UNIVERSIDAD TORCUATO DI TELLA | cepe Evaluación de Políticas basadas en la Evidencia

ESCUELA DE GOBIERNO

DOCUMENTOS DE TRABAJO 2020/02

EXPOSURE TO TRANSIT MIGRATION, PUBLIC ATTITUDES AND ENTREPRENEURSHIP

NICOLÁS AJZENMAN
CEVAT GIRAY AKSOY
SERGEI GURIEV

ABRIL 2020

Documentos de trabajo: https://bit.ly/2REorES

UTDT: Av. Figueroa Alcorta 7350, C1428BCW Buenos Aires, Argentina

Exposure to Transit Migration, Public Attitudes and Entrepreneurship*

Nicolás Ajzenman† Cevat Giray Aksoy‡ Sergei Guriev §

April 2020

Abstract

Does exposure to mass migration affect economic behavior, attitudes and beliefs of natives in transit countries? In order to answer this question, we use a unique locality-level panel from the 2010 and 2016 rounds of the Life in Transition Survey and data on the main land routes taken by migrants in 18 European countries during the refugee crisis in 2015. To capture the exogenous variation in natives' exposure to transit migration, we construct an instrument that is based on the distance of each locality to the optimal routes that minimize travelling time between the main origin and destination cities. We first show that the entrepreneurial activity of natives falls considerably in localities that are more exposed to mass transit migration, compared to those located further away. We then explore the mechanisms and find that our results are likely to be explained by a decrease in the willingness to take risks as well as in the confidence in institutions. We also document an increase in the anti-migrant sentiment while attitudes towards other minorities remained unchanged. We rule out the possibility of out-migration of natives or of trade-related shocks (potentially confounded with the mass-transit migration) affecting our results. Using locality-level luminosity data, we also rule out any effect driven by changes in economic activity. Finally, we find no statistically significant effects on other labor market outcomes, such as unemployment or labor force participation.

JEL classification: F22, L26, D91, O15, O10

Keywords: migrant routes, entrepreneurship, public attitudes, political instability

*We thank Ralph De Haas, Joseph-Simon Gorlach, Jesus Fernandez-Huertas Moraga, Panu Poutvaara, Hillel Rapoport, Orkun Saka, Pierre-Louis Vezina, and seminar and conference participants at the AEA Meetings (2020), Bank of Lithuania, Bogazici University, Central European University, CESifo CEMIR Workshop on Migration (2019), George Washington University, King's College London, OECD-CEPII Conference on Immigration (2019), SIOE (2019), TED University Ankara and University of Bristol. We are also grateful to Nuno Nunes, Sebastian Ancavil, Ivona Zakoska-Todorovska, and International Organization for Migration (IOM) for kindly providing the data on migrant routes. Zalina Alborova and Michael Ganslmeier provided outstanding research assistance. Views presented are those of the authors and not necessarily of the EBRD, IOM, or any other organization. All interpretations, errors, and omissions are our own.

†São Paulo School of Economics-FGV. E-mail: nicolas.ajzenman@fgv.br.

‡EBRD, IZA, King's College London E-mail: aksoyc@ebrd.com.

§Sciences Po, CEPR. E-mail: sergei.guriev@sciencespo.fr.

1 Introduction

International migration and its implications for economy and society is a central issue in the global policy and academic debate. However, despite the comprehensive examination of the implications of migration for sending or receiving societies (see Becker and Ferrara, 2019 for a review), there has been little empirical research on the effects of migration on transit countries (the countries through which migratory flows move in order to enter a country of destination). The impact of migration on transit countries is likely to be different from that on the destination countries. When migrant flows pass through transit locations temporary there is little opportunity for repeated social interactions, which may result in reinforcing rather than dispelling pre-existing stereotypes. Steinmayr (2018) shows that vote shares of the far-right political party increased in Austrian municipalities that were exposed to mass transit migration, while the opposite is true for communities where refugees actually settled. Following the seminal work by Allport et al. (1954), many papers have described the conditions under which the interactions between in-group and out-group individuals would increase empathy and integration (for instance, Barlow et al., 2009; Berg, 2009; Pettigrew, 1998; Pettigrew and Tropp, 2006; Enos, 2014).[1] Exposure to mass transit migration may also create a feeling of disruption in everyday life.[2]

In this paper, we provide the first large-scale evidence about the impact of transit migration by studying the localities along the Eastern Mediterranean route and its extensions in Europe that were particularly exposed to large transit migration flows in 2015. In particular, we show that exposure to transit migration affects individuals' attitudes and beliefs (such as risk attitudes, attitudes to minorities, and trust in institutions) and an important economic outcome: entrepreneurship. We focus on entrepreneurship as it is essential for job creation and growth, especially in countries close to the technological frontier.[3]

We use two main sources of data. First, we use a locality-level panel data (2010 and 2016) of the Life in Transition Survey (LiTS), which allows us retrieve the exact geocodes of each locality.[4] Second, we use the data on geo-localized migration routes in Europe, provided by the International Organization for Migration (IOM). We then geographically match these two sources and construct a measure of

[1] As Hangartner et al. (2019) summarize, there are typically three main factors: (i) both groups have to share status and goals, (ii) both groups need to live in a cooperative—rather than competitive—environment and (iii) they need to operate under a well-defined set of norms, laws and regulation. None of these conditions hold in the case of transit refugees.

[2] For example, Associated Press (2019) quotes a local resident in Bosnia who says that "they (migrants) run around freely. We cannot sleep peacefully anymore, we are constantly on alert".

[3] As the neo-Schumpeterian theory (Aghion et al., 1998) argues, such countries have to switch from adopting existing technologies to innovation and entrepreneurship.

[4] We define localities as LiTS' Primary Sampling Units (PSUs). The full list of localities used in the analysis is available from the authors upon request.

exposure to mass transit migration for each locality (the distance from the locality to the closest transit migrant route).

As migrants and refugees may strategically choose routes (for example, to bypass unwelcoming localities), there is a risk of potential endogeneity of distance to migration routes. To identify a causal effect, we implement a distance-based instrumental variable approach in the spirit of Ghani et al. (2016) and Faber (2014).[5] More specifically, we construct an instrument based on the distance from each locality in LiTS data to the "optimal" migration routes. The optimal routes are those that minimize the walking time between the main origin countries (Syria, Iraq, and Afghanistan) and the main destination countries (Germany and Italy). Therefore, our instrument captures the variation in distance between each locality and the real migration routes chosen by refugees, which was induced by ex ante—and plausibly exogenous—geographical determinants.

We find that natives' entrepreneurship falls substantially in localities that are close to migrant routes compared to those that are located far away from the routes. We use two measures of entrepreneurial activity: having tried to set up a business and self-employment status. For both measures, the effects are substantial: halving the distance to migrant routes decreases the propensity to set up a business by 2.8 percentage points and the likelihood of being self-employed by 2.4 percentage points (the respective averages of these two variables before the refugee crisis were 14 per cent and 9 per cent).

