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THE IMPACT OF REFUGEES ON EMPLOYMENT AND WAGES IN JORDAN

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Abstract

Starting in 2011, the Syrian conflict caused a large influx of refugees into Jordan. As of 2015, there were an estimated 1.3 million Syrians in a country with just 6.6 million Jordanians. The refugees are largely living and, in some cases, working in Jordanian host communities. This paper investigates the impact of the refugee influx on the Jordanian labor market. Panel data from 2010 and 2016 combined with information on where the refugee influx was concentrated allow us to identify the impact of refugees on Jordanians' labor market outcomes. Overall, we find that Jordanians living in areas with additional refugees have had no worse labor market outcomes than Jordanians with less exposure to the refugee influx.

JEL Classifications: J21, J31, F22, O15

Keywords: Refugees; Labor Markets; Wages; Employment; Unemployment; Jordan.

ملخص

بدءاً من عام 2011، تسـبب النزاع السـوري في تدفق أعداد كبيرة من اللاجئين إلى الأردن. واعتبارا من عام 2015، كان هناك ما يقدر بنحو 1.3 مليون سـوري في بلد يبلغ عدد سـكانه 6.6 مليون أردني فقط. يعيش اللاجئون إلى حد كبير، وفي بعض الحالات، على العمل في المجتمعات الأردنية المضـيفة. تبحث هذه الورقة تأثير تدفق اللاجئين على سـوق العمل الأردني. تسـمح لنا بيانات المسـح التتبعى لعامي 2010 و2016 بالإضـافة إلى معلومات عن الأماكن التي يتركز فيها تدفق اللاجئين بتحديد نتائج تأثيرهم على سـوق العمل في الأردن. وبشـكل عام، نجد أن الأردنيين الذين يعيشـون في مناطق مع لاجئين إضـافيين لم يواجهوا نتائج أسـوأ على سـوق العمل مقارنة بالأردنيين اللذين شهدت أسواق العمل لديهم تعرضا أقل لتدفق اللاجئين.

1. Introduction

The last few years have brought the highest levels of forced displacement globally. Over the two decades from 1997 to 2016, the number of displaced people has doubled from almost 34 million to 66 million (UNHCR 2017). The highest growth took place between 2012-2015, due primarily to the Syrian conflict. More than half of the Syrian population has been displaced internally or across borders. Over 5.5 million Syrians have fled Syria since 2011, many seeking safety in neighboring countries and beyond (UNHCR 2017). This humanitarian crisis has generated public sympathy as well as concern about the implications of such a massive flow of people.

Jordan has experienced a substantial influx of Syrians, with 1.3 million Syrians living in Jordan as of the 2015 Population Census (Department of Statistics (Jordan) 2015).[5] Compared to a total population of 6.6 million Jordanians in 2015 (Department of Statistics (Jordan) 2015), the refugee population represents a major increase in Jordan's population. The impact of such a massive influx of people on members of the host community, in particular on their labor market outcomes, is a subject of great importance and debate. This paper empirically investigates the impact of the Syrian refugee influx on labor market outcomes in Jordan.

There is a large literature on the impacts of immigration on the labor market. The majority of that literature focuses on voluntary and typically economic immigration, particularly in developed countries. Mayda (2017) looks at the U.S. labor market over the period 1980-2010 and does not find any significant long-term labor market impact of refugees. A few studies have used cases of refugee inflows as natural experiments to identify the impact of immigration. For example, one of the most studied cases is the effect of the 1980 Mariel boatlift from Cuba to Miami. Card's (1990) paper was one of the first to study the impact of this influx on natives' employment and wages and found no adverse effects. However, several papers, for example Clemens and Hunt (2017) and Peri and Yasenov (2017), since have revisited those findings and in some cases come to different conclusions (e.g. Borjas and Monras (2017)). Overall, the results from this literature suggest no or small negative impacts on natives.

Although the literature on the impact of immigration on natives' employment and wages has flourished over the last few years given the surge in academic and public interest, the literature on the impact of refugees on the labor market is small but growing. Unlike economic immigration, refugees are forced migrants who had to flee violence and conflict. Also, given the massive size of the refugee inflows, they are typically seen as an exogenous shift in the labour supply of the host country. One would expect that such a shock would reduce natives' employment and wages in the short run. However, as the literature has already shown, this framework might be a too simplistic. The characteristics and skill levels of the refugees matter. Whether refugees have the same or different skills as natives (i.e. whether they are substitutes or complements to natives) will affect their impact (see for example Borjas and Monras (2017), Clemens and Hunt (2017), Ottaviano and Peri (2012), or Peri and Sparber (2009).

Another important issue is the institutional context that governs the participation of the refugees in the labor market. Whether refugees are allowed to participate in the labor market legally, and if so in which sectors, plays an important role in whether and how refugees impact the labor market outcomes of natives. The potential for refugees (or agencies supporting refugees) to generate demand for goods and services—and thus labor demand—is another important reason a refugee

[5] As of March 2018, there were 659,000 Syrians in Jordan registered as refugees with the United Nations High Commissioner for Refugees (UNHCR) (UNHCR 2018). Not all Syrians within Jordan are necessarily registered as refugees. However, since the vast majority of Syrians in Jordan are either registered as refugees or fled Syria due to conflict or violence (Krafft et al. 2018), we refer to Syrians in Jordan synonymously as refugees (broadly defined).

shock may have complex effects on natives' outcomes (Alix-Garcia et al. 2018; Hong and McLaren 2015).

Although there is a small literature examining the impact of refugees on natives' employment and wages, the literature has predominately focused on developed countries host nations (e.g. Hunt (1992)). A few papers have examined the impact of refugees on labor markets in host countries from the developing world. Maystadt and Verwimp (2014) found Rwandan and Burundian refugee inflows had a slightly negative impact on the employment outcomes of Tanzanian agricultural workers, while Ruiz and Vargas-Silva (2016) showed that native Tanzanians adjusted to the refugee flows by changing economic activities in the long run. Alix-Garcia et al. (2018) show that natives living near refugee camps benefit from new employment opportunities and favorable price changes. However, these studies examine the long-term effects (decades after the inflow) as opposed to our focus here, which is on short-term effects. There may be a period of substantial adjustment in the labor market in the wake of a refugee influx.

For the case of Syrian refugees, there is a very recent literature looking at the impact of Syrian refugees in Turkey. Tumen (2016) examined the impact of Syrian refugee inflows in Turkey and found small but statistically significant informal employment losses among natives in Turkey. He focused on the first two years of the refugee inflows, an era in which both the decision to migrate and the location choice within Turkey can be assumed to be mostly exogenous to the preferences of Syrian refugees. Bagir (2017) analyzes the initial (primary) migration to Turkey's borders, and (secondary) migration from the borders to the inner region of Turkey separately. Therefore, he employs different estimation methods to deal with the exogenous characteristics of the primary migration and endogenous characteristics of the secondary migration. He finds statistically significant negative employment and wage effects on low-skilled and less experienced Turkish natives in the primary migration. The secondary migration did not show a statistically significant negative employment effect, however, it did generate significantly lower wages, particularly for low-skilled and less experienced informal Turkish workers. Ceritoglu et al. (2017) also found negative impacts of Syrian refugee inflows on Turkish natives' labor market outcomes: increasing unemployment and reducing labor force participation, informal employment and job finding rates among natives. Similarly, Del Carpio and Wagner (2015) found large-scale displacement of natives by refugees in the informal sector in Turkey.

In contrast, Cengiz and Tekguc (2017) argue that the debate on the effect of migrants on local labor markets has mostly focused on their labor supply effects. The focus on the labor supply ignores that immigrants might bring capital and purchasing power to local economies and shift labor demand. Estimating a difference-in-difference model for Turkey, Cengiz and Tekguc (2017) as well as Akgündüz, van den Berg, and Hasink (2015) found no sizable negative impact of migrants on the native workforce. While the methods were similar to Ceritoglu et al. (2017), their results did not show that informal employment declines after 2012. In replicating the Ceritoglu et al. (2017) study, Cengiz and Tekguc (2017) revealed two main factors behind the discrepancy in the results: (1) control regions almost entirely explain the difference in the estimated effect and (2) failure to correct standard errors for serial correlation. In addition to looking at employment effects, Cengiz and Tekguc (2017) look at wage effects. They find that there is a sharp decline in wages in the early years of the refugee influx for low-skilled, predominantly informal workers, yet it appears their wages quickly recovered. Finally, looking at residential construction and the establishment of new companies, findings confirm that migrants cause a positive demand shock that partially or totally offsets the labor supply shock.

However, in the context of Turkey, Turkish language and culture represent a hurdle for Syrian refugees, an issue we do not have in our case study of Jordan. Little literature exists in the case of refugee impacts on Jordan. All the evidence to date is effectively descriptive, looking at patterns of employment over time (Cookle 2017; Fakih and Ibrahim 2015; Stave and Hillesund 2015). The Jordanian case is particularly interesting for several reasons. Up to 2016, Syrians were not allowed to work officially (Razzaz 2017). Hence, similar to the case in Turkey, if they did work they would be employed in the informal sector. Since 2016, Syrian refugees were allowed work permits in certain sectors, such as agriculture, construction, food, and manufacturing (Razzaz 2017). These sectors disproportionately employed migrant labor (and relatively few Jordanians) even prior to the conflict. Although there is a cap of 200,000 on the number of permits offered, fewer than 70,000 had been taken up by October 2017 (Ministry of Labour Syrian Refugee Unit 2017).

Economic theory would suggest that a large influx of refugees would yield a labor supply shock in Jordan. First, refugees would displace natives (particularly initially in the informal sector), and this should lower employment and wages in the informal sector. Secondly, this might lead to complex effects on formal employment and wages depending on the complementarity between the two sectors and access of refugees, once they have work permits. A caveat to this theoretical prediction is that the deal with the European Union that led to Jordan offering work permits also included additional aid and trade concessions (European Commission 2016). These aspects of the deal could generate additional labor demand among Jordanians, as could the general effort to provide aid to refugees, as additional Jordanians work to provide services for refugees. The net effect of these labor supply and demand effects is, theoretically, ambiguous.

Therefore, in this paper we empirically examine the impact of Syrian refugee inflows on the native Jordanians' labor market outcomes. We make use of rich panel data where we are able to capture the labor market characteristics of nationally representative population before (2010) and after (2016) the Syrian influx. We study both the intensive and extensive margins of work as well as employment characteristics. Specifically, we examine employment, unemployment, hours of work, and wages, as well as sector, formality, economic activity, and occupation of employment. In additional models, we split our results along dimensions that may shape labor substitutability, such as sex, age, and education level. We rely on the variation in the share of Syrians by locality to identify the impact of exposure to refugees on the various labor market outcomes. We additionally, in various models, control for individual fixed effects as well as geographical fixed effects, and further test the robustness of our findings to potentially endogenous refugee location by instrumenting with distance to Jordan's largest refugee camp.

The main contribution of this paper is providing empirical evidence on the short-term effects of large inflows of refugees on the native labor market. The paper additionally sheds light on the effects of allowing—at least in a limited way—refugees to work legally and formally and how complementing legal work opportunities for refugees with aid and trade opportunities may yield offsetting effects for natives' labor market outcomes. Indeed, that is what our results suggest has occurred in Jordan; there have not been (net) negative effects on employment outcomes, but there have been slight shifts in the type of work Jordanians undertake. This finding has important implications for other countries hosting refugees and considering whether to allow refugees to (legally) participate in the labor market.

The remainder of the paper is organized as follows. Section 2 describes the data used in the analysis. Section 3 introduces the empirical methodology. Section 4 presents the main results followed by the robustness checks in section 5. Section 6 concludes.

2. Data

2.1 Jordan Labor Market Panel Survey

The Jordan Labor Market Panel Survey (JLMPS) provides a unique opportunity to assess the impact of the refugee influx on Jordan's labor market. The initial wave of the JLMPS was fielded in 2010 (primarily January-March), prior to the regional upheaval and Syrian conflict.[6] The data were nationally representative (after weighting to account for sample stratification along geographic lines). A second wave of the JLMPS was fielded starting in December 2016 (the bulk of data collection finished by April 2017). Both waves of the JLMPS were a collaboration between the Economic Research Forum (ERF) and the Jordanian Department of Statistics (DOS), which was responsible for sampling and fieldwork.

The JLMPS 2016 tracked households from 2010, including individuals who split to form new households. The 2016 wave also added a refresher sample that over-sampled neighborhoods which were identified in the November 2015 population census as having a high proportion of non-Jordanian households. Approximately 3,000 refresher households were added with the refresher sample, which stratified on governorate and urban/rural/(official) camps[7] as well as high vs. low proportion of households that were non-Jordanian. The 2016 sample weights, based on the 2015 census population, take into account the initial wave sampling strategy, the refresher sampling strategy, and account for attrition between the 2010 and 2016 waves on both the household and split household levels.[8]

The panel structure of the JLMPS provides an enormous advantage in being able to observe the impact of the refugee influx that occurred between waves. The JLMPS 2016 also includes a substantial amount of retrospective data, including a re-designed labor market history that substantially improves on previous LMPSs in collecting spells of non-participation and especially unemployment.[9] In addition to the cross-sections represented by each wave, we exploit the 2010 to 2016 panel and 2016 retrospective data[10] to examine a variety of labor market outcomes.

2.2 Analysis sample

Our analyses distinguish between two groups. First and foremost, in this paper we are interested in how Jordanians' labor market outcomes may have been affected by the influx of Syrian refugees. We therefore focus most of our analyses on Jordanians aged 15-64.[11] In order to understand the potential impact of Syrian refugees on Jordan's labor market, we, secondarily, descriptively examine the labor market outcomes of Syrian refugees aged 15-64.

The 2010 respondents were almost all Jordanian (92.5% of individuals, weighted),[12] followed by a substantial share of "Other Arab" respondents (5.0%), i.e. Palestinians, a small group of Egyptian respondents (2.0%) and few "Other" respondents (0.1%). Just 0.5% of respondents were Syrian in 2010. In 2016, the share of respondents who were Jordanian was 69.4%, followed by 13.3% Syrian, 8.6% Other Arab, 6.7% Egyptian, and 2.1% Other.

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[6] See Assaad (2014) for more information on the JLMPS 2010. Data will be publicly available from ERF Open Access Micro Data Initiative (OAMDI 2018a; b) at: http://www.erfdataportal.com/ starting in May 2018.

[7] The official camps were Za'atari and Azraq.

[8] See Krafft & Assaad (2018) for details on the data including sample design, attrition modeling, sample weights, and validation of the sample against other data sources. The appropriate weights are used throughout our descriptive and multivariate results.

[9] See Assaad, Krafft, and Yassin (2016) for a discussion of challenges in retrospective measurement of labor market statuses and proposed improvements (which were implemented in JLMPS 2016).

[10] We restrict our analyses of the retrospective data to the period 2004-2017, centered around the year 2010, which is the reference year for all our analyses.

[11] In analyses that use retrospective data, we restrict individuals to be 15-64 in the retrospective year in question. In the retrospective data we also exclude years spent outside of Jordan itself.

[12] Individuals of Palestinian origin who have Jordanian nationality are included in this group.

2.3 Outcome variables

In examining the impact of the refugee influx on the Jordanian labor market, we examine a number of labor market outcomes. First, we focus on labor market status, classifying individuals as employed, unemployed, or out of the labor force. In identifying the border between unemployment and non-participation, we require individuals to have been actively searching for work during unemployment (within the past four weeks in the contemporaneous data sources, within the period of non-employment for retrospective data). Work is defined in terms of market work in the past three months; those who do subsistence work only are not working.

We then turn to examining a number of outcomes among the employed, including whether individuals have formal work (with a contract or social insurance) or informal work (neither a contract nor social insurance). We also look at whether workers are in an "open sector," that is, a sector open to Syrians with work permits (agriculture, manufacturing, construction, food service, or domestic/cleaning work (Kelberer 2017)). While Jordanians may be facing competition in the open sector, they may also be receiving more opportunities in other sectors, particularly the public sector. For instance, additional provision of services and international funds may increase public sector employment, which is open almost exclusively to Jordanians, while displacement may occur in the private sector. We therefore examine the probability of employment in the private sector among the employed (the complement necessarily being public sector work).[13] To specifically examine whether aid is likely to be creating jobs in human services, we examine the probability of being employed in the education or health care field among the employed. Further, we examine occupations, specifically an outcome of being in a managerial or professional occupation among the employed, in case there is occupational upgrading occurring.

For all workers, we examine hours per week, and for wage workers, we examine both hourly wages and monthly wages. All results are presented separately by sex, given the substantial differences in labor market behaviors among men and women in Jordan (Assaad, Krafft, and Keo 2018; Assaad and Salemi 2018). In additional sensitivity analyses, we also split the sample based on education level (basic or less vs. secondary and higher), since the less-educated may be disproportionately affected. We further split the sample by sector, public versus private, as there may be offsetting or sector-specific effects.

