The World Bank Economic Review, 32(1), 2018, 19–40
doi: 10.1093/wber/lhx021
Article

The Impact of the Syrian Refugee Crisis on Firm Entry and Performance in Turkey

Yusuf Emre Akgündüz, Marcel van den Berg, and Wolter Hassink

Abstract

We analyze how the Syrian refugee inflows into Turkey affected firm entry and performance. To estimate the causal effects, we use instrumental variables, difference-in-differences, and synthetic control methodologies. The results suggest that hosting refugees is favorable for firms. Total firm entry does not seem to be significantly affected. However, there is a substantial increase in the number of new foreign-owned firms. In line with the increase in new foreign-owned firms, there is some indication of growth in gross profits and net sales.

JEL classification: F22, J61, R23

Keywords: refugees, firm entry, firm performance

The Syrian Civil War that began in 2011 has had an enormous human cost. The United Nations puts the number of people who have fled their homes at 9 million. While 6.5 million of these refugees are internally displaced in Syria, 2.5 million have become refugees in Syria's neighboring countries: Turkey, Lebanon, Jordan, and Iraq. At first, the number of refugees arriving in Turkey was relatively small, at about 7,600 in November 2011 according to United Nations High Commission for Refugees (UNHCR) statistics. The situation had reached crisis proportions by the end of 2012, when the total number of registered refugees in Turkey was approximately 135,000. The flood of refugees continued and reached more than a million and a half by the end of 2014.

The refugee crisis has already led to research on the economic impact of hosting refugees in Turkey. Two recent papers analyze the impact of the Syrian refugee crisis in Turkey on native employment: Ceritoglu et al. (2017) and Del Carpio and Wagner (2015).[1] The main difference between the two is methodological. While the former uses a difference-in-differences (DD) methodology, the latter employs an instrumental variables (IV) strategy. Both papers find a negative effect on informal employment, but Del Carpio and Wagner (2015) also find positive effects for native high-skill employment. In this paper, we complement

Wolter Hassink (corresponding author) is a professor at Utrecht University, Utrecht, the Netherlands; his email address is w.h.j.hassink@uu.nl. Yusuf Emre Akgündüz is an economist at the Structural Economic Research Department of the Central Bank of the Republic of Turkey; his e-mail address is yusufemre.akgunduz@tcmb.gov.tr. Marcel van den Berg is a senior researcher at Statistics Netherlands; his email address is m.r.vandenberg@cbs.nl. The content of this publication does not refect the official opinion of Statistics Netherlands or the Central Bank of the Republic of Turkey. Responsibility for the information and views expressed in the paper lies entirely with the authors.

1 In a companion paper, Akgündüz, Van den Berg, and Hassink (2015), we found no effects of the refugee influx on formal employment. However, unlike that of Del Carpio and Wagner (2015) and Ceritoglu et al. (2017), our data are structured at the aggregate level. Also studying the Syrian refugee inflows in Turkey, Balkan and Tumen (2016) find negative effects on prices from hosting refugees. In a related study, Fakih and Ibrahim (2016) find no correlation between labor market outcomes and the arrival of Syrian refugees in Jordan.

the findings of these papers by analyzing the effects of refugee inflows on firms rather than employment. More specifically, we analyze the effects of refugee inflows on entry of new firms, new foreign firms, gross profits, and total sales in hosting regions.

Up to 2014, the Syrian refugees' destination in Turkey was limited geographically to the location of the refugee camps in the border region. The size of the inflow is large enough to allow for the estimation of the effects on the outcomes using a DD model, which is the strategy employed by Ceritoglu et al. (2017). Potentially worrying, however, is that the treated regions are close to the Syrian border and might be affected in other ways than the refugee crisis, such as trade, which would lead to biased estimates. Furthermore, the DD approach might be less appropriate after 2013 since refugees began spreading to the rest of Turkey from 2014 onward and started moving to Europe in late 2014 and 2015 (Tumen 2016). Therefore, we employ the IV strategy used by Del Carpio and Wagner (2015) to estimate the effects of the number of refugees in 2014 on firm entry while controlling for the proximity to the closest border crossing with Syria. We also test the results from the IV estimations with the DD model using data from 2012 and 2013 when the refugee populations were concentrated much closer to the border. A second problem in the DD framework is that the provinces receiving refugees are located in the southeast of Turkey, which is less developed than the western portion. While we limit the control region to eastern Turkey, which is more similar economically to the treatment region, we further test the results from DD models using the synthetic control method of Abadie, Diamond, and Hainmueller (2010) to give higher weights to control group provinces that have pretreatment outcomes closer to those of hosting regions.

The strongest finding of our analysis is that the refugee influx results in an increase in the number of foreign firm entries. While we find positive effects in some estimations, the effect on total firm entry is not statistically signficant in the main IV estimations. We find suggestive evidence pointing toward an increase in the size of agricultural and transportation sectors. There is indication of an increase in total profits and sales in provinces hosting refugees. However, the placebo tests suggest differential trends in the sales and profits in treatment and control regions. Our results complement the results of Del Carpio and Wagner (2015), who find occupational upgrading among formal employees in sectors that benefit from low-skilled informal labor. Refugee labor appears to be a complement to formal labor and capital and a substitute for native informal employment.

Our primary contribution to the broader literature is the empirical evidence on the effect of the refugee inflows on local firm performance and entry, a potential channel discussed by Maystadt and Verwimp (2014) that has received limited empirical attention in the literature.[2] The findings can also help explain the relatively small effects on wages and formal employment in the migration literature. While the influx of refugees reduces the demand for low-skilled labor of the natives, the growth of the number of firms can mitigate this decline. The emerging picture fits well with conventional economic theory; an increase in the supply of low-skilled employees appears to be met with more capital investment. Firms may benefit from the increased availability of unskilled labor and increased demand, if these are what refugees indeed provide. Specifically, we might expect lower production costs for firms in sectors that utilize unskilled labor and increased demand for goods they consume.

1. Syrian Refugees in Turkey

In November 2011, responding to the civil war reaching the northern areas of Syria, approximately 7,000 refugees crossed the Turkish border. By November 2014, Turkey was hosting more than a million and a half refugees. Officially, the Turkish government did not recognize the Syrian refugees as asylum seekers.

2 The literature on the impact of refugee crises on the native population has analyzed outcomes ranging from child health to prices in Tanzania and Darfur (Alix-Garcia and Saah 2010; Baez 2011; Alix-Garcia, Bartlett, and Saah 2012; Maystadt and Verwimp 2014; Alix-Garcia and Bartlett 2015).

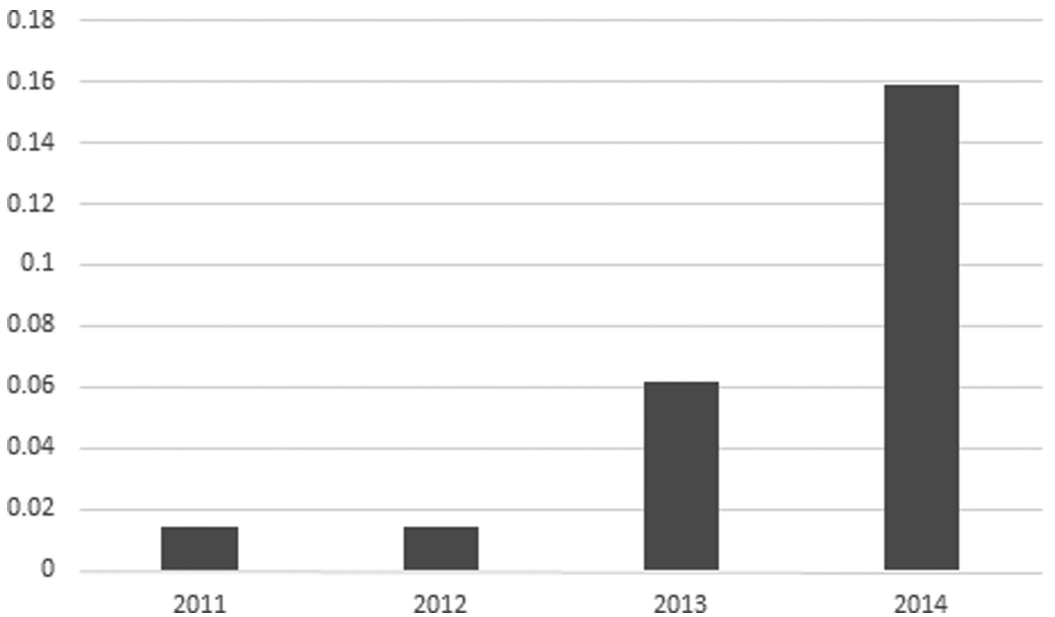
In technical terms, the refugees were being treated as guests (Ozden 2013). This has two important implications. First, they cannot apply for asylum in a third country. This limits the opportunities of migrating to other countries. Second, unlike refugee status, guest status implies that refugees can be relocated by the Turkish government without any legal process. To alleviate the conditions of the Syrian refugees and to limit uncertainty, the government enacted a temporary protection policy that ensures an open border between Turkey and Syria and that promises no forced exit.