We explore potential underlying mechanisms and find that our results are likely to be explained by a reduction in trust in government (at national, regional and local levels), an increase in the perception of political instability as well as the lack of law and order, and a decline in willingness to take risks. In particular, we find that halving the distance to migrant routes causes a decrease in trust in government in the range of 2.4 and 3.1 percentage points (from an average of 33-50 per cent), a reduction of 1.7 percentage points in the proportion of people willing to pay extra taxes to get additional public goods and services (from an average of 60 per cent), a decrease of 3.1 percentage points in the perceived law and order (from an average of 51 per cent), a decrease of 3.6 percentage points in the perceived peace and stability in the country (from an average of 53 per cent), a decrease of 1.5 percentage points in the level of satisfaction with the political situation (from an average of 20 per cent) and, finally, a 0.8 percentage points decrease in the proportion of individuals who are willing to take risks

[5] Ghani et al. (2016) study the impact of transportation on manufacturing activity in India, using the construction of a highway network as a shock, and proximity to the network as the main explanatory variable. To deal with endogeneity, the authors instrument the distance to the actual layout of the network, with the distance to a straight line between the nodal districts of the network. Using a similar strategy, Faber (2014) tests the effect of the construction of the China's National Trunk Highway System on the diffusion of industrial activity in peripheral regions. To deal with the potential endogeneity concerns, the author uses two instruments of the actual route placements, based on the "optimal" network that planners would have chosen if the only objective had been to connect all targeted city nodes on a single continuous network subject to global construction cost minimization. In one case (which is most similar to ours), the author draws an "optimal route" based on minimizing bilateral Euclidean distances between nodal points of the actual route. Distance to actual routes are instrumented by distance to these "optimal" routes.

(from an average of 6 per cent). On the other hand, we find no evidence that exposure to transit migration affects interpersonal trust or local labor market outcomes, such as unemployment or labor force participation.

Consistent with these results, we also document a strong increase in anti-migrant sentiments in the localities that are close to the migrant routes: halving the distance to migrant routes results in an increase of 1.8 percentage points in the proportion of people considering that migrants are a burden (from an average of 50 per cent), an increase of 2.4 percentage points in the proportion of people who would prefer not to have migrants as neighbors (from an average of 25 per cent), while attitudes towards other minorities remain unchanged.

We run several placebo tests and robustness checks. First, we show that our results are robust to different specifications (different set of controls or using distance-based binary proximity variables instead of a continuous variable to measure exposure), and various alternative samples (for example, excluding Turkey since it is also a host country, or focusing on the full population instead of 25-64 year olds, or excluding countries with a recent history of conflict).

Second, a potential threat to our identification strategy could arise if localities that are closer to the "optimal" migrant routes were also closer to the main roads that facilitate trade flows. If this were the case, our results could be explained by trade-related shocks, instead of the transit migration shock. To investigate this possibility, we estimate several placebo specifications using the distance to major roads and railroads (instead of distance to migrant routes) as the treatment variable. We find null effects in all of our main outcomes, which supports the validity of the exclusion restriction: that is, our instrument does not affect the outcomes through a third variable—in this case, proximity to trade routes—other than the endogenous variable of our model.

Third, we address a concern related to potential local economic shocks caused by the transit migration. We directly test the relationship between exposure to transit migration and local economic activity which we proxy by luminosity (that is, nighttime light density, see Henderson et al. (2011) and Henderson et al. (2012)). Using different definitions of luminosity (the median and mean of luminosity in a 10 and 20 kilometers radius of each locality) we find null effects, which suggests that proximity to a migration route did not significantly affect economic activity.

We also show that our results cannot be explained by out-migration or compositional changes in the native population. Finally, we run a placebo test to show that the exposure to migration routes between 2010 and 2016 did not affect the willingness to start a new business between 2006 and 2010

— a pre-treatment period.[6]

Our paper contributes to several strands of the literature. First, there is a growing number of studies on the impact of mass migration on labor market outcomes of the natives.[7] Following Card's (1990) seminal paper, many scholars focused on the natives in Miami after the mass Cuban migration. However, there is no consensus about the direction and size of the effect; the debate is still ongoing (see Card, 2012; Borjas and Monras, 2017; Clemens and Hunt, 2019; Peri and Yasenov, 2019).[8] Recently, several studies have analyzed the Syrian mass migration to Turkey to examine the labor market outcomes for Turkish natives (for example, Del Carpio and Wagner, 2015; Ceritoglu et al., 2017; Tumen, 2016).[9] All three studies find that the effect of mass Syrian migration on the overall employment of natives in Turkey has been negative. Using data from Jordan, however, Fallah et al. (2019) show that a higher concentration of Syrians did not worsen natives' labor market outcomes. Our paper contributes to this vast literature by focusing on a fundamentally different type of exposure to migration: the one experienced by transit countries and localities (instead of origin or destination countries).

Second, our paper is also related to the literature on the relationship between migration and entrepreneurship. Most of the empirical literature on migration and entrepreneurship has mainly focused on migrant entrepreneurs and inventors. Previous studies have found that migrants are more likely to start businesses than natives.[10] Neville et al. (2014) argues that this pattern is mostly driven by the self-selection of migrants, who are less likely to be risk-averse. Migrants are also more likely to identify opportunities for new businesses as they had already spotted the opportunity for migration (Hart and Acs, 2011). There is also a growing literature showing that return migrants are more likely to become entrepreneurs than non-migrants (Démurger and Xu, 2011; Mesnard, 2004; Piracha and Vadean, 2010; Wahba and Zenou, 2012 and others). Migrants may also help to boost entrepreneurship in their home countries by sending remittances (Rapoport and Docquier, 2006; Woodruff, 2001; Woodruff and Zenteno, 2007 and others).

6 Unfortunately, the 2006 wave of LiTS does not contain many questions that we use in our analysis; so we could only run the specifications for the self-employment status.

7 Focusing on the labor market effects of immigration and emigration in OECD countries, Docquier et al. (2013) find that immigration had a positive effect on the wages of less educated natives, and increased or left unchanged the average native wages. Emigration, instead, had a negative effect on the wages of less educated native workers and increased inequality within countries. Parsons and Vézina (2018) investigate the impact of mass migration on international trade, using the exodus of the Vietnamese Boat People as a natural experiment. The authors find a strong pro-trade effect of Vietnamese immigration on US exports to Vietnam.

8 In addition, Hunt (1992) exploits Algerian repatriation in France; while Friedberg (2001) uses mass migration to Israel to study the labor market outcomes of the natives also with inconclusive findings.

9 Additionally, Tumen (2016) analyzed how Syrian mass migration affected price levels in the destination provinces in Turkey using a similar identification strategy.

10 Kauffman Foundation's "Start-up Activity." (available at: https://www.kauffman.org/~/media/kauffman_org/microsites/kauffman_index/startup_activity_2016/kauffman_index_startup_activity_national_trends_2016.pdf, last accessed 16 November 2019) provides evidence on the U.S., where immigrants represent 27.5 per cent of the country's entrepreneurs but only around 13 per cent of the population. Hunt and Gauthier-Loiselle (2010), Bosetti et al. (2015), Miguelez (2019), Bahar et al. (2019) find that migrants have a positive impact on innovation and knowledge creation.

To the best of our knowledge, only two papers have explored the effect of immigration on the entrepreneurial activity of the natives. Fairlie and Meyer (2003) examine the impact of immigration on self-employed natives in the United States and show that self-employed immigrants displace self-employed natives in the US. Unel (2018) investigates the effect of migration on the entry and exit of entrepreneurs in the US. He finds that immigration has a negative effect on the entry of entrepreneurs (consistent with our results) while having no significant impact on their exits. In both cases, the analysis focuses on the host country, rather than a transit country.

Our data and setting provide some unique advantages that allow us to complement existing studies, as we also examine a direct measure of entrepreneurship, an attempt to start a business. Our analysis also offers the broadest cross-national evidence to date on the relationship between migration and entrepreneurship. Whereas previous papers have mostly looked at individual countries or smaller samples, our data cover 18 European countries. This makes it possible to investigate the heterogeneity of responses based on various country-level and individual-level characteristics.

Third, our paper contributes to the literature that studies the individual determinants of entrepreneurship (see Djankov et al., 2005, 2006; Astebro et al., 2014 for an overview). For example, Cramer et al. (2002) show that risk-averse individuals are more likely to opt for stable salaried jobs as opposed to trying to start a business; Caliendo et al. (2009) and Caliendo et al. (2010) document a positive correlation between risk-taking attitudes and the decision to become an entrepreneur, while Stewart Jr and Roth (2001) and Hartog et al. (2002) show that self-employed individuals are less likely to be risk-averse compared with regular employees. Our results are consistent with these findings.