2.4 Covariates

To assess the impact of the refugee influx, we identify off of variation in where Syrian refugees settled. Most refugees (87%) are living in host communities (not camps) (Krafft et al. 2018). They are, however, not equally distributed throughout the country. Refugees are predominantly concentrated in the North of Jordan (in governorates along the border with Syria) and in the capital, Amman. The refugee influx has thus differentially affected geographic areas within Jordan. We therefore use data from the 2015 census on the number of Syrian households in a particular locality as a measure of the refugee influx. Specifically, we use the percentage of households that are Syrian. We rely on the locality of residence in 2010 throughout our analyses,[14] using the retrospective residential mobility data to identify 2010 residence even for observations from the 2016 wave. We use 2010 residence throughout in order to avoid estimation problems that might result from Jordanians potentially relocating due to labor market or housing market pressures from the Syrian refugee influx.

[13] We include work in the international and NGO sector with public sector work to capture the effect of aid on these two sectors together, as compared to the private sector.

[14] Individuals who were not in Jordan in 2010 are thus dropped.

Localities are the fourth level of geographic disaggregation (governorates contain districts, which contain sub-districts, which contain localities). There are 958 localities in Jordan, although we typically cover only around half the localities within Jordan in the JLMPS depending on the data and outcome used. The mean number of individuals in a locality is 9,950 and the median is 1,384. From the individual rather than locality perspective, the median locality size is 148,398 (that is, 50% of individuals live in localities with more than 148,398 persons and 50% of individuals live in localities with fewer people). On the individual level the 25th percentile of locality size is 19,608 and the 75th percentile is 258,829. Although it is highly debatable what a "local" labor market is, localities are a plausible size for a local labor market that would be, potentially, affected by a refugee influx. We investigate the question of what is a local labor market further in examining, for those working outside the home, the percentage working in their locality of residence, which is 40%. Thus, while many workers may cross locality borders, locality level shocks will definitely affect a substantial share of workers.

Although we have locality level data in the 2016 wave, and thus can use the 2010 locality data based on the 2016 residential mobility for our panel and retrospective analyses, there is not locality level data when using the repeated cross sections, that is when including the 2010 wave. Therefore, we use sub-district level data on the percentage of households that are Syrian, the next geographic level up, with the repeated cross-section. There are 89 sub-districts in Jordan, 88 of which are in the JLMPS. The sub-district analyses in the repeated cross section therefore also act as an additional sensitivity analysis on geographic aggregation. On the sub-district level, 51% of workers who work outside their home are working in the sub-district or residence.

We use the number of Syrian households, rather than individuals, to account for the likely density of working age males who might compete in the labor market with Jordanians. The refugee population is very young; 48% of the Syrian refugees in Jordan are young children (aged 0-14) (Krafft et al. 2018). The young age of the refugee population is important to keep in mind in light of potential labor market effects of the influx; young refugees are much more likely to be requiring services, such as education, and receiving aid, than competing on the labor market. Refugee households are predominantly nuclear, as 95% of household members are either the head, spouse, or offspring of the head (Krafft et al. 2018). Syrian households are slightly larger than Jordanian households, but this is due to a greater number of children. Thus, households are an ideal proxy for working age adults, more so than number of individuals. Unfortunately, we cannot examine the share of working-age individuals in the census because the census data are only available already geographically aggregated, not as individual microdata.

Our models control for a number of important demographic differences among Jordanians. We consider demographic differences both because they may affect labor market outcomes over time, be correlated with the refugee influx, or because certain demographic groups may be particularly affected by the refugee influx. Our models account for respondents' age (and age squared). Seven levels of education are controlled for: (1) illiterate (reference) (2) read & write (3) basic (ten years) (4) secondary (two additional years) (5) post-secondary (two additional years beyond secondary) (6) university (four additional years beyond secondary) and (7) post-graduate. These same education categories are included for mother's and father's education, although we aggregate post-graduate studies with university for parents. Since many labor market outcomes are predicated on socio-economic status, parents' background is a critical control. This information is available even when the respondent's parents are not in the household. As a proxy for socio-economic background, we control for father's employment status when the respondent was aged 15 as: (1) waged

employee (2) employer (3) self-employed (4) unpaid worker (5) non-employed or (6) don't know. In some specifications we also control for geographic and or individual fixed effects.

3. Methods

We rely on a number of different methods to test the impact of the refugee influx on Jordanians' labor market outcomes. Denote outcomes as Y_{it}, where *i* identifies an individual and *t* denotes time. Further, denote with *l* a particular locality (or, in the repeated cross-section, a sub-district). Almost all our models are linear models of the general difference-in-difference structure:

$$Y_{itl} = \beta_0 + \alpha_j X_{itj} + \gamma S_l + \delta_t t + \theta_t t * S_l + \varepsilon_{itl} \quad (1)$$

Here, S_l is the control for the share (percentage points) of households that were Syrian in the locality from the census in 2015. γ can be used to measure selection or endogenous placement of Syrians, whether they migrated to where employment conditions were better prior to the influx. δ_t can be used to assess overall time trends (specifically, trends for localities with no Syrians). *t* is operationalized sometimes as a single control for 2016 (in the panel and repeated cross section models) and sometimes as a series of years (in the retrospective models). The year 2010 is always the reference year regardless of the specification. The covariate that measures the impact of the influx is the θ_t term on the interaction of share Syrian and time. In the retrospective models, θ_t can also be used to assess parallel trends by comparing whether θ_t was different over time prior to the influx. For example, this coefficient rising from 2007-2009 in a model for employment, i.e. $\theta_{2009} > \theta_{2007}$ would suggest Syrians located where employment prospects were improving. In the panel models and some of the retrospective models we also add individual fixed effects, η_i, to the specification above. Most of the specifications also include a number, *j*, of control variables, X_{itj}, as discussed above.

As an additional robustness check for the potentially endogenous location decisions of refugees, we instrument for the locality share of refugees based on the distance to the locality from Za'atari refugee camp, Jordan's largest camp.[15] While most Syrians are living in host communities, around a fifth pass through refugee camps before arriving in host communities (Krafft et al. 2018). Za'atari refugee camp was opened in July 2012 in response to the rising refugee influx, and located in the desert near the Syrian border. Its placement was unrelated to local labor market conditions, making it a plausibly exogenous instrument, although the proximity to the border, and thus conflict may make areas closer to Za'atari predisposed to worse outcomes regardless of the local share of refugees. We thus consider the instrumental variable estimates primarily as an additional robustness check.

One further model is used to consider the potentially disproportionate impact of Syrian refugees specifically on labor market entrants in Jordan. Unemployment is primarily a new entrant phenomenon in Jordan. Labor markets are rigid, such that initial entry is highly deterministic of subsequent labor market outcomes (Amer 2014; Assaad and Krafft 2016; Mryyan 2014). Therefore one of the sub-groups we examine as potentially disproportionately impacted by the Syrian refugee influx are new entrants. We specifically examine the duration of their school-to-work transitions using a complementary log-log discrete-time hazard model. The underlying event. *T*, we are interested in modeling (in this case, obtaining a first job) occurs at some point in time *d*. In this

[15] Distance based on Google Maps. Distance to rural localities was not available, so for such missing cases, the average sub-district distance was used. There are very few Syrians—and not many Jordanians either—living in rural areas (Assaad, Krafft, and Keo 2018; Krafft et al. 2018).

case, time is duration from school exit or age 15, whichever is later.[16] Duration-time, *d*, is distinct from calendar time, *t*. However, some individuals are censored and have not yet obtained a first job. Thus, we must use survival analysis, based on the idea of a hazard, h_{id}, namely:

$$h_{id} = \Pr(T_d = d | T_d \geq d) \quad (2)$$

The hazard is the probability of obtaining a first job at a particular duration, given that an individual has not yet done so. In a multivariate context, this gets model as the complementary log-log difference-in-difference model:

$$h_{id} = 1 - \exp[-\exp(\mu_d d + \alpha_j X_{ij} + \delta_t t + \gamma S_l + \theta_t t * S_l)] \quad (3)$$

Here the coefficients, once exponentiated, are hazard ratios, proportionately multiplying the baseline hazards, μ_d.

4. Results

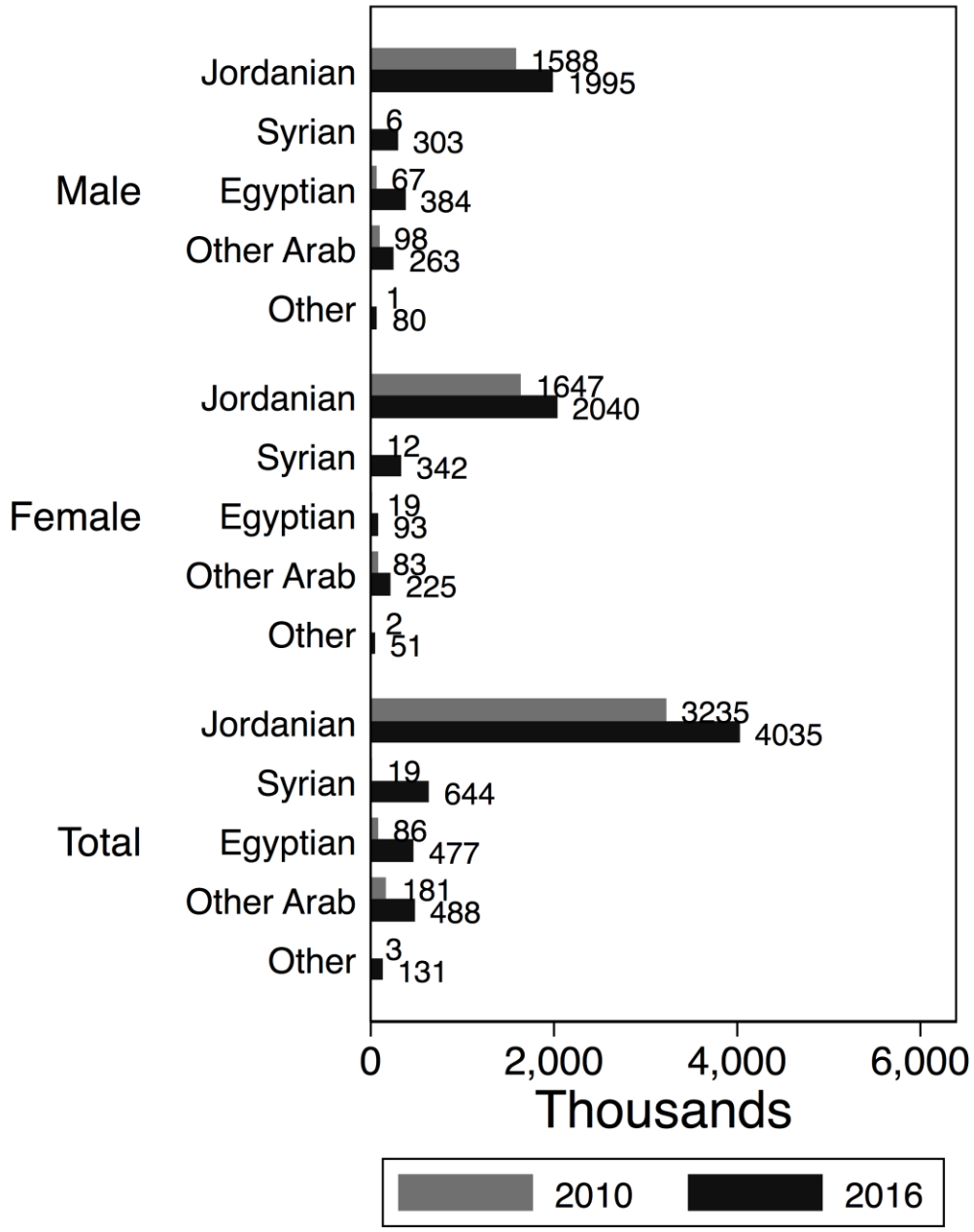
Results are presented first in terms of descriptive statistics on the population and labor force outcomes of Jordanians and Syrian refugees. We then present the multivariate models using the retrospective data (where we can test parallel trends), repeated cross-section, and panel data. These are followed, in the next section, by the sub-group analyses and robustness checks.

4.1 Descriptive Statistics on the Population of Jordanians and Syrians in Jordan

There has been a substantial influx of Syrians into Jordan between 2010 and 2016. Although the population as a whole, including children and the elderly, could create demand for services (and young people in particular for education and health care services), the main labor market impact will be based on the working aged population. As shown in Figure 1, the working-age population of Jordanians rose from 3.2 million to 4.0 million from 2010 to 2016. At the same time, the number of working-age Syrians rose from 19,000 to 644,000, although the increase was larger among women (342,000) than men (303,000) likely due both to selective migration and selective mortality by sex (Krafft et al. 2018). The Syrian working age population is about 16% the size of the Jordanian population in 2016, a substantial demographic shift.

[16] We restrict our analyses to those who exited in 2004-2016, parallel to the time frame for our retrospective analyses.

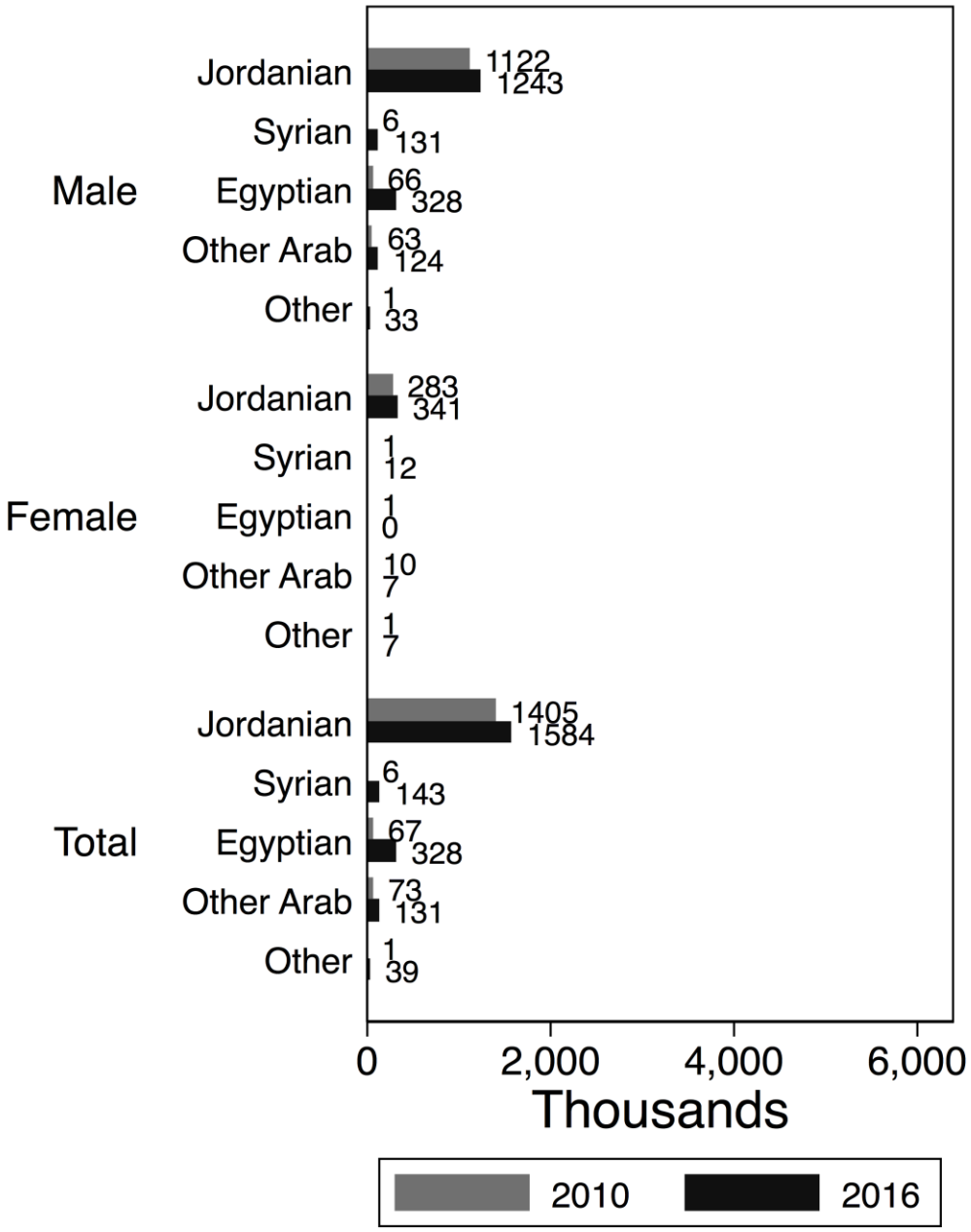
Figure 1. Working age (aged 15-64) population, by sex and nationality, 2010 and 2016



