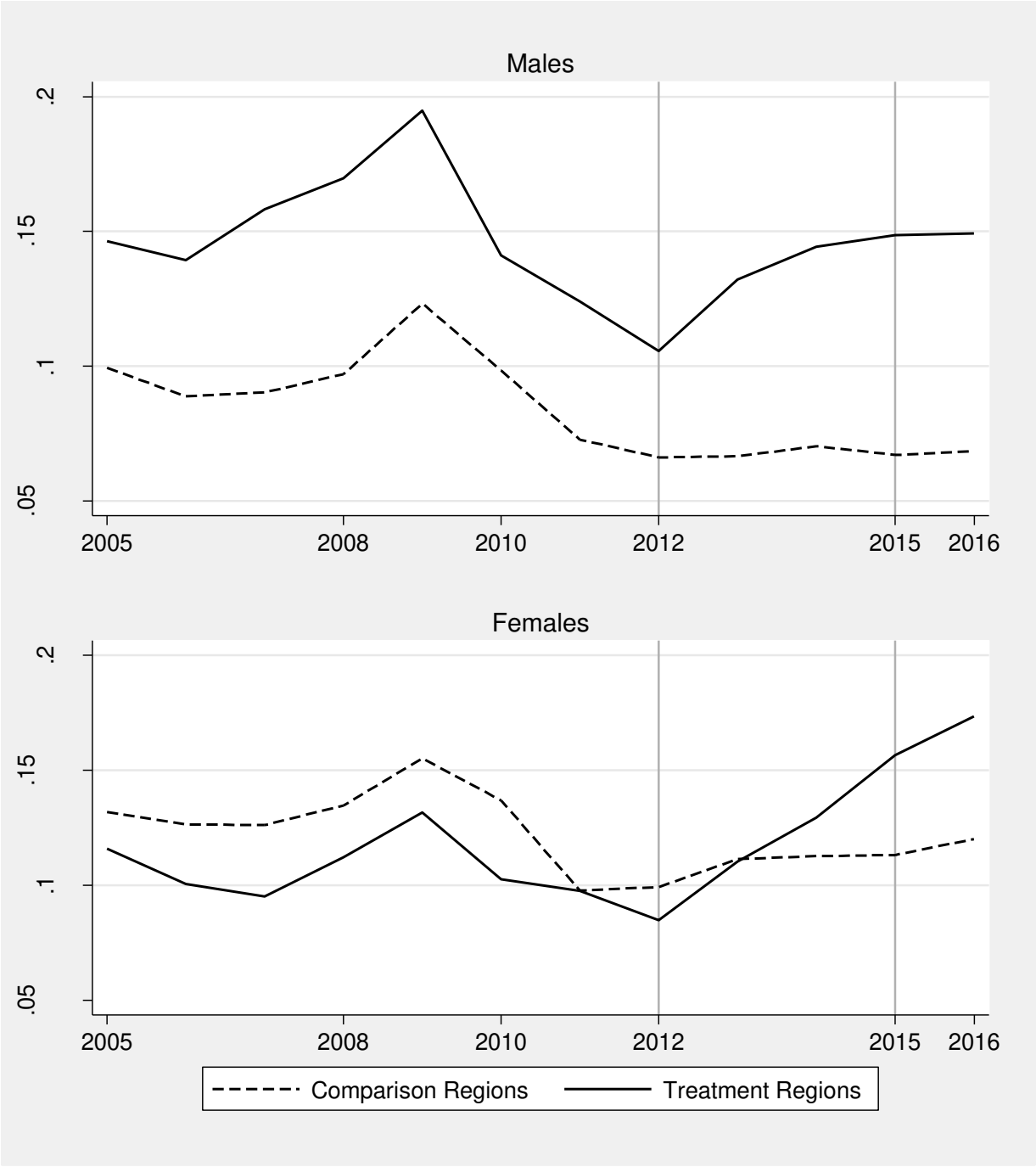
Source: Turkish Statistical Institute, Address Based Population Registration System.

Figure 4: Informal Employment Trends across Treatment and Comparison Regions



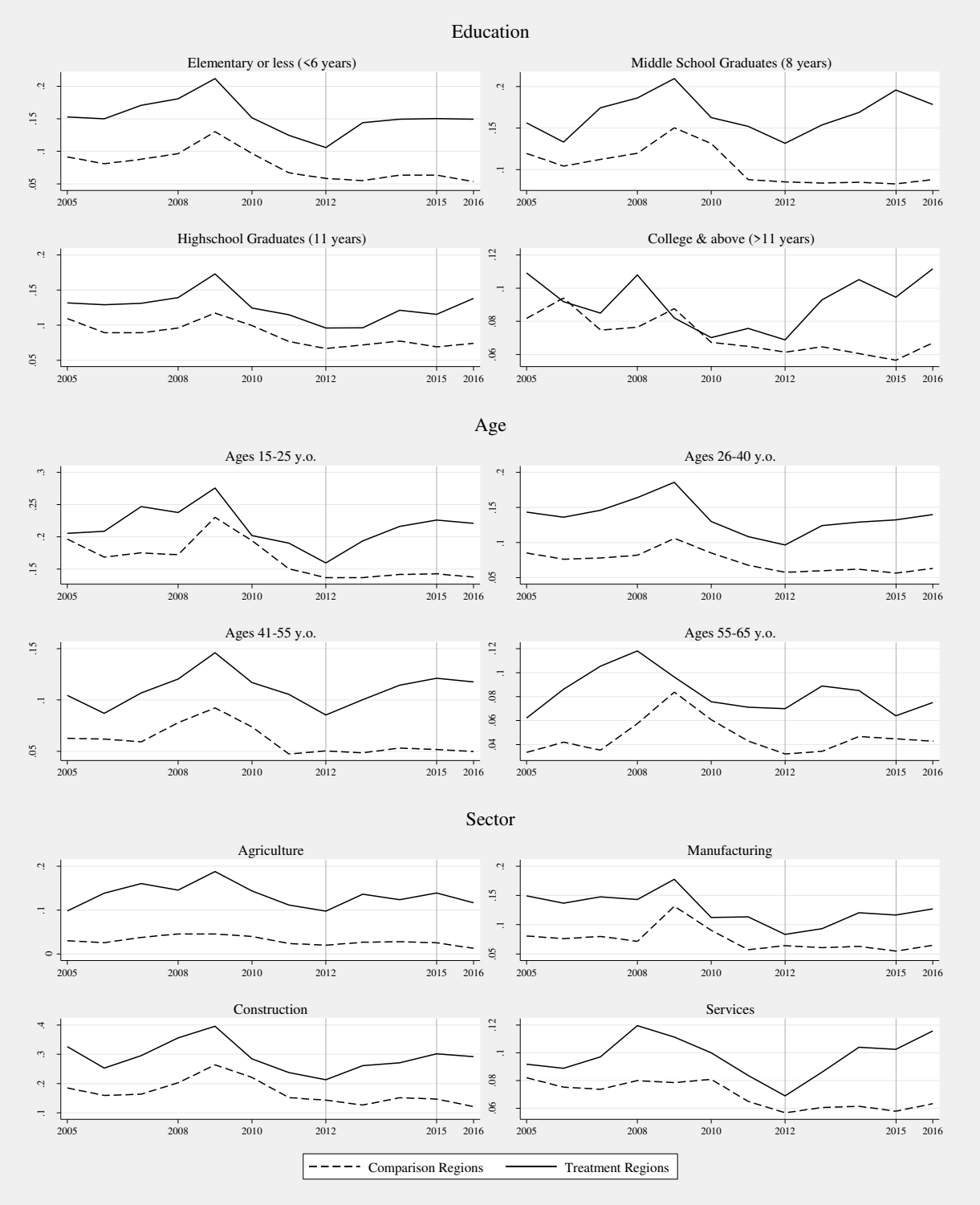
Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals between 15-65 y.o. only)