Finally, our results relate to the growing literature on the effects of exogenous shocks on risk attitudes. Several papers have shown that negative economic shocks (Dohmen et al., 2016; Gerrans et al., 2015; Guiso et al., 2018), natural disasters (Chuang and Schechter, 2015) and conflict (Voors et al., 2012; Callen et al., 2014) affect risk attitudes. Our results show that risk attitudes can also be affected by sudden exposure to large-scale irregular migration flows in transit countries, a type of event that—despite being common in recent years—has not yet been explored in the literature.

The rest of the paper is structured as follows. Section 2 provides background information on the Eastern Mediterranean migration routes and mass influx of migrants into Europe in 2015 and 2016. Section 3 provides a conceptual framework for understanding the mechanisms underlying the main effect. Section 4 describes the data sources. Section 5 outlines the estimation strategy. Section 6 presents the results. Section 7 concludes.

2 Background

2.1 The Eastern Mediterranean Route

During the recent refugee crisis, the Eastern Mediterranean route was the primary gateway to Europe. Migrants who entered the European Union (Bulgaria or Greece) via Turkey by land or sea then travelled through Western Balkan countries – Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia,[11] Kosovo, Montenegro, Serbia, and Slovenia – with the aim of reaching the Western Europe (Aksoy and Poutvaara, 2019).

The migration flow through the Eastern Mediterranean land route dramatically increased in 2015. Tinti and Reitano (2018) provide five main reasons. First, Turkey emerged as the major migrant host and transit country due to its proximity to conflict areas, serving as a portal by land and sea. Second, Turkey's "open door" policy towards Syrian refugees and visa-free regime with many other low-income Asian and African countries made it a key departure point for migrants. Third, worsening conditions for migrants and a confluence of geopolitical factors led to a surge in migrant departures from Turkey into Europe. Fourth, with smuggling networks emerging to facilitate the flow of Syrians from Turkey into Europe, Iraqis, Afghanis, and other nationalities joined the migrant flow. Finally, Angela Merkel's decision to waive the Dublin Regulation in August 2015 removed the critical deterrent for entering Europe via Greece or Bulgaria. More specifically, despite the long land route, reaching Western Europe from Greece became the safest and easiest option given the short sea crossing from the Turkish coast.

Prior to the refugee crisis, the flows through this route were small. For example, in 2013, fewer than 12,000 people crossed the Aegean from Turkey to Greece. This number was about 50,000 in 2014. In 2015, the number of arrivals via the Eastern Mediterranean route increased drastically, reaching 885,000 people. This figure is substantial and represents more than 70 per cent of the total migrants that arrived in Western Europe in 2015 (the proportion was similar in 2016).[12] These numbers imply a massive unexpected shock experienced by the transit country communities located along the Eastern Mediterranean route.

[11] The Former Yugoslav Republic of Macedonia officially adopted its new name "the Republic of North Macedonia" in February 2019. However, throughout this paper we use the Former Yugoslav Republic of Macedonia or FYR Macedonia, which were originally used in the surveys.

[12] The flow through the second largest route, the Central Mediterranean route, has never exceeded 170,000 migrants per year (Frontex, 2019). In 2015 and 2016, some 1,030,173 migrants arrived in Europe using the Eastern Mediterranean Route; 335,278 migrants used the Central Mediterranean route; 13,400 migrants used the Western Mediterranean route (ECFR, 2017; UNHCR, 2017; Available at: http://www.unhcr.org/5943e8a34.pdf (last accessed 16 November 2019).

2.2 Evidence from the Flow Monitoring Surveys

After registering in Greece, migrants began their land journey, mostly walking towards their intended destinations. For example, in July 2015, an Afghani migrant interviewed near the Serbian border reported that: "We walked most of the way here. It took us six months, and we made the almost 7,000-kilometer overland journey via Pakistan, Iran, Turkey, Greece, and Macedonia."[13]

With almost no need for smugglers, this "do-it-yourself" migration through the Balkans became the central model. With many transit countries implementing an "open door" policy allowing migrants to travel in their territory, thousands of migrants flowed through the Balkans in a few months (Tinti and Reitano, 2018).

In addition to anecdotal evidence, we turn to the Flow Monitoring Surveys (FMS) conducted by the International Organization for Migration (IOM) on the transit points along the Eastern Mediterranean route to understand the main characteristics of migrants' journey (such as the number of days spent in transit, the mode of transport, and so on). FMS derive quantitative estimates of the flow of (non-European) third-country nationals who are migrating towards Europe. The FMS respondents are informed of the fact that participation does not influence their legal status in the country of the interview. The questions are posed only to those migrants who give their consent. The IOM also often uses data collectors of the same nationality as migrants or who at least who speak their language. There were no incentives provided for participation and it was on a voluntary basis. However, data collectors provided a clear explanation of the purpose of the survey before asking for consent and emphasized the fact that it was anonymous. IOM also selected locations for the survey where migrants stay longer and that provide the right environment in terms of space and confidentiality. These helped migrants to feel comfortable and respond to the survey. The response rates were very high.[14] This alleviates concerns about selection bias in participating in the surveys (see Aksoy and Poutvaara, 2019 for the details and the sampling strategy of the survey).

We use two waves of the FMS. The first wave (October 2015 to December 2015) included interviews in Croatia, FYR Macedonia, Greece and Slovenia. The second wave of FMS (January 2016 to November 2016) covers Bulgaria, Croatia, FYR Macedonia, Greece, Hungary, Serbia, and Slovenia. In the raw data, the two waves of FMS included 14,622 respondents.

Figure 1 presents the self-reported reasons for leaving origin countries. More than 80 per cent of respondents from Afghanistan, Iraq, Palestine, Somalia and Syria report leaving their countries due to

[13] The Globe and Mail (July 10, 2015): Gateway to freedom: Migrants walk thousands of kilometers for heaven of Western Europe. Available at: https://www.theglobeandmail.com/news/world/gateway-to-freedom/article25410710/ (last accessed 16 November 2019).

[14] Interviewers approached 15,016 migrants on transit and only 286 of them did not participate the survey.

conflict or persecution. At the other end of the spectrum, the vast majority of respondents from Morocco, Algeria, Bangladesh, and Pakistan cite economic conditions as the main reason for migration. Limited access to basic services (like school and health care) or lack of food or accommodation were named as the main reason by about three per cent of respondents.

Figure 2 shows descriptive statistics for the number of days spent in transit in Europe. The majority of survey respondents (59 per cent) spent fewer than 30 days in transit. Some 18 per cent of respondents spent between 30 and 59 days, and 10 per cent of respondents spent between 60 and 119 days in transit.

Table 1 shows the main mode of transport by survey countries. The overwhelming majority of respondents walked while moving from one transit country to the next. For example, more than 85 per cent of respondents surveyed in Bulgaria, Croatia, Hungary, and FYR Macedonia reported "walking" as their primary mode of transport. The next most popular mode of the journey was land (that is vehicular) transport. As expected, 95 per cent of respondents arrived in Greece by boats from Turkey.

Figure 3 presents the intended destination country as reported by migrants from Afghanistan, Iraq and Syria. 62 per cent of respondents reported Germany as their main destination. Italy was a distant second (9 per cent), followed by France (5 per cent), Sweden (4 per cent), Austria (3 per cent) and the Netherlands (2 per cent).