Source: Authors' calculations based on JLMPS 2010 and JLMPS 2016

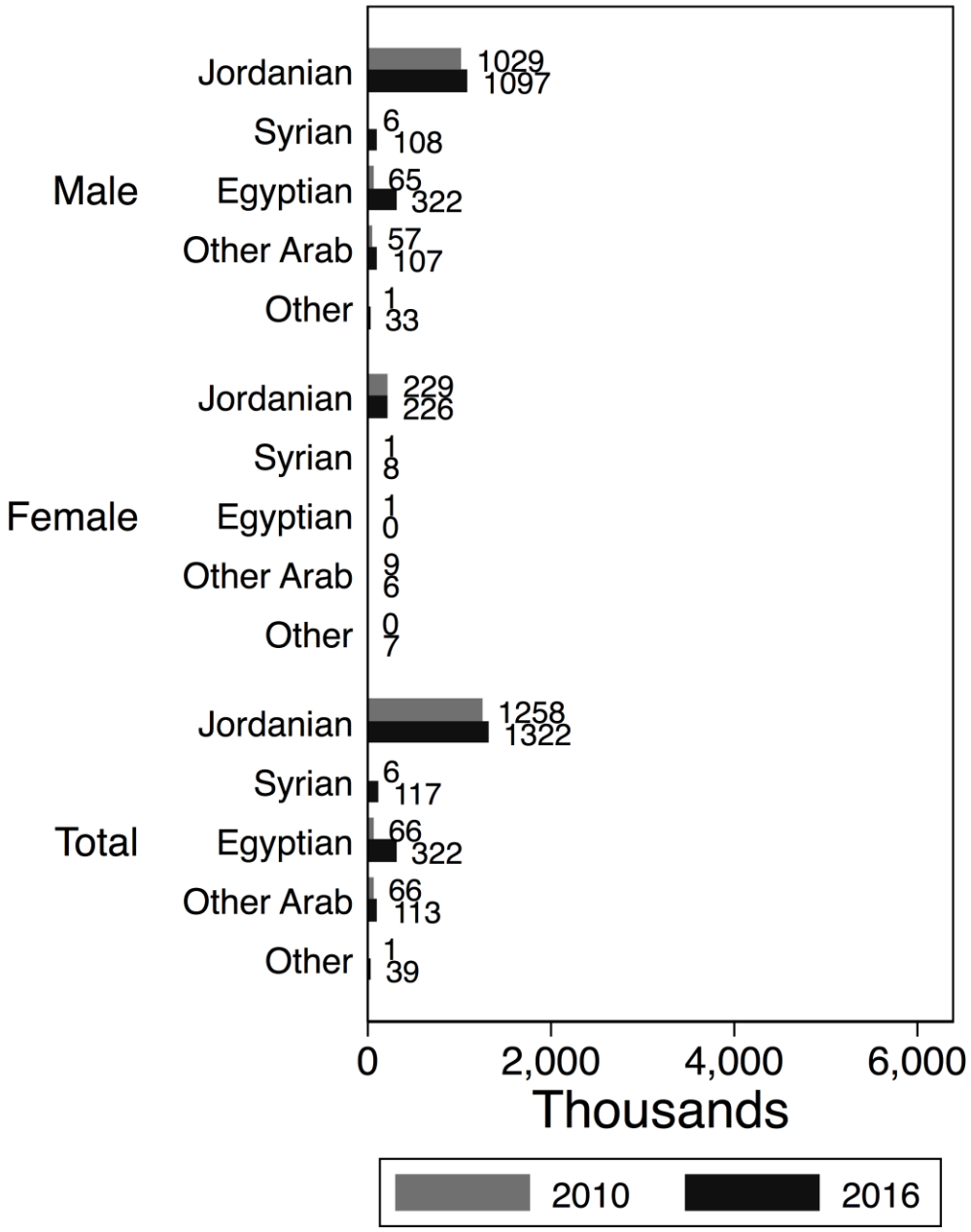
Although the working age population is a key measure of labor supply, not all working-age adults necessarily engage in the labor market. Figure 2 shows the size of the labor force in Jordan, where the picture is somewhat different. While there are 1.6 million Jordanians in the labor force as of 2016, up from 1.4 million in 2010, there are only 143,000 Syrians in the labor force in 2016, up from 6,000 in 2010. The Syrian labor force in 2016 is equivalent to about 9% of the Jordanian labor force. A similar result occurs in terms of the number and share employed (Figure 3). There are 1.3 million employed Jordanians in 2016 compared to 117,000 employed Syrians.

Figure 2. Labor force by sex and nationality, ages 15-64, 2010 and 2016



Source: Authors' calculations based on JLMPS 2010 and JLMPS 2016

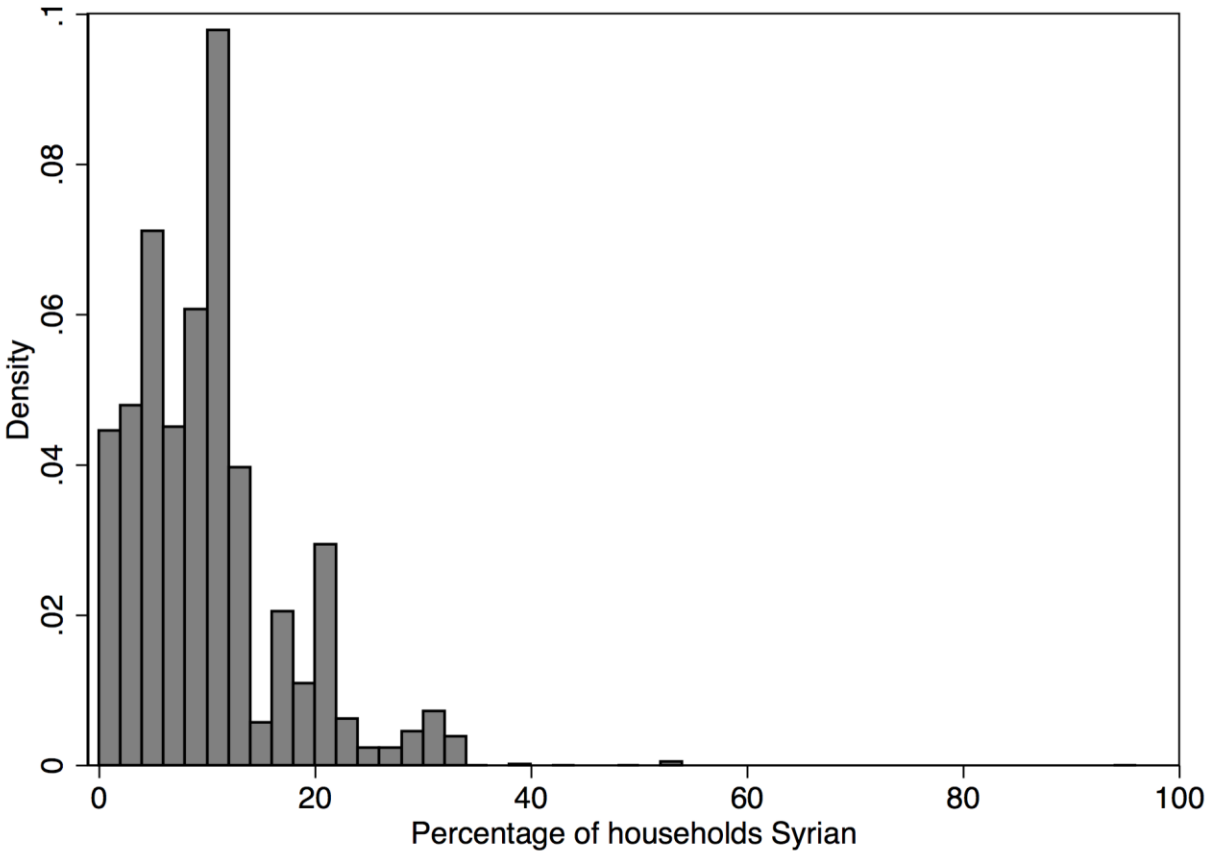
Figure 3. Employed population by sex and nationality, ages 15-64, 2010 and 2016



Source: Authors' calculations based on JLMPS 2010 and JLMPS 2016

Figure 4 presents the distribution of the refugee influx. Specifically, it shows the distribution, for working age Jordanians, of the percentage of households that are Syrian in the locality they lived in as of 2010. A sizeable proportion of individuals experienced relatively low levels of local labor supply shocks; the 10th percentile is 2.5% Syrian and the 25th percentile 5.6%. The mean was 10.1% Syrian and the median 9.6%. On the high end, the 75th percentile was 12.5% Syrian and the 90th percentile 21.6%. This variation in the degree of local labor market shocks is our key source of identification.

Figure 4. Distribution of percentage of Syrian households in a working age individual's 2010 locality



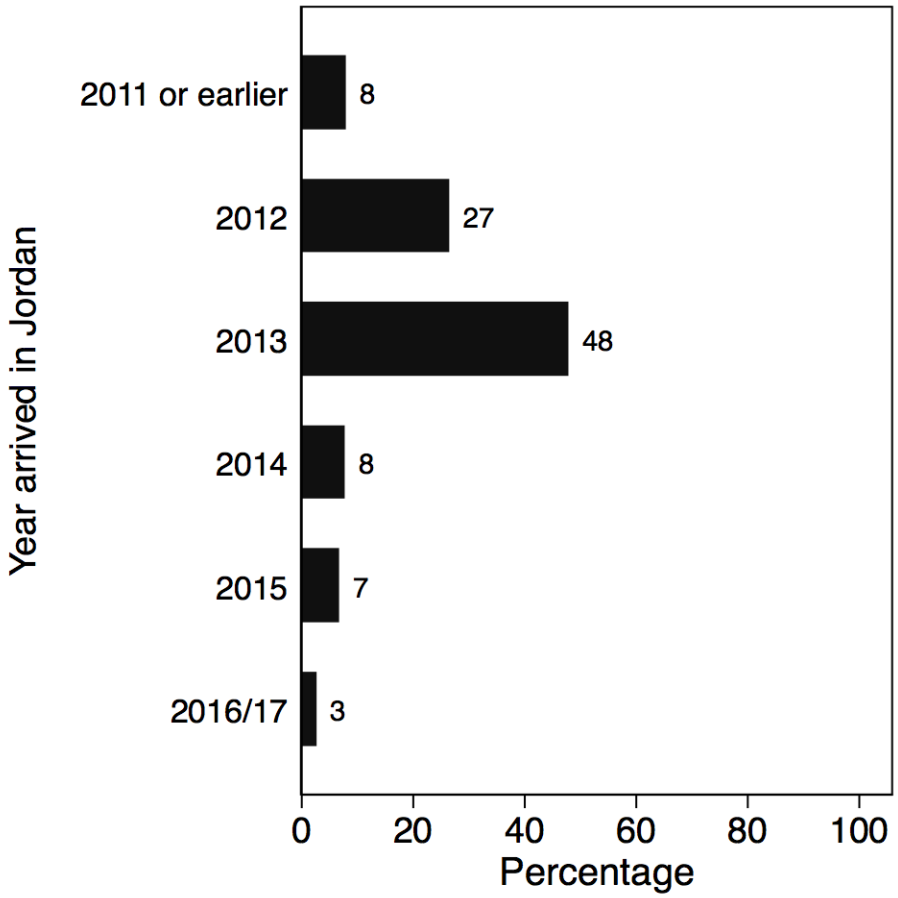
Source: Authors' calculations based on JLMPS 2016

The year of arrival of refugees is an important issue to understand the timing of potential impacts on the labor market. Figure 5 shows that very few Syrians (aged 15-59[17]) in Jordan in 2016 arrived in 2011 or earlier (8%). The influx began in 2012 (27%), peaked in 2013 (48%) and decreased thereafter (8% in 2014, 7% in 2015, and 3% in 2016/17).[18] Thus, labor market impacts are likely to have started in 2012 or 2013, although effects may have been delayed by the time it took for demand for goods and services to generate additional employment, or for work permits and displacement to occur.

[17] Analyses of certain Syrian refugee outcomes are restricted to ages 15-59 as that was the universe for the in-migration section of the questionnaire.

[18] The arrival timing observed in the JLMPS is consistent with UNHCR registration data as well (UNHCR 2018).

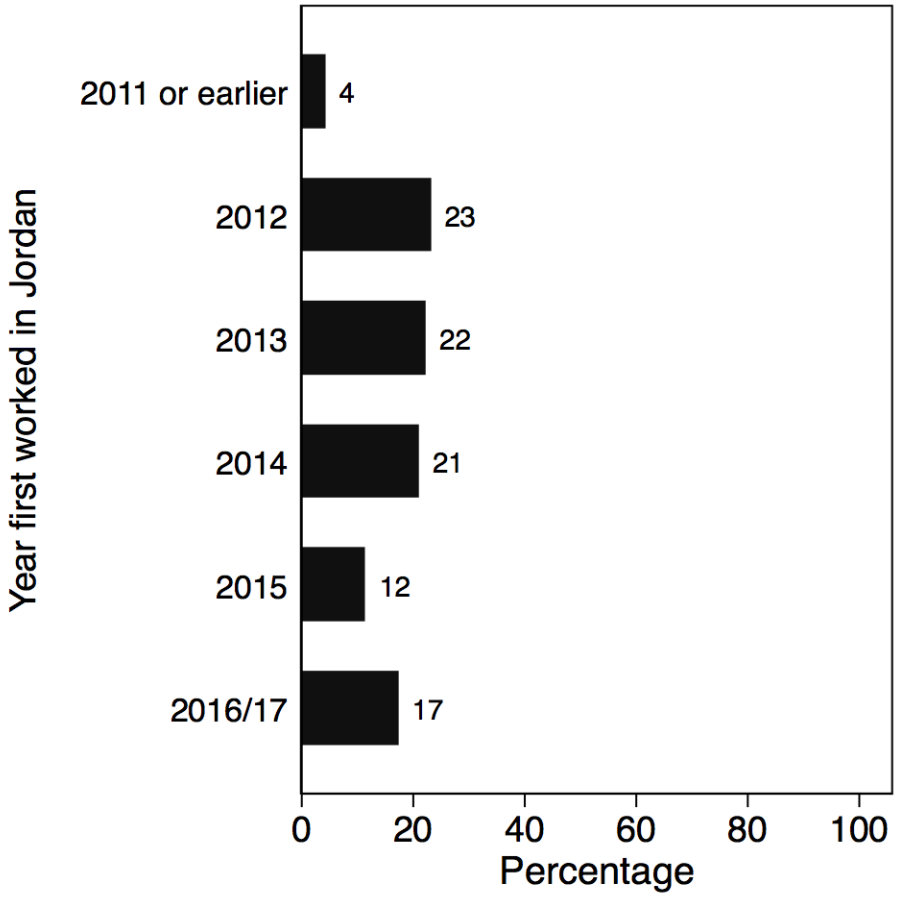
Figure 5. Year of arrival for Syrians, ages 15-59, in Jordan in 2016 (percentage)



Source: Authors' calculations based on JLMPS 2016

The JLMPS data allows us to directly assess when the Syrians who did work in Jordan started working (Figure 6). Work permits and aid and trade concessions were part of the Jordan Compact—signed February 4, 2016 (International Rescue Committee 2017). Regulations for obtaining work permits were relaxed starting in March of 2016 and work permit fees were waived starting in April of 2016 (Dunmore 2016). Thus, by the time the JLMPS was fielding in December 2016-April 2017, the work permit system had been operational for almost a year. Although work permits were only rolled out in 2016, it is unsurprising that Syrians report starting work before then, presumably informally as well as illegally. Around a fifth of Syrians in Jordan who had ever worked since arriving in Jordan did so in each of 2012, 2013, and 2014. There was a slight decrease of starts, to 12%, in 2015, after arrivals had tapered off, but an uptick to 17% in 2016/17, when work permits became available.