Figure 5: Unemployment by Gender



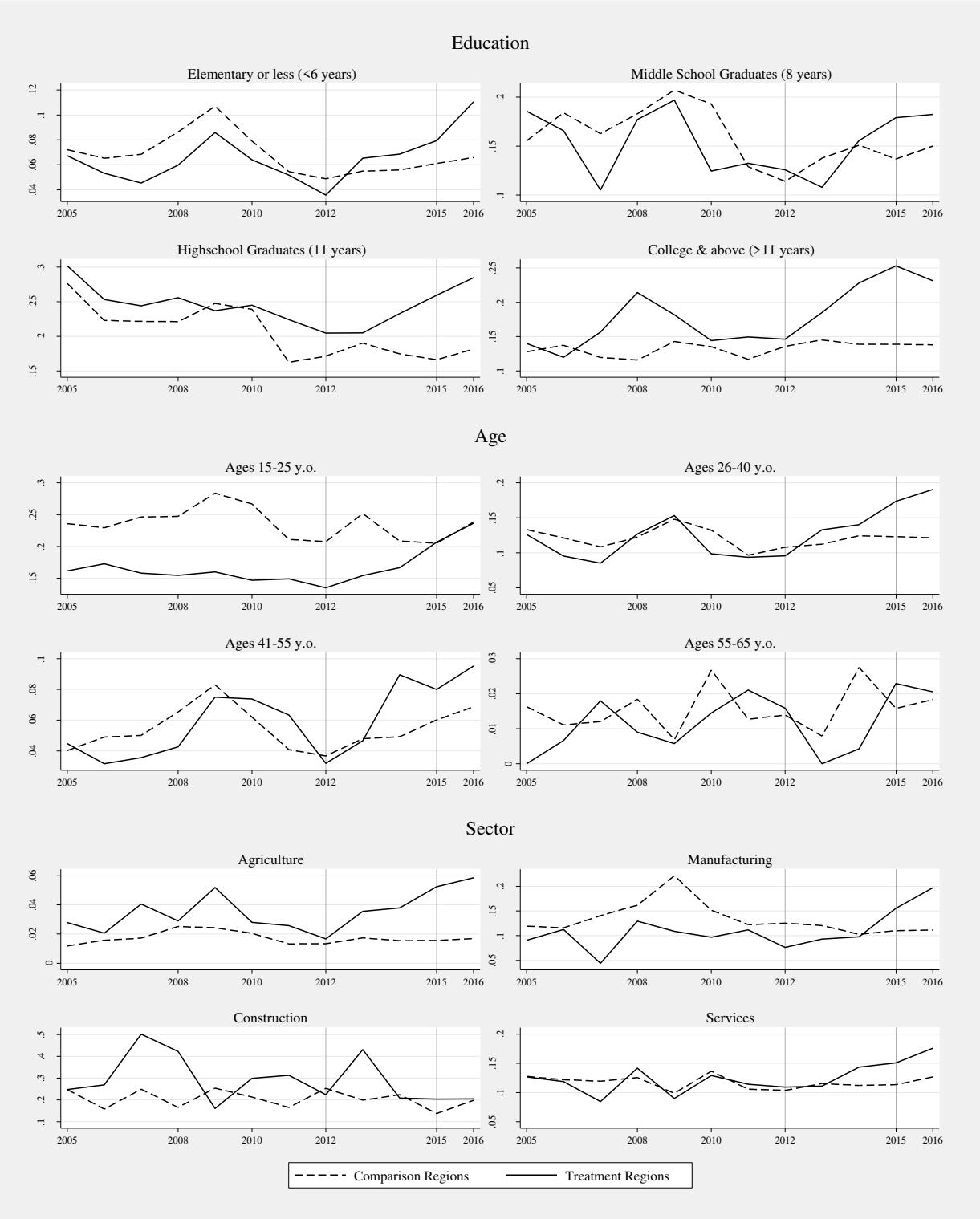
Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals that participate in the labor market and are between 15-65 y.o. only)

Figure 6a: Male Employment by Sub-groups



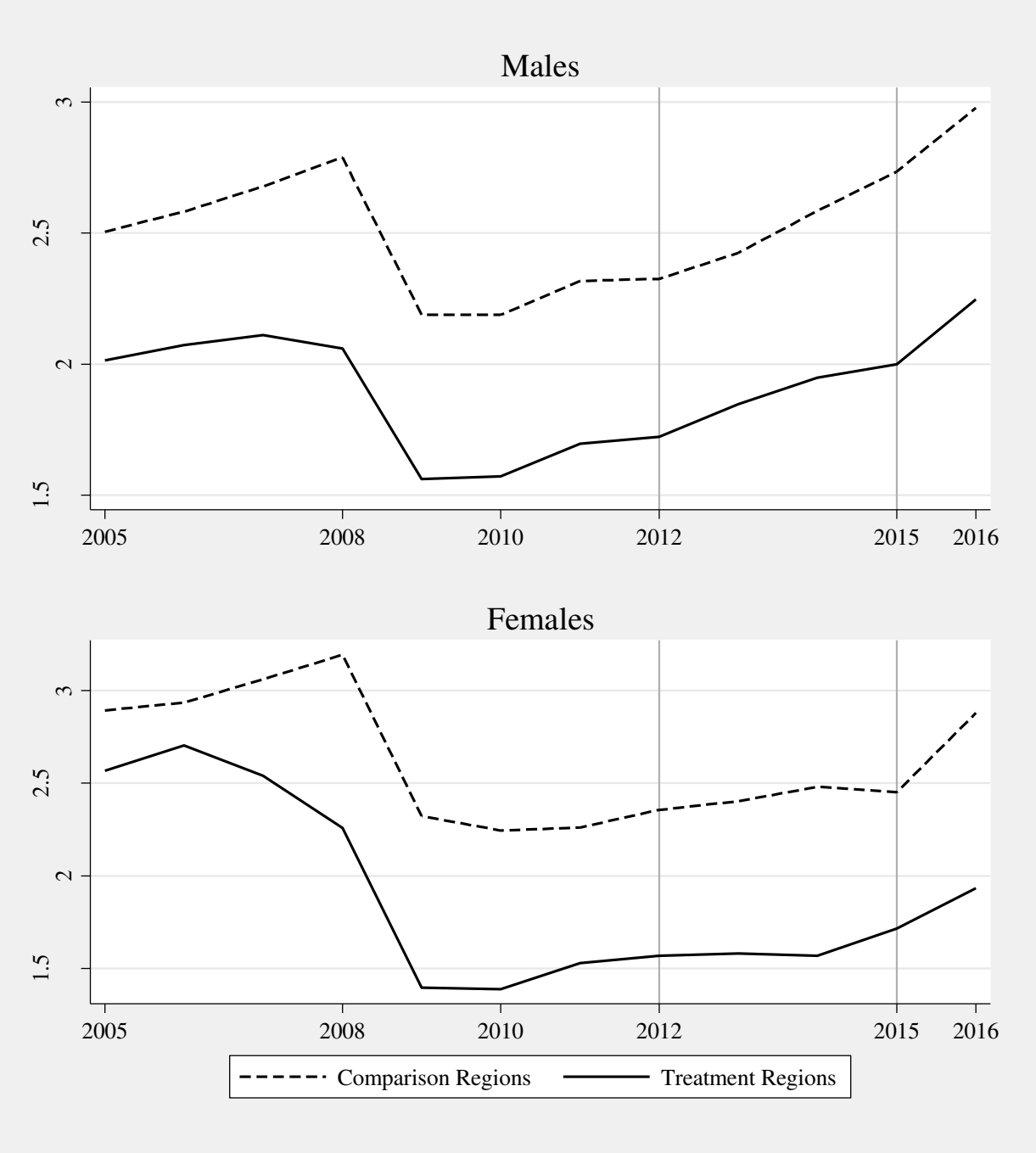
Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals that participate in the labor market and are between 15-65 y.o. only)

Figure 7b: Female Employment by Sub-groups



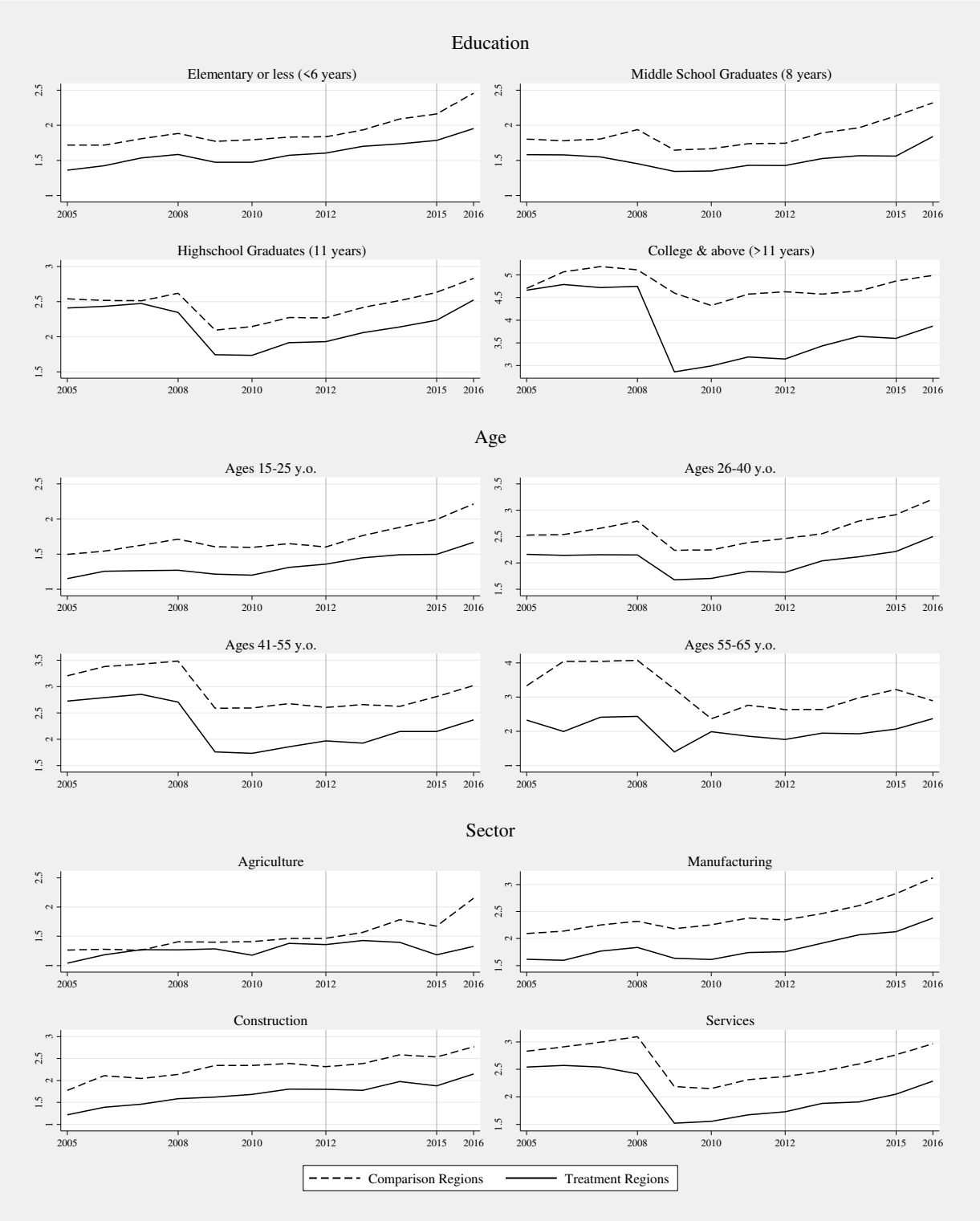
Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals that participate in the labor market and are between 15-65 y.o. only)