Collectively, these findings suggest that: (i) the vast majority of migrants were seeking refuge from conflict or persecution, although there is a sizable population driven primarily by economic concerns; (ii) nearly 80 per cent of migrants spent fewer than 60 days in transit countries on their way to Europe; (iii) migrants mostly walked the long route through Greece and the Western Balkans with the ultimate aim of reaching Germany and other Western European countries; (iv) none of the countries we have in our sample was considered as the main intended destination country by migrants. LiTS only includes two Western European countries (Germany and Italy), hence by excluding these two we eliminate the top ten destination countries; at least 95 per cent of intended final destinations.[15]

3 Potential Mechanisms

In this section, we discuss potential mechanisms that can explain the relationship between exposure to irregular migration and entrepreneurship. First, this is the individual-level willingness to take risks (Caliendo et al., 2009, 2010). Second, trust in institutions and perceived political instability

[15] Turkey serves as both transit and host country for migrants. We check the robustness of our results excluding Turkey and find that our results remain qualitatively similar.

can affect incentives and behavior of entrepreneurs. Third, entrepreneurship may be driven by social variables, such as trust, cultural values or beliefs (Guiso et al., 2006). Finally, labor market conditions (Blanchflower and Oswald, 1998) can also play a role.

3.1 Risk Attitudes

The first mechanism is related to risk attitudes. Individuals with higher willingness to take risks are more likely to prefer entrepreneurship to salaried employment (Cramer et al., 2002). Indeed, existing literature documents a positive correlation between willingness to take risks and the decision to become an entrepreneur (Caliendo et al., 2009, 2010). The related strand of research also shows that self-employed individuals are less likely to be risk-averse compared with regular employees (Stewart Jr and Roth, 2001; Hartog et al., 2002). Although there is no consensus in the economics literature on how malleable risk preferences are, there is growing empirical evidence showing that certain shocks—such as a financial crisis-—can significantly affect risk attitudes (see, for instance, Guiso et al., 2018; or Gerrans et al., 2015).

We use a measure of "willingness to take risks"—which is a combination of both—to test this mechanism.[16]

3.2 Interpersonal Trust

The other potential mechanism is related to social (or interpersonal) trust. A large literature in economics has shown the importance of trust for economic development and entrepreneurship (Bottazzi et al. (2016); Knack and Keefer (1997); Zak and Knack (2001)). It is seen to assist in lowering the transaction costs of commercial actions and the inherent risks in entrepreneurship (Welter (2012)). Low trust is found to restrict market entry and enterprise growth (Welter and Smallbone (2006)). Guiso et al. (2006) argue that in the context of potentially incomplete contracts (to which an entrepreneur is likely to be exposed) trust becomes crucial. Using data from the General Social Survey, they find a strong relationship between trust and the likelihood of becoming an entrepreneur.

An important issue regarding interpersonal trust is that the self-reported measures—such as the one we use in this paper—reflect a combination of individual preferences and beliefs (about trustworthiness of others). Although both preferences and beliefs are likely to be correlated with the propensity to become an entrepreneur, these are the beliefs that are more malleable and, therefore, more likely to

[16] See Schildberg-Hörisch (2018) for a discussion of this issue. See also Falk et al. (2018) for global risk preferences measurement and its variability across individuals and regions.

be affected by shocks (Sapienza et al., 2013; Ananyev and Guriev, 2019).

3.3 Political Instability and Trust in Institutions

Williamson (1993) emphasizes that institutional trust is different from interpersonal trust. Institutional trust refers to trust in the institutional environment, which includes formal organizations such as different levels and branches of government. Baumol (1990) argues that the quality of institutions can be an important determinant of the level of entrepreneurial activity. As explained in Dutta et al. (2013), strong institutions increase the rate of return to market entrepreneurship. Lack of sound political and institutional environment leads to greater risk and uncertainty in contracting, application of legal rules, security of property rights, and tax policies. Lower confidence in institutions and higher perceived political instability reduce incentives for entrepreneurship. We provide a formal test of this hypothesis by analyzing the responses to various questions on perceptions of institutional quality and political stability.

3.4 Labor Market Outcomes

The fourth potential channel is related to labor market outcomes. Large-scale immigration may disrupt local labor markets in a number of ways. It could lead to a decline in wages and an increase in local unemployment for natives depending on substitutability between migrants and natives.[17] Unemployment could depress local aggregate demand and reduce economic incentives to create new businesses (Storey and Johnson, 1987). On the other hand, the presence of migrants might generate demand for goods and services, which can then push natives into entrepreneurial activity. Similarly, construction and management of refugee processing and integration centers can generate salaried employment opportunities for natives, which, in turn, can negatively affect the entrepreneurial activity. Therefore, the direction of this relationship is unclear.

4 Data

The data used in this paper come from the Life in Transition Surveys (2010 and 2016), International Organization for Migration, Google Maps, and the World Bank's World Development Indicators (WDI).

[17] See for example, Card, 1990; Del Carpio and Wagner, 2015; Tumen, 2016; Borjas and Monras, 2017.

4.1 Migrant Routes

As discussed in Section 2, European countries witnessed an unprecedented increase in the number of migrants arriving by sea in 2015. Thousands crossed the Mediterranean Sea and reached Europe by taking the following routes: Western Balkan, Central Mediterranean, and Eastern Mediterranean (see Figure 4).[18] We only focus on the Eastern Mediterranean route and its extensions in Europe (as mentioned above, the number migrants arriving via this route in 2015 substantially exceeded the respective numbers for all other routes combined).

We exploit the geographic variation produced by the distance between these migrant routes into Europe and the different localities surveyed in the Life in Transition Survey to identify the effect of exposure to mass migration on the change of native entrepreneurship in transit countries. Relevant for the internal validity of this study, we argue that migrants fled from their home countries for conflict-related reasons: the discontinuous increase in the exposure of the local population to the massive influx of migrants originated from a sudden and unexpected expulsion from their home countries (see Figure 1).

Figure 5 shows the localities used in our LiTS sample and the main land routes to Europe, as projected by IOM. This map broadly shows that many European countries serve as transit countries for refugees and irregular migrant groups. Using the same base map, Figure 6 provides a zoomed-in image to better show the intra-country variation in proximity to migrant routes. In particular, we use the log of the distance of each locality to the closest route in our main specification to capture the exposure to migration. In addition, we define alternative measures of treatment based on the distance of every locality in our sample to its closest migration route. We use four distance thresholds considering localities as "treated" if the distance to the closest route is within 25, 50, 75 or 90 kilometers. This figure highlights that there is substantial amount of variation in the proximity of localities to migrant routes.

4.2 Life in Transition Survey (LiTS)

The Life in Transition Survey (carried out by the European Bank for Reconstruction and Development in collaboration with World Bank) is a nationally representative household and attitudinal survey. LiTS collects information on the demographic and socio-economic characteristics of respondents and interviews individuals on a wide range of topics. In this paper, we use the locality panel data

[18] Frontex (2019) categorizes four other irregular migrant routes (Eastern borders, circular route from Albania to Greece, Western Africa, and Western Mediterranean) into the EU. Available at: https://frontex.europa.eu/along-eu-borders/migratory-routes/eastern-mediterranean-route/ (last accessed 16 November 2019).

from LiTS II (2010) and LiTS III (2016). 2010 round (approximately 750 households per country) was conducted in 29 transition countries, the Czech Republic and five Western European comparator countries (France, Germany, Italy, Sweden, and the United Kingdom). The 2016 round (approximately 1,500 households per country) was conducted between the end of 2015 and the beginning of 2016 in 34 countries, comprising 29 transition countries, the Czech Republic and two Western European comparator countries (Germany and Italy).[19] An important feature of these data is that they track nearly 50 localities per country in both the 2010 and 2016 rounds. A panel element was built into the survey design in 2016 by asking interviewers to revisit the localities that were sampled during the second round of the survey in 2010. A mapping exercise preceding the sampling was carried out to match the borders of the 2010 localities to the current ones. Within the localities, households were randomly selected; therefore the households that participated in the 2016 wave are not (necessarily) the ones included in the 2010 wave.