The guest status of the Syrian refugees leads to their informal employment in the labor market; Syrian refugees' guest status does not provide them with a work permit to find formal employment. We found no official numbers (nor reliable estimates) on how many refugees have entered the local labor market, but Syrians could reportedly find jobs since employers can pay them less (Dinçer et al. 2013). Syrian employment will most likely be limited to low-skilled jobs because the language barrier and the requirement for formal employment is likely to limit refugees' employment opportunities in high-skilled jobs.

However, the guest status does not seem to be an impediment for investing in or registering new firms. The ORSAM (2015) report notes that there was a large inflow of Syrian capital along with the refugee influx. Gobat and Kostial (2016) report that a small amount of financial capital was brought into Syria after the beginning of the civil war, while a great deal of capital fled through informal channels. At least one of the destinations appears to be Turkey, considering the rapid rise in deposits made by Syrians in Turkish banks from 311 million Turkish Liras in 2012 to 1.2 billion in 2015 (Sagrioglu 2004). Figure 1 confirms that Syrian capital as a share of total foreign capital in new firms increased substantially once the refugee inflows took off in 2012. Financial capital movements are generally less controversial than movements in the labor market. Syrian investors can also have Turkish partners when founding firms to make the transition easier, which might also explain the rapid increase seen in fig. 1.

While most refugees were located in the southeastern part of Turkey in 2012 and 2013, where the camps were located, the number of people located outside that region increased considerably in 2014. The distribution of refugees in 2014 is shown in fig. 2. The map is based on the figures of Erdoğan (2014), who

Figure 1. Syrian Share of Total Foreign Investment in New Firms



Source: Turkish Chamber of Commerce.
Note: The numbers on the vertical axis refer to the Syrian share in total foreign investment in firms.

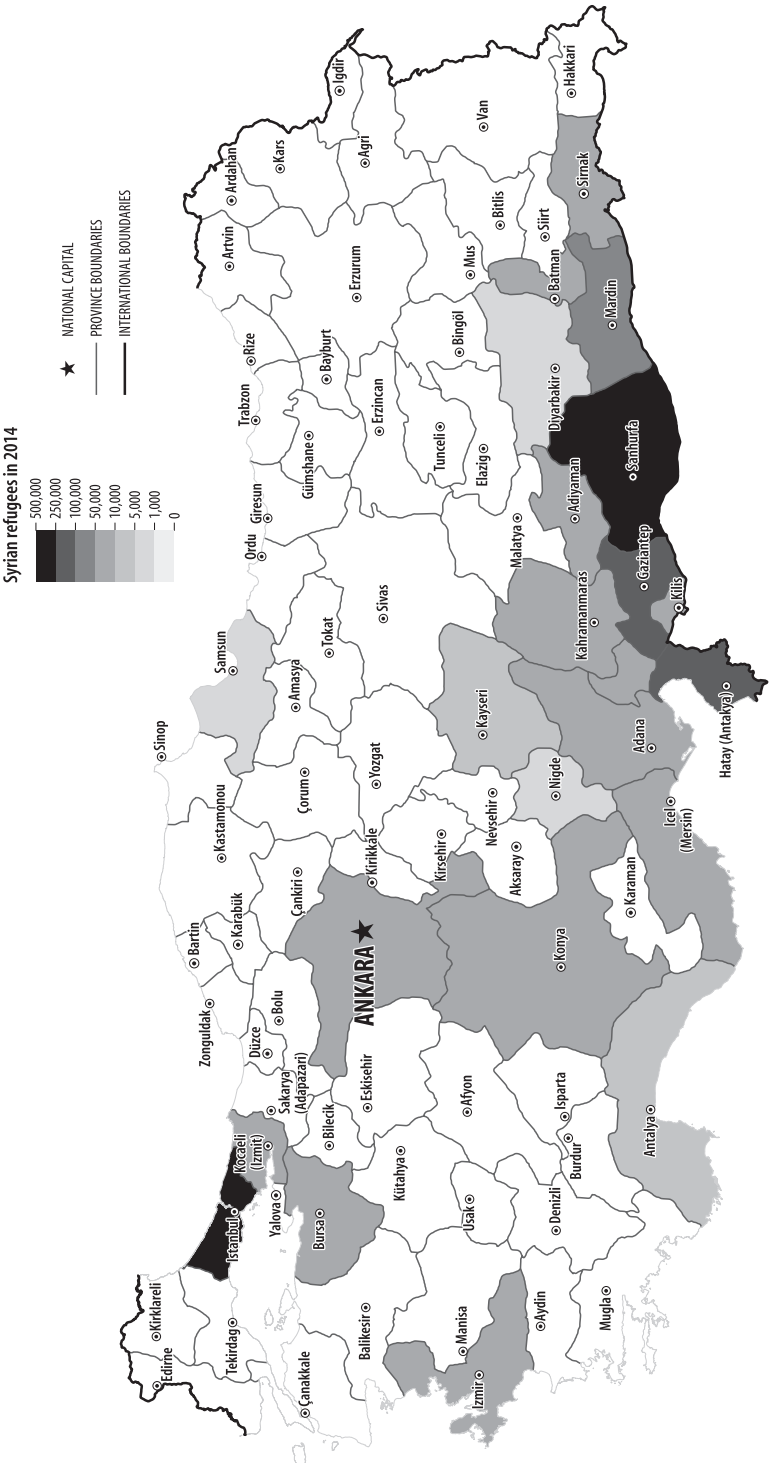


Figure 2. Syrian Refugees in Turkey in 2014

Source: Erdoğan (2014).
Note: The gray scale corresponds to the number of refugees in the province.

provides the estimated numbers for all 81 Turkish provinces, which correspond to the NUTS-3 regions of Turkey. His estimates are similar to those of other sources (ORSAM 2015). The UNHCR report of September 2014 only concerns the southeastern provinces of Turkey and therefore only accounts for about half the number of refugees in Turkey as a whole. While the refugee concentration is still highest in the southeast, there are also substantial numbers of refugees located in big cities particularly, such as Istanbul and Ankara. Only about 13 provinces are reported as having no refugees at all. As a result, it becomes difficult to argue that there is limited selection in the locations of the Syrian refugees in 2014. By late 2014 and 2015, refugees appear to not only select their region within Turkey, but also start moving to Europe (Tumen 2016).

2. Theoretical Framework

The study of Borjas and Monras (2016) is based on a Marshallian factor-demand theory of a competitive labor market, by which they investigated various episodes of exogenous flows of refugees on the labor market in the receiving countries. They find a negative effect on the labor market position of competing natives, whereas there they obtain a positive effect on the position of complementary workers. Ozden and Wagner (2014) further add that immigrants entering the labor market can have a scale effect that raises output and reduces costs. Other studies suggested that the arrival of refugees has a much broader effect on the economy of the receiving countries. In particular, it has consequences for the demand for goods. Bozzoli, Brück, and Wald (2013) find a positive effect on self-employment from the influx of the internally displaced in receiving regions of Colombia, and they expect that the effect is due to self-employment in the informal sector by the displaced or rising demand for goods. Furthermore, while their empirical analysis is about consumption by specific subgroups of Rwandese and Burundi refugees in Tanzania, Maystadt and Verwimp (2014) argue that refugee inflows may have an effect on local economies through a number of channels—prices, employment, wages, business, infrastructure, health and sanitation services, crime, and unrest.

The empirical results of studies so far suggest that the general conclusion of Borjas and Monras can be extended to the Turkish labor market in the Syrian refugee crisis. In the receiving provinces, there was a reduction of Turkish informal labor (Tumen 2016), who may be considered the "competing natives" in Borjas and Monras's terminology. Furthermore, it was found that the influx increased the demand for formal labor in sectors that use informal labor, who may be interpreted as complementary workers (Del Carpio and Wagner 2015). There was a reduced internal migration to the Turkish provinces that located refugees, which may have mitigated the supply of native labor (Akgündüz, Van den Berg, and Hassink 2015; Del Carpio and Wagner 2015).

We make use of the arguments of the studies of Bozzoli, Brück, and Wald (2013) and Maystadt and Verwimp (2014) to claim that Syrian refugees may have a broader effect on the Turkish economy, in particular for the product market. We argue that there may have been an increase in the number of firms, which has partially offset the adverse effect of the refugee flows on Turkish native employment. We hypothesize the existence of three channels in the product market. First, the arrival of refugees will raise the demand for goods because of the higher number of consumers as well as the differences between refugees and natives in terms of tastes and preferences. We hypothesize that the refugee crisis resulted in higher sales and profits. Second, the additional demand for goods by refugees will create opportunities for the entry of new firms (Foster, Haltiwanger, and Syverson 2008). It leads to the hypothesis that there was in increase in the number of new firms, in particular in the sectors that depend on informal labor.

Third, because the refugees have better information about the refugees' needs for products, some of them may exploit their entrepreneurial abilities to set up new firms. While there is no easy way to measure

to what extent refugees are able to transfer their financial capital from Syria to Turkey, it seems safe to assume that their more liquid capital arrives with them. Indeed, their networks and social capital certainly do. It leads to the hypothesis that the refugee crisis has increased the number of foreign-owned firms.