Figure 8: Wages by gender



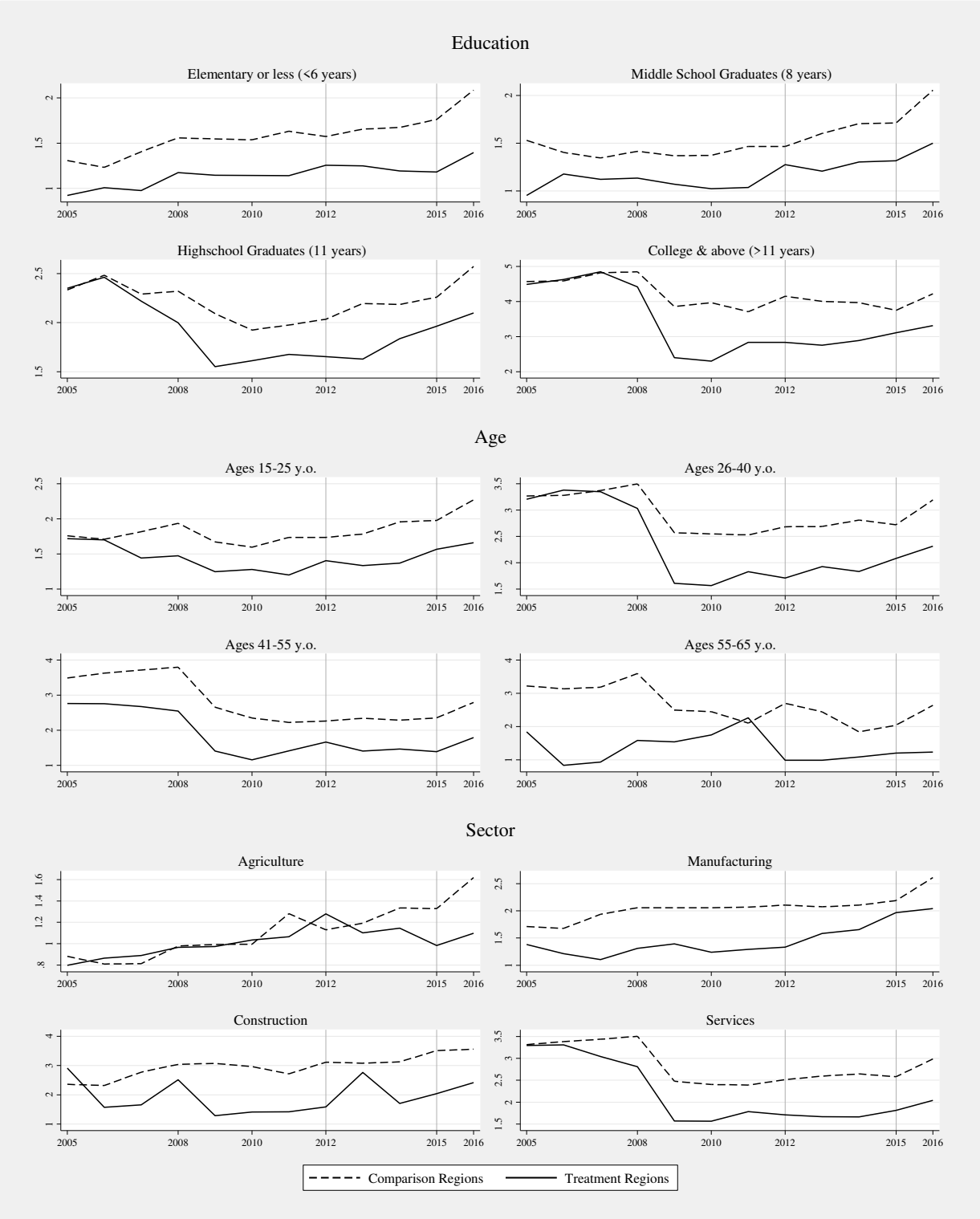
Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals between 15-65 y.o. only. Public workers are excluded)

Figure 9a: Male Wages by Sub-groups



Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals between 15-65 y.o. only. Public workers are excluded)

Figure 9b: Female Wages by Sub-groups



Source: TURKSTAT Household Labor Force Surveys 2005-2016. (Represents weighted average of the individuals between 15-65 y.o. only. Public workers are excluded)

Table 1: Summary Statistics

	Control Group		Treatment Group	
Variable	**2012**	**2015**	**2012**	**2015**
Males				
Labor force participation rate	0.773	0.781	0.682	0.725
Unemployment rate	0.066	0.067	0.106	0.149
Monthly wages	1,301	1,768	946.9	1,326
Age	37.38	37.81	33.96	34.56
High school graduation rate	0.404	0.432	0.256	0.282
Formal employment share	0.744	0.790	0.508	0.595
Manufacturing employment share	0.152	0.174	0.173	0.190
Small firm employment share	0.635	0.570	0.720	0.656
Observation #	21731	21338	14785	16870
Females				
Labor force participation rate	0.373	0.389	0.177	0.217
Unemployment rate	0.099	0.113	0.085	0.157
Monthly wages	1,218	1,553	881.5	1,203
Age	37.47	37.89	34.03	34.49
High school graduation rate	0.315	0.350	0.147	0.189
Formal employment share	0.499	0.602	0.282	0.379
Manufacturing employment share	0.0938	0.118	0.0995	0.0790
Small firm employment share	0.686	0.623	0.797	0.703
Observation #	22994	22285	16131	17907

Note: Observations are weighted by the sampling weighting coefficients provided by the data source.

Table 2a: Male Employment Probit Estimation Results in the Primary Migration

Sample	N	Probit Coefficients on treatment*post (1)	(2)	(3)	(4)	(5) (sub-sample of individuals who were in the labor force the year before)	Differential change in the probability of employment based on the specification 4
All males	54,426	-0.200***	-0.186***	-0.185***	-0.192***	-0.318***	-0.034
		(0.0330)	(0.0332)	(0.0336)	(0.0335)	(0.0472)	
Education sub-groups							
Elementary&less (<6 years)	22,378	-0.172***	-0.168***	-0.170***	-0.180***	-0.299***	-0.032
		(0.0519)	(0.0519)	(0.0521)	(0.0523)	(0.0701)	
Middle school (8 years)	11,665	-0.278***	-0.270***	-0.269***	-0.283***	-0.396***	-0.059
		(0.0666)	(0.0668)	(0.0670)	(0.0671)	(0.0911)	
High school (11 years)	10,925	-0.0895	-0.107	-0.0977	-0.100	-0.285**	
		(0.0774)	(0.0789)	(0.0798)	(0.0795)	(0.117)	
College&above (>11 years)	9,458	-0.212**	-0.175*	-0.148	-0.175*	-0.333*	-0.018
		(0.0935)	(0.0985)	(0.101)	(0.100)	(0.178)	
Age sub-groups							
15-25 y.o.	9,842	-0.218***	-0.220***	-0.221***	-0.247***	-0.408***	-0.061
		(0.0656)	(0.0657)	(0.0662)	(0.0665)	(0.0950)	
26-40 y.o.	22,226	-0.197***	-0.195***	-0.182***	-0.174***	-0.260***	-0.032
		(0.0531)	(0.0531)	(0.0542)	(0.0540)	(0.0733)	
41-55 y.o.	17,894	-0.189***	-0.187***	-0.199***	-0.217***	-0.329***	-0.031
		(0.0617)	(0.0618)	(0.0627)	(0.0626)	(0.0894)	
55-65 y.o.	4,464	0.197	0.198	0.188	0.156	-0.0861	
		(0.135)	(0.136)	(0.136)	(0.138)	(0.223)	
Industry sub-groups							
Agriculture	9,407	-0.105	-0.0429	-0.0638	-0.0306	-0.246	
		(0.104)	(0.106)	(0.107)	(0.108)	(0.155)	
Manufacturing	10,572	-0.270***	-0.254***	-0.245***	-0.248***	-0.383***	-0.036
		(0.0767)	(0.0773)	(0.0780)	(0.0777)	(0.109)	
Construction	6,134	-0.259***	-0.263***	-0.274***	-0.283***	-0.355***	-0.085
		(0.0792)	(0.0794)	(0.0799)	(0.0797)	(0.0927)	
Services	27,946	-0.206***	-0.206***	-0.204***	-0.211***	-0.259***	-0.026
		(0.0506)	(0.0512)	(0.0520)	(0.0517)	(0.0751)	
Age, agesq		.	Yes	Yes	Yes	Yes	
Education, marital status		.	.	Yes	Yes	Yes	
Region dummies					Yes	Yes	

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65.