This panel structure allows us to measure differences in outcome variables within the same localities. Another critical factor is that LiTS only surveys the native population, which allows us to directly assess how exposure to migration affects natives' entrepreneurship. Our analysis is restricted to the localities for which we have data in both years and on the countries directly or indirectly affected by the European migrant crisis between 2010 and 2016. Overall, we analyze a panel of 822 different localities, in 236 different subnational regions (NUTS-2) of 18 different countries (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Hungary, Kosovo, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovak Republic, Slovenia, and Turkey).

LiTS provides detailed information on the respondents' socio-demographic characteristics, household assets, work, and unemployment history. Importantly, it also includes several questions on attitudes towards migrants and other population groups, interpersonal and institutional trust, and satisfaction with the socio-political environment. These questions were completed by the head of the household or any other household member who was knowledgeable about household characteristics and finances at the time of the interview. LiTS only included a face-to-face interviews.

LiTS also includes questions on respondents' entrepreneurial activity and self-employment. Respondents were asked, "Have you ever tried to set up a business?". They were then asked to choose one of the following answers: 1. "Yes, I have set up my current business"; 2. "Yes, I set up a business in the past but I am no longer involved in it, or it is no longer operational", 3. "Yes, I tried to set up a business and did not succeed (in setting it up)"; 4. "No". We create a logically defined outcome variable based on the responses 1, 2, and 3: "Tried to set up a business" as an entrepreneurial activity measure.

[19] Cyprus and Greece were covered in 2016 only, hence they are not included in the analysis.

Respondents were also asked "What type of job do you have in your primary occupation?" with the following options: 1. "Wage employee"; 2. "Paid intern/apprentice"; 3. "Unpaid intern/apprentice"; 4. "Employer"; 5. "Self-employed"; 6. "Unpaid worker in household business/enterprise." We use the "self-employment" option as our second measure of entrepreneurship.

Throughout the paper, we focus on individuals aged 25-64; the results are robust to including 18-24-year-olds.

4.3 Descriptive Statistics

Table 2 (panels (a) and (b)) presents the descriptive statistics on socio-demographic characteristics from the LiTS data by year (2010 and 2016) and based on a 15 kilometer threshold for distance to migrant routes. The data indicate that respondents who live close to the migrant routes in 2016 (in comparison to 2010) are on average slightly older, better educated, more likely to be married, more likely to have children in the household, more likely to be unemployed, more likely to have a bank account and own a car. They are also less likely to report that they tried to set up a business (and be self-employed) and more likely to report that they prefer not to have migrants as neighbors in 2016 relative to 2010.

Respondents who live in localities further away from the refugee routes are on average in 2016 (in comparison to 2010) older, more likely to be male, more likely to be married, more likely to have children in the household, less likely to be unemployed, more likely to have a bank account. There are no significant differences when it comes to reporting to have tried to set up a business or to be self-employed. Respondents are also more likely to report that they prefer not to have migrants as neighbours in 2016. These broad patterns are also documented for other distance thresholds (not reported here).[20]

5 Empirical Methodology

5.1 OLS Estimation

We first use the variation generated by the large migration flow between the two waves of our survey data (2010 and 2016) across different localities. By comparing the same areas before and after the mass migration episode, we account for the potential source of endogeneity generated by locality-

[20] There are 205, 267, 304, 336 treatment PSUs and 617, 555, 518 and 486 control PSUs for the thresholds of 25, 50, 75 and 90 kilometers, respectively.

specific time-invariant characteristics. More specifically, we estimate the following equation:

$$Outcome_{ilct} = \alpha + \beta\gamma_t Distance_l + \gamma_t + \Lambda X_{ilct} + \Phi C_{ct} + \rho_l + \epsilon_{ilt}, \quad (1)$$

where i, l, c and, t index individuals, localities, countries, and years (2010 or 2016), respectively.

$Outcome_{ilct}$ takes the value of 1 if a respondent i in locality l in country c reported having tried setting up a business or being self-employed in year t and 0 otherwise. $Distance_l$ is the log of the distance of locality l to the closest route. The locality fixed effects, ρ_l, control for any time-invariant difference in unobserved factors that vary across localities. γ_t is a year fixed effect, which captures the impact of global shocks that affect all countries simultaneously. β is the main parameter of interest and captures the effect of exposure to mass migration on our outcomes.

We also control for a vector of individual-level (X_{ilct}) and country-level (C_{ct}) characteristics. More specifically, (X_{ilct}) includes: gender, age and age squared, and dummy variables for marital status (married, widowed and divorced/separated) and for educational attainment (no degree, primary, lower secondary, and upper secondary). We also include dummy variables for owning a bank account, for owning a dwelling and for owning a car.[21] Time-varying country characteristics are PPP-adjusted GDP per capita and the log of country population. We cluster robust standard errors at the level of locality (primary sampling unit, PSU) to account for the potential correlation existing in the errors within the same PSU.

5.2 Instrumental Variable Estimation

There are several potential threats to our identification strategy. First, many of the routes used today have been there for decades, used not only by migrant smugglers but also by traffickers of various illicit goods (Tinti and Reitano, 2018). Second, if migrants decided to go through a specific route not because it provides a shorter path to their intended destination, but, for example, because the local population is more hospitable to immigrants, then our estimates would be biased downwards. Migration and entrepreneurial outcomes may also be jointly affected by omitted variables (such as a change in institutions and policies).

To tackle these issues, we use two-stage least squares (2SLS) methodology in the spirit of Ghani et al. (2016) and Faber (2014), to instrument our potentially endogenous independent variable in (1). We use an instrument that affects the distance to migrant routes but is not directly related to our

[21] An extensive body of literature documents a positive relationship between wealth and entrepreneurship, which supports the liquidity constraints hypothesis (Evans and Jovanovic (1989); Nykvist (2008); Fairlie and Krashinsky (2012); Sauer and Wilson (2016); Sauer and Wiesemeyer (2018) and others).

outcomes. We focus on the exogenous determinants of migrant routes that are based on geographical characteristics. The insight for our instrument is the following: let us assume that migrants need to go from their origin (for example, Damascus) to their intended destination (for example, Berlin). If the decision were completely determined by exogenous factors, the migrant would likely take the "optimal" route – the route from Damascus to Berlin that minimizes travel time, which is determined by geographical and historical factors. If the migrant decides to deviate from the "optimal" route and take an alternative one, it must be for a reason, such as presence of smuggling networks, insecurity, the likelihood of detection by armed forces and so on. In this case, the distance between the European localities and the real routes chosen by the migrant would be endogenous.

Our instrument captures the exogenous variation of that distance: we define our instrument as the minimum driving time between each locality and the closest "optimal route," considering all the possible combinations of routes between the main origin and destination cities between Asia and Europe. We determined these cities based on responses provided in Flow Monitoring Surveys (we use the fact that about 80 per cent of respondents came from Afghanistan, Iraq and Syria and Germany was the main intended destination country reported by migrants, followed by Italy). More specifically, we carry out the following steps:

(i) Using Google Maps, we identify all the walking routes from the three main origin points (Damascus, Baghdad, and Kabul) to the two main destination points (Berlin and Rome) that minimize the walking time (see Figure 7). These routes are the "optimal routes."[22]

(ii) For each locality, we identified the closest point within the closest routes as defined in (i). For instance, in Figure 7, we show a straight line that goes from the locality "Sanpetru de Campie, RO" to one of the "optimal routes" (in this case, the one that goes from Kabul to Berlin, the zoomed-in image can be seen in Figure 8). This line represents the shortest distance to the closest route for that locality. Once that point is identified, we calculate our instrument as the minimum driving time between the locality and the route using Google Maps.