3. Methodology

The primary equation of interest is given by equation (1), where Y_{it} is the province-level outcome, R_{it} is the number of refugees in the province, P_i are province fixed effects, and T_t are year fixed effects. Subscript i indicates individual provinces and t years. The standard criticism to the ordinary least squares (OLS) estimator is that the resulting estimate of ρ in equation (1) is likely to be biased if refugees choose areas with better prospects (Dustmann, Glitz, and Frattini 2008).

$$Y_{it} = a + \rho R_{it} + P_i + T_t + e_{it} \tag{1}$$

We deal with the potential endogeneity problem using the two methods previously introduced in analyzing the impact of Syrian refugees on the labor market. The first method is to follow Del Carpio and Wagner (2015) and exploit the presence of six border crossings between Syria and Turkey to construct a weighted distance variable to instrument the number of refugees in Turkey at the province level using data compiled by Erdoğan (2014) for the year 2014. The second method is to assume that the region nearest the Syrian border where the initial refugee camps were located is the treatment region, which allows for an estimation using the difference-in-differences method as in Ceritoglu et al. (2017).

The instrumental-variables method to identify the effects of refugees is preferable over the DD method for three reasons that are noted by Del Carpio and Wagner (2015). First, regions bordering Syria are more likely to be affected economically by the war in Syria through trade channels. Second, these regions tend to have lower income than the northern and western regions of Turkey, and any ongoing income convergence between regions may influence the results of the DD methodology. Finally, recent reforms—particularly the raising of compulsory education ages from eight to 12 years—are more likely to affect poorer regions near the Syrian border. However, we control simultaneously for the distance to the closest border crossing of each province, which limits the variation exploited by the instrument to the potential use of different border crossings by refugees coming into Turkey. The instrument is therefore likely to be exogenous as long as the control for the distance to the closest border crossing captures effects from proximity to Syria.

$$IV_{it} = \sum_s \frac{1}{T_{si}} \pi_s R_t \tag{2}$$

We instrument the number of refugees in a province by a weighted average of distances between 13 Syrian governorates and 81 Turkish provinces. Google Maps was used to calculate the distances between each province and border crossing as well as the distance between each Syrian governorate's capital and border crossing. We use the same formula as Del Carpio and Wagner (2015) to construct the instrument, which is given by equation (2). The main difference is that we use data at the level of 81 provinces corresponding to the NUTS-3 level while Del Carpio and Wagner (2015) use data at the level of 26 NUTS-2 regions.[3] In equation (2), T_{si} is the shortest travel distance between each Syrian governorate and

3 While the instrument is statistically significant in all estimations, the first-stage F-test seems be a smaller value when 81 provinces are used compared to the case of 26 NUTS-2 regions. The instrument becomes even weaker if we use refugee-to-population ratios rather than the number of refugees; therefore, we use the absolute number of refugees throughout.

Turkish province in kilometers, π_s is the fraction of the Syrian population living in a governorate prior to the civil war in 2010, and R_t is the total number of refugees in Turkey in 2014, the only year for which we have complete information on the number of Syrian refugees in all provinces. Since the closest border crossing from a Turkish province is not necessarily the border crossing on the shortest routes between all Syrian governerates and the province, the IV approach allows us to simultaneously control for the distance to the closest border crossing in the estimations. The specification estimated by 2SLS is presented by equation (3), where R_{it} is instrumented by the instrument defined in equation (2). Since we use all provinces in the main IV estimations, i is defined as $i = (1, \dots, 81)$ while t is defined as $t = (2011, 2014)$. Following Del Carpio and Wagner (2015), we use the year-specific natural logarithm of the distance to the closest border crossing, LD_{it}, as a control variable. The year-specific distance control is defined as $LD_{i2011} = 0$ and $LD_{i2014} = LD_i$.

$$Y_{it} = a + \rho R_{it} + P_i + T_t + \beta LD_{it} + e_{it} \tag{3}$$

Our second strategy is to estimate a linear difference-in-differences model with province-level fixed effects for all outcomes, which is the method used by Ceritoglu et al. (2017). Their approach defines the years 2012 and 2013 as treatment years and the previous years as pretreatment. We do exclude 2014 in the DD model since Syrian refugees have been spreading across Turkey from 2014 onward, while they were more concentrated near the border areas that we define as the treatment region in 2012 and 2013.[4] In effect, the DD estimates use treatment years that are completely excluded from the IV model: 2012 and 2013. A second issue in the DD specification is the definition of the control area. We follow Ceritoglu et al. (2017) and define the control region as the northeastern part of Turkey, which neighbors the treatment region. Ceritoglu et al. (2017) argue that the common trend assumption is more likely to hold in this region, which is more similar to the treatment region than western Turkey.

The basic DD specification is presented in equation (4). Y_{it} is the outcome variable, (*Treatment*) indicates regions hosting refugees, and (*post*2012) indicates the period after refugees arrive. The main parameter of interest is ρ, which gives the DD estimate for the effect of hosting refugees. The controls for (*Treatment*) and (*post*2012) are dropped once we include year (T_t) and province fixed effects (P_i). The analysis is performed on data from 29 provinces since we limit the control group provinces to eastern Turkey, following Ceritoglu et al. (2017). Subscript i still stands for individual provinces but is now defined as $i = (1, \dots, 29)$. Since refugees spread out across Turkey in 2014, we only exploit the refugee shock in 2012 and 2013, when most of the refugees were located close to the border (Tumen 2016). Pretreatment years include all years for which we have data, and subscript t is therefore defined as $t = (2009, \dots, 2013)$. Two alternative treatment variables can be introduced. The binary treatment variable equals 1 when a province is reported as having refugees by the UNHCR reports from late 2012 and 2013. The continuous treatment variable is simply the number of refugees reported. The latter is more likely to give stronger effects since the binary treatment is relatively imprecise when province-level data are analyzed. Provinces like Malatya and Adiyaman have very few refugees compared to the other provinces hosting refugees, but still have a value of 1 for the treatment dummy variable.

$$Y_{it} = a + b(Treatment_i) + c(Post2012_t) + \rho(Treatment_i \times Post2012_t) + e_{it} \tag{4}$$

One of the issues with the DD model is that the regions hosting refugees in southeastern Turkey are much less developed than the western portion of Turkey, so that any choice with regard to the control group will be arbitrary. We complement the standard DD results by using the synthetic control method of

4 Including 2014 data in the DD estimations generally results in more statistically significant and larger coefficients but does not change the direction of the results.

Abadie, Diamond, and Hainmueller (2010), which explicitly recognizes uncertainty regarding the validity of the control group. We can therefore include all provinces outside the treatment area in synthetic control estimations. The method then constructs a synthetic control unit from a combination of the provinces in the control group that most resemble the treatment provinces in the pretreatment period. Rather than giving equal weights to all provinces as in the standard DD model, the synthetic control method gives more weight to provinces that have outcomes more similar to the treatment provinces. The basic estimation procedure is presented in equation (5), where Y is the mean outcome in treated provinces. Since we cannot differentiate between provinces that first received refugees in 2012 or 2013, we define all provinces that have refugees in either year as the treatment group. The 71 provinces from the control group are weighted using the vector $W = \|w_2, \ldots, w_{1+71}\|$ where $\|w_2 + \ldots + w_{1+71} = 1\|$.[5]

$$\rho = Y_1 - \sum_{i=2}^{1+71} w_i Y_i \tag{5}$$

The weight given to each province in constructing the synthetic control is based on pretreatment outcomes. We use the pretreatment average of the outcome dimension, Y, the unemployment rate, employment rate, and the import and export per capita of the province to determine the degree of similarity between the control group provinces and treated provinces, which in turn determines the weight assigned to control provinces. The unemployment and employment rates are included to control for the general economic performance, while trade values are added to control for the degree of "openness" of the province.[6] The treated unit $i = 1$ is constructed by taking the mean of the outcome variables in the provinces hosting refugees in 2012 or 2013.

4. Data

We use several data sources for the analysis. The IV estimations use data from years 2011 and 2014, while the DD estimations use data from 2009 to 2014. The numbers of refugees up to 2012 are treated as 0. The refugee data for 2012 and 2013 are obtained from UNHCR's official weekly statements in December. Data on the number of refugees in 2014 are from Erdoğan (2014), who uses statements released by the Ministry of the Interior to compile his data. All refugee data we use in the analysis are provided at the level of 81 provinces. There were in total 1.6 million refugees by November 2014. Data on the number of new firms and their ownership characteristics and value are provided by the Turkish Chamber of Commerce.[7] Data on total sales and gross profits are obtained from the Turkish Ministry of Science, Industry, and Technology. Other economic indicator variables, such as population and unemployment rates, are obtained from Turkish Statistics. Since Syrians usually have guest status rather than resident status during the period of analysis, they are not counted in official statistics such as province population and unemployment rates. Turkey is officially divided into 81 provinces, and that is the level of our analysis and variables throughout.

The Chamber of Commerce provides data on the number of new firms and the number of new foreign-owned firms at the provincial level. Enterprises defined as firms do not include self-proprietorships (the self-employed). We further exclude business cooperatives from the analysis. New cooperatives are founded

5 The weights are calculated using the Stata package *synth* provided by the authors. We use the option *nested* to calculate the weights through the nested optimization procedure described in Abadie, Diamond, and Hainmueller (2011).