Table 2b: Female Employment Probit Estimation Results in the Primary Migration

Sample	N	Probit Coefficients on treatment*post					Differential change in the probability of employment based on the specification 4
		(1)	(2)	(3)	(4)	(5) (sub-sample of individuals who were in the labor force the year before)	
All females	22,929	-0.288***	-0.250***	-0.257***	-0.368***	-0.490***	-0.042
		(0.0528)	(0.0545)	(0.0549)	(0.0557)	(0.0994)	
Education sub-groups							
Elementary or less (<6 years)	10,636	-0.282***	-0.268***	-0.291***	-0.512***	-0.795***	-0.017
		(0.0913)	(0.0926)	(0.0933)	(0.0989)	(0.172)	
Middle school (8 years)	2,698	-0.118	-0.132	-0.122	-0.332**	-0.816***	-0.047
		(0.139)	(0.140)	(0.139)	(0.142)	(0.258)	
High school (11 years)	3,545	-0.200	-0.166	-0.165	-0.180	-0.0411	
		(0.122)	(0.123)	(0.123)	(0.123)	(0.229)	
College&above (>11years)	6,050	-0.375***	-0.356***	-0.331***	-0.367***	-0.306	-0.072
		(0.102)	(0.108)	(0.108)	(0.109)	(0.209)	
Age sub-groups							
15-25 y.o.	4,603	-0.293***	-0.298***	-0.312***	-0.472***	-0.654***	-0.093
		(0.0956)	(0.0967)	(0.0979)	(0.102)	(0.172)	
26-40 y.o.	9,791	-0.290***	-0.274***	-0.280***	-0.330***	-0.342**	-0.054
		(0.0784)	(0.0789)	(0.0795)	(0.0800)	(0.149)	
41-55 y.o.	6,976	-0.212	-0.206	-0.276**	-0.407***	-0.640**	-0.010
		(0.132)	(0.133)	(0.137)	(0.142)	(0.253)	
55-65 y.o.	1,559	-0.100	-0.148	-0.194	-0.544		
		(0.394)	(0.408)	(0.431)	(0.473)		
Industry sub-groups							
Agriculture	7,706	-0.444***	-0.402***	-0.471***	-0.737***	-1.322***	-0.018
		(0.151)	(0.155)	(0.157)	(0.174)	(0.336)	
Manufacturing	2,446	-0.493***	-0.439**	-0.447**	-0.440**	-0.462	-0.076
		(0.176)	(0.178)	(0.179)	(0.181)	(0.290)	
Construction	227	-0.361	-0.485	-0.234	-0.225	0.724	
		(0.622)	(0.638)	(0.679)	(0.688)	(1.251)	
Services	11,866	-0.145*	-0.140*	-0.146*	-0.200***	-0.384***	-0.029
		(0.0757)	(0.0769)	(0.0776)	(0.0775)	(0.134)	
Age, agesq		.	Yes	Yes	Yes	Yes	
Education, marital status		.	.	Yes	Yes	Yes	
Region dummies					Yes	Yes	

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65.

Table 3a: Male Log Real Hourly Wage Estimation Results in the Primary Migration

Sample	N	Coefficients on the treatment*post variable for various specifications (1)	(2)	(3)	(4)	(5)
All males	23,321	-0.0631***	-0.0518***	-0.0650***	-0.0815***	-0.0789***
		(0.0142)	(0.0133)	(0.0121)	(0.0115)	(0.0113)
Education sub-groups						
Elementary&less (<6 years)	8,981	-0.0903***	-0.0895***	-0.0955***	-0.106***	-0.102***
		(0.0182)	(0.0177)	(0.0178)	(0.0166)	(0.0166)
Middle school (8 years)	5,930	-0.130***	-0.109***	-0.109***	-0.120***	-0.120***
		(0.0255)	(0.0224)	(0.0224)	(0.0210)	(0.0209)
High school (11 years)	5,596	-0.00548	-0.0232	-0.0229	-0.0443*	-0.0360
		(0.0260)	(0.0239)	(0.0239)	(0.0232)	(0.0227)
College&above (>11 years)	2,814	0.0717	0.0797	0.0797	0.0635	0.0423
		(0.0550)	(0.0499)	(0.0499)	(0.0465)	(0.0457)
Age sub-groups						
15-25 y.o.	5,152	-0.147***	-0.127***	-0.133***	-0.139***	-0.141***
		(0.0273)	(0.0242)	(0.0239)	(0.0224)	(0.0223)
26-40 y.o.	11,510	-0.0281	-0.0302	-0.0401**	-0.0683***	-0.0648***
		(0.0190)	(0.0188)	(0.0167)	(0.0158)	(0.0157)
41-55 y.o.	5,982	-0.0239	-0.0119	-0.0452*	-0.0515**	-0.0449*
		(0.0295)	(0.0284)	(0.0260)	(0.0244)	(0.0243)
55-65 y.o.	677	-0.0231	-0.0720	-0.0552	-0.0658	-0.0362
		(0.112)	(0.107)	(0.0888)	(0.0855)	(0.0850)
Industry sub-groups						
Agriculture	940	-0.322***	-0.298***	-0.309***	-0.289***	-0.290***
		(0.0636)	(0.0625)	(0.0621)	(0.0612)	(0.0610)
Manufacturing	7,723	-0.0419*	-0.0229	-0.0290	-0.0412**	-0.0410**
		(0.0229)	(0.0210)	(0.0186)	(0.0182)	(0.0180)
Construction	3,201	-0.109***	-0.111***	-0.147***	-0.173***	-0.153***
		(0.0356)	(0.0344)	(0.0328)	(0.0318)	(0.0316)
Services	11,457	-0.0181	-0.0111	-0.0217	-0.0435**	-0.0457***
		(0.0218)	(0.0202)	(0.0179)	(0.0171)	(0.0169)
Firm size sub-groups						
Small (<10 employee)	10,021	-0.145***	-0.132***	-0.141***	-0.149***	-0.142***
		(0.0204)	(0.0191)	(0.0185)	(0.0177)	(0.0175)
Medium (11-50)	6,581	0.00515	0.00339	-0.00834	-0.0186	-0.0264
		(0.0249)	(0.0237)	(0.0210)	(0.0202)	(0.0205)
Large (>50)	6,719	-0.0387	-0.000731	-0.0152	-0.00683	0.0122
		(0.0258)	(0.0245)	(0.0212)	(0.0204)	(0.0202)
Individual characteristics		.	Yes	Yes	Yes	Yes
Education		.	.	Yes	Yes	Yes
Job characteristics		.	.	.	Yes	Yes
Region dummies		.	.	.	.	Yes

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Individual characteristics are age, age square, tenure, tenure square, marital status. Job characteristics are full time, temporary job, social security, economic activity.

Table 3b: Female Log Hourly Wage Estimation Results in the Primary Migration

Sample	N	Coefficients on the treatment*post variable for various specifications				
		(1)	(2)	(3)	(4)	(5)
All females	6,985	0.0173	0.0410	0.00311	0.00456	-0.00407
		(0.0349)	(0.0329)	(0.0289)	(0.0271)	(0.0269)
Education sub-groups						
Elementary&less (<6 years)	2,402	-0.150***	-0.134***	-0.129***	-0.113***	-0.127***
		(0.0481)	(0.0469)	(0.0467)	(0.0423)	(0.0428)
Middle school (8 years)	987	-0.145**	-0.131**	-0.131**	-0.0812	-0.0640
		(0.0713)	(0.0646)	(0.0646)	(0.0580)	(0.0589)
High school (11 years)	1,846	0.0336	0.0721	0.0727	0.0563	0.0552
		(0.0474)	(0.0450)	(0.0450)	(0.0412)	(0.0405)
College & above (>11 years)	1,750	0.219***	0.197***	0.197***	0.182***	0.157**
		(0.0834)	(0.0715)	(0.0715)	(0.0669)	(0.0661)
Age sub-groups						
15-25 y.o.	1,854	-0.106**	-0.0813	-0.0861*	-0.0909**	-0.0771*
		(0.0525)	(0.0499)	(0.0464)	(0.0429)	(0.0434)
26-40 y.o.	3,420	0.167***	0.169***	0.102**	0.0860**	0.0796**
		(0.0514)	(0.0495)	(0.0418)	(0.0390)	(0.0383)
41-55 y.o.	1,597	-0.0831	-0.0734	-0.124*	-0.0783	-0.0879
		(0.0888)	(0.0839)	(0.0717)	(0.0608)	(0.0624)
55-65 y.o.	114	0.0862	0.152	0.00241	-0.0199	0.0501
		(0.315)	(0.290)	(0.243)	(0.213)	(0.214)
Industry sub-groups						
Agriculture	559	-0.416***	-0.411***	-0.396***	-0.373***	-0.410***
		(0.0873)	(0.0874)	(0.0863)	(0.0867)	(0.0945)
Manufacturing	1,523	0.227***	0.219***	0.139**	0.112**	0.117**
		(0.0668)	(0.0650)	(0.0563)	(0.0516)	(0.0506)
Construction	160	0.0860	0.0435	0.116	0.228	0.308**
		(0.208)	(0.213)	(0.207)	(0.212)	(0.146)
Services	4,743	0.0632	0.0873**	0.0556	0.0427	0.0341
		(0.0440)	(0.0411)	(0.0354)	(0.0315)	(0.0312)
Firm size sub-groups						
Small (<10 employee)	2,898	-0.0427	-0.0350	-0.0596	-0.0560	-0.0708
		(0.0520)	(0.0514)	(0.0482)	(0.0445)	(0.0438)
Medium (11-50)	2,107	-0.0239	0.0282	0.00501	-0.00185	-0.00142
		(0.0596)	(0.0526)	(0.0442)	(0.0422)	(0.0427)
Large (>50)	1,980	0.115*	0.139**	0.0789	0.119**	0.139***
		(0.0656)	(0.0624)	(0.0520)	(0.0472)	(0.0467)
Individual characteristics		.	Yes	Yes	Yes	Yes
Education		.	.	Yes	Yes	Yes
Job characteristics		.	.	.	Yes	Yes
Region dummies		.	.	.	.	Yes

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Individual characteristics are age, age square, tenure, tenure square, marital status. Job characteristics are full time, temporary job, social security, economic activity.