Figure 6. Year of first work, Syrians in Jordan who have ever worked in Jordan, 2016 (percentage)



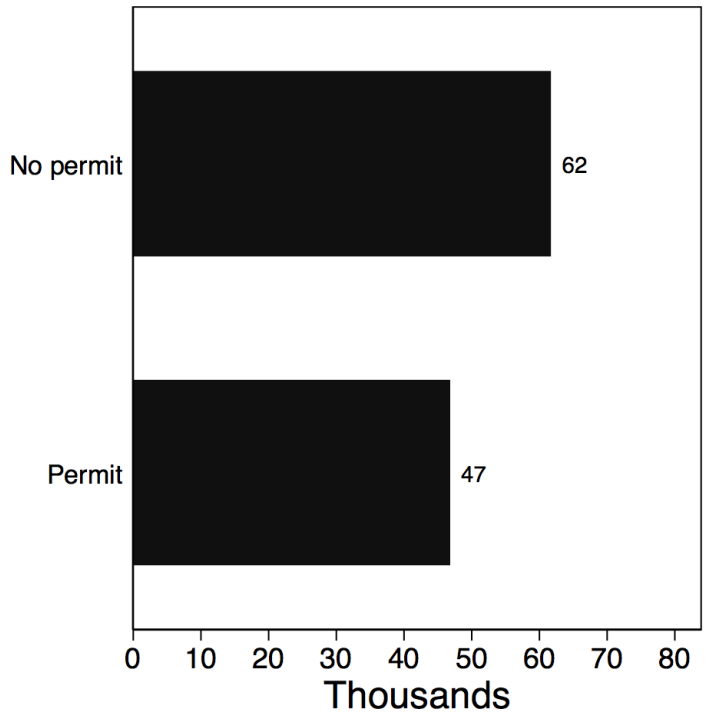
Source: Authors' calculations based on JLMPS 2016

Although work permits allowed Syrians to work legally in Jordan, the majority were still working illegally, without a permit, in the JLMPS (Figure 7). Expanding to the population based on our sample weights, approximately 47,000 Syrians aged 15-59[19] reported working and that they had received work permits.[20] In contrast, approximately 62,000 reported working without a permit. Thus, although some Syrians are potentially competing with Jordanians in the space of legal employment, most are not working legally, which limits the jobs for which they might compete.

[19] The age group for which we have data in the JLMPS.

[20] This statistic is consistent with official reports of 37,000 permits issued from January 1, 2016 to January 1, 2017, the latter date in the midst of when JLMPS 2016 was in the field.

Figure 7. Employed population (thousands) by work permit status, Syrians aged 15-59, 2016

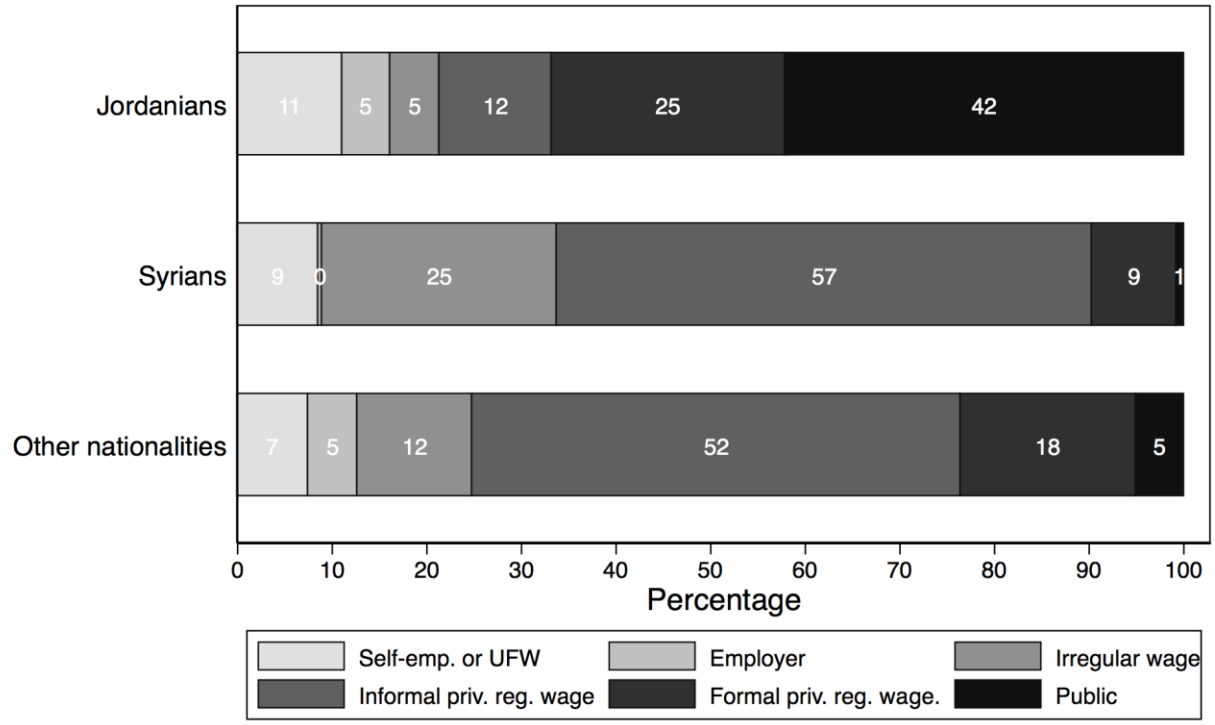


Source: Authors' calculations based on JLMPS 2016

Figure 8 examines what types of work refugees are doing compared with Jordanians and other nationalities. Relatively few Jordanians (11%) Syrians (9%) or other nationalities (7%) are self-employed or unpaid family workers. Almost no Syrians are employers, but 5% of Jordanians and other nationalities are. One of the most common statuses of Syrians is as an irregular wage worker (25%), compared to just 5% of Jordanians and 12% of other nationalities. The next most common status for Syrians is as an informal private regular wage worker (57%), compared to 12% of Jordanians and 52% of other nationalities. Additionally, 9% of Syrians are in formal private regular wage work, much lower than the 25% share for Jordanians and 18% share for other nationalities. Just 1% of Syrians are in public sector work, compared to 42% of Jordanians and 5% of others. Overall, Syrians are in somewhat different types of work than Jordanians. They are not competing for public sector jobs and few Jordanians are in the sort of informal or irregular work the Syrians hold. Syrians may be competing somewhat more with non-Jordanians.[21]

[21] For an investigation of Syrians' impact on the labor market outcomes of other immigrants in Jordan, see Malaeb and Wahba (2018).

Figure 8. Employment status (percentage) of Jordanians, Syrians, and other nationalities, workers aged 15-64, 2016



Source: Authors' calculations based on JLMPS 2016

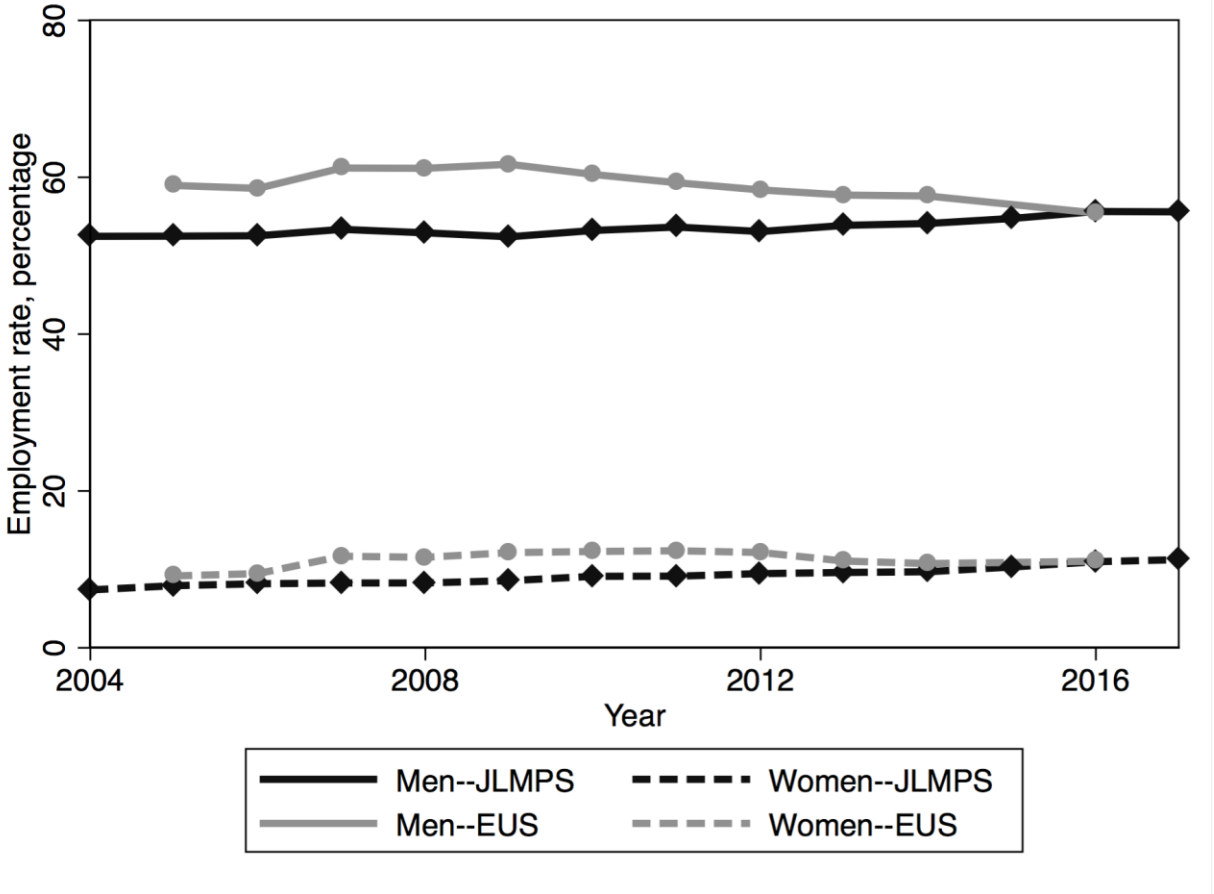
4.2 Time trends in Jordanians' labor market outcomes

As an initial, descriptive assessment of how host community labor markets have shifted since the refugee influx, Figure 9 presents Jordanians' employment rates by sex for 2004-2017 and Figure 10 does likewise for the unemployment rate. Data are presented from the JLMPS 2016 retrospective labor market history and the regular Jordanian Employment and Unemployment Survey (EUS). These figures serve two purposes: first, they demonstrate descriptively how the Jordanian labor market has been faring and second, they allow us to assess the consistency of JLMPS retrospective and EUS data.[22] EUS employment rates tend to be slightly higher than JLMPS retrospective rates,[23] although they converge towards the survey year. Unemployment rates are higher in the JLMPS, particularly for women, although these also converge somewhat.

[22] For comparisons of the consistency of JLMPS 2010 and 2016 contemporaneous data with EUS statistics see Assaad & Krafft (2018) and Krafft & Assaad (2018). Contemporaneous statistics are generally close; while the JLMPS 2010 statistic for the male employment rate had a 95% confidence interval outside the EUS estimate, the female rate from the EUS was within the JLMPS confidence interval. In 2016 both the male and female employment rates of the EUS fell within the JLMPS confidence interval. The EUS unemployment rates both fell within the JLMPS confidence interval in 2010. While only the male unemployment rate did so in 2016, the JLMPS 2016 female unemployment rate confidence interval did include the rate reported for 2017 Q1. Although microdata for analysis are not yet available, press reports from the 2017 EUS suggest that JLMPS 2016 rates are very close to those for Q1, when in the EUS the male unemployment rate was 13.9% and the female unemployment rate was 33.0% (Department of Statistics (Jordan) 2017).

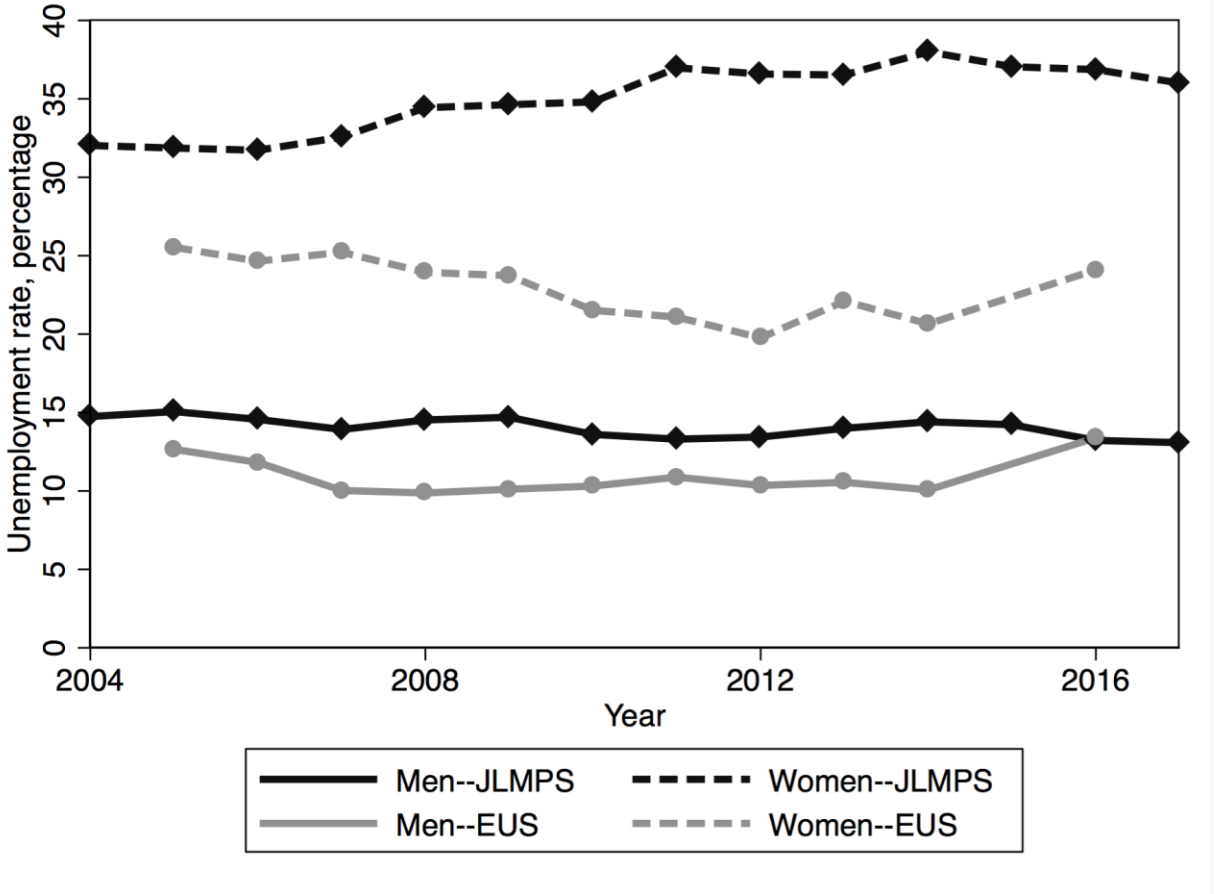
[23] Measurement error is a concern with retrospective data and has been investigated with other LMPSs (Assaad, Krafft, and Yassin 2016), leading to improvements in the design of the labor market history for JLMPS 2016.

Figure 9. Jordanians' employment rates by sex, ages 15-64,2004-2017



Source: Authors' calculations based on JLMPS 2016 retrospective data and EUS contemporaneous data.
Note: No EUS data in 2004 or 2015 due to Census years

Figure 10. Jordanians' unemployment rates by sex, ages 15-64, 2004-2017



Source: Authors' calculations based on JLMPS 2016 retrospective data and EUS contemporaneous data.
Note: No EUS data in 2004 or 2015 due to Census years

Notably, there does not appear to be a substantial structural shift related to the start of the refugee influx with either data source. Employment had been flat (JLMPS) or declining (EUS) prior to the refugee influx for Jordanian men (EUS shows a decline starting from 2009-2010). Employment for women had been flat or declining slightly since 2011 (EUS) or rising slightly (JLMPS). Unemployment rates have distinctly risen for women, but the rise in the JLMPS predates the refugee influx, and the level in the EUS remains below pre-2008. For men, unemployment has fluctuated without any very clear trend. Although the EUS detects an increase in 2016, the JLMPS shows a slight decline. Whether looking at employment or unemployment, or regardless of data source there are not clear structural changes. Such changes could, however, be localized or masked by shifting demographics and other trends. In order to assess the labor market impacts of refugees much more rigorously, we now turn to our multivariate models. We first present the retrospective models, then the cross-sectional models, and lastly the panel models.

4.3 Retrospective models

In this section we discuss the difference-in difference estimates using the retrospective data. We start with the results for linear probability models of unemployment and employment. For each outcome, we present the results with various specifications: the first (parsimonious model) includes only the difference-in-difference estimates, locality share of refugees, and year dummies. The second specification controls for individual observed characteristics, while the third adds locality fixed effects to the individual controls. The fourth (our preferred specification) adds in individual fixed effects. For each outcome, we estimate the model separately for men and women.

Table 1 presents the results on employment and unemployment for men. Since the omitted year is 2010, the coefficient on percentage of households that are Syrian tests for endogenous placement of Syrians relative to 2010, that is, whether Syrians may be in localities where there were differential labor market outcomes preceding the influx. The year coefficients show time trends overall (effectively for a locality with no Syrians), while the interactions between the year and percentage of households prior to 2010 test for parallel trends and those after 2010 show the impact of Syrians. Note that the percentage of households Syrian has a (potential) range from 0-100, so the coefficients for this main effect and interaction show the labor market impact for a one percentage point increase in the share of households that are Syrian in the locality.