In the first stage, we show that the driving time between a locality l and the closest "optimal route" is significantly correlated with the distance between the same locality l and the closest actual route taken by migrants. Our main identification assumption is that, the distance between the locality l and the closest "optimal route" did not affect the change entrepreneurial activity between 2010 and 2016 by any other channel except for exposure to migrants passing on their chosen routes. Since "optimal routes" are determined by geography and historical factors, this is a reasonable assumption.

[22] Using the driving time time instead of the walking time produced qualitatively identical results.

6 Results

This section presents four sets of results. First, we show the OLS estimates. Second, we present the Instrumental Variables (IV) results following the methodology introduced in section 5.2 and examine heterogeneity by socioeconomic subgroups. Third, we investigate the underlying mechanisms using our baseline IV specification. Finally, we present a set of robustness checks.

6.1 OLS Results

We start by analyzing entrepreneurial activity in localities that are close to the migrant routes relative to those located far away from the migrant routes as described in Section 5.1. Specifically, we estimate models based on the geographical distance to migrant routes in Table 3. We present results for the outcome variable "Tried to set up a business" in the top panel and "Self-employment" in the bottom panel. Each column shows coefficient on the migration effect: 2016*log distance (the interaction term between year dummy for 2016 and logarithm of distance to the closest route), which we interpret as the effect of proximity to migrant routes on the change in natives' entrepreneurial activity. Column 1 reports the estimation with locality and year fixed effects; Column 2 adds country-level controls, Column 3 adds individual-level demographic characteristics and, finally, Column 4 adds control variables for individual-level wealth and assets.

In the top panel of Table 3, we find a significant effect of distance on entrepreneurial activity. Cutting the distance to the migrant routes by half decreases the propensity to start a business by 1.6*log(2)=1.1 percentage points for natives in Column 1. This effect does not change after adding various individual- and country-level controls (Columns 2 to 4). The magnitude is substantial, given that the average level of entrepreneurial activity in 2016 is 11 per cent (see Table 2).

In the bottom panel of Table 3, we define our outcome variable as self-employment. We find that a twofold decrease in the distance to the migrant routes reduces the likelihood of reporting to be self-employed by 0.7*log(2)=0.5 percentage points (Column 4). This is also a substantial effect since the average self-employment rate is 5 per cent in treated localities in 2016 (Table 2). Collectively, these estimates suggest that proximity to migrant routes is statistically significantly associated with the entrepreneurial activity of the native population.

6.2 Instrumental Variables Results

In this subsection, we present the Instrumental Variable (IV) estimates of the relationship between the proximity to migrant routes and natives' entrepreneurship. Table 4 presents the first stage estimates of our instrument. Overall, the instrument is highly correlated with the potentially endogenous treatment variable (the distance to migrant routes). The F-statistics shows that the first stage is very strong. This first-stage relationship is robust to the inclusion of fixed effects, individual-level covariates as well as country-level controls.

Table 5 presents the second-stage estimates. As in Table 3, we show coefficients on the main variable of interest, adding successively more controls. The estimate from the fully saturated model indicates that halving the distance to migrant routes decreases the propensity to set up a business by 4.1*log(2)=2.8 percentage points (top panel) and the likelihood of reporting to be self-employed by 3.4*log(2)=2.4 percentage points (bottom panel).

Table 6 shows the reduced form results using the proposed instrument as the explanatory variable. The results remain significant in each of the columns, adding different controls.

The estimates for IV are larger than the OLS ones. There are two potential explanations. First, it is likely that there is a negative correlation between the errors in the outcome variables and distance equation. That is, the IV specification accounts for problems associated with the initial selection of entrepreneurs into different localities based on proximity to migrant routes. Second, in the absence of controls for differences in unobserved characteristics between "treated" and "non-treated" localities, there would be a tendency to underestimate the impact of the migrant flows on entrepreneurial activity.

In Appendix Tables A1 and A2, we estimate models with dummies for proximity to migrant routes (rather than continuous distance). We present results for four different thresholds: a dummy for less than 25 kilometers to the route in the top panel, for less than 50 kilometers in the second panel, for less than 75 kilometers in the third panel and for less than 90 kilometers in the bottom panel. In the top row of the top panel of Appendix Table A1 we define our treatment localities as those within 25 kilometers from migrant routes. We find that the likelihood of reporting to have tried to set up a business in these treatment localities decreases by 18.8 percentage points more than in the control localities. The respective impact on the probability of being self-employed (Table (A2) is 15.1 percentage points.

Intuitively, the point estimates of the effect of proximity to migrant route decrease as we extend the range of our treatment localities further away from the migrant routes: coefficients for the 75-kilometers threshold are smaller than those for 50-kilometers which in turn are smaller than those for

25-kilometers. Finally, when we define our treatment as a 90-kilometers neighborhood of migrant routes (the bottom panels of Appendix Tables A1 and A2), we find that point estimates are small in magnitude and are not statistically significant. Collectively, these estimates confirm that proximity to migrant routes and exposure to mass migration significantly affect the entrepreneurial activity of natives.

To understand the individual-level heterogeneity of the effects, we consider the IV estimations for various demographic characteristics in Tables 7 and 8.[23] First-stage F statistics for heterogeneity estimates are above 10 in all models. Each row reflects a separate regression that is fully saturated with controls for individual and country characteristics, locality and year fixed effects. The format of Tables 7 and 8 follows that of Table 5: we present results for the outcome variable "Tried to set up a business" in the top panel and "Self-employment" in the bottom panel.

The heterogeneity analysis reveals a notable gender difference: men are significantly more likely to be negatively affected than women (Table 7). There is also a substantial age and place of residence effect (Table 8): younger individuals (ages 25-44) and those who live in rural areas are affected more.

6.3 Discussion of Mechanisms

In this section, we test the mechanisms outlined in Section 3. Each model is based on our fully saturated IV specification.

6.3.1 Changes in Willingness to Take Risks

We first check whether risk attitudes (potentially related to the propensity to start new business) were affected. We use a perception-based measure, as shown in Table 9. The outcome variable is "Willingness to take risks" (Column 1 of top panel).[24] We show that natives' willingness to take risks decreases in localities that are closer to migrant routes.

[23] In results not reported we also considered heterogeneity across country characteristics and found weaker evidence of heterogeneity by EU-membership status and GDP per capita.

[24] This variable takes a value of one if the individual's answer is greater than or equal to seven to the question "Please, rate your willingness to take risks, in general, on a scale from 1 to 10, where 1 means that you are not willing to take risks at all, and 10 and means that you are very much willing to take risks."

6.3.2 Changes in Perceived Political Instability

We next analyze whether perceptions of political stability were affected by exposure to mass migration. In order to investigate this mechanism, we use several perception-based measures. The results are presented in Table 9. The outcomes across the columns in the top panel are as follows: "Law and order exist in the country" (Column 2); "Peace and stability exist in the country" (Column 3); "Happy with the political situation" (Column 4); and "Happy with the economic situation" (Column 5). The outcomes in the bottom panel are as follows: "Willingness to pay extra taxes" (Column 1),[25] "Life satisfaction" (Column 2); "Job satisfaction" (Column 3); "Satisfaction with financial situation" (Column 4); and "Children have a better life" (Column 5).[26]

The results indicate that the decrease in confidence in political stability and satisfaction with the political and economic situation is larger in localities closer to migrant routes. In these localities, there is also a larger decline in willingness to pay taxes. We also find that exposure to migration routes has a negative effect on job and life satisfaction. The finding that satisfaction with financial situation does not change suggests that nearby localities were not differentially affected by the financial crisis.