Table 4: Wages in the Primary Migration with Heterogeneous Treatment Effect on Informal Employees

	MALES				FEMALES			
		Baseline	Heterogeneous treatment			Baseline	Heterogeneous treatment	
	N	T*Post	FORMAL T*Post	INFORMAL T*Post	N	T*Post	FORMAL T*Post	INFORMAL T*Post
All	23,321	-0.0631***	-0.017	-0.200***	6,985	0.0173	0.105***	-0.144***
		(0.0142)	(0.013)	(0.027)		(0.0349)	(0.030)	(0.052)
Education sub-groups								
Elementary&less (<6 years)	8,981	-0.0903***	-0.036**	-0.191***	2,402	-0.150***	0.066	-0.186***
		(0.0182)	(0.018)	(0.038)		(0.0481)	(0.044)	(0.064)
Middle school (8 years)	5,930	-0.130***	-0.054**	-0.226***	987	-0.145**	-0.018	-0.060
		(0.0255)	(0.023)	(0.044)		(0.0713)	(0.071)	(0.107)
High school (11 years)	5,596	-0.00548	0.001	-0.227***	1,846	0.0336	0.072*	0.022
		(0.0260)	(0.024)	(0.077)		(0.0474)	(0.044)	(0.126)
College & above (>11 years)	2,814	0.0717	0.060	0.017	1,750	0.219***	0.192***	-0.604**
		(0.0550)	(0.048)	(0.155)		(0.0834)	(0.070)	(0.283)
Age sub-groups								
15-25 y.o.	5,152	-0.147***	-0.041	-0.266***	1,854	-0.106**	0.122**	-0.323***
		(0.0273)	(0.025)	(0.044)		(0.0525)	(0.050)	(0.079)
26-40 y.o.	11,510	-0.0281	-0.017	-0.187***	3,420	0.167***	0.098**	-0.025
		(0.0190)	(0.017)	(0.050)		(0.0514)	(0.042)	(0.099)
41-55 y.o.	5,982	-0.0239	0.028	-0.216***	1,597	-0.0831	-0.001	-0.117
		(0.0295)	(0.027)	(0.053)		(0.0888)	(0.082)	(0.093)
55-65 y.o.	677	-0.0231	-0.010	-0.057	114	0.0862	0.416	-0.004
		(0.112)	(0.116)	(0.122)		(0.315)	(0.315)	(0.300)
Industry sub-groups								
Agriculture	940	-0.322***	-0.137	-0.315***	559	-0.416***	NR	-0.406***
		(0.0636)	(0.138)	(0.076)		(0.0873)		(0.098)
Manufacturing	7,723	-0.0419*	-0.014	-0.157***	1,523	0.227***	0.118**	0.118
		(0.0229)	(0.019)	(0.057)		(0.0668)	(0.056)	(0.127)
Construction	3,201	-0.109***	-0.045	-0.299***	160	0.0860	0.467***	NR
		(0.0356)	(0.037)	(0.062)		(0.208)	(0.157)	
Services	11,457	-0.0181	-0.009	-0.126***	4,743	0.0632	0.091**	-0.063
		(0.0218)	(0.019)	(0.038)		(0.0440)	(0.036)	(0.067)
Firm size sub-groups								
Small (<10 employee)	10,021	-0.145***	-0.033	-0.219***	2,898	-0.0427	0.105*	-0.109*
		(0.0204)	(0.022)	(0.030)		(0.0520)	(0.058)	(0.062)
Medium (11-50)	6,581	0.00515	0.002	-0.141**	2,107	-0.0239	0.089*	-0.345***
		(0.0249)	(0.022)	(0.066)		(0.0596)	(0.052)	(0.105)
Large (>50)	6,719	-0.0387	0.012	0.035	1,980	0.115*	0.133***	0.093
		(0.0258)	(0.021)	(0.114)		(0.0656)	(0.048)	(0.220)

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. The control variables are age, age square, tenure, tenure square, marital status, education dummies, full time, temporary job, social security, economic activity, and region dummies. NR (Not reported due to low sample size)

Table 5a: Male Employment in the Primary Migration - Placebo Tests

Sample	Probit Coefficients on treatment*post					
	(1) Baseline	(2) Baseline-2011	(3) Baseline-ALL	(4) Placebo-West	(5) Placebo-Mid	(6) Placebo-East
All males	-0.192***	-0.140***	-0.205***	0.0193	-0.0405	0.249***
	(0.0335)	(0.0326)	(0.0272)	(0.0351)	(0.0403)	(0.0378)
Education sub-groups						
Elementary&less (<6 years)	-0.180***	-0.146***	-0.188***	0.0131	-0.0528	0.189***
	(0.0523)	(0.0510)	(0.0399)	(0.0589)	(0.0663)	(0.0607)
Middle school (8 years)	-0.283***	-0.187***	-0.287***	0.0497	-0.125	0.239***
	(0.0671)	(0.0654)	(0.0537)	(0.0732)	(0.0813)	(0.0766)
High school (11 years)	-0.100	-0.0536	-0.161**	0.0473	0.108	0.400***
	(0.0795)	(0.0749)	(0.0678)	(0.0721)	(0.0847)	(0.0815)
College & above (>11 years)	-0.175*	-0.118	-0.171**	-0.0792	-0.0493	0.243**
	(0.100)	(0.102)	(0.0870)	(0.0869)	(0.105)	(0.102)
Age sub-groups						
15-25 y.o.	-0.247***	-0.187***	-0.297***	0.0514	-0.0343	0.343***
	(0.0665)	(0.0642)	(0.0524)	(0.0721)	(0.0810)	(0.0748)
26-40 y.o.	-0.174***	-0.170***	-0.176***	-0.00179	-0.0785	0.232***
	(0.0540)	(0.0521)	(0.0441)	(0.0579)	(0.0661)	(0.0595)
41-55 y.o.	-0.217***	-0.0683	-0.224***	0.0182	0.0237	0.123*
	(0.0626)	(0.0614)	(0.0507)	(0.0631)	(0.0742)	(0.0729)
55-65 y.o.	0.156	0.0187	0.157	0.103	-0.0320	0.453**
	(0.138)	(0.137)	(0.112)	(0.129)	(0.154)	(0.181)
Industry sub-groups						
Agriculture	-0.0306	-0.0718	-0.181**	0.221*	0.0626	0.476***
	(0.108)	(0.105)	(0.0708)	(0.132)	(0.131)	(0.125)
Manufacturing	-0.248***	-0.0231	-0.205***	-0.0499	-0.143	0.238**
	(0.0777)	(0.0761)	(0.0637)	(0.0744)	(0.0967)	(0.112)
Construction	-0.283***	-0.221***	-0.331***	0.0578	-0.0598	0.391***
	(0.0797)	(0.0795)	(0.0621)	(0.0936)	(0.103)	(0.0853)
Services	-0.211***	-0.158***	-0.205***	-0.0182	0.0207	0.0852
	(0.0517)	(0.0496)	(0.0437)	(0.0514)	(0.0592)	(0.0575)

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65. Control variables are age, age square, education dummies, marital status, and region dummies.

Table 5b: Female Employment in the Primary Migration - Placebo Tests

Sample	Probit Coefficients on treatment*post					
	(1) Baseline	(2) Baseline-2011	(3) Baseline-ALL	(4) Placebo-West	(5) Placebo-Mid	(6) Placebo-East
All females	-0.368***	-0.263***	-0.365***	0.0682	-0.187***	0.0598
	(0.0557)	(0.0544)	(0.0498)	(0.0433)	(0.0502)	(0.0555)
Education sub-groups						
Elementary or less (<6 years)	-0.512***	-0.373***	-0.460***	-0.0270	-0.203**	0.000951
	(0.0989)	(0.0918)	(0.0873)	(0.0765)	(0.0843)	(0.106)
Middle school (8 years)	-0.332**	-0.329**	-0.298**	0.120	-0.248*	-0.0897
	(0.142)	(0.144)	(0.125)	(0.115)	(0.137)	(0.155)
High school (11 years)	-0.180	-0.104	-0.231**	0.222**	-0.0318	0.166
	(0.123)	(0.117)	(0.113)	(0.0900)	(0.109)	(0.119)
College & above (>11 years)	-0.367***	-0.316***	-0.350***	-0.0917	-0.250**	0.0883
	(0.109)	(0.114)	(0.0993)	(0.0842)	(0.105)	(0.109)
Age sub-groups						
15-25 y.o.	-0.472***	-0.360***	-0.391***	-0.0819	-0.179*	-0.0113
	(0.102)	(0.0963)	(0.0884)	(0.0845)	(0.0968)	(0.102)
26-40 y.o.	-0.330***	-0.279***	-0.349***	0.0807	-0.188**	0.0452
	(0.0800)	(0.0817)	(0.0718)	(0.0628)	(0.0737)	(0.0823)
41-55 y.o.	-0.407***	-0.0943	-0.434***	0.193**	-0.135	0.167
	(0.142)	(0.124)	(0.129)	(0.0916)	(0.108)	(0.131)
55-65 y.o.	-0.544	-0.328	-0.227	-0.119	-0.898**	-0.574
	(0.473)	(0.431)	(0.417)	(0.317)	(0.427)	(0.451)
Industry sub-groups						
Agriculture	-0.737***	-0.528***	-0.590***	-0.322**	-0.282	0.213
	(0.174)	(0.158)	(0.139)	(0.162)	(0.175)	(0.183)
Manufacturing	-0.440**	-0.232	-0.441***	0.0327	-0.470***	0.524**
	(0.181)	(0.172)	(0.163)	(0.104)	(0.158)	(0.235)
Construction	-0.225	0.458	-0.462	-0.453	-0.331	0.424
	(0.688)	(0.495)	(0.640)	(0.374)	(0.532)	(0.576)
Services	-0.200***	-0.187**	-0.206***	0.108*	-0.153**	0.00188
	(0.0775)	(0.0771)	(0.0708)	(0.0598)	(0.0724)	(0.0828)

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65. Control variables are age, age square, education dummies, marital status, and region dummies.

.