6 Tunceli's 2011 export and import values are missing for 2011; therefore, only 2009 and 2010 values could be used in calculating Tunceli's average.

7 The Chamber of Commerce also provides information on the number of firms that shut down. However, reporting exits is not mandatory and the indicator is therefore less reliable. We found no significant effects in both the IV and DD estimates on the number of firms that shut down.

usually in construction and are relatively few in number (less than 2 percent of the number of new firms in 2014). Furthermore, no information is given on whether cooperatives are foreign owned. The available data encompassed the period between 2009 and 2014. The number of new firms reported by the Chamber of Commerce (57,710) seems to match the World Bank data on new business registrations (57,760) for Turkey in 2014. The World Bank data places Turkey below even the lower-middle-income country average on a per capita new business density scale, implying considerable room to improve entrepreneurship and firm entry (World Bank 2014). The data on foreign-owned firms begin one year later, in 2010. While the data provided are relatively basic, they allow us to make the distinction between new firms and new foreign firms. We take the natural logarithm of the firm entry variables for a more parsimonious estimate and easier interpretation.[8] Without the log transformation of the outcome variables, the estimated effects remain positive but have larger standard errors, especially in the DD models.

The data on total gross profits and net sales acquired from the Turkish Ministry of Science, Industry, and Technology are compiled from administrative taxation data and were provided upon request by the ministry. The key difference from the Chamber of Commerce data is that the sales and profits data include all businesses, including self-proprietorships.[9] Data were provided for the years between 2010 and 2014 and are reported in nominal Turkish Liras (TL). It is worth noting that the administrative data will not include any informal activities by definition, and they are likely to be less accurate and complete for smaller firms. Firms whose sales do not exceed an annually determined limit do not have to report their balance sheets, which include sales and profit figures.[10] We scale the variables according to province size by dividing sales and profits by the population of the provinces. If we use sales and profits in absolute terms, we get qualitatively similar results in the main IV and DD regressions.

The IV estimations use data from the years 2011 and 2014. Since the number of refugees was still relatively small in 2011 and really started picking up only in 2012, we treat 2011 as the prerefugee year in our IV analysis. Since 2014 is the first year for which we have complete information on the number of refugees in each province, it is set as the treatment year. The summary statistics for the outcome variables used in the IV analysis are presented in table 1.

To estimate the DD model, we use data from the years 2009 to 2013. Only data on firm entry are available in 2009; the rest of the outcome data are available from 2010 onward. Table 2 shows the descriptive statistics for the treatment and control group provinces before and after 2012, along with the averages for the rest of Turkey. While the rest of Turkey has generally higher outcome averages than the treatment region, the control region has smaller averages. The region definitions are shown in fig. 3 and are constructed by following the definitions used by Ceritoglu et al. (2017). Including the treatment provinces, there are in total 29 provinces in this limited sample.

Data on the number of refugees in southeastern Turkey in 2012 and 2013 are drawn from the 2012 and 2013 December reports of the UNHCR on Syrian refugees in Turkey (UNHCR 2014). The number of Syrian refugees in Turkey in 2012 only concerns refugees in camps, while the 2013 numbers also include refugees in urban areas. Nonetheless, the number of refugees outside camps was still relatively low in 2012—40,000 to 60,000 people—so this is not likely to affect our results. Data are provided

8 Since the number of new foreign firms is 0 in several observations, we add 1 to the value. As an alternative, we used the hyperbolic inverse sine transformation, which does not have the same problem with zeros as log transformation, and found similar results (Burbidge, Magee, and Robb 1988).

9 Publicly available data from the Ministry of Science, Industry, and Technology indicate that less than 10 percent of total revenue is from micro-establishments. Most of the net sales and gross profits reported stem from larger firms that should be included in the Chamber of Commerce data.

10 All firms exceeding 200,000 Turkish Liras (ca. $85,000) in sales are obligated to report detailed balance sheets. Smaller firms may still report their balance sheets but would be doing so on a voluntary basis.

Table 1. IV Estimation Annual Summary Statistics: 2011 and 2014

Province average	2011	2014
New firms	659.37	712.47
New foreign firms	44.14	58.47
Share of foreign firms (×100)	2.56	3.48
Gross profits per capita (TL)	1,969.59	2,740.89
Net sales per capita (TL)	16,561.75	23,381.10
Population	922,522	959,209
N	81	81

Source: Summarized data from the sources described in the text.
Note: Averages at the level of 81 provinces presented for each variable. "New firms" and "New foreign firms" are the number of firms. "Share of foreign firms" is the average of the ratio of "New firms" and "New foreign firms." "Gross profits" and "Net sales per capita" are the province totals divided by the province population and are provided in nominal Turkish Liras.
$^{*}p < .1$ $^{**}p < .05$ $^{***}p < .01$

Table 2. Difference-in-Differences Estimation Annual Summary Statistics: 2009 to 2013

	Pre-2012			Post-2012		
Province average by region	Control	Southeast	Rest	Control	Southeast	Rest
New firms	202.00	465.00	796.38	147.05	396.50	715.36
New foreign firms	3.87	7.85	55.29	6.53	19.20	66.79
Share of foreign firms (×100)	1.33	1.74	2.51	2.05	5.05	4.01
Net sales per capita (TL)	6,795.29	12,336.84	18,365.23	10,115.69	18,680.56	25,549.34
Gross profits per capita (TL)	700.79	1,122.56	2,323.96	985.28	1,501.67	2,932.98
Population	585,092	1,074,304	1,027,701	517,817	1,106,135	1,062,457
N	10	19	52	10	19	52

Source: Summarized data from the sources described in the text.
Note: Averages at the level of the province groups shown in Figure 3 presented for each variable. "New firms" and "New foreign firms" are the number of firms. "Share of foreign firms" is the average of the ratio of "New firms" and "New foreign firms." "Gross profits" and "Net sales per capita" are the province totals divided by the province population and are provided in nominal Turkish Liras.
$^{*}p < .1$ $^{**}p < .05$ $^{***}p < .01$

at the provincial level for the southeastern provinces, allowing us to vary the treatment by the number of refugees sheltered in a specific province for the treatment region. The total number of refugees in 2012 amounts to about 200,000, while in 2013 this number increases to about 560,000. Three of the provinces—Adana, Malatya, Adıyaman—first received refugees in 2013. The numbers of refugees staying in provincial southeastern Turkey for each year are presented in table 3.

A visual inspection of the figures shown in appendix A1 of the outcome means over time appears to support the parallel trend assumption, but we test the assumptions more formally using placebo tests in the Results section. The number of new firms shows a relatively cyclical behavior, which generally follows the business cycle in Turkey. After a rapid growth of more than 8 percent in GDP 2011, the growth rate dropped to around 2 percent in 2012, which is clearly visible also in the sharp drop in the number of new firms.

We have less information about the economic sectors that new firms in host regions are entering. Turkish Statistics (TUIK) reports the number of enterprises by sector in each province, but the data are limited to 2013–2014. Similar to the data on sales and profits, TUIK data reports the number of all enterprises, including firms and other types of entrepreneurial activity such as sole proprietorships. Sectoral data are therefore aggregated at a higher level than the firm-entry numbers reported by the Chamber of Commerce. Nevertheless, the dataset is useful in determining which sectors are the largest in host regions and what the change in sector size was between 2013 and 2014.

Figure 3. Treatment and Control Regions

Source: Authors' own construction based on UNHCR data.
Note: Dark-shaded areas are the treatment and lightly-shaded areas the control group in the difference-in-differences estimations.

Table 3. Number of Refugees in 2012 and 2013 in Southeastern Provinces

	2012	2013
Adana	0	16,666
Kahramanmaraş	16,830	28,882
Malatya	0	7,205
Mardin	0	40,965
Osmaniye	7,914	18,046
Adıyaman	8,880	10,053
Hatay	12,776	85,642
Kilis	13,510	63,292
Gaziantep	25,512	145,905
Şanliurfa	58,558	134,357

Source: Data from UNHCR.
Note: Data for 2012 only include refugees in camps while 2013 data include refugees in and outside of camps. December values are used for both years.
$^{*}p < .1$ $^{**}p < .05$ $^{***}p < .01$

5. Results

IV Results

Table 4 presents the results of IV estimates in three panels. Panel A presents our main results from the IV estimations, which uses all provinces in Turkey. We find statistically significant and positive effects on all outcomes except for the number of new firms. The number of new firms with foreign capital shares rises by 15 percent per 10,000 refugees. The share of new firms with foreign capital also rises by approximately one percentage point. For total firm entry, the effects are not statistically significant. Since the number of foreign firms is much smaller than the total number of firms, the result does not necessarily indicate a crowding out of Turkish firms.[11] Both gross profits and net sales also appear to be positively affected, with the effect size around 2 to 3 percent of the province means in 2014. The ratio of the increase in profits and sales is only marginally larger than the ratio of the means of the two variables, indicating that there is no dramatic increase in the profit margin. The effect on business activity may therefore be interpreted as the result of increased demand leading to more sales. Table 4 also presents the corresponding OLS estimates in panel B. The direction of the effects is generally similar to the main IV estimates. The main difference is that the effect on the number of new firms is statistically significant.