The results for the parsimonious model show that the difference-in-difference estimates capturing the impact of refugees (the coefficient on the interaction) on being out of the labor force are all small, mixed in sign over time, and insignificant for all the years following the influx of the Syrian refugees. This conclusion does not change even when controlling for individual characteristics, locality fixed effects, or individual fixed effects. The main advantage of using the retrospective data is that it allows test for the parallel trend assumption for the years preceding the refugee shock back to 2004. The results for our preferred model show a significant difference for unemployment only in 2006, when a percentage point higher share of households Syrian predicted an 0.1 percentage point higher probability of unemployment. Likewise for employment, there was a significantly lower probability of employment (0.2 percentage points) in 2007 for each additional percentage point of Syrian refugees among households. There are not significant differences thereafter in either model. Thus, in the years closer to the refugee influx parallel trends hold, but not necessarily further back in time. The results also suggest that our models are not underpowered to detect effects. Table 2 reports the estimate for the female sample; there are no significant effects of Syrians and for women, parallel trends hold.

So far, the results show little evidence that the influx of Syrian refugees have an effect on the probability of employment or unemployment. In the following discussion, we focus on outcomes among the employed and explore the extent to which the refugee shock has affected employment characteristics. According to theory, the nature of the effect depends on whether refugees who joined the Jordanian labor market are substitutes or complements to the native workers. To the extent that Syrian refugees are substitutes to low skilled natives, they are expected to reduce employment in low-skilled or primary occupations. Most likely, competition with native workers is expected to be strongest in the informal sector as the Syrian refugees were granted work permits only in 2016. The crowd-out effect might be enforced as the refugees are more likely to accept lower wages.

To test this hypothesis, we first estimate a model for being employed in the formal sector. The results for men are reported in Table 3 and show no significant effect. Nor is there a change in being in a managerial or professional occupation. For women, there is initially a negative and significant effect on formality in the parsimonious model and model adding controls, but it does not persist with either locality fixed effects or individual fixed effects (see Table 4). A similar result occurs for women in terms of a reduced probability of being in a managerial or professional occupation. Although this persists through the locality fixed effects it does not persist in our preferred specification with individual fixed effects.

We then examine whether the refugee shock affected the type of economic activity or sector (Table 5 for men, Table 6 for women). Specifically, we estimate the probability of being employed in the open sector, where refugees can get work permits, the health and human services sector, where aid flows and human service needs might be creating jobs, as well as the private sector, where refugees

could potentially compete both legally and illegally. The results show no effect on the open sector or health and human services sector in our preferred specification. In our preferred specification there was a significant and, counter-intuitively, positive effect of local refugees on the probability of private sector employment in 2012 and 2013, which disappears in later years. It may be that the influx of refugees initially provided private sector employment opportunities, for example, in retail trades, which then diminished as refugees settled or were offset by subsequent increases in the public sector to deliver services. For women, there are no significant effects on sector in our preferred specification.

4.4 Cross-sectional models

The aforementioned results show that the influx of refugees has little effect, if any, on the employment outcomes of the Jordanians. Nonetheless, one limitation of utilizing retrospective data is that the data lacks variables on some important outcomes including wages[24] and hours worked. In addition, utilizing retrospective data might produce biased estimates due to recall challenges. In this section we re-examine the impact of Syrian refugees using repeated cross section data covering 2010 and 2016. This approach has the advantage of exploiting all the observations over time. The larger sample size may increase statistical power. The main limitation of using this model is that it does not allow us to investigate how the effect varies over time as it utilizes only two points in time, one pre-influx (2010) and one post-influx (2016). In addition, we lack historical data, prior to 2010, to test the parallel trend assumption, which appeared to be occasionally violated in the retrospective data.

We use similar model specifications to the retrospective models. Since we lack locality identifiers for 2010 we aggregate the share of Syrians at the sub-district level. This also allows testing for a different definition of a local labor market. We also do not include individual fixed effects (these are presented using the panel data in the next section). The coefficient of interest here is the interaction between the 2016 round and the share of households that are Syrian. Table 7, for men, and Table 8, for women, report the estimates of the employment and unemployment outcomes. The results show that the estimated refugee shock effects (difference-and difference interactions) are statistically insignificant for labor market status regardless of model specifications. There are, however, strong time effects, as observed descriptively.

Table 9 reports the results of examining the impact of Syrian refugees on men's job characteristics (and Table 10 does likewise for women). For formality, the estimate on the interaction is positive and statistically significant (in the models with controls and sub-district fixed effects); employed Jordanians are more likely to be engaged in formal work and therefore less likely to be in informal work. However, from our results on employment, we know that they are not less likely to be employed overall, so on the net this represents a shift in the types of jobs Jordanians are doing rather than the net loss of employment.[25] The estimates are statistically significant for women in the model with locality fixed effects and of a similar magnitude. The tables also show that the effects on occupation and sector are insignificant.

[24] Around 86% of employed Jordanians were wage workers in 2016. Given the limited number of non-wage workers we do not analyze them separately.

[25] Additional analyses setting non-employment to zero and estimating the probability of formal employment (as compared to all other states) and informal employment (as compared to all other states) under our preferred specification were insignificant. However, the magnitude of the increase in formal employment on the share Syrian and 2016 interaction for men was positive and greater in magnitude than the negative and insignificant effect for the interaction on informal employment. The results for women were insignificant and closer to zero for each, which is unsurprising given low female employment rates.

Table 11 documents the results for the wage, measured in logarithmic form, and weekly hours worked models for men (both for waged and non-waged workers). The estimated effect of refugees in 2016 for the wage model is statistically insignificant. This finding holds for both hourly wage and monthly wage. Likewise for hours worked per week, the estimates are statistically insignificant across all specifications. As for women (Table 12), the estimates are also statistically insignificant.

4.5 Panel Models

In this section we discuss the results from the panel fixed effects model. In this model, we control for individual fixed effects by using observations on the individuals in both the 2010 and 2016 waves. Since we control for individual fixed effects, the model only includes the year dummy (2010 is the reference year) and the share of refugees-year interaction variable (as well as controls for age).

Table 13 documents the results for all labor market outcomes of men. The estimates are statistically insignificant for employment and unemployment. However, the estimates are significant for job formality, which increases with a larger shock. The magnitude is similar to that for the cross-sectional model; for each percentage point increase in the share of the locality that is Syrian, the probability of formal employment increases by 0.3 percentage points.[26] A similar result occurs for women as well (Table 14). In addition to the positive effect on formality, in the panel models we see a small but significant and positive effect of the shock on hourly wages; a percentage point increase in the share Syrian leads to 0.9% higher wages in 2016. However, because hours have (insignificantly) decreased, the monthly wage effect is positive but smaller and insignificant. There are not significant occupation effects. Although the open sector and health and human services sector effects are insignificant, the private sector effect is negative and significant; those who experienced a greater refugee influx locally are less likely to work in the private sector (and therefore more likely to work in the public sector).[27] Women do not experience significant wage, sector or occupation effects.

5. Robustness checks

This section presents a series of robustness checks for analyses, starting with subgroup analyses by education and sector and 2010. These are followed by models of school-to-work transitions as an assessment of differential impacts on new entrants. Subsequently, instrumental variable models are presented that can account for the potentially endogenous placement of refugees. Lastly, we test the sensitivity of our results to the definition of a labor market.

5.1 Education: Sub-group analyses

We take the analysis a step further and distinguish individuals based on level of education in Table 15 and Table 16. Most Syrian labor force participants have low levels of education themselves (Assaad, Krafft, and Keo 2018) and are competing for informal and irregular jobs, which are likely to be held by less educated Jordanians (if any). Given the few females who work, we analyze only males for this sub-group analysis. We present the panel results throughout our sub-group analyses, since some of the analyses that follow (for instance, by sector) depend on the 2010 year status, and the panel data, unlike the retrospective data, has wage and hours outcomes. We divide our sample into those with a basic education or less and those with secondary or more (as of 2010). There are

[26] As with the cross section results, when estimating unconditional on employment (i.e. treating the non-employed as zeros) and estimating the probability of informal and formal employment, there are negative and insignificant effects of the refugee shock on informal employment and positive and insignificant effects of the refugee shock on formal employment for men. The results again disappear for women, very few of whom work.

[27] As with the shift in formality, when estimating unconditional on employment, there is a negative but insignificant change in private sector employment and a positive but insignificant increase in public sector employment.

not significant results for either the less or more educated in terms of employment or unemployment. The formality result becomes insignificant, but is larger for the less educated than the educated, suggesting they are particularly likely to shift out of informal work and into formal work. The significant hourly wage effect persists (and is larger) for the less educated, and is positive but insignificant for the more educated. The decrease in private sector (and increase in public sector work) is significant only for the more educated, unsurprising given the requirements of most public sector jobs. Overall, our results do not suggest unique negative effects of the refugee influx for the less educated.

5.2 Sector: Sub-group analyses

We now turn to examining the effects of employment by the sector of work in 2010 in Table 17 and Table 18. Those in the private sector in 2010 would be particularly likely to experience competition from incoming Syrians. Again, we discuss results only for men, since few women work. We use the panel data analyses for the best coverage of outcomes as well as being able to condition on 2010 status. Keeping in mind the selected nature of the sample—we are comparing those employed in the private sector and those employed in the public sector, so setting aside those not employed—there are interesting unemployment and employment effects. Those who were in the private sector who experienced a greater local labor market shock are significantly less likely to be unemployed. Those who had a greater shock and were in the public sector are significantly more likely to be employed (the coefficient for those in the private sector is of similar magnitude, albeit insignificant). The formality effects are insignificant, but of greater magnitude in the private sector. The increase in hourly wages is of a similar magnitude across sectors, but only significant in the public sector, where there was also a small (0.2) but significant reduction in hours per week. There was a significant effect on the probability of being a manager or professional only in the public sector. Curiously, there was a significant increase in being in the open sector for those in the private sector in 2010. It may be that the Jordan Compact is creating greater employment opportunities for Jordanians in these activities, as well as the Syrians who can acquire work permits in this sector. No other results were significant, but the number of significant results by sector, particularly given the further division of the sample, suggests that the Syrian refugee influx has had different effects, largely slight positive ones, across sectors.

5.3 School-to-work transitions

Since unemployment is a primarily new-entrant phenomenon in Jordan and early outcomes are highly deterministic of subsequent trajectory, the school to work transition of Jordanian youth is of great concern. In this section we analyze school-to-work transitions over the 2004-2016 period,[28] similar to the retrospective analyses, but with the outcome here being the probability of obtaining a first job. We estimate the effect of refugees in each year, which allows us to test for parallel trends in this model, as in the retrospective data, as well as estimate the effect itself. Table 19 shows the results in terms of hazard ratios; a hazard ratio less than one means a slower transition from school to work (specifically, a lower probability of obtaining a first job in each year) while a hazard ratio greater than one is a faster transition (or higher probability). The models are presented first without and then with controls. All specifications include the baseline hazard, the probability of obtaining a job each year out from age 15 or school exit.

There are no significant refugee impacts for men, although after adding controls, there is some evidence that areas that had a larger refugee influx did, back in 2005/2006, have slower school to work transitions, potentially non-parallel trends similar to the earlier retrospective unemployment

[28] Here we omit 2017 since we do not observe school exit in 2017 in our sample, since primary fielding finished in April.

results. For women in both models, although there are parallel trends, there does appear to be a significant effect of the refugee influx in 2014 only. This is driven by the reference year of 2010 having a more rapid transition in areas that then experienced an influx than other years; the 2014 interaction is very similar in magnitude to the other years. Overall, there does not appear to have been a negative impact of the refugee influx on school-to-work transitions.

5.4 Instrumental variable models for endogenous placement of refugees

Since the majority of refugees do not live in camps, they have some choice in where they locate and may select into areas with differential employment outcomes. Although the main effects of the refugee influx in 2010 in our models generally suggest refugees located in places that were comparable at that time, there are some historical differences in a few of the models suggesting that parallel trends may not fully hold. To analyze the sensitivity of our results to this issue, we instrument for the locality share of refugees using the distance from the locality to Za'atari camp in kilometers and outcomes in the JLMPS 2016 data. The models include the same controls, except we cannot include locality-level fixed effects, since our instrument is at the locality level. As a compromise between the tradeoffs between statistical power and controlling for important geographic differences, we include district-level fixed effects to identify off of locality variation within districts in the share of households that are Syrian.

The first stage is presented in Table 20 for men and Table 21 for women (showing the samples for the different outcomes, not the outcomes themselves). The instruments are consistently significant, but of varying strength. F-statistics range from 4.4 (for males and employment/unemployment samples) to 11.9 (for women and the private sector outcome). The sign on the instrument is negative, as expected, indicating that each additional kilometer from Za'atari reduces the percentage of households that are Syrian. The second stage of the 2SLS estimates are presented in Table 22 (for men) and Table 23 (for women). The results are consistently insignificant. After accounting for the potential selection of refugees, there are not significant effects of refugee density on the local labor market.

5.5 Sensitivity of results to definition of a local labor market

As a final check on our results, we re-estimated all our models from our main results section with different definitions of local labor markets. We calculated the share of households Syrian at the sub-district and district levels and used these in the place of locality (or in the case of the cross-sectional models, used district in the place of the original sub-district). The results (not shown) suggest that our main model estimates are identifying the appropriate local labor market, as the results dissipate or become non-sensical at higher levels of aggregation.

In moving from the sub-district to district level cross-sectional models, all percentage household Syrian interactions became insignificant for both men and women. In the retrospective data, there are a number of significant results for males when aggregating at the sub-district level (we report the results of our preferred specification, including individual fixed effects). There is a small but significant negative interaction from 2015-2017 on formality as well as employment in health and human services (the latter in particular makes little intuitive sense). From 2014-2017 there was a small but significant positive interaction on private sector employment. There is a small negative effect for women in 2014 on private sector employment and no other effects. When aggregating to the district level, the small negative effect on health and human services work remains in 2016 and 2017, while the significant positive effect on private sector employment for 2014-2015 occurs, similar to the sub-district level. In the panel analyses, when moving to the sub-district level, all the results are insignificant for men; the increase in formality for women remains significant and of similar magnitude. When moving to the district level in the panel models, the increased formality

result is positive and significant for men and women, but no other results are significant. Generally, the less-aggregated effects are greater in magnitude and more likely to be significant.

6. Conclusion

This paper examines the impact of the Syrian refugee influx on natives' labor market outcomes in Jordan. Using rich individual level data from Jordan (JLMPS) before and after the Syrian refugee inflow, we use various models to study the effects of local labor market shocks on natives' labor market participation, employment, types of employment, and wages. Overall, we find that natives had not experienced negative labor market outcomes. Indeed, Jordanians living in areas with high concentration of refugees had no worse labor market outcomes than Jordanians with less exposure to the refugee influx.

Although the Syrian working age population was about 16% the size of the Jordanian population in 2016, the Syrian labor force in 2016 was equivalent to about 9% of the Jordanian labor force. There were 1.3 million employed Jordanians in 2016 compared to 117,000 employed Syrians. Overall, the evidence suggests that, given the composition and characteristics of the refugees as predominately children and women, and on average lower education compared to natives, their labor market participation was low and so the impact on natives' labor market outcomes has been limited. In addition, the increase in the size of the refugee population created demand for goods and services. Increased demand might have offset any potential negative impact on Jordanians' employment that would have resulted from an increase in labor supply.