Table 6a: Male Wages in the Primary Migration - Placebo Tests

Sample	Coefficients on treatment*post					
	(1) Baseline	(2) Baseline-2011	(3) Baseline-ALL	(4) Placebo-West	(5) Placebo-Mid	(6) Placebo-East
All males	-0.0789***	-0.0764***	-0.0533***	-0.0166	-0.022	0.00712
	(0.0113)	(0.0114)	(0.00969)	(0.0103)	(0.013)	(0.0137)
Education sub-groups						
Elementary&less (<6 years)	-0.102***	-0.0991***	-0.0714***	-0.0192	-0.044**	-0.0207
	(0.0166)	(0.0165)	(0.0143)	(0.0156)	(0.022)	(0.0209)
Middle school (8 years)	-0.120***	-0.122***	-0.0854***	-0.0128	-0.008	0.0309
	(0.0209)	(0.0210)	(0.0180)	(0.0196)	(0.024)	(0.0259)
High school (11 years)	-0.0360	-0.0293	-0.000165	-0.0634***	-0.008	-0.00931
	(0.0227)	(0.0222)	(0.0201)	(0.0178)	(0.024)	(0.0249)
College&above (>11 years)	0.0423	0.0614	0.0364	0.0611*	-0.079	0.0923**
	(0.0457)	(0.0477)	(0.0411)	(0.0361)	(0.050)	(0.0465)
Age sub-groups						
15-25 y.o.	-0.141***	-0.110***	-0.0914***	-0.0301	0.002	0.0265
	(0.0223)	(0.0224)	(0.0182)	(0.0218)	(0.027)	(0.0278)
26-40 y.o.	-0.0648***	-0.0719***	-0.0372***	-0.0215	-0.038**	-0.00659
	(0.0157)	(0.0156)	(0.0135)	(0.0142)	(0.018)	(0.0188)
41-55 y.o.	-0.0449*	-0.0417*	-0.0362*	0.00109	-0.027	-0.00618
	(0.0243)	(0.0240)	(0.0216)	(0.0203)	(0.029)	(0.0275)
55-65 y.o.	-0.0362	-0.157	0.00657	-0.0323	-0.087	0.0427
	(0.0850)	(0.0968)	(0.0749)	(0.0741)	(0.107)	(0.0994)
Industry sub-groups						
Agriculture	-0.290***	-0.337***	-0.263***	-0.0842	0.179**	0.0656
	(0.0610)	(0.0630)	(0.0462)	(0.0688)	(0.083)	(0.0864)
Manufacturing	-0.0410**	-0.0212	-0.0121	-0.0415***	-0.010	0.0155
	(0.0180)	(0.0186)	(0.0152)	(0.0157)	(0.024)	(0.0284)
Construction	-0.153***	-0.133***	-0.106***	0.00439	-0.023	-0.0257
	(0.0316)	(0.0313)	(0.0248)	(0.0347)	(0.038)	(0.0336)
Services	-0.0457***	-0.0521***	-0.0309**	0.00318	-0.035**	0.0302*
	(0.0169)	(0.0165)	(0.0148)	(0.0155)	(0.017)	(0.0175)
Firm size sub-groups						
Small (<10 employee)	-0.142***	-0.119***	-0.102***	-0.0231	-0.045**	-0.0104
	(0.0175)	(0.0174)	(0.0147)	(0.0175)	(0.020)	(0.0198)
Medium (11-50)	-0.0264	-0.0224	-0.0196	0.0189	-0.002	0.0379
	(0.0205)	(0.0209)	(0.0180)	(0.0200)	(0.022)	(0.0235)
Large (>50)	0.0122	-0.00816	0.0273	-0.00924	-0.007	0.00583
	(0.0202)	(0.0199)	(0.0175)	(0.0161)	(0.025)	(0.0295)

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. The control variables are age, age square, tenure, tenure square, marital status, education dummies, full time, temporary job, social security, economic activity, and region dummies.

Table 6b: Female Wages in the Primary Migration - Placebo Tests

Sample	Coefficients on treatment*post					
	(1) Baseline	(2) Baseline-2011	(3) Baseline-ALL	(4) Placebo-West	(5) Placebo-Mid	(6) Placebo-East
All females	-0.00407	0.0388	-0.0116	0.00720	0.019	0.0679***
	(0.0269)	(0.0260)	(0.0254)	(0.0166)	(0.023)	(0.0237)
Education sub-groups						
Elementary&less (<6 years)	-0.127***	-0.0121	-0.112***	-0.0332	-0.001	0.0377
	(0.0428)	(0.0391)	(0.0405)	(0.0259)	(0.035)	(0.0455)
Middle school (8 years)	-0.0640	0.0458	-0.0679	-0.0411	-0.000	0.0520
	(0.0589)	(0.0634)	(0.0563)	(0.0377)	(0.052)	(0.0540)
High school (11 years)	0.0552	0.0717	0.0413	0.00851	0.018	0.0715*
	(0.0405)	(0.0448)	(0.0380)	(0.0265)	(0.039)	(0.0376)
College&above (>11 years)	0.157**	0.0672	0.125**	0.0391	0.059	0.0827*
	(0.0661)	(0.0616)	(0.0633)	(0.0414)	(0.064)	(0.0485)
Age sub-groups						
15-25 y.o.	-0.0771*	0.0321	-0.0572	-0.0290	0.004	0.0262
	(0.0434)	(0.0406)	(0.0404)	(0.0299)	(0.041)	(0.0396)
26-40 y.o.	0.0796**	0.0610	0.0470	0.0407*	0.027	0.136***
	(0.0383)	(0.0383)	(0.0361)	(0.0239)	(0.033)	(0.0332)
41-55 y.o.	-0.0879	-0.0429	-0.0811	-0.0315	0.003	-0.0365
	(0.0624)	(0.0663)	(0.0579)	(0.0354)	(0.047)	(0.0602)
55-65 y.o.	0.0501	-0.580**	0.141	-0.0931	0.159	-0.00471
	(0.214)	(0.248)	(0.177)	(0.182)	(0.213)	(0.210)
Industry sub-groups						
Agriculture	-0.410***	-0.165**	-0.380***	0.0205	-0.067	1.255***
	(0.0945)	(0.0711)	(0.0820)	(0.0984)	(0.124)	(0.216)
Manufacturing	0.117**	0.176***	0.108**	-0.0103	0.086**	0.158***
	(0.0506)	(0.0586)	(0.0477)	(0.0266)	(0.039)	(0.0526)
Construction	0.308**	0.0462	0.325***	0.0371	0.127	0.465**
	(0.146)	(0.137)	(0.113)	(0.143)	(0.215)	(0.214)
Services	0.0341	0.0567*	0.0282	0.0178	-0.002	0.0411
	(0.0312)	(0.0327)	(0.0291)	(0.0223)	(0.028)	(0.0266)
Firm size sub-groups						
Small (<10 employee)	-0.0708	0.0442	-0.0754*	-0.0244	0.016	0.0518
	(0.0438)	(0.0402)	(0.0407)	(0.0302)	(0.037)	(0.0392)
Medium (11-50)	-0.00142	0.0576	0.00643	0.0308	-0.052	0.0931**
	(0.0427)	(0.0416)	(0.0411)	(0.0300)	(0.039)	(0.0362)
Large (>50)	0.139***	-0.0216	0.113**	0.0427	0.087**	0.0749
	(0.0467)	(0.0566)	(0.0450)	(0.0260)	(0.038)	(0.0483)

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. The control variables are age, age square, tenure, tenure square, marital status, education dummies, full time, temporary job, social security, economic activity, and region dummies.

Table 7a: Male Employment Probit Estimation Results in the Secondary Migration

Sample	N	Coefficients on the treatment*post variable for various specifications (1) Probit	(2) Probit	(3) IV 1	(4) IV 1	(5) IV 2	(6) IV 2
All males	224,572	-0.0104	-0.0116	0.00937	0.00788	0.000912	1.87e-05
		(0.0121)	(0.0123)	(0.00927)	(0.00944)	(0.0122)	(0.0123)
Education sub-groups							
Elementary& less (<6 years)	87,665	-0.00196	-0.00233	0.0144	0.0134	0.00545	0.00537
		(0.0120)	(0.0117)	(0.0102)	(0.0101)	(0.0137)	(0.0132)
Middle school (8 years)	224,572	-0.0207**	-0.0207**	-0.00624	-0.00624	-0.0155	-0.0155
		(0.00940)	(0.00940)	(0.00952)	(0.00952)	(0.0111)	(0.0111)
High school (11 years)	50,311	-0.0114	-0.0114	0.0170	0.0169	0.00755	0.00730
		(0.0203)	(0.0202)	(0.0147)	(0.0145)	(0.0186)	(0.0186)
College&above (>11 years)	39,560	-0.0238	-0.0238	0.0101	0.0101	0.000834	0.000834
		(0.0184)	(0.0184)	(0.0105)	(0.0105)	(0.0100)	(0.0100)
Age, age square, marital status, region dummies		Yes	Yes	Yes	Yes	Yes	Yes
Education dummies		.	Yes	.	Yes	.	Yes

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65.