The threat to the validity of the IV results stems from a potential correlation between province-specific trends in outcomes and our instrument. To minimize differences in trends, we estimate the IV regressions in a limited sample of provinces that are in control and treatment regions shown in fig. 3, which excludes the western provinces of Turkey. The results from the limited sample are presented in panel C. The effects on profits and sales appear to be reduced once we limit the sample. We can test for the existence of bias due to different trends in the pretreatment period by using data from the years 2010 and 2011. Panel A of table 5 presents the results of a placebo exercise where we assume that the refugees in 2014 had been there in 2011 and use 2010 as the pretreatment control year to estimate the IV regressions. Unfortunately, data are not available to test for long-term trends. There is evidence of different trends for net sales and profits when the full sample is used, as shown in table 5. However, once we limit the sample to eastern Turkey, the placebo treatment only remains statistically significant for net sales. In the case of net sales, the real treatment has a considerably larger coefficient than the placebo treatment, suggesting that it is upward biased, but the true effect is still positive. Nevertheless, we remain cautious about interpreting the results from net sales given the difficulty of finding a region where the common trend assumption seems to hold.

11 We tested a potential crowding out of Turkish firms by estimating the effects on the number of new firms after subtracting the number of new foreign firms. The full-sample IV result is negative but insignificant and close to 0, while the DD estimates are positive. Overall, there does not seem to be a clear effect on Turkish firms' entry.

Table 4. IV Estimates

	New firms	New foreign firms	Share of foreign firms	Gross profits per capita	Net sales per capita
Panel A: Instrumental variables estimates					
Refugees (×10,000)	0.0098	0.1482***	0.0107***	77.7970***	790.0787***
	(0.0143)	(0.0402)	(0.0032)	(16.9487)	(131.7215)
Panel B: Ordinary Least Squares					
Refugees (×10,000)	0.0096***	0.0446***	0.0020**	93.8231***	901.8617***
	(0.0022)	(0.0144)	(0.0008)	(33.2922)	(198.0958)
Observations	162	162	162	162	162
Panel C: Instrumental variables regional					
Refugees (×10,000)	−0.0237	0.1506***	0.0115***	79.7056**	575.1354***
	(0.0210)	(0.0530)	(0.0042)	(34.1529)	(187.6326)
Observations	58	58	58	58	58

Source: Authors' own analysis results from the data described in the text.
Note: All models include a year-specific log distance control, province, and year fixed effects. Robust standard errors are shown in parentheses. Data are from 2011 and 2014 for 81 provinces in panels A and B and 29 provinces in panel C. The refugee variable is the number of refugees in the province in 10,000s. The first-stage F-test for the instrument in IV regressions is 12.44. For the regional sample, the F-test is 6.45.
*$p < .1$ **$p < .05$ ***$p < .01$

Table 5. IV Placebo Estimates

	New firms	New foreign firms	Share of foreign firms	Gross profits per capita	Net sales per capita
Panel A: Full Sample					
Refugees (×10,000)	0.0112*	−0.0244	0.0002	43.3222***	589.5904***
	(0.0063)	(0.0176)	(0.0007)	(14.0182)	(111.4231)
Observations	162	162	162	162	162
Panel B: Regional					
Refugees (×10,000)	0.0122	−0.0337	0.0002	25.0731	438.8429***
	(0.0095)	(0.0280)	(0.0010)	(18.8053)	(132.5547)
Observations	58	58	58	58	58

Source: Authors' own analysis results from the data described in the text.
Note: All models include a year-specific log distance control, province and year fixed effects. Robust standard errors are shown in parentheses. Data are from 2010 and 2011 for 81 provinces in panel A and 29 provinces in panel B. The refugee variable is the number of refugees in the province in 10,000s. The first-stage F-test for the instrument in IV regressions is 12.44. For the regional sample, the F-test is 6.45.
*$p < .1$ **$p < .05$ ***$p < .01$

DD Results

While the IV methodology provides our preferred estimates, we also estimate the effects using the DD method by defining southeastern provinces of Turkey as the treatment group and the unaffected northeastern provinces as the control group. Since refugees begin moving out to the rest of Turkey in 2014, we define the years 2009 to 2011 as the pretreatment years and the years 2012 and 2013 as the treatment years. While closely related, the IV and DD methods are not estimating the same effect. In 2012 and 2013, most refugees were in camps and are therefore less likely to be economically active. In addition, the DD estimate will be the effect of all border-related shocks caused by the refugee crisis, which includes the effect of camp construction, aid, and declines in trade with Syria. It might therefore be more correct to interpret the DD estimates as the effects of the Syrian Civil War across the border and the resulting refugee crisis, including refugee camps and associated funding, rather than just hosting refugees.

Table 6 shows the results of the DD estimates. While we used the number of refugees as the treatment variable in the IV analysis, we define the treatment variable as either a continuous variable indicating the number of refugees or a binary variable indicating treatment status in the DD analysis. Panel A reports

Table 6. Difference-in-Differences Estimates

	New firms	New foreign firms	Share of foreign firms	Gross profits per capita	Net sales per capita
Panel A: Binary					
Treatment (1/0)	0.1025	0.4090	0.0266	94.4093	2166.0120
Robust SE	(0.0673)	(0.2122)*	(0.0129)**	(83.8947)	(938.6023)**
Clustered SE	(0.1010)	(0.3254)	(0.0213)	(111.3936)	(1531.0429)
Panel B: Continous					
Refugees (×10,000)	0.0273	0.1153	0.0046	38.6701	545.0321
Robust SE	(0.0063)***	(0.0160)***	(0.0015)***	(20.9750)*	(235.7229)**
Clustered SE	(0.0079)***	(0.0228)***	(0.0023)*	(29.0360)	(335.0298)
Observations	145	116	116	116	116
Panel C: Placebo					
Refugees (×10,000)	0.0017	0.0191	0.0004	15.5967	273.6829
Robust SE	(0.0056)	(0.0138)	(0.0008)	(14.3532)	(140.9966)*
Clustered SE	(0.0067)	(0.0197)	(0.0011)	(20.4790)	(201.1717)
Observations	87	58	58	58	58

Source: Authors' own analysis results from the data described in the text.

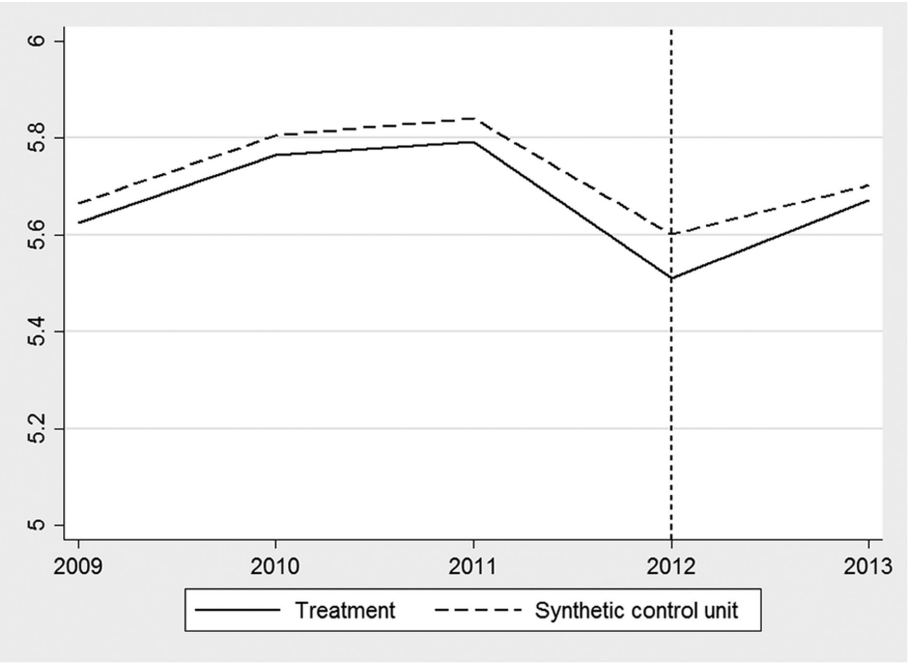
Note: All models include province and year fixed effects. Robust standard errors are shown in parentheses. Data are from 2009 to 2013 for 29 provinces in panels A and B; 2009 data are only available for the new firms variable. The placebo treatments in panel C are estimated by assuming that the number of refugees in 2013 had arrived in 2011 and use data from 2009 to 2011 for 29 provinces.