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Appendix: Tables

Table 1. Labor market status (linear probability model), men, retrospective data, 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Unemployed				**Employed**	
Percentage HH Syrian								
Percentage of HH Syr.	-0.000	-0.000			0.001	0.000		
	(0.001)	(0.001)			(0.001)	(0.001)		
Year (2010 omit.)								
2004	-0.007	-0.009	-0.009	0.004	0.024	0.007	0.006	-0.588***
	(0.010)	(0.010)	(0.010)	(0.017)	(0.020)	(0.017)	(0.018)	(0.025)
2005	-0.005	-0.007	-0.007	0.001	0.019	0.008	0.007	-0.489***
	(0.010)	(0.010)	(0.010)	(0.015)	(0.019)	(0.016)	(0.016)	(0.023)
2006	-0.009	-0.012	-0.013	-0.006	0.016	0.009	0.009	-0.391***
	(0.009)	(0.009)	(0.009)	(0.013)	(0.016)	(0.014)	(0.014)	(0.017)
2007	-0.005	-0.007	-0.008	0.000	0.017	0.014	0.014	-0.286***
	(0.006)	(0.006)	(0.006)	(0.008)	(0.013)	(0.010)	(0.011)	(0.014)
2008	-0.000	-0.002	-0.003	0.002	0.007	0.005	0.005	-0.195***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.009)	(0.008)	(0.008)	(0.011)
2009	0.004	0.003	0.003	0.006	-0.003	-0.003	-0.002	-0.105***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.008)	(0.007)	(0.007)	(0.008)
2011	-0.002	-0.003	-0.002	-0.002	0.001	0.002	0.002	0.104***
	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)	(0.004)	(0.004)	(0.006)
2012	-0.001	-0.001	-0.001	-0.002	-0.001	0.000	0.001	0.202***
	(0.009)	(0.009)	(0.009)	(0.011)	(0.010)	(0.009)	(0.009)	(0.012)
2013	0.007	0.007	0.008	0.008	0.010	0.009	0.009	0.309***
	(0.012)	(0.011)	(0.012)	(0.014)	(0.013)	(0.011)	(0.011)	(0.015)
2014	0.016	0.016	0.017	0.018	0.006	0.003	0.004	0.404***
	(0.011)	(0.011)	(0.011)	(0.015)	(0.015)	(0.011)	(0.011)	(0.017)
2015	0.007	0.007	0.009	0.014	0.015	0.010	0.012	0.510***
	(0.012)	(0.012)	(0.012)	(0.017)	(0.017)	(0.014)	(0.014)	(0.023)
2016	0.010	0.010	0.012	0.020	0.017	0.015	0.017	0.611***
	(0.012)	(0.012)	(0.012)	(0.019)	(0.018)	(0.015)	(0.015)	(0.025)
2017	0.007	0.010	0.011	0.019	0.019	0.003	0.005	0.695***
	(0.012)	(0.012)	(0.012)	(0.021)	(0.017)	(0.014)	(0.014)	(0.027)
Int. year and % HH Syr.								
Int. 2004 and % HH Syr.	0.001	0.001	0.001	0.001	-0.003*	-0.002*	-0.002*	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2005 and % HH Syr.	0.001*	0.001*	0.001*	0.001	-0.003	-0.002*	-0.002*	-0.002

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Unemployed				**Employed**	
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2006 and % HH Syr.	0.001*	0.002*	0.002*	0.001*	-0.002	-0.002*	-0.002*	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2007 and % HH Syr.	0.001	0.001	0.001	0.001	-0.002	-0.002*	-0.002*	-0.002*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2008 and % HH Syr.	0.001	0.001	0.001	0.000	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2009 and % HH Syr.	0.000	0.000	0.000	0.000	-0.000	-0.001	-0.001	-0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2011 and % HH Syr.	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2012 and % HH Syr.	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2013 and % HH Syr.	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2014 and % HH Syr.	-0.001	-0.001	-0.001	-0.001	0.000	0.001	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2015 and % HH Syr.	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2016 and % HH Syr.	-0.001	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2017 and % HH Syr.	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Controls		X	X	X		X	X	X
Locality FE			X				X	
Individual FE				X				X
N (Person-Year Obs.)	96543	94889	94889	96543	96543	94889	94889	96543
R-sq.	0.001	0.022	0.066	0.003	0.001	0.256	0.287	0.192

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the 2010 locality level

Table 2. Labor market status (linear probability model), women, retrospective data, 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Unemployed				Employed			
Percentage HH Syrian								
Percentage of HH Syr.	-0.000	-0.001			-0.000	-0.000		
	(0.001)	(0.001)			(0.001)	(0.001)		
Year (2010 omit.)								
2004	-0.016*	-0.012	-0.011	-0.105***	-0.010	-0.010	-0.011	-0.162***
	(0.007)	(0.007)	(0.007)	(0.014)	(0.007)	(0.007)	(0.007)	(0.013)
2005	-0.012	-0.009	-0.008	-0.087***	-0.005	-0.007	-0.008	-0.133***
	(0.007)	(0.007)	(0.007)	(0.013)	(0.006)	(0.006)	(0.006)	(0.011)
2006	-0.012	-0.010	-0.009	-0.071***	-0.004	-0.007	-0.007	-0.107***
	(0.006)	(0.006)	(0.006)	(0.011)	(0.005)	(0.005)	(0.005)	(0.008)
2007	-0.010	-0.007	-0.007	-0.054***	-0.004	-0.007	-0.007	-0.082***
	(0.006)	(0.005)	(0.005)	(0.009)	(0.005)	(0.005)	(0.005)	(0.007)
2008	-0.003	-0.001	-0.002	-0.034***	-0.007	-0.008	-0.008	-0.058***
	(0.004)	(0.004)	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.006)
2009	-0.002	-0.001	-0.002	-0.018***	-0.003	-0.004	-0.004	-0.030***
	(0.003)	(0.003)	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
2011	0.004	0.005	0.005	0.021***	-0.000	0.002	0.002	0.025***
	(0.003)	(0.003)	(0.003)	(0.004)	(0.002)	(0.002)	(0.002)	(0.003)
2012	0.003	0.006	0.006	0.036***	0.004	0.010**	0.010**	0.055***
	(0.004)	(0.004)	(0.004)	(0.006)	(0.003)	(0.003)	(0.003)	(0.005)
2013	0.006	0.009*	0.008	0.055***	0.008*	0.015***	0.016***	0.084***
	(0.004)	(0.004)	(0.004)	(0.007)	(0.004)	(0.004)	(0.004)	(0.008)
2014	0.009	0.014*	0.013*	0.075***	0.008	0.019***	0.020***	0.110***
	(0.006)	(0.006)	(0.006)	(0.010)	(0.005)	(0.005)	(0.005)	(0.010)
2015	0.011	0.016*	0.016*	0.093***	0.015*	0.026***	0.027***	0.140***
	(0.007)	(0.007)	(0.007)	(0.013)	(0.006)	(0.006)	(0.006)	(0.013)
2016	0.010	0.016*	0.016*	0.108***	0.021**	0.035***	0.036***	0.171***
	(0.007)	(0.008)	(0.008)	(0.014)	(0.007)	(0.007)	(0.007)	(0.015)
2017	0.010	0.016*	0.015*	0.121***	0.023**	0.035***	0.036***	0.193***
	(0.007)	(0.007)	(0.008)	(0.015)	(0.008)	(0.008)	(0.007)	(0.017)
Int. year and % HH Syr.								
Int. 2004 and % HH Syr.	0.000	0.000	0.000	0.001	-0.001	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2005 and % HH Syr.	0.000	-0.000	0.000	0.000	-0.001	-0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Unemployed				**Employed**	
Int. 2006 and % HH Syr.	0.000	0.000	0.000	0.000	-0.001	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2007 and % HH Syr.	0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2008 and % HH Syr.	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2009 and % HH Syr.	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2011 and % HH Syr.	0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2012 and % HH Syr.	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2013 and % HH Syr.	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2014 and % HH Syr.	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2015 and % HH Syr.	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2016 and % HH Syr.	0.001	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2017 and % HH Syr.	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Controls		X	X	X		X	X	X
Locality FE			X				X	
Individual FE				X				X
N (Person-Year Obs.)	97581	96367	96367	97581	97581	96367	96367	97581
R-sq.	0.002	0.066	0.117	0.027	0.002	0.127	0.171	0.054

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 3. Job formality and occupation (linear probability model), employed men, retrospective data, 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Formal			Managerial/Professional Occupation		
Percentage HH Syrian								
Percentage of HH Syr.	-0.003	-0.003			0.002	0.001		
	(0.002)	(0.002)			(0.001)	(0.001)		
Year (2010 omit.)								
2004	-0.038*	-0.033	-0.020	-0.054***	-0.033*	0.001	-0.001	-0.002
	(0.016)	(0.017)	(0.016)	(0.011)	(0.014)	(0.008)	(0.009)	(0.007)
2005	-0.032*	-0.028	-0.018	-0.044***	-0.025	0.004	0.003	-0.002
	(0.015)	(0.016)	(0.015)	(0.010)	(0.013)	(0.007)	(0.008)	(0.006)
2006	-0.032*	-0.027	-0.021	-0.041***	-0.023	0.007	0.007	-0.001
	(0.014)	(0.015)	(0.014)	(0.009)	(0.012)	(0.006)	(0.007)	(0.005)
2007	-0.031*	-0.026*	-0.023	-0.036***	-0.021	0.003	0.002	0.000
	(0.012)	(0.013)	(0.013)	(0.008)	(0.011)	(0.005)	(0.006)	(0.004)
2008	-0.018	-0.010	-0.008	-0.023***	-0.023*	0.001	-0.001	0.000
	(0.011)	(0.011)	(0.011)	(0.005)	(0.010)	(0.006)	(0.006)	(0.003)
2009	-0.017*	-0.010	-0.012	-0.012**	-0.015	0.000	-0.001	0.001
	(0.008)	(0.008)	(0.008)	(0.004)	(0.008)	(0.004)	(0.004)	(0.001)
2011	0.003	-0.003	-0.003	0.004	0.015**	0.004	0.006*	0.001
	(0.005)	(0.005)	(0.005)	(0.002)	(0.006)	(0.003)	(0.003)	(0.001)
2012	0.010	0.005	0.002	0.014**	0.021*	0.003	0.006	0.004
	(0.007)	(0.007)	(0.007)	(0.004)	(0.009)	(0.006)	(0.006)	(0.003)
2013	0.010	0.006	0.002	0.021***	0.020	0.004	0.008	0.005
	(0.009)	(0.009)	(0.009)	(0.006)	(0.010)	(0.007)	(0.007)	(0.003)
2014	0.019*	0.017	0.011	0.032***	0.024*	0.005	0.009	0.008
	(0.010)	(0.010)	(0.010)	(0.008)	(0.011)	(0.007)	(0.008)	(0.004)
2015	0.014	0.010	0.004	0.036***	0.028*	0.006	0.011	0.008
	(0.011)	(0.011)	(0.011)	(0.009)	(0.013)	(0.012)	(0.012)	(0.005)
2016	0.012	0.010	0.004	0.046***	0.026*	0.000	0.005	0.010
	(0.014)	(0.014)	(0.014)	(0.011)	(0.012)	(0.012)	(0.012)	(0.006)
2017	0.015	0.017	0.010	0.051***	0.024	-0.003	0.003	0.011
	(0.014)	(0.015)	(0.014)	(0.013)	(0.012)	(0.012)	(0.011)	(0.007)
Int. year and % HH Syr.								
Int. 2004 and % HH Syr.	0.000	-0.000	-0.000	0.001*	0.001	-0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)
Int. 2005 and % HH Syr.	-0.000	-0.000	-0.001	0.001	0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Formal			**Managerial/Professional Occupation**		
Int. 2006 and % HH Syr.	0.000	0.000	0.000	0.001**	0.000	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2007 and % HH Syr.	0.001	0.001	0.001	0.001	0.001	0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2008 and % HH Syr.	0.001	0.000	0.000	0.001*	0.001	0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2009 and % HH Syr.	0.001	0.001	0.001	0.000	0.001	-0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2011 and % HH Syr.	-0.000	0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2012 and % HH Syr.	-0.000	0.000	0.000	-0.000	-0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2013 and % HH Syr.	-0.000	0.000	0.000	-0.000	-0.001	0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2014 and % HH Syr.	-0.000	-0.000	0.000	-0.000	-0.001	0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Int. 2015 and % HH Syr.	-0.000	0.000	0.000	-0.000	-0.001	-0.000	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2016 and % HH Syr.	0.000	0.001	0.001	-0.000	-0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2017 and % HH Syr.	-0.000	0.000	0.001	-0.000	-0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Controls		X	X	X		X	X	X
Locality FE			X				X	
Individual FE				X				X
N (Person-Year Obs.)	51123	50449	50449	51123	50732	50065	50065	50732
R-sq.	0.002	0.099	0.209	0.006	0.003	0.555	0.588	0.001

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 4. Job formality and occupation (linear probability model), employed women, retrospective data, 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Formal			Managerial/Professional Occupation		
Percentage HH Syrian								
Percentage of HH Syr.	0.006*	0.003			0.012***	0.001		
	(0.002)	(0.002)			(0.003)	(0.001)		
Year (2010 omit.)								
2004	-0.019	-0.004	-0.010	-0.002	-0.073	-0.023	-0.016	-0.013
	(0.027)	(0.029)	(0.025)	(0.002)	(0.045)	(0.023)	(0.020)	(0.012)
2005	-0.035	-0.010	-0.011	-0.002	-0.077	-0.023	-0.026	-0.009
	(0.020)	(0.024)	(0.019)	(0.002)	(0.045)	(0.019)	(0.017)	(0.008)
2006	-0.009	-0.005	-0.007	-0.002	-0.006	-0.013	-0.017	-0.007
	(0.024)	(0.025)	(0.025)	(0.002)	(0.034)	(0.017)	(0.014)	(0.007)
2007	-0.017	-0.010	-0.015	-0.003	0.003	0.002	-0.009	-0.005
	(0.024)	(0.023)	(0.021)	(0.002)	(0.030)	(0.015)	(0.011)	(0.005)
2008	0.001	0.012	0.003	0.001	-0.008	0.013	-0.003	-0.004
	(0.021)	(0.019)	(0.016)	(0.001)	(0.023)	(0.011)	(0.009)	(0.003)
2009	0.023	0.035*	0.023*	0.000	-0.007	0.009	0.004	-0.002
	(0.018)	(0.015)	(0.011)	(0.000)	(0.018)	(0.010)	(0.005)	(0.002)
2011	0.002	0.001	-0.001	-0.000	0.004	-0.004	-0.005*	0.001
	(0.005)	(0.004)	(0.004)	(0.000)	(0.008)	(0.003)	(0.003)	(0.002)
2012	0.014	0.015	-0.000	-0.002	0.008	-0.005	-0.004	0.002
	(0.012)	(0.012)	(0.008)	(0.002)	(0.018)	(0.011)	(0.007)	(0.003)
2013	0.039**	0.038**	0.016	-0.002	0.036	0.011	0.006	0.004
	(0.014)	(0.013)	(0.011)	(0.002)	(0.020)	(0.012)	(0.011)	(0.005)
2014	0.052***	0.049***	0.032*	-0.002	0.061**	0.018	0.015	0.001
	(0.015)	(0.015)	(0.013)	(0.002)	(0.022)	(0.013)	(0.012)	(0.003)
2015	0.062***	0.062***	0.037*	-0.002	0.060**	0.013	0.006	0.003
	(0.018)	(0.017)	(0.015)	(0.002)	(0.022)	(0.013)	(0.012)	(0.004)
2016	0.044*	0.041*	0.028	-0.002	0.074*	0.021	0.014	0.004
	(0.019)	(0.019)	(0.017)	(0.003)	(0.029)	(0.020)	(0.017)	(0.006)
2017	0.023	0.017	0.004	-0.003	0.080*	0.016	0.011	0.006
	(0.023)	(0.023)	(0.021)	(0.003)	(0.031)	(0.021)	(0.018)	(0.007)
Int. year and % HH Syr.								
Int. 2004 and % HH Syr.	0.002	0.002	0.003*	0.001	-0.001	0.002	0.002	0.000
	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.000)
Int. 2005 and % HH Syr.	0.003*	0.002	0.002*	0.001	0.002	0.003*	0.003**	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Formal			**Managerial/Professional Occupation**		
Int. 2006 and % HH Syr.	0.002	0.002	0.002	0.001	-0.003	0.001	0.002	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2007 and % HH Syr.	0.002	0.002	0.002	0.000	-0.002	0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2008 and % HH Syr.	0.001	0.000	0.000	0.000	-0.001	-0.001	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2009 and % HH Syr.	-0.001	-0.001	-0.001	0.000	-0.001	-0.001	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Int. 2011 and % HH Syr.	-0.000	0.000	0.000	-0.000	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2012 and % HH Syr.	-0.001	-0.001	0.000	0.000	-0.001	-0.001	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Int. 2013 and % HH Syr.	-0.004*	-0.003*	-0.001	0.000	-0.003	-0.002*	-0.001	0.000
	(0.002)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2014 and % HH Syr.	-0.004*	-0.003*	-0.001	0.000	-0.005**	-0.003**	-0.002**	-0.000
	(0.002)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2015 and % HH Syr.	-0.005**	-0.004**	-0.001	-0.000	-0.005**	-0.003**	-0.002**	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2016 and % HH Syr.	-0.005***	-0.004**	-0.001	-0.000	-0.006***	-0.004***	-0.003***	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Int. 2017 and % HH Syr.	-0.003*	-0.002	-0.000	-0.000	-0.006**	-0.004**	-0.003**	-0.000
	(0.002)	(0.002)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Controls		X	X	X		X	X	X
Locality FE			X				X	
Individual FE				X				X
N (Person-Year Obs.)	9241	9146	9146	9241	9150	9059	9059	9150
R-sq.	0.010	0.173	0.434	0.012	0.025	0.690	0.769	0.010