Table 7b: Female Employment Probit Estimation Results in the Secondary Migration

Sample	N	Coefficients on the treatment*post variable for various specifications (1) Probit	(2) Probit	(3) IV 1	(4) IV 1	(5) IV 2	(6) IV 2
All females	106,656	-0.0121	-0.0120	0.00833	0.0105	-0.000103	0.000685
		(0.0139)	(0.0144)	(0.00954)	(0.00957)	(0.0107)	(0.0108)
Education sub-groups							
Elementary&less (<6 years)	51,487	0.000343	-5.68e-05	0.0201*	0.0202*	0.0138	0.0131
		(0.0176)	(0.0176)	(0.0111)	(0.0110)	(0.0144)	(0.0145)
Middle school (8 years)	13,389	0.00116	0.00116	0.0246**	0.0246**	0.00998	0.00998
		(0.0147)	(0.0147)	(0.0110)	(0.0110)	(0.0141)	(0.0141)
High school (11 years)	16,929	-0.0267	-0.0265	-0.00278	-0.00310	-0.0265	-0.0266
		(0.0164)	(0.0162)	(0.0110)	(0.0111)	(0.0184)	(0.0183)
College&above (>11 years)	24,851	-0.0180	-0.0180	0.00653	0.00653	0.00914	0.00914
		(0.0156)	(0.0156)	(0.0132)	(0.0132)	(0.00906)	(0.00906)
Age, age square, marital status, region dummies		Yes	Yes	Yes	Yes	Yes	Yes
Education dummies		.	Yes	.	Yes	.	Yes

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. The sample covers individuals who are in the labor force and between the ages of 15 and 65.

Table 8a: Male Log Hourly Wage Estimation Results in the Secondary Migration

Sample	N	Coeefficients on the treatment*post variable					
		(1) OLS	(2) OLS	(3) IV 1	(4) IV 1	(5) IV 2	(6) IV 2
All males	97,697	-0.0105**	-0.0109**	-0.00266	-0.00462	-0.0129*	-0.0142**
		(0.00518)	(0.00472)	(0.00313)	(0.00317)	(0.00694)	(0.00637)
Education sub-groups							
Elementary&less (<6 years)	34,603	-0.00863**	-0.00854*	-0.00349	-0.00590*	-0.0119**	-0.0141***
		(0.00412)	(0.00425)	(0.00296)	(0.00302)	(0.00484)	(0.00429)
Middle school (8 years)	23,824	-0.0152**	-0.0152**	-0.00353	-0.00529	-0.0195**	-0.0201**
		(0.00617)	(0.00612)	(0.00454)	(0.00460)	(0.00910)	(0.00886)
High school (11 years)	26,240	-0.0122*	-0.0131**	-0.00541	-0.00761	-0.00966	-0.0125*
		(0.00685)	(0.00605)	(0.00613)	(0.00582)	(0.00737)	(0.00722)
College&above (>11 years)	13,030	-0.0111	-0.0132	0.00454	0.000722	-0.00840	-0.0113
		(0.0100)	(0.00854)	(0.00613)	(0.00543)	(0.0111)	(0.00963)
Age sub-groups							
15-25 y.o.	21,004	-0.0162**	-0.0166**	-0.00432	-0.00583	-0.0205***	-0.0216***
		(0.00656)	(0.00665)	(0.00615)	(0.00632)	(0.00780)	(0.00764)
26-40 y.o.	48,547	-0.00598	-0.00762*	-0.000261	-0.00306	-0.00841	-0.0108*
		(0.00494)	(0.00444)	(0.00374)	(0.00370)	(0.00683)	(0.00633)
41-55 y.o.	25,126	-0.0151**	-0.0133**	-0.00524	-0.00598**	-0.0132*	-0.0129**
		(0.00650)	(0.00504)	(0.00344)	(0.00285)	(0.00686)	(0.00561)
55-65 y.o.	3,020	-0.000463	-0.00195	0.000571	-0.00244	-0.00843	-0.0153*
		(0.00575)	(0.00582)	(0.00475)	(0.00507)	(0.00682)	(0.00791)
Industry sub-groups							
Agriculture	2,692	0.00986**	0.00852*	0.0146***	0.0130**	0.00407	0.00165
		(0.00431)	(0.00494)	(0.00504)	(0.00551)	(0.00515)	(0.00584)
Manufacturing	33,361	-0.0230***	-0.0240***	-0.0173**	-0.0178**	-0.0225**	-0.0233**
		(0.00763)	(0.00767)	(0.00734)	(0.00726)	(0.00908)	(0.00907)
Construction	12,729	0.00381	0.00278	0.0193***	0.0174**	0.00877*	0.00687
		(0.00560)	(0.00542)	(0.00672)	(0.00814)	(0.00472)	(0.00474)
Services	48,915	-0.0106**	-0.0115**	-0.00513	-0.00728**	-0.0177***	-0.0186***
		(0.00499)	(0.00473)	(0.00319)	(0.00315)	(0.00680)	(0.00634)
Firm size sub-groups							
Small (<10 employee)	39,476	-0.0120***	-0.0129**	-0.00431	-0.00596	-0.0158***	-0.0171***
		(0.00438)	(0.00483)	(0.00444)	(0.00440)	(0.00508)	(0.00526)
Medium (11-50)	27,487	-0.0156**	-0.0157**	-0.00674	-0.00707	-0.0150	-0.0155*
		(0.00744)	(0.00689)	(0.00553)	(0.00516)	(0.00955)	(0.00912)
Large (>50)	30,734	-0.00718*	-0.00688**	-0.00460	-0.00372	-0.0131*	-0.0117*
		(0.00363)	(0.00328)	(0.00295)	(0.00277)	(0.00677)	(0.00643)
Individual characteristics		Yes	Yes	Yes	Yes	Yes	Yes
Job characteristics		.	Yes	.	Yes	.	Yes

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Individual characteristics are age, age square, tenure, tenure square, marital status, education dummies, and region dummies. Job characteristics are full time, temporary job, social security, economic activity.

Table 8b: Female Log Hourly Wage Estimation Results in the Secondary Migration

Sample	N	Coeefficients on the treatment*post (1) OLS	(2) OLS	(3) IV 1	(4) IV 1	(5) IV 2	(6) IV 2
All females	32,434	-0.00911*	-0.00901**	-0.00308	-0.00378	-0.00641	-0.00842**
		(0.00491)	(0.00367)	(0.00344)	(0.00236)	(0.00482)	(0.00424)
Education sub-groups							
Elementary&less (<6 years)	10,371	-0.00603	-0.00915	0.00704	0.00613	0.00639	0.000970
		(0.00815)	(0.00800)	(0.00502)	(0.00404)	(0.00505)	(0.00565)
Middle school (8 years)	5,089	-0.0226***	-0.0266***	-0.0120**	-0.0164***	-0.0157***	-0.0212***
		(0.00679)	(0.00714)	(0.00609)	(0.00497)	(0.00483)	(0.00546)
High school (11 years)	8,614	-0.0226**	-0.0233***	-0.0197**	-0.0207***	-0.0238**	-0.0275***
		(0.00912)	(0.00644)	(0.00818)	(0.00488)	(0.0102)	(0.00755)
College&above (>11 years)	8,360	0.00401	0.00655	-0.00359	-0.000746	-0.00382	-0.00369
		(0.00521)	(0.00579)	(0.00610)	(0.00542)	(0.00420)	(0.00436)
Age sub-groups							
15-25 y.o.	8,669	-0.0169***	-0.0178***	-0.0130***	-0.0132***	-0.0192***	-0.0194***
		(0.00312)	(0.00321)	(0.00271)	(0.00266)	(0.00432)	(0.00432)
26-40 y.o.	15,974	-0.00644	-0.00787***	-0.00285	-0.00514*	-0.00385	-0.00844***
		(0.00456)	(0.00271)	(0.00433)	(0.00307)	(0.00401)	(0.00297)
41-55 y.o.	7,283	-0.00953	-0.00890	0.00374	0.00308	0.00138	-0.00215
		(0.0126)	(0.0104)	(0.00977)	(0.00769)	(0.00986)	(0.00928)
55-65 y.o.	508	0.0354**	0.0429***	0.0476***	0.0572***	0.0293	0.0335*
		(0.0160)	(0.0153)	(0.0157)	(0.0161)	(0.0192)	(0.0176)
Industry sub-groups							
Agriculture	1,236	-0.00522	-0.00644	0.0143	0.0121	0.0148*	0.00660
		(0.0175)	(0.0159)	(0.0108)	(0.00953)	(0.00875)	(0.00941)
Manufacturing	9,183	-0.0194**	-0.0201***	-0.0151**	-0.0164**	-0.0152**	-0.0162***
		(0.00827)	(0.00692)	(0.00718)	(0.00710)	(0.00687)	(0.00627)
Construction	575	0.0766***	0.0720***	0.0773***	0.0665***	0.0656***	0.0610***
		(0.0114)	(0.0106)	(0.0107)	(0.0101)	(0.0119)	(0.0123)
Services	21,440	-0.0103***	-0.00838***	-0.00909***	-0.00779***	-0.0114***	-0.0121***
		(0.00320)	(0.00173)	(0.00281)	(0.00145)	(0.00432)	(0.00286)
Firm size sub-groups							
Small (<10 employee)	12,167	-0.00806	-0.00970*	2.79e-05	-0.000630	-0.00213	-0.00514
		(0.00668)	(0.00575)	(0.00346)	(0.00313)	(0.00427)	(0.00455)
Medium (11-50)	9,709	-0.0186**	-0.0182***	-0.0103	-0.00846	-0.0114	-0.0112*
		(0.00804)	(0.00676)	(0.00647)	(0.00538)	(0.00713)	(0.00666)
Large (>50)	10,558	-0.0107**	-0.0104**	-0.00801	-0.00759	-0.0215***	-0.0205***
		(0.00467)	(0.00490)	(0.00752)	(0.00676)	(0.00639)	(0.00619)
Individual characteristics		Yes	Yes	Yes	Yes	Yes	Yes
Job characteristics		.	Yes	.	Yes	.	Yes

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Individual characteristics are age, age square, tenure, tenure square, marital status, education dummies, and region dummies. Job characteristics are full time, temporary job, social security, economic activity.