$^{*}p < .1$ $^{**}p < .05$ $^{***}p < .01$

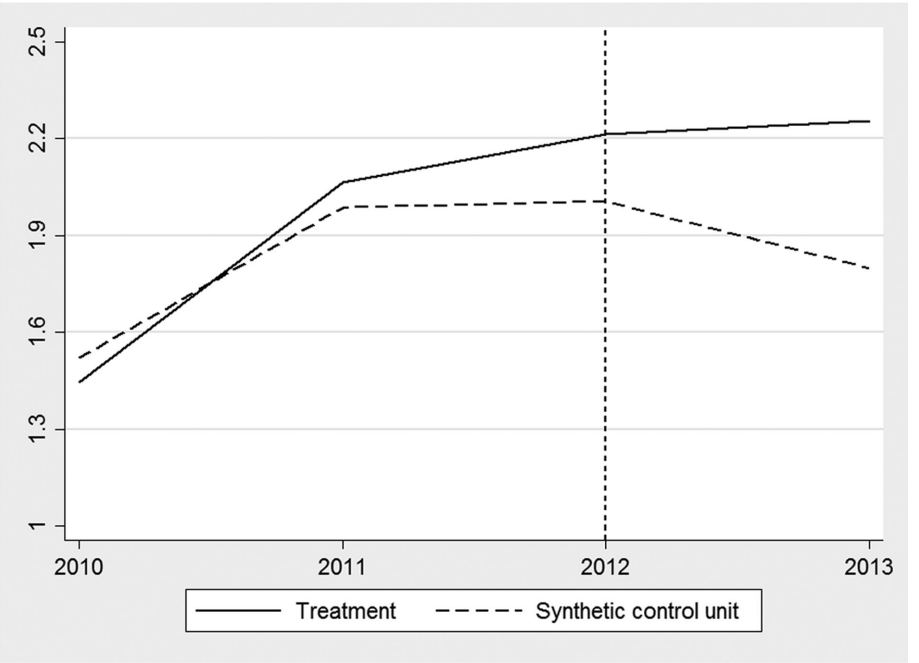
the results of using a binary treatment variable for refugee presence, while panel B reports the coefficient estimates when we use the number of refugees in the southeastern provinces reported by UNHCR as the treatment variable. Since there are multiple years of data in the DD analysis, we report both robust and clustered standard errors to deal with potential serial correlation. However, it is worth noting that the number of clusters is low, at 29. The effect sizes estimated with the continuous treatment are similar in direction to the IV estimates but are slightly smaller and less statistically significant for gross profits and net sales. While the coefficients are positive, the binary treatment generally results in less precise estimates, which may be explained by the large difference in the number of refugees in provinces shown in table 3. In panel C, we perform a placebo test by assuming that the refugees in 2013 had arrived in 2011. As in the IV estimates, the common trend assumption seems to hold for all outcomes except for net sales, which has a weakly significant placebo estimate.

The choice for the control group in the DD estimation is made to satisfy the common trend assumption by limiting the control group to eastern provinces. Nevertheless, the choice is arbitrary. In figs. 4 and 5, we present the results from the synthetic control method. We construct the synthetic control for the log of the number of new firms and the number of new firms with foreign owners and define the treatment area as all 10 provinces that received refugees in 2012 and 2013. The difference is that the control group is composed now of all provinces in Turkey, including western provinces, which are weighted according to their pretreatment similarity to the treatment region. The findings appear to confirm the IV and DD estimates. The positive effect on the number of new firms with foreign owners is visible, as the gap between the synthetic and treatment group lines widens after 2012. The total number of new firms in the treatment region appears to be largely unaffected, though the gap between the treatment and synthetic control lines widens and closes slightly in 2012 and 2013, respectively. We find positive effects for gross profits and net sales, and the effect appears stronger for gross profits. In all outcomes, the positive effects are limited or absent in 2012. We might assume that the reason is that the regions near the border hosting the refugees were initially negatively affected by the civil war in Syria, but the effect turned positive in 2013 with increasing supply of unskilled labor and demand. A weaker effect in 2012 would also explain the

Figure 4. Synthetic Control Estimates for Firm Entry



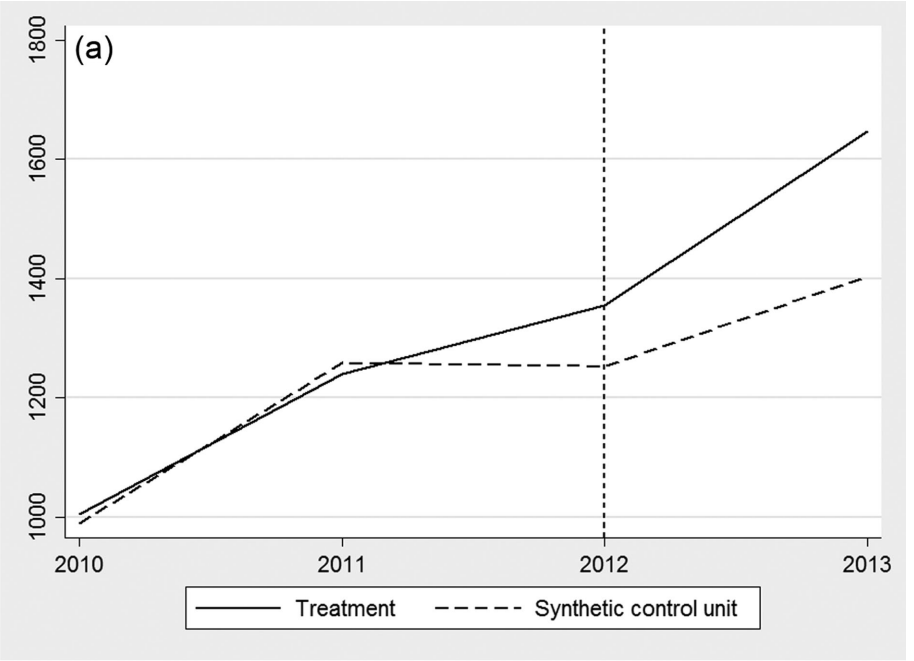
(a) Number of new firms



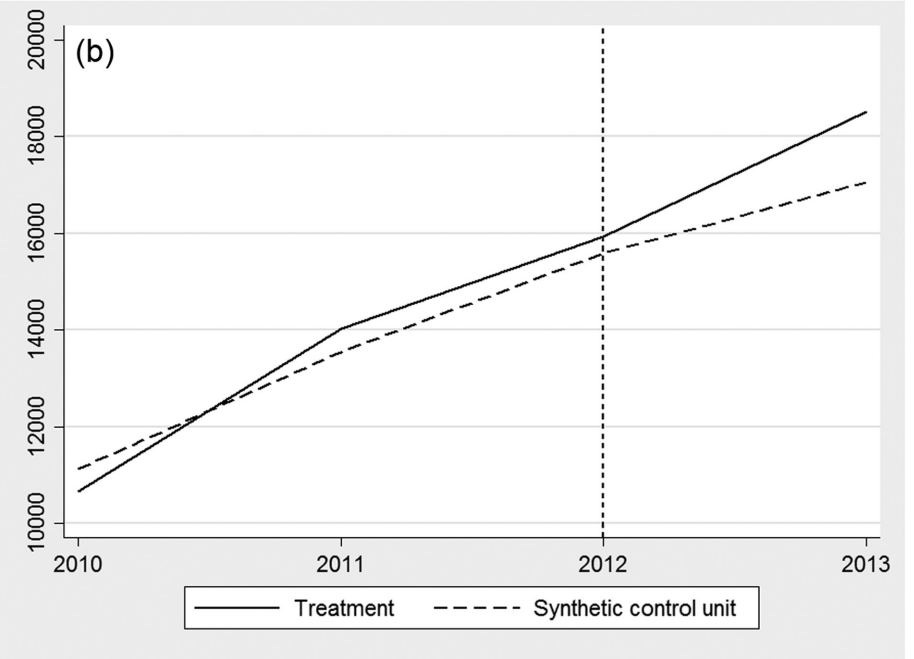
(b) Number of new foreign firms

Source: Authors' analysis based on the data and methodology described in text.
Note: The numbers on the vertical axis refer to the log of the number of new firms and the number of new foreign firms.

Figure 5. Synthetic Control Estimates for Sales and Profits



(a) Gross profits



(b) Net sales

Source: Authors' analysis based on the data and methodology described in the text.
Note: The numbers on the vertical axis refer to the gross profits and net sales per capita in Turkish Liras.

stronger positive effects we find in the IV model for sales and profits where the treatment year is 2014 compared to the DD model, where the treatment years are 2012 and 2013.

Sectoral-Level Effects

The empirical results suggest that the number of new firms increases when refugees are hosted in a province, but they do not clarify the mechanism behind the increase. Furthermore, the increase in the number of new firms is not explained by new foreign firms in all estimations, which we might attribute more easily to entrepreneurial activity by the refugees themselves. The economic explanation would be that the increase in the supply of low-skilled labor increases the value of capital found by Del Carpio and Wagner (2015), which leads to more firms entering the market. We can informally test this hypothesis by checking which sectors were most influenced by new firm entries. If low-skill employment is the main driver of new firm entries, we would expect sectors that utilize low-skill employment to be most strongly affected.

The data from the Chamber of Commerce and the Ministry of Science, Industry, and Technology are insufficient to determine which sectors are most affected by the inflow of new firms. We use data from 2013–2014 reported by Turkish Statistics on the number of enterprises in each sector at the province level to show the relative change in business activity by sector in host provinces. We estimate IV regressions for each sector where 2013 is defined as the control year, where we assume the number of refugees to be 0, and 2014 is set as the treatment year. Since we do not know the exact number of refugees in 2013 who were in each province but do know that they were present, the estimates will be biased downward by definition. Nevertheless, since the total number of refugees doubled between 2013 and 2014, the results may give an idea about the most affected sectors. The dependent variable in each regression is the log of the number of enterprises operating in a given sector.