6.3.3 Changes in Institutional Trust

To investigate whether a fall in institutional and inter-personal trust can also explain our results, we use a wide range of questions from LiTS, the results of which are reported in Table 10. The outcome variables across the columns in the top panel are as follows: "Trust in national government" (Column 1); "Trust in regional government" (Column 2); "Trust in local government" (Column 3); and "Trust in armed forces" (Column 4). The outcome variables in the bottom panel are as follows: "Trust in foreign investors" (Column 1); "Trust in foreigners" (Column 2); "Trust in other people" (Column 3); and "Lost wallet likely to be returned" (Column 4).[27]

The results in Columns 1-3 of Table 10 show that the respondents are more likely to trust national, regional and local government as the distance to migrant routes increases, while there is no effect on trust in the armed forces in Column 4. As with trust in government, trust in foreigners also increases with distance. At the same time, there is no effect on trust in foreign investors; therefore, the negative attitudes towards foreigners are more likely to be driven by distrust of foreign workers rather than foreign investors.

[25] This variable takes a value of one if the respondent's answer to "Would you be willing to give part of your income or pay more taxes, if you were sure that the extra money was used to…" is "yes" to any of the following categories: improve public education, improve the public health system, combat climate change or help the needy.

[26] All satisfaction-related questions take a value of one if the respondent answers "agree" or "strongly agree".

[27] All trust-related questions take a value of one if the respondent answers "some trust" or "complete trust".

6.3.4 Changes in Interpersonal Trust

In the last two columns Table 10 we explore the impact of distance to migrant routes on general trust. We find no effect for trust in other people and the beliefs that a lost wallet is likely to be returned.

6.3.5 Changes in Local Labor Markets

Finally, we examine whether the reduction of entrepreneurship is driven by changes in local labor markets. In Table 11, we present evidence using four outcome variables: self-employment (presented again in Column 1 for comparison purposes); wage employment (Column 2); unemployment (Column 3); and not in labor force (Column 4). The results provide direct evidence that proximity to migrant routes has no statistically significant effects on employment, unemployment or labor force participation. These results are also robust to controlling for respondents' partner's labor market characteristics.

In summary, our results suggest that exposure to mass migration led to an increase in perceived political instability, decrease in institutional trust and a decline in the willingness to take risks.

7 Placebos, Robustness Checks and Alternative Explanations

In this section we present several tests and robustness checks to strengthen the validity of our main results and to rule out alternative hypotheses. We also present some test to support the exogeneity (and thus, the causal interpretation) of our models as well as evidence that helps to rule out alternative interpretations of our results.

7.1 Exclusion Restriction: Are the Results Driven by Proximity to Trade Routes (Rather Than Migration Routes)?

A potential threat to our identification strategy could arise if localities that are closer to the "optimal" migrant routes were also closer to the main trade roads. If that were the case, our results could potentially be explained by trade-related shocks, instead of the transit migration shock. For example, an economic downturn triggered by the Greek crisis which intensified between 2011 and 2015 or disruption of trade links due to migrants, differently affecting localities that are close to trade routes. However, this would only be a problem if proximity to main roads had a direct effect on our outcomes, thus affecting the validity of our exclusion restriction. If that were the case, it would be possible to

claim that the instrument (distance to the "optimal migration routes") affected the outcomes through a third variable (distance to trade routes), different from the instrumented variable (distance to the actual migration routes).

To alleviate these concerns, we estimate several placebo models using the distance to major roads and to major railroads (instead of distance to "optimal migration routes") as the treatment variable. To be able to run this estimates, we obtained harmonized data on routes and railroads for each country using the Digital Chart of the World (DCW)'s[28] digital map of earth. The DCW was originally developed by the US Defense Mapping Agency (DMA) and is the most comprehensive source containing geolocalized data of railroads and routes geolocalized, covering virtually the whole planet. For each locality we calculate the minimum distance (in logs) to a railroad (or route) and we then estimate equation 1 replacing $Distance_l$ with the distance to the closest primary railroad or road.

Both Tables 15 (roads) and 16 (railroads) show null effects in all of our main outcomes. The fact that proximity to the major roads (a proxy for proximity to trade routes) did not directly affect the outcomes supports the validity of the exclusion restriction of our IV. [29]

7.2 Are the Results Driven by Changes in Local Economic Activity?

An alternative explanation to the mechanisms we present in this paper could be related to a shock in economic activity caused by the spike in migration inflow. If that were the case, the effect on entrepreneurship would have been explained—at least partially—by changes in the economic conditions of the localities close to the migration routes (instead of being explained by changes in risk attitudes or confidence in institutions).

We directly test this hypothesis by estimating our main model using local economic activity as an outcome. Given that our unit of observation is the locality and official measures of economic activity at such granular level do not exist, we follow Henderson et al. (2011) and Henderson et al. (2012), and use remote sensing techniques to proxy economic activity by high-resolution data on nighttime light density (that is, luminosity). The data on nighttime light density come from DMSP-OLS[30] and VIIRS[31]. The DMSP-OLS data span until 2013. The VIIRS data are available for 2015-2016. As the nighttime light density data in 2010 and 2016 come from different sources (and thus are not directly

[28] More information available at https://worldmap.harvard.edu/data/geonode:Digital_Chart_of_the_World. All shapefiles are available at https://www.diva-gis.org/

[29] We also ran a placebo test to show that the exposure to migration routes between 2010 and 2016 did not affect the willingness to start a new business between 2006 and, 2010 — before our treatment period. We have run the placebo tests for all definitions of exposure to refugee routes used in this paper and found no significant effects in any specification. Results are available upon request.

[30] See details at this link: https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html.

[31] See details at this link: https://ngdc.noaa.gov/eog/viirs/download_dnb_composites.html.

comparable), we normalize each value to a 0-1 range within each year.

For robustness, we define four variables to proxy economic activity: the median and mean of luminosity in a 10-kilometer and 20-kilometer radius of each locality (all of them normalized, as explained above). The results are presented in Table 17. In every specification we find non-significant effects, suggesting that proximity to a migration route does not directly affect economic activity.

7.3 Attitudes Towards Migrants

For our story to be credible, it has to be the case that localities close to migrant routes not only change their behavior, risk attitudes and beliefs related to institutions, but also their attitudes and views towards migrants (otherwise, it would be difficult to claim that they actually felt any exposure). We show several results in this regard in Table 12.

First, we show that attitudes toward migrants have indeed become more negative in localities that are closer to the migrant routes. We use three different outcome variables: the respondents' views on whether (i) "immigrants make a valuable contribution to the national economy of our country"; (ii) "immigrants are a burden for the national social protection system"; and (iii) "prefer not to have migrants as neighbors."

Second, we estimate similar models where we consider other outcome variables related to attitudes to non-migrant groups such as homosexuals, people of a different race, people who speak a different language, and Roma people. We find no effect in any of these specifications.[32] These results suggest that proximity to the transit routes only leads to negative attitudes towards migrants and has no impact on attitudes towards other minorities.

7.4 Are Our Results Driven by Changes in the Demographic Composition or Selective Out-migration?

A potential threat to our identification strategy would arise if there was a substantial change in the demographic composition between 2010 and 2016 that affected localities near to or far from the migration routes differently. This could be a plausible concern if there was selective migration of natives (that is, moving in and out of localities that are located by migrant routes). If this were the case, then our estimates would be picking the effect of a compositional change (for example, only risk

[32] In results that are available upon request, we also considered placebo outcomes for other population groups (families with children, drug addicts, elderly people, poor people, heavy drinkers, unmarried couples living together) and again found that the effect we identified is limited to the anti-migration attitudes.

averse individuals stayed in the localities close to the migrant routes). To rule out this possibility, in Table 14, we check whether the demographic composition of the treatment localities changed between 2010 and 2016 (vis-a-vis the rest of the localities). We find no evidence of such changes. We therefore rule out the possibility that our results are driven by a high- (or low-) entrepreneurial demographic group disproportionately moving into (or out of) localities closer to migrant routes. We also show that the population composition remained stable in our sample.[33]

7.5 Subsamples and Country-Year Fixed Effects

To validate our results, we present the results of several estimations of our main outcomes using different sub-samples. In Table 13, we show that our results are robust to: (i) excluding countries with conflict history Bosnia, Croatia, FYR Macedonia, Kosovo, Montenegro, and Slovenia (Column 1); (ii) excluding Turkey which may be considered as both transit and host country (Column 2); (iii) restricting our sample to working-age population, aged 18-64 (Column 3). Our findings also do not change, when we exclude: (i) circular migration countries Albania and Kosovo and (ii) non-EU member Balkan countries.[34]

In Table A3 in the Appendix, we show that our results are robust to controlling for country-year fixed effects. This result is important in order to rule out any potential risk to identification strategy posed by alterations in the migration borders policy at the country level.