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 5. Job sector (linear probability model), employed men, retrospective data, 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			Open Sector				Health and Human Services				Private Sector	
Percentage HH Syrian												
Percentage of HH Syr.	-0.001	-0.000			0.002	0.001			0.000	0.000		
	(0.002)	(0.002)			(0.001)	(0.001)			(0.003)	(0.002)		
Year (2010 omit.)												
2004	0.010	0.007	0.008	0.026*	-0.003	0.008	0.016	-0.001	-0.017	-0.004	-0.019	0.022*
	(0.011)	(0.011)	(0.010)	(0.010)	(0.009)	(0.009)	(0.010)	(0.007)	(0.016)	(0.015)	(0.015)	(0.010)
2005	0.007	0.005	0.007	0.018	-0.003	0.006	0.013	-0.002	-0.012	-0.002	-0.014	0.020*
	(0.011)	(0.011)	(0.009)	(0.010)	(0.009)	(0.008)	(0.009)	(0.006)	(0.015)	(0.013)	(0.014)	(0.009)
2006	0.006	0.003	0.008	0.015	-0.005	0.003	0.009	-0.000	-0.012	-0.003	-0.007	0.017*
	(0.010)	(0.010)	(0.010)	(0.008)	(0.008)	(0.007)	(0.009)	(0.006)	(0.014)	(0.013)	(0.011)	(0.008)
2007	0.010	0.007	0.011	0.010	-0.011	-0.004	0.000	-0.000	-0.008	-0.001	-0.003	0.012
	(0.009)	(0.009)	(0.009)	(0.005)	(0.007)	(0.006)	(0.007)	(0.004)	(0.011)	(0.011)	(0.012)	(0.006)
2008	0.006	0.001	0.006	0.009*	-0.008	-0.001	0.001	0.001	-0.011	-0.010	-0.009	0.006
	(0.009)	(0.009)	(0.009)	(0.004)	(0.007)	(0.007)	(0.007)	(0.003)	(0.010)	(0.010)	(0.011)	(0.004)
2009	0.007	0.003	0.006	0.003	-0.012*	-0.008	-0.005	-0.000	-0.006	-0.007	-0.003	0.001
	(0.007)	(0.007)	(0.006)	(0.003)	(0.005)	(0.004)	(0.004)	(0.001)	(0.008)	(0.007)	(0.006)	(0.003)
2011	-0.002	0.001	-0.002	-0.003	0.005	0.001	0.000	0.001	-0.000	-0.001	-0.000	-0.006**
	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.001)	(0.005)	(0.006)	(0.004)	(0.002)
2012	-0.008	-0.004	-0.003	-0.009*	0.008	0.002	-0.001	0.003	-0.007	-0.011	-0.001	-0.011**
	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.009)	(0.009)	(0.006)	(0.003)
2013	-0.012	-0.010	-0.006	-0.016**	0.008	0.003	-0.002	0.004	-0.017	-0.025*	-0.008	-0.019***
	(0.008)	(0.008)	(0.008)	(0.006)	(0.005)	(0.005)	(0.005)	(0.003)	(0.011)	(0.011)	(0.008)	(0.005)
2014	-0.010	-0.009	-0.007	-0.018*	0.009	0.004	-0.001	0.004	-0.010	-0.024	-0.006	-0.018**
	(0.009)	(0.009)	(0.009)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.013)	(0.012)	(0.010)	(0.006)
2015	-0.011	-0.009	-0.006	-0.021*	0.006	0.000	-0.005	0.005	-0.001	-0.017	0.005	-0.020**
	(0.010)	(0.010)	(0.010)	(0.008)	(0.008)	(0.008)	(0.009)	(0.007)	(0.015)	(0.015)	(0.011)	(0.008)
2016	0.004	0.003	0.004	-0.027**	0.003	-0.002	-0.009	0.006	0.018	-0.006	0.015	-0.025**
	(0.013)	(0.014)	(0.013)	(0.010)	(0.008)	(0.008)	(0.009)	(0.007)	(0.016)	(0.017)	(0.013)	(0.009)
2017	0.004	0.001	0.002	-0.031**	0.003	-0.003	-0.011	0.007	0.017	-0.015	0.011	-0.030**
	(0.012)	(0.014)	(0.014)	(0.011)	(0.008)	(0.009)	(0.009)	(0.008)	(0.017)	(0.017)	(0.013)	(0.010)
Int. year and % HH Syr.												
Int. 2004 and % HH Syr.	-0.000	0.000	-0.000	0.000	-0.000	-0.001	-0.001	-0.000	0.003*	0.003*	0.002*	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2005 and % HH Syr.	0.000	0.000	-0.000	0.001	-0.000	-0.001	-0.001	-0.000	0.002*	0.002*	0.002*	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			Open Sector			**Health and Human Services**					**Private Sector**	
Int. 2006 and % HH Syr.	-0.000	-0.000	-0.001	0.000	-0.000	-0.001	-0.001	-0.000	0.002	0.002	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2007 and % HH Syr.	-0.001	-0.001	-0.001	-0.000	0.000	0.000	-0.000	-0.000	0.001	0.001	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Int. 2008 and % HH Syr.	-0.001	-0.001	-0.001	-0.000	0.000	-0.000	-0.000	-0.000	0.001	0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2009 and % HH Syr.	-0.001	-0.001	-0.001	-0.000	0.000	0.000	0.000	-0.000	0.000	0.000	0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Int. 2011 and % HH Syr.	-0.000	-0.000	0.000	0.000	-0.000	0.000	0.000	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Int. 2012 and % HH Syr.	-0.000	-0.000	-0.000	0.000	-0.001*	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2013 and % HH Syr.	0.001	0.000	0.000	0.000	-0.001	-0.000	-0.000	0.000	0.001	0.001	0.001	0.001**
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2014 and % HH Syr.	0.000	-0.000	0.000	0.000	-0.001	-0.000	-0.000	0.000	0.001	0.001	0.001	0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2015 and % HH Syr.	0.001	0.000	0.000	0.000	-0.001	-0.000	-0.000	0.000	0.001	0.001	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2016 and % HH Syr.	0.000	-0.000	0.000	0.000	-0.001	-0.000	-0.000	0.000	0.000	-0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2017 and % HH Syr.	0.000	0.000	0.000	0.000	-0.001	-0.000	0.000	0.000	0.000	0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Controls		X	X	X		X	X	X		X	X	X
Locality FE			X				X				X	
Individual FE				X				X				X
N (Person-Year Obs.)	50813	50144	50144	50813	50813	50144	50144	50813	51126	50452	50452	51126
R-sq.	0.000	0.068	0.189	0.003	0.001	0.141	0.225	0.001	0.001	0.092	0.337	0.006

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 6. Job sector (linear probability model), employed women, retrospective data 2004-2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Open Sector				Health and Human Services				Private Sector			
Percentage HH Syrian												
Percentage of HH Syr.	-0.003	0.001			-0.001	-0.007*			-0.003	0.001		
	(0.002)	(0.002)			(0.003)	(0.003)			(0.005)	(0.004)		
Year (2010 omit.)												
2004	0.077*	0.056	0.035	0.029	-0.110*	-0.073	-0.027	0.006	0.000	-0.007	-0.025	0.005
	(0.038)	(0.033)	(0.032)	(0.031)	(0.046)	(0.042)	(0.040)	(0.010)	(0.054)	(0.048)	(0.047)	(0.006)
2005	0.068*	0.048	0.025	0.027	-0.098*	-0.057	-0.019	0.005	0.015	-0.005	-0.034	0.006
	(0.031)	(0.026)	(0.025)	(0.027)	(0.045)	(0.041)	(0.038)	(0.010)	(0.048)	(0.042)	(0.041)	(0.005)
2006	0.027	0.031	0.016	0.023	-0.021	-0.017	-0.002	0.003	-0.031	-0.032	-0.050	0.005
	(0.030)	(0.028)	(0.026)	(0.023)	(0.038)	(0.036)	(0.033)	(0.007)	(0.044)	(0.038)	(0.037)	(0.004)
2007	0.013	0.014	0.005	0.009	0.011	0.018	0.018	0.004	-0.037	-0.044	-0.048	0.004
	(0.021)	(0.018)	(0.018)	(0.010)	(0.033)	(0.028)	(0.024)	(0.005)	(0.036)	(0.032)	(0.030)	(0.003)
2008	0.004	-0.001	-0.004	0.005	0.002	0.015	0.012	0.003	-0.050	-0.058*	-0.050*	0.002
	(0.019)	(0.016)	(0.015)	(0.006)	(0.026)	(0.024)	(0.020)	(0.004)	(0.028)	(0.024)	(0.019)	(0.002)
2009	0.002	-0.005	-0.005	0.002	0.004	0.016	0.017	0.001	-0.041	-0.050*	-0.042*	0.001
	(0.014)	(0.013)	(0.013)	(0.003)	(0.021)	(0.020)	(0.016)	(0.002)	(0.024)	(0.022)	(0.018)	(0.001)
2011	0.003	0.007	0.009*	-0.003	0.001	-0.003	-0.012	0.003	0.008	0.010	0.019	-0.000
	(0.005)	(0.004)	(0.004)	(0.003)	(0.010)	(0.009)	(0.009)	(0.005)	(0.010)	(0.011)	(0.010)	(0.001)
2012	0.001	0.010	0.013	-0.007	-0.013	-0.018	-0.026*	-0.000	0.023	0.028	0.044**	-0.001
	(0.012)	(0.010)	(0.007)	(0.006)	(0.020)	(0.015)	(0.012)	(0.004)	(0.018)	(0.019)	(0.014)	(0.002)
2013	-0.009	0.004	0.010	-0.007	0.007	-0.011	-0.033*	-0.002	0.021	0.034	0.059**	0.001
	(0.014)	(0.012)	(0.011)	(0.009)	(0.024)	(0.019)	(0.017)	(0.005)	(0.023)	(0.025)	(0.021)	(0.003)
2014	-0.019	0.004	0.013	-0.008	0.012	-0.016	-0.044	-0.004	0.032	0.049*	0.077***	-0.001
	(0.016)	(0.013)	(0.011)	(0.013)	(0.028)	(0.023)	(0.023)	(0.008)	(0.024)	(0.024)	(0.022)	(0.003)
2015	-0.008	0.020	0.031	-0.011	0.018	-0.012	-0.045*	-0.005	0.055	0.076**	0.113***	-0.002
	(0.023)	(0.020)	(0.018)	(0.016)	(0.033)	(0.024)	(0.022)	(0.009)	(0.032)	(0.029)	(0.028)	(0.004)
2016	0.002	0.035	0.029	-0.013	-0.012	-0.047	-0.068*	-0.006	0.043	0.064*	0.113***	-0.006
	(0.025)	(0.023)	(0.020)	(0.019)	(0.039)	(0.031)	(0.028)	(0.011)	(0.033)	(0.031)	(0.030)	(0.005)
2017	0.001	0.041	0.033	-0.015	-0.001	-0.050	-0.076**	-0.007	0.049	0.085*	0.132***	-0.007
	(0.026)	(0.024)	(0.023)	(0.021)	(0.041)	(0.032)	(0.029)	(0.012)	(0.038)	(0.036)	(0.034)	(0.006)
Int. year and % HH Syr.												
Int. 2004 and % HH Syr.	-0.003	-0.004	-0.002	-0.001	0.007*	0.007*	0.004	-0.000	-0.002	-0.002	-0.002	-0.000
	(0.002)	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.003)	(0.000)	(0.004)	(0.004)	(0.003)	(0.000)
Int. 2005 and % HH Syr.	-0.003	-0.004*	-0.002	-0.001	0.009*	0.008**	0.005	-0.000	-0.002	-0.001	-0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.001)	(0.004)	(0.003)	(0.003)	(0.000)	(0.003)	(0.003)	(0.002)	(0.000)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			Open Sector			**Health and Human Services**					**Private Sector**	
Int. 2006 and % HH Syr.	-0.002	-0.003	-0.001	-0.001	0.002	0.004	0.002	0.000	-0.001	-0.001	0.000	-0.000
	(0.002)	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.003)	(0.000)	(0.003)	(0.003)	(0.002)	(0.000)
Int. 2007 and % HH Syr.	-0.001	-0.001	-0.000	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000	0.001	0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)	(0.003)	(0.003)	(0.002)	(0.000)
Int. 2008 and % HH Syr.	0.000	0.000	0.001	-0.000	-0.000	-0.001	-0.001	-0.000	0.001	0.003	0.003	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)	(0.002)	(0.003)	(0.002)	(0.000)
Int. 2009 and % HH Syr.	-0.000	-0.000	0.000	0.000	-0.001	-0.002	-0.002	-0.000	0.001	0.003	0.002	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)
Int. 2011 and % HH Syr.	0.000	0.000	0.000	0.000	0.000	0.000	0.001	-0.000	0.000	0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2012 and % HH Syr.	0.001	0.000	-0.000	0.000	0.002	0.001	0.002*	0.000	0.000	0.000	-0.001	0.000
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Int. 2013 and % HH Syr.	0.001	0.001	-0.000	-0.000	0.000	0.001	0.002	0.000	0.001	0.001	-0.001	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.002)	(0.001)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)
Int. 2014 and % HH Syr.	0.001	0.001	-0.001	-0.000	-0.000	0.001	0.002	0.000	0.002	0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)	(0.002)	(0.002)	(0.002)	(0.000)
Int. 2015 and % HH Syr.	0.001	-0.000	-0.001	-0.000	-0.002	-0.000	0.001	0.000	0.002	0.001	-0.001	-0.000
	(0.002)	(0.001)	(0.001)	(0.000)	(0.003)	(0.002)	(0.002)	(0.000)	(0.003)	(0.002)	(0.002)	(0.000)
Int. 2016 and % HH Syr.	0.001	0.000	-0.001	-0.000	-0.002	-0.000	0.001	0.000	0.004	0.003	0.001	0.000
	(0.002)	(0.002)	(0.001)	(0.000)	(0.003)	(0.002)	(0.002)	(0.000)	(0.003)	(0.002)	(0.003)	(0.000)
Int. 2017 and % HH Syr.	0.001	-0.000	-0.000	-0.000	-0.002	-0.000	0.001	0.000	0.004	0.002	0.000	0.000
	(0.002)	(0.002)	(0.001)	(0.000)	(0.003)	(0.003)	(0.002)	(0.000)	(0.004)	(0.003)	(0.003)	(0.000)
Controls		X	X	X		X	X	X		X	X	X
Locality FE			X				X				X	
Individual FE				X				X				X
N (Person-Year Obs.)	9155	9064	9064	9155	9155	9064	9064	9155	9241	9146	9146	9241
R-sq.	0.005	0.195	0.399	0.010	0.002	0.199	0.424	0.005	0.010	0.193	0.546	0.003

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 7. Labor market status (linear probability model), cross-sectional data, men

	Unemployed			Employed		
Percentage HH Syrian						
Percentage of HH Syr.	-0.000	-0.000		-0.001	-0.001	
	(0.000)	(0.000)		(0.001)	(0.001)	
Year (2010 omit.)						
2016	0.014	0.008	0.008	-0.102***	-0.095***	-0.092***
	(0.008)	(0.010)	(0.009)	(0.022)	(0.020)	(0.018)
Int. 2016 and % HH Syr.						
Int. 2016 and % HH Syr.	-0.000	0.000	0.000	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Controls		X	X		X	X
Sub-district FE			X			X
N	15253	15070	15070	15253	15070	15070
R-squared	0.001	0.020	0.031	0.008	0.324	0.336

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 8. Labor market status (linear probability model), cross-sectional data, women

	Unemployed			Employed		
Percentage HH Syrian						
Percentage of HH Syr.	-0.001	-0.000		-0.001	-0.001	
	(0.000)	(0.000)		(0.001)	(0.001)	
Year (2010 omit.)						
2016	0.024**	0.018*	0.020*	-0.027*	-0.045***	-0.043***
	(0.008)	(0.008)	(0.008)	(0.012)	(0.009)	(0.009)
Int. 2016 and % HH Syr.						
Int. 2016 and % HH Syr.	0.000	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Controls		X	X		X	X
Sub-district FE			X			X
N	15553	15421	15421	15553	15421	15421
R-squared	0.004	0.098	0.115	0.002	0.197	0.205

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 9. Job characteristics (linear probability model), cross-sectional data, employed men