The results of the sectoral-level IV regressions are shown in table 7. Column 1 of the table shows the average number of enterprises per province in the specified sector in 2013. The IV estimates

Table 7. Sectoral-Level Changes Between 2013 and 2014

		IV estimates	
	Average	Coeff.	SE
Agriculture	375.2	0.0181***	(0.0059)
Mining	90.4	−0.0128*	(0.0056)
Manufacturing	5269.0	−0.0005	(0.0012)
Electricity	115.4	0.0366	(0.0180)
Construction	3208.8	0.0010	(0.0015)
Retail	101.1	0.0010	(0.0006)
Transportation	6927.3	0.0054**	(0.0027)
Hotel	3771.9	0.0038*	(0.0021)
Information	503.6	0.0072	(0.0050)
Financial	320.5	−0.0095***	(0.0027)
Real estate	634.6	0.0035	(0.0028)
Professional	2381.4	−0.0001	(0.0006)
Administrative	602.8	0.0019	(0.0021)
Education	355.8	−0.0004	(0.0021)
Health	528.9	−0.0144***	(0.0038)
Culture	425.4	−0.0129***	(0.0050)
Total	43574.6	0.0029***	(0.0011)

Source: Authors' own analysis results from the data described in the text.

Note: All models include province and year fixed effects and a year-specific control for distance to the closest border crossing with Syria. Data are from the years 2013 and 2014 for 81 provinces. The dependent variables are the log of the number of firms in the specified sector. Each OLS and IV coefficient is from a separate regression with 162 observations.

*$p < .1$ **$p < .05$ ***$p < .01$

presented in columns 2 and 3 suggest that provinces with refugees experienced an increase in the total number of enterprises between 2013 and 2014. At the sectoral level, the strongest increase is found in the agricultural sector. There also appear to be declines in the number of enterprises in the health, culture, financial, and mining sectors. With the exception of mining, the declining sectors appear to be service-based sectors that require at least some skilled labor. The sectoral-level developments appear to fit with the interpretation that there was an increase in unskilled labor due to the refugee inflows. However, the difficult-to-explain effects found for some sectors indicate that the estimates are likely to be biased.

6. Conclusions

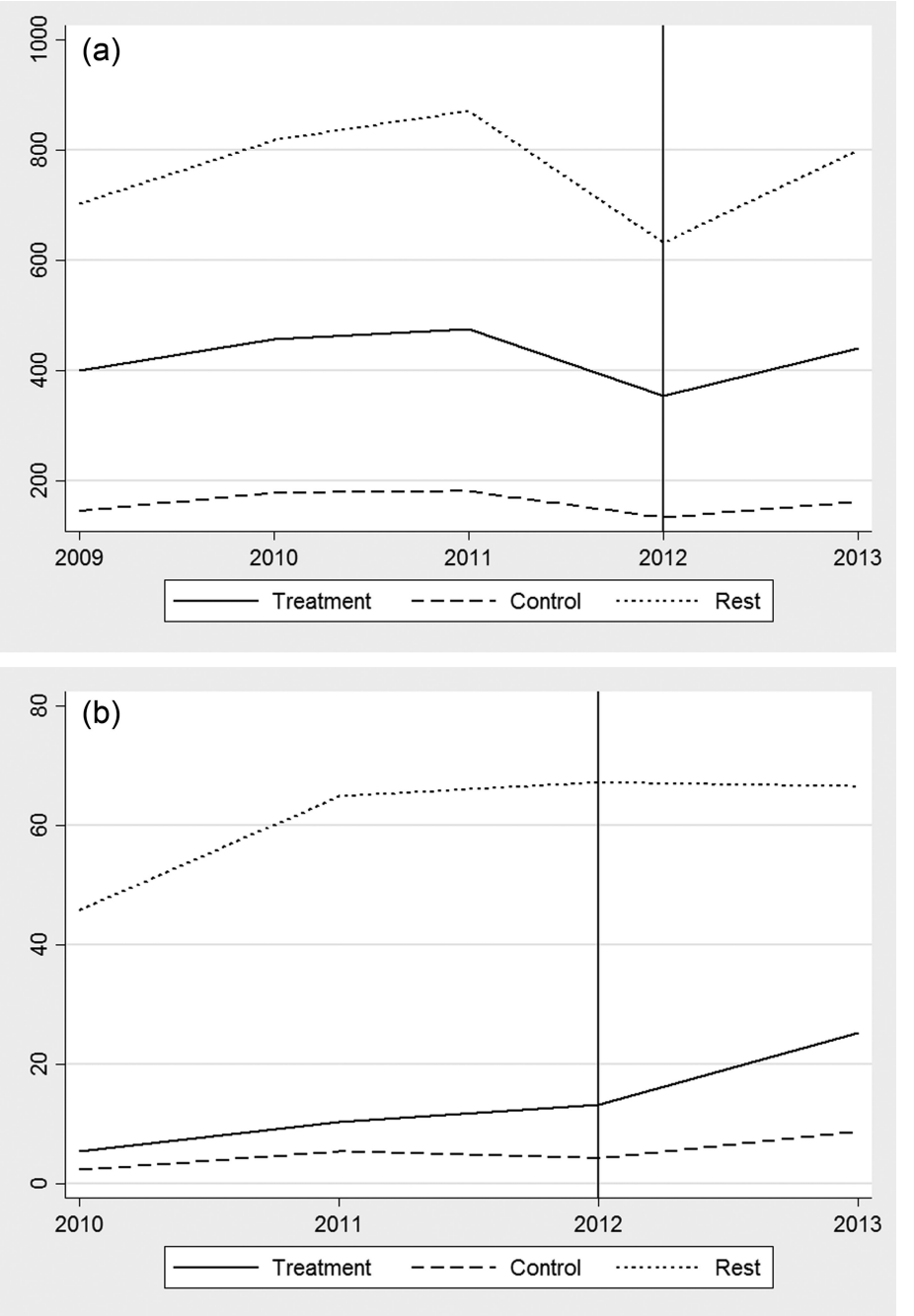
Due to the unfortunate rise in the number of refugee crises, the effects on host economies are being studied from multiple angles. The Syrian refugee crisis in Turkey represents one of the larger refugee crises in recent decades, with more than a million displaced people crossing the border in just three years. The present study focused on how the refugees affected firm entry and business performance since hosting regions. The most robust effect we find is the large increase in the number of foreign firms in hosting regions. We also find a weaker effect on the total number of new firms in regions hosting refugees, which is likely to be driven by the new foreign firms. The results also suggest that businesses benefit in regions hosting refugees. The findings with regard to increases in gross profits and net sales reported by firms in regions hosting refugees support the hypothesis that business may benefit from refugees. In line with the finding that unskilled labor increased in regions with refugees, we also find some limited evidence showing that the increase in the number of firms is driven by sectors that are most likely to benefit from low-skill employment.

Our findings on firm entry and performance complement the previous studies on the economic impact of Syrian refugees in Turkey. Taken together, the findings are quite in line with economic theory. Both Del Carpio and Wagner (2015) and Ceritoglu et al. (2017) find negative effects on the labor market outcomes of unskilled natives who have to compete with Syrian refugees. Del Carpio and Wagner (2015) further finds that men who have completed high school benefit from occupational upgrading, which may be due to the complementarity between skilled Turks and Syrian refugees. Our study adds that businesses appear to have benefited from hosting Syrian refugees who appear to have themselves opened firms in Turkey. There is a clear increase in the entry of new foreign firms that may be driven by refugees' enterpreneurship. Cheaper low-skill labor may have helped all businesses cut costs. Balkan and Tumen (2016) also find a decline in prices and attribute their finding to lower labor costs, which may also be one of the mechanisms driving our results. Gross profits and sales also appear to have gone up, which would be consistent with an increase in demand. As noted by Maystadt and Verwimp (2014), heterogeneous effects on specific subgroups of the native population should be expected from refugee crises. In the case of the Syrian refugee crisis in Turkey, the business activity in hosting regions appears to have benefited.

For a complete picture of the effects of the Syrian refugee crisis on local economies in Turkey, further research will be needed on market activity, health, and longer-term effects. More specifically for the line of research this study focused on, further analysis using micro-level firm data would be needed to understand how firms adjust their activity, production, and investments to refugee inflows.