Table 9a: Male Wages in the Secondary Migration - Robustness and Falsification Tests

Sample	Coefficients on the treatment*post variable			
	(1) Baseline 2012-2015	(2) Formal 2012-2015	(3) 2011-2015	(4) 2009-2011
All males	-0.0142**	-0.0153**	-0.0121**	0.00913***
	(0.00637)	(0.00726)	(0.00609)	(0.00254)
Education sub-groups				
Elementary or less (<6 years)	-0.0141***	-0.0159***	-0.00835*	0.00850**
	(0.00429)	(0.00440)	(0.00433)	(0.00351)
Middle school (8 years)	-0.0201**	-0.0197*	-0.0106	0.00831**
	(0.00886)	(0.0111)	(0.00991)	(0.00354)
High school (11 years)	-0.0125*	-0.0167**	-0.0209***	0.00923***
	(0.00722)	(0.00767)	(0.00703)	(0.00221)
College & above (>11 years)	-0.0113	-0.00964	-0.0109	0.00966
	(0.00963)	(0.00920)	(0.00680)	(0.00600)
Age sub-groups				
15-25 y.o.	-0.0216***	-0.0222**	-0.0183**	0.0160***
	(0.00764)	(0.00878)	(0.00786)	(0.00470)
26-40 y.o.	-0.0108*	-0.0138*	-0.00938	0.00466**
	(0.00633)	(0.00717)	(0.00668)	(0.00221)
41-55 y.o.	-0.0129**	-0.0137**	-0.0110**	0.00981***
	(0.00561)	(0.00553)	(0.00434)	(0.00227)
55-65 y.o.	-0.0153*	0.00509	5.36e-06	0.0116
	(0.00791)	(0.0121)	(0.00804)	(0.00851)
Industry sub-groups				
Agriculture	0.00165	0.00578	0.0145***	0.0157***
	(0.00584)	(0.00931)	(0.00489)	(0.00468)
Manufacturing	-0.0233**	-0.0259***	-0.0218***	0.00528***
	(0.00907)	(0.00897)	(0.00838)	(0.00199)
Construction	0.00687	-0.000140	0.00818	0.00735
	(0.00474)	(0.00506)	(0.00498)	(0.00469)
Services	-0.0186***	-0.0144**	-0.0187***	0.0139***
	(0.00634)	(0.00715)	(0.00627)	(0.00224)
Firm size sub-groups				
Small (<10 employee)	-0.0171***	-0.0190***	-0.0138**	0.0136***
	(0.00526)	(0.00622)	(0.00637)	(0.00303)
Medium (11-50)	-0.0155*	-0.0151*	-0.00984	0.00434
	(0.00912)	(0.00884)	(0.00902)	(0.00307)
Large (>50)	-0.0117*	-0.0127*	-0.0157***	0.0113***
	(0.00643)	(0.00719)	(0.00424)	(0.00303)

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Control variables are age, age square, tenure, tenure square, marital status, education dummies, region dummies, full time, temporary job, social security, economic activity.

Table 9b: Female Wages in the Secondary Migration - Robustness and Falsification Tests

	Coefficients on the treatment*post variable			
Sample	**(1) Baseline 2012-2015**	**(2) Formal 2012-2015**	**(3) 2011-2015**	**(4) 2009-2011**
All females	-0.00842**	-0.0127***	-0.0108	0.00356
	(0.00424)	(0.00429)	(0.00688)	(0.00297)
Education sub-groups				
Elementary or less (<6 years)	0.000970	-0.00899	-0.00413	0.00288
	(0.00565)	(0.00644)	(0.00813)	(0.00444)
Middle school (8 years)	-0.0212***	-0.0183**	-0.00925	-0.00209
	(0.00546)	(0.00845)	(0.00821)	(0.00745)
High school (11 years)	-0.0275***	-0.0270***	-0.0282**	0.0107**
	(0.00755)	(0.00936)	(0.0113)	(0.00509)
College & above (>11 years)	-0.00369	-0.00402	-0.00704	-0.000430
	(0.00436)	(0.00498)	(0.00492)	(0.00582)
Age sub-groups				
15-25 y.o.	-0.0194***	-0.00956***	-0.0213***	0.0117**
	(0.00432)	(0.00368)	(0.00524)	(0.00522)
26-40 y.o.	-0.00844***	-0.0115***	-0.00986	0.00362
	(0.00297)	(0.00383)	(0.00745)	(0.00440)
41-55 y.o.	-0.00215	-0.0367***	-0.00396	-0.0104**
	(0.00928)	(0.0114)	(0.0116)	(0.00434)
55-65 y.o.	0.0335*	0.0724*	-0.0203	0.0490***
	(0.0176)	(0.0391)	(0.0124)	(0.0167)
Industry sub-groups				
Agriculture	0.00660	-0.0422	0.0227***	-0.00318
	(0.00941)	(0.0569)	(0.00777)	(0.00755)
Manufacturing	-0.0162***	-0.0218***	-0.0255***	-0.00439
	(0.00627)	(0.00782)	(0.00870)	(0.00633)
Construction	0.0610***	0.0786***	0.0712***	-0.0167
	(0.0123)	(0.0134)	(0.0210)	(0.0286)
Services	-0.0121***	-0.0145***	-0.0147***	0.00529*
	(0.00286)	(0.00318)	(0.00549)	(0.00316)
Firm size sub-groups				
Small (<10 employee)	-0.00514	-0.0107	-0.0106	0.00219
	(0.00455)	(0.00793)	(0.00804)	(0.00305)
Medium (11-50)	-0.0112*	-0.0123**	-0.00450	0.0125***
	(0.00666)	(0.00543)	(0.00841)	(0.00347)
Large (>50)	-0.0205***	-0.0200***	-0.0202***	-0.0102*
	(0.00619)	(0.00641)	(0.00684)	(0.00577)

Note: Clustered (year, region) standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1, The sample covers the individuals who are in the labor force and between the ages of 15 and 65. Public workers, whose wages are determined at national level, and the workers who are paid too low or too high are excluded from the sample. Control variables are age, age square, tenure, tenure square, marital status, education dummies, region dummies, full time, temporary job, social security, economic activity.

References

Akgündüz, Yusuf Emre, Marcel van den Berg and Wolter Hassink (2015), "The Impact of Refugee Crises on Host Labor Markets: The Case of the Syrian Refugee Crisis in Turkey", *IZA Discussion Paper No:8841*.

BBC Middle East, "Timeline: How the Syrian Conflict has Spread" < http://www.bbc.com/news/world-middle-east-28850956> (12/05/2014)

Borjas, George J. (2013), "The Analytics of the Wage Effect of Immigration", *IZA Journal of Migration*.

Borjas, George J. (2003), "The Labor Demand Curve is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market", *The Quarterly Journal of Economics,* 118(4), 1335-1374.

Borjas, George J., Richard B. Freeman and Lawrence F. Katz (1992), "On the Labor Market Effects of Immigration and Trade." In Immigration and the Work Force: Economic Consequences for the United States and Source Areas, edited by Borjas, G. J. and Freeman, R. B., University of Chicago Press.

Card, David (1990), "The Impact of the Mariel Boatlift on the Miami Labor Market", *Industrial & Labor Relations Review*, 43(2), 245.

Card, David (2001), "Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration", *Journal of Labor Economics,* 19(1), 22-64.

Card, David (2009), Richard, T. Ely, Lecture: "Immigration and Inequality", American Economic Review: Papers & Proceedings.

Center for Middle Eastern Strategic Studies (2014). "The Situation of Syrian Refugees in the Neighboring Countries: Findings, Conclusions and Recommendations" Report No: 189

Ceritoglu, Evren, Burcu Gürcihan Yüncüler, Huzeyfe Torun and Semih Tumen (2015), "The Impact of Syrian Refugees on Natives' Labor Market Outcomes in Turkey: Evidence from a Quasi-Experimental Design", *IZA Discussion Paper No:9348.*

Cohen-Goldner, Sarit and M. Daniele Paserman (2011), "The Dynamic Impact of Immigration on Natives' Labor Market Outcomes: Evidence from Israel", *European Economic Review*, 55(8), 1027-1045.

Del Carpio, Ximena V. and Mathis C. Wagner (2015). The impact of Syrians refugees on the Turkish labor market. Policy Research working paper; no. WPS 7402. Washington, D.C. : World Bank Group.

Dustmann, Christian, Albrecht Glitz, and Tommaso Frattini (2008), "The Labour Market Impact of Immigration", *CReAM Discussion Paper Series 0811*, Centre for Research and Analysis of Migration (CReAM). Department of Economics, University College London.

Lewis, Ethan (2012), “Immigration and Production Technology”, NBER Working Paper No. 18310.

McLaren, John (2013), “International Trade; Economic Analysis of Globalization and Policy”, *Reference and Research Book News*, 28(3).

Ottaviano, Gianmarco and Giovanni Peri (2008), “Immigration and National Wages: Clarifying the Theory and the Empirics .” National Bureau of Economic Research Working Papers # 14188, Cambridge, MA.

Ottaviano, Gianmarco and Giovanni Peri (2012), “Rethinking the Effect of Immigration on Wages”, *Journal of European Economic Association,* 10(1), 152-197.

Oytun Orhan and Sabiha Senyucel Gundogar (2015), “Effects of the Syrian Refugees on Turkey”, *ORSAM Report No: 195*.

Republic of Turkey Prime Ministry Disaster and Emergency Management Presidency (2013), “Syrian Refugees in Turkey, 2013 Field Survey Results”.

The World Bank (2011), “Migration and Remittances”, *Factbook 2011.*

United Nations, Department of Economic and Social Affairs Population Division (2013), “International Migration Report 2013”.

UNOCHA, “Syrian Crises Situation Overview”, Retrieved from <http://syria.unocha.org/>, (1/15/2016).

Williams, Richard (2012), “Using the Margins Command to Estimate and Interpret Adjusted Predictions and Marginal Effects”, *The Stata Journal,* 12(2), 308-331.