	Formal			Managerial/Professional Occupation			Open Sector			Health and Human Serv.			Private		
Percentage HH Syrian															
Percentage of HH Syr.	-0.001	-0.002		0.001	0.000		-0.001	-0.000		0.000	-0.000		-0.000	0.000	
	(0.002)	(0.002)		(0.001)	(0.000)		(0.001)	(0.001)		(0.001)	(0.001)		(0.003)	(0.002)	
Year (2010 omit.)															
2016	-0.009	-0.019	-0.019	0.029	0.018	0.019	-0.001	0.005	0.003	0.024*	0.021	0.015	-0.035	-0.037	-0.027
	(0.021)	(0.020)	(0.018)	(0.019)	(0.015)	(0.014)	(0.017)	(0.016)	(0.013)	(0.011)	(0.011)	(0.011)	(0.027)	(0.027)	(0.020)
Int. 2016 and % HH Syr.															
Int. 2016 and % HH Syr.	0.002	0.003*	0.002*	-0.001	0.001	0.001	-0.000	-0.001	-0.000	-0.001	-0.000	-0.000	-0.001	-0.002	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Controls		X	X		X	X		X	X		X	X		X	X
Sub-district FE			X			X			X			X			X
N	9013	8930	8930	9004	8924	8924	9004	8924	8924	9004	8924	8924	9053	8970	8970
R-squared	0.000	0.116	0.175	0.001	0.516	0.524	0.000	0.050	0.109	0.001	0.143	0.162	0.003	0.088	0.255

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 10. Job characteristics (linear probability model), cross-sectional data, employed women

	Formal			Managerial/Professional Occupation			Open Sector			Health and Human Serv.			Private		
Percentage HH Syrian															
Percentage of HH Syr.	0.003	0.000		0.003	0.000		-0.003	-0.001		0.002	0.001		-0.001	-0.000	
	(0.002)	(0.001)		(0.002)	(0.001)		(0.002)	(0.001)		(0.002)	(0.001)		(0.002)	(0.002)	
Year (2010 omit.)															
2016	0.013	-0.027	-0.051*	0.145**	0.073*	0.068*	-0.089*	-0.031	-0.024	0.080*	0.029	0.010	-0.058	-0.017	0.032
	(0.033)	(0.025)	(0.022)	(0.049)	(0.028)	(0.030)	(0.037)	(0.026)	(0.025)	(0.033)	(0.034)	(0.032)	(0.037)	(0.030)	(0.029)
Int. 2016 and % HH Syr.															
Int. 2016 and % HH Syr.	0.001	0.001	0.002*	-0.001	-0.000	0.000	0.002	0.002	0.001	-0.003	-0.004	-0.003	0.002	0.003	0.002
	(0.002)	(0.001)	(0.001)	(0.004)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Controls		X	X		X	X		X	X		X	X		X	X
Sub-district FE			X			X			X			X			X
N	1932	1919	1919	2121	2110	2110	2122	2111	2111	2122	2111	2111	2131	2118	2118
R-squared	0.005	0.240	0.297	0.021	0.633	0.648	0.009	0.291	0.335	0.003	0.210	0.261	0.002	0.228	0.344

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001. Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 11. Hours and wages (OLS model), cross-sectional data, employed (or wage-working) men

	Ln (hourly wage)			Hours per week			Ln (monthly wage)		
Percentage HH Syrian									
Percentage of HH Syr.	-0.001	-0.002		-0.030	-0.025		-0.002	-0.003	
	(0.002)	(0.002)		(0.053)	(0.051)		(0.002)	(0.003)	
Year (2010 omit.)									
2016	0.267***	0.170***	0.202***	-2.443*	-1.641	-1.895	0.188***	0.148***	0.165***
	(0.056)	(0.047)	(0.049)	(1.183)	(1.107)	(1.044)	(0.036)	(0.038)	(0.040)
Int. 2016 and % HH Syr.									
Int. 2016 and % HH Syr.	0.001	0.002	0.001	-0.065	-0.076	-0.052	0.002	0.003	0.002
	(0.002)	(0.002)	(0.002)	(0.074)	(0.072)	(0.065)	(0.002)	(0.002)	(0.002)
Controls		X	X		X	X		X	X
Sub-district FE			X			X			X
N	7351	7278	7278	8834	8757	8757	7458	7383	7383
R-squared	0.025	0.144	0.163	0.009	0.035	0.060	0.020	0.154	0.175

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 12. Hours and wages (OLS model), cross-sectional data, employed (or wage-working) women

	Ln (hourly wage)			Hours per week			Ln (monthly wage)		
Percentage HH Syrian									
Percentage of HH Syr.	0.002	-0.002		0.008	0.049		0.003	0.000	
	(0.003)	(0.002)		(0.031)	(0.031)		(0.004)	(0.003)	
Year (2010 omit.)									
2016	0.172	0.057	0.083	-0.219	0.239	0.390	0.214***	0.143**	0.145**
	(0.092)	(0.055)	(0.062)	(1.116)	(0.895)	(1.054)	(0.060)	(0.046)	(0.047)
Int. 2016 and % HH Syr.									
Int. 2016 and % HH Syr.	0.003	0.004	0.003	0.009	-0.005	0.005	0.003	0.003	0.003
	(0.004)	(0.004)	(0.004)	(0.052)	(0.046)	(0.046)	(0.003)	(0.003)	(0.003)
Controls		X	X		X	X		X	X
Sub-district FE			X			X			X
N	1772	1762	1762	1911	1899	1899	1792	1782	1782
R-squared	0.014	0.227	0.276	0.000	0.119	0.170	0.038	0.207	0.281

Source: Authors' calculations based on JLMPS 2016
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the sub-district level

Table 13. Labor market outcomes (fixed effects linear probability and OLS models), panel data, men

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Year (2010 omit.)										
2016	0.033	-0.083	0.153***	0.337***	-2.592	0.131	0.024	-0.011	-0.004	-0.006
	(0.038)	(0.049)	(0.036)	(0.098)	(1.783)	(0.126)	(0.023)	(0.032)	(0.018)	(0.033)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	0.001	0.001	0.003*	0.009*	-0.135	0.003	0.001	0.002	-0.001	-0.002*
	(0.001)	(0.002)	(0.001)	(0.004)	(0.121)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
N	7363	7394	4786	3863	4677	3924	4788	4789	4789	4808

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001. Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 14. Labor market outcomes (fixed effects linear probability and OLS models), panel data, women

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Year (2010 omit.)										
2016	0.038*	-0.008	-0.344	0.117	15.274*	1.401*	-0.076	0.182	0.215	0.223
	(0.019)	(0.028)	(0.192)	(0.780)	(7.580)	(0.708)	(0.184)	(0.175)	(0.130)	(0.166)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	-0.001	0.000	0.004*	0.010	-0.138	0.000	0.002	-0.001	-0.000	-0.004
	(0.001)	(0.001)	(0.002)	(0.016)	(0.143)	(0.006)	(0.002)	(0.002)	(0.003)	(0.004)
N	7411	7412	1071	979	1056	994	1193	1194	1194	1201

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 15. Labor market outcomes, hours, and wages (fixed effects linear probability and OLS models), by education (in 2010), panel data, men

	Unemployed		Employed		Ln (hourly wage)		Hours per week		Ln (monthly wage)	
	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.
Year (2010 omit.)										
2016	0.044	-0.002	-0.106	-0.046	0.181	0.469**	-0.211	-6.705	-0.088	0.371
	(0.054)	(0.039)	(0.065)	(0.055)	(0.164)	(0.166)	(2.009)	(3.705)	(0.216)	(0.365)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	-0.000	0.002	0.001	-0.001	0.013*	0.005	-0.207	-0.074	0.007	-0.001
	(0.001)	(0.001)	(0.002)	(0.003)	(0.006)	(0.005)	(0.144)	(0.136)	(0.005)	(0.004)
N	4755	2608	4776	2618	2301	1562	2840	1837	2337	1587

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 16. Job characteristics (fixed effects linear probability models), by education (in 2010), panel data, employed men

	Formal		Managerial/Professional Occupation		Open sector		Health and Human Serv.		Private sector	
	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.	Less ed.	More ed.
Year (2010 omit.)										
2016	0.144**	0.159**	0.004	-0.013	0.008	0.064	0.003	-0.005	0.010	-0.137**
	(0.045)	(0.052)	(0.016)	(0.089)	(0.035)	(0.098)	(0.020)	(0.024)	(0.031)	(0.053)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	0.004	0.001	0.000	0.001	0.000	0.002	-0.000	-0.001	-0.002	-0.004*
	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)
N	2910	1876	2916	1872	2917	1872	2917	1872	2927	1881

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001.
Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 17. Labor market outcomes, hours, and wages (fixed effects linear probability and OLS models), by sector (in 2010), panel data, men

	Unemployed		Employed		Ln (hourly wage)		Hours per week		Ln (monthly wage)	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Year (2010 omit.)										
2016	0.043**	0.056***	-0.303***	-0.245***	0.330**	0.503**	2.740	-6.712*	0.266**	0.021
	(0.016)	(0.011)	(0.045)	(0.032)	(0.121)	(0.158)	(2.281)	(2.805)	(0.090)	(0.250)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	-0.001	-0.002**	0.003*	0.003	0.008*	0.009	-0.207*	0.037	0.003	0.005
	(0.001)	(0.001)	(0.002)	(0.002)	(0.004)	(0.010)	(0.085)	(0.207)	(0.002)	(0.012)
N	2356	2364	2357	2384	2012	1313	2054	2008	2036	1332

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 18. Job characteristics (fixed effects linear probability models), by sector (in 2010), panel data, employed men

	Formal		Managerial/Professional Occupation		Open sector		Health and Human Serv.		Private sector	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
Year (2010 omit.)										
2016	0.063	0.187***	0.051	0.041	-0.016	-0.065	-0.017	0.013	-0.040	-0.055**
	(0.074)	(0.047)	(0.028)	(0.031)	(0.093)	(0.044)	(0.023)	(0.024)	(0.073)	(0.020)
Int. year and % HH Syrian										
Int. 2016 and % HH Syr.	0.001	0.004	0.003*	-0.002	0.000	0.005*	-0.000	-0.002	-0.001	-0.002
	(0.001)	(0.003)	(0.001)	(0.003)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)
N	2081	2063	2080	2063	2082	2063	2082	2063	2089	2070

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controlling for age and age squared in year
Standard errors (in parentheses) clustered at the locality level

Table 19. School-to-work transition (hazard ratios in parentheses from a complementary log-log discrete time hazard model), by sex, retrospective data for 2004-2016

	Men	Women	Men	Women
Year (2010 omit.)				
2004	1.189	0.566	1.280	0.811
	(0.430)	(0.336)	(0.470)	(0.490)
2005	1.051	1.457	1.258	1.758
	(0.252)	(1.035)	(0.299)	(1.210)
2006	1.070	0.930	1.256	1.049
	(0.321)	(0.645)	(0.377)	(0.711)
2007	0.820	1.254	0.870	1.364
	(0.226)	(0.652)	(0.243)	(0.748)
2008	0.451**	1.237	0.478*	1.113
	(0.133)	(0.668)	(0.141)	(0.684)
2009	0.540*	1.149	0.537*	1.205
	(0.155)	(0.593)	(0.161)	(0.607)
2011	0.737	0.672	0.745	0.683
	(0.143)	(0.335)	(0.145)	(0.313)
2012	0.609	1.041	0.700	0.990
	(0.245)	(0.472)	(0.257)	(0.423)
2013	0.851	1.035	0.930	1.011
	(0.238)	(0.498)	(0.251)	(0.464)
2014	0.545*	1.066	0.609*	0.954
	(0.137)	(0.351)	(0.145)	(0.309)
2015	0.777	1.442	0.855	1.251
	(0.230)	(0.632)	(0.244)	(0.525)
2016	0.753	1.972	0.759	1.660
	(0.163)	(0.845)	(0.169)	(0.699)
Percentage HH Syrian				
Percentage of HH Syr.	1.000	1.032	1.004	1.021
	(0.013)	(0.023)	(0.013)	(0.020)
Int. year and % HH Syr.				
Int. 2004 and % HH Syr.	0.969	0.967	0.970	0.963
	(0.036)	(0.048)	(0.034)	(0.054)
Int. 2005 and % HH Syr.	0.975	0.935	0.965*	0.934
	(0.017)	(0.060)	(0.017)	(0.054)
Int. 2006 and % HH Syr.	0.966	0.970	0.957*	0.965
	(0.022)	(0.048)	(0.021)	(0.044)
Int. 2007 and % HH Syr.	1.011	0.963	1.005	0.964
	(0.021)	(0.033)	(0.020)	(0.037)
Int. 2008 and % HH Syr.	1.030	0.948	1.028	0.959
	(0.024)	(0.040)	(0.024)	(0.044)
Int. 2009 and % HH Syr.	1.014	0.973	1.013	0.977
	(0.019)	(0.031)	(0.018)	(0.030)
Int. 2011 and % HH Syr.	1.009	0.960	1.009	0.953
	(0.014)	(0.030)	(0.014)	(0.029)
Int. 2012 and % HH Syr.	1.008	0.973	0.995	0.975
	(0.029)	(0.029)	(0.023)	(0.026)
Int. 2013 and % HH Syr.	0.980	0.953	0.973	0.956
	(0.023)	(0.031)	(0.022)	(0.029)
Int. 2014 and % HH Syr.	1.020	0.949*	1.007	0.953*
	(0.018)	(0.020)	(0.016)	(0.019)

	Men	Women	Men	Women
Int. 2015 and % HH Syr.	1.008	0.967	0.993	0.975
	(0.021)	(0.031)	(0.019)	(0.029)
Int. 2016 and % HH Syr.	1.021	0.965	1.014	0.969
	(0.013)	(0.024)	(0.013)	(0.024)
Controls			X	X
N obs.	10594	17078	10300	16862

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include education level, mother's education level, father's education level, father's employment status, age, and age squared. Standard errors (in parentheses) clustered at the locality level

Table 20. First stage (instrumental variables 2SLS models), men

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Za'atari Camp (distance in km.)	-0.057*	-0.057*	-0.072*	-0.073*	-0.074*	-0.072*	-0.072*	-0.073*	-0.073*	-0.071*
	(0.027)	(0.027)	(0.031)	(0.030)	(0.031)	(0.030)	(0.031)	(0.031)	(0.031)	(0.031)
Controls	X	X	X	X	X	X	X	X	X	X
N (Obs.)	8026	8026	4432	3592	4259	3697	4419	4419	4419	4465
R-sq.	0.636	0.636	0.641	0.670	0.644	0.664	0.639	0.639	0.639	0.641
F-stat	4.436	4.436	5.301	5.952	5.566	5.844	5.290	5.517	5.517	5.259
p-val.	0.036	0.036	0.022	0.015	0.019	0.016	0.022	0.019	0.019	0.022

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include district fixed effects, education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 21. First stage (instrumental variables 2SLS models), women

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Za'atari Camp (distance in km.)	-0.093*	-0.093*	-0.121**	-0.116**	-0.121**	-0.115**	-0.132***	-0.132***	-0.132***	-0.133***
	(0.042)	(0.042)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)	(0.039)	(0.039)	(0.039)
Controls	X	X	X	X	X	X	X	X	X	X
N (Obs.)	8160	8160	937	866	917	886	1008	1009	1009	1016
R-sq.	0.542	0.542	0.699	0.697	0.700	0.694	0.673	0.673	0.673	0.673
F-stat	4.801	4.801	10.079	9.288	10.028	9.311	11.635	11.625	11.625	11.869
p-val.	0.029	0.029	0.002	0.003	0.002	0.003	0.001	0.001	0.001	0.001

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include district fixed effects, education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 22. Labor market outcomes, (instrumental variables 2SLS models), men

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Percentage HH Syrian										
Percentage of HH Syr.	0.003	0.003	-0.006	-0.023	-0.029	-0.015	0.005	0.005	-0.002	-0.004
	(0.004)	(0.006)	(0.005)	(0.018)	(0.463)	(0.009)	(0.003)	(0.006)	(0.004)	(0.010)
Controls	X	X	X	X	X	X	X	X	X	X
N (Obs.)	8026	8026	4432	3592	4259	3697	4419	4419	4419	4465
R-sq.	0.033	0.290	0.164	0.087	0.052	0.100	0.595	0.122	0.156	0.245

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include district fixed effects, education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level

Table 23. Labor market outcomes, (instrumental variables 2SLS models), women

	Unemployed	Employed	Formal	Ln (hourly wage)	Hours per week	Ln (monthly wage)	Managerial/Professional Occupation	Open sector	Health and Human Serv.	Private sector
Percentage HH Syrian										
Percentage of HH Syr.	0.001	-0.003	-0.002	-0.035	0.123	-0.009	-0.006	-0.004	-0.001	0.014
	(0.002)	(0.003)	(0.008)	(0.027)	(0.334)	(0.011)	(0.005)	(0.006)	(0.007)	(0.008)
Controls	X	X	X	X	X	X	X	X	X	X
N (Obs.)	8160	8160	937	866	917	886	1008	1009	1009	1016
R-sq.	0.159	0.179	0.251	0.216	0.155	0.225	0.713	0.361	0.282	0.311

Source: Authors' calculations based on JLMPS 2010 - JLMPS 2016 panel
Notes: *p<0.05; **p<0.01; ***p<0.001
Controls include district fixed effects, education level, mother's education level, father's education level, father's employment status, age, and age squared
Standard errors (in parentheses) clustered at the locality level