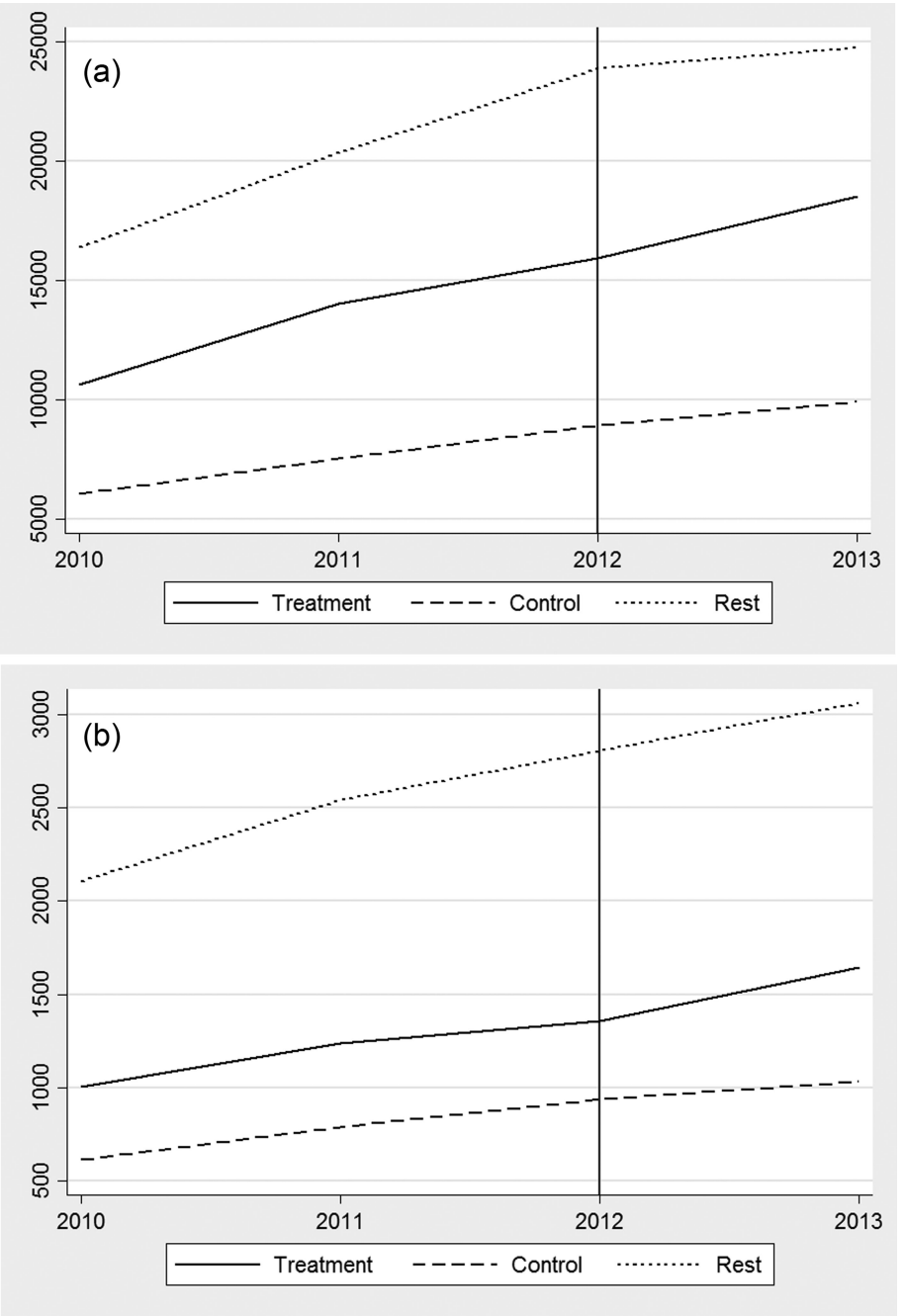
Appendix A1: Means of Outcome Variables over Time

Figure A1.1 Annual Firm Entry Data over Time. A1.1a: Number of firms opened. A1.1b: Number of firms with foreign capital



Source: Turkish Chamber of Commerce.
Note: The numbers on the vertical axis refer to the number of new firms and the number of new foreign firms. "Treatment," "control," and "rest" regions are shown in fig. 3.

Figure A1.2 Annual Profit and Sales Data over Time. A1.2a: Net sales. A1.2b: Gross profits



Source: Turkish Ministry of Science, Industry, and Technology.
Note: The numbers on the vertical axis refer to gross profits and net sales per capita in Turkish Liras. "Treatment," "control," and "rest" regions are shown in fig. 3.

References

Abadie, A., A. Diamond, and J. Hainmueller. 2010. "Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program." *Journal of the American Statistical Association* 105 (490): 493–505.

——. 2011. "Synth: An R Package for Synthetic Control Methods in Comparative Case Studies." *Journal of Statistical Software* 42 (13): 1–17.

Akgündüz, Y., M. Van den Berg, and W. H. J. Hassink. 2015. "The Impact of Refugee Crises on Host Labor Markets: The Case of the Syrian Refugee Crisis in Turkey." IZA Discussion Paper No. 8841, Institute for the Study of Labor, Bonn. http://legacy.iza.org/en/webcontent/publications/papers/viewAbstract?dp_id=8841.

Alix-Garcia, J., and A. Bartlett. 2015. "Occupations under Fire: The Labour Market in a Complex Emergency." *Oxford Economic Papers* 67 (3): 687–714.

Alix-Garcia, J., A. Bartlett, and D. Saah. 2012. "Displaced Populations, Humanitarian Assistance and Hosts: A Framework for Analyzing Impacts on Semi-Urban Households." *World Development* 40 (2): 373–86.

Alix-Garcia, J., and D. Saah. 2010. "The Effect of Refugee Inflows on Host Communities: Evidence from Tanzania." *World Bank Economic Review* 24 (1): 148–70.

Baez, J. E. 2011. "Civil Wars beyond Their Borders: The Human Capital and Health Consequences of Hosting Refugees." *Journal of Development Economics* 96 (2): 391–408.

Balkan, B., and S. Tumen. 2016. "Immigration and Prices: Quasi-Experimental Evidence from Syrian Refugees in Turkey." *Journal of Population Economics* 29 (3): 657–86.

Borjas, G. J., and J. Monras. 2016. "The Labor Market Consequences of Refugee Supply Shocks." NBER Working Paper No. 22656, National Bureau of Economic Research, Cambridge, MA.

Bozzoli, C., T. Brück, and N. Wald. 2013. "Self-Employment and Conflict in Colombia." *Journal of Conflict Resolution* 57 (1): 117–42.

Burbidge, J. B., L. Magee, and A. L. Robb. 1988. "Alternative Transformations to Handle Extreme Values of the Dependent Variable." *Journal of the American Statistical Association* 83 (401): 123–27.

Ceritoglu, E., H. B. G. Yunculer, H. Torun, and S. Tumen. 2017. "The Impact of Syrian Refugees on Natives' Labor Market Outcomes in Turkey: Evidence from a Quasi-Experimental Design." *IZA Journal of Labor Policy* 6: 5.

Del Carpio, X. V., and M. C. Wagner. 2015. "The Impact of Syrian Refugees on the Turkish Labor Market." 'Policy Research Working Paper No. 7402, World Bank, Washington, DC.

Dinçer, O. B., V. Federici, E. Ferris, S. Karaca, K. Kirişci, and E. Ö. Çarmıklı. 2013. *Turkey and Syrian Refugees: The Limits of Hospitality*. Washington, DC: Brookings.

Dustmann, C., A. Glitz, and T. Frattini. 2008. "The Labour Market Impact of Immigration." *Oxford Review of Economic Policy* 24 (3): 477–94.

Erdoğan, M. M. 2014. "Syrians in Turkey: Social Acceptance and Integration." Hacettepe University Migration and Politics Research Center-MPRC. https://mmuraterdogan.files.wordpress.com/2014/12/hugo-report-syrians-in-turkey-social-acceptance-and-integration-november-2014-04122014-en1.pdf.

Fakih, A., and M. Ibrahim. 2016. "The Impact of Syrian Refugees on the Labor Market in Neighboring Countries: Empirical Evidence from Jordan." *Defence and Peace Economics* 27 (1): 64–86.

Foster, L., J. Haltiwanger, and C. Syverson. 2008. "Reallocation, Firm Turnover, and Efficiency: Selection on Productivity or Profitability?" *American Economic Review* 98: 394–425.

Gobat, J., and M. K. Kostial. 2016. "Syria's Conflict Economy." International Money Fund Working Paper 16-123, International Monetary Fund, Washington, DC.

Maystadt, J. F., and P. Verwimp. 2014. "Winners and Losers among a Refugee-Hosting Population." *Economic Development and Cultural Change* 62 (4): 769–809.

ORSAM. 2015. "Effects of Syrian Refugees on Turkey." Report No. 195, Centre for Middle Eastern Strategic Studies, ORSAM, Ankara, Turkey.

Ozden, C., and M. C. Wagner. 2014. "Immigrants vs. Natives? Displacement and Job Creation." Policy Research Working Paper No. 6900, World Bank, Washington, DC.

Ozden, S. 2013. "Syrian Refugees in Turkey." Research Report 05, Migration Policy Center, Florence, Italy.

Sagrioglu, A. Z. 2004. "Not Only a Burden but Also a Contribution: Impacts of Syrians on Turkish Economy." In *Turkish Migration 2016 Selected Papers*, edited by D. Eroglu, J. Cohen, and I. Sirkeci. London: Transnational Press. pp. 132–8

Tumen, S. 2016. "The Economic Impact of Syrian Refugees on Host Countries: Quasi-Experimental Evidence from Turkey." *American Economic Review* 106 (5): 456–60.

UNHCR. 2014. "UNHCR Turkey Syrian Refugee Daily Sitreps Dec-2012 and Dec-2013." United Nations High Commissioner for Refugees, Geneva, Switzerland.

World Bank. 2017. *World Development Indicators: Private Sector in the Economy*. Washington, DC: World Bank.