8 Concluding Remarks

The mass influx of refugees and irregular migrants has been a major concern for many European countries, particularly for those in Central and Eastern Europe. In this paper, we carry out the first large-scale analysis of the impact of this mass inflow of refugees on the transit countries. Analyzing data from 18 European countries in 2010 and 2016, we show that exposure to transit refugee flows had a significant and substantial negative effect on entrepreneurial activity of the natives. We explore potential mechanisms and find that the evidence is consistent with a decline in entrepreneurship due to a decrease in the willingness to take risks, institutional trust and perceived political stability. Finally, we document a major rise in negative attitudes towards migrants, while finding no effect on attitudes towards any other minority.

[33] We also reproduced our main results in the sub-sample of respondents who had not left their locality of residence at least in the last 10 years, and found virtually identical results. These results are not reported but are available upon request.

[34] These results are available upon request.

References

Aghion, P., Ljungqvist, L., Howitt, P., Howitt, P. W., Brant-Collett, M., García-Peñalosa, C., et al. (1998). *Endogenous Growth Theory*. MIT press.

Aksoy, C. G. and Poutvaara, P. (2019). Refugees' and irregular migrants' self-selection into europe: Who migrates where? *(No. 7781) CESifo Working Paper Series.*

Allport, G. W., Clark, K., and Pettigrew, T. (1954). *The Nature of Prejudice*. Addison-Wesley Reading, MA.

Ananyev, M. and Guriev, S. (2019). The effect of income on trust: the evidence from 2009 crisis in russia. *Economic Journal*, 129:1082–1118.

Astebro, T., Herz, H., Nanda, R., and Weber, R. A. (2014). Seeking the roots of entrepreneurship: Insights from behavioral economics. *Journal of Economic Perspectives*, 28(3):49–70.

Bahar, D., Choudhury, P., and Rapoport, H. (2019). Migrant inventors and the technological advantage of nations. *IZA Discussion Paper*.

Barlow, F. K., Louis, W. R., and Hewstone, M. (2009). Rejected! cognitions of rejection and intergroup anxiety as mediators of the impact of cross-group friendships on prejudice. *British Journal of Social Psychology*, 48(3):389–405.

Baumol, W. (1990). Entrepreneurship: Productive, unproductive and destructiver. *The Journal of Political Economy*, 98(5).

Becker, S. O. and Ferrara, A. (2019). Consequences of forced migration: A survey of recent findings. *Labour Economics*.

Berg, J. A. (2009). Core networks and whites' attitudes toward immigrants and immigration policy. *Public Opinion Quarterly*, 73(1):7–31.

Blanchflower, D. G. and Oswald, A. J. (1998). What makes an entrepreneur? *Journal of Labor Economics*, 16(1):26–60.

Borjas, G. J. and Monras, J. (2017). The labour market consequences of refugee supply shocks. *Economic Policy*, 32(91):361–413.

Bosetti, V., Cattaneo, C., and Verdolini, E. (2015). Migration of skilled workers and innovation: A european perspective. *Journal of International Economics*, 96(2):311–322.

Bottazzi, L., Da Rin, M., and Hellmann, T. (2016). The importance of trust for investment: Evidence from venture capital. *The Review of Financial Studies*, 29(9):2283–2318.

Caliendo, M., Fossen, F., and Kritikos, A. (2010). The impact of risk attitudes on entrepreneurial survival. *Journal of Economic Behavior & Organization*, 76(1):45–63.

Caliendo, M., Fossen, F. M., and Kritikos, A. S. (2009). Risk attitudes of nascent entrepreneurs–new evidence from an experimentally validated survey. *Small Business Economics*, 32(2):153–167.

Callen, M., Isaqzadeh, M., Long, J. D., and Sprenger, C. (2014). Violence and risk preference: Experimental evidence from afghanistan. *American Economic Review*, 104(1):123–48.

Card, D. (1990). The impact of the mariel boatlift on the miami labor market. *ILR Review*, 43(2):245–257.

Card, D. (2012). Comment: The elusive search for negative wage impacts of immigration. *Journal of the European Economic Association*, 10(1):211–215.

Ceritoglu, E., Yunculer, H. B. G., Torun, H., and Tumen, S. (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(1):5.

Chuang, Y. and Schechter, L. (2015). Stability of experimental and survey measures of risk, time, and social preferences: A review and some new results. *Journal of Development Economics*, 117:151–170.

Clemens, M. A. and Hunt, J. (2019). The labor market effects of refugee waves: reconciling conflicting results. *ILR Review*, 72(4):818–857.

Cramer, J. S., Hartog, J., Jonker, N., and Van Praag, C. M. (2002). Low risk aversion encourages the choice for entrepreneurship: an empirical test of a truism. *Journal of Economic Behavior & Organization*, 48(1):29–36.

Del Carpio, X. V. and Wagner, M. (2015). *The impact of Syrians refugees on the Turkish labor market*. The World Bank.

Démurger, S. and Xu, H. (2011). Return migrants: The rise of new entrepreneurs in rural china. *World Development*, 39(10):1847–1861.

Djankov, S., Miguel, E., Qian, Y., Roland, G., and Zhuravskaya, E. (2005). Who are russia's entrepreneurs? *Journal of the European Economic Association*, 3(2-3):587–597.

Djankov, S., Qian, Y., Roland, G., and Zhuravskaya, E. (2006). Who are china's entrepreneurs? *American Economic Review*, 96(2):348–352.

Docquier, F., Ozden, Ç., and Peri, G. (2013). The labour market effects of immigration and emigration in oecd countries. *The Economic Journal*, 124(579):1106–1145.

Dohmen, T., Lehmann, H., and Pignatti, N. (2016). Time-varying individual risk attitudes over the great recession: A comparison of germany and ukraine. *Journal of Comparative Economics*, 44(1):182–200.

Dutta, N., S. Sobel, R., and Roy, S. (2013). Entrepreneurship and political risk. *Journal of Entrepreneurship and Public Policy*, 2(2):130–143.

Enos, R. D. (2014). Causal effect of intergroup contact on exclusionary attitudes. *Proceedings of the National Academy of Sciences*, 111(10):3699–3704.

Evans, D. S. and Jovanovic, B. (1989). An estimated model of entrepreneurial choice under liquidity constraints. *Journal of Political Economy*, 97(4):808–827.

Faber, B. (2014). Trade integration, market size, and industrialization: evidence from china's national trunk highway system. *Review of Economic Studies*, 81(3):1046–1070.

Fairlie, R. W. and Krashinsky, H. A. (2012). Liquidity constraints, household wealth, and entrepreneurship revisited. *Review of Income and Wealth*, 58(2):279–306.

Fairlie, R. W. and Meyer, B. D. (2003). The effect of immigration on native self-employment. *Journal of Labor Economics*, 21(3):619–650.

Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., and Sunde, U. (2018). Global evidence on economic preferences. *The Quarterly Journal of Economics*, 133(4):1645–1692.

Fallah, B., Krafft, C., and Wahba, J. (2019). The impact of refugees on employment and wages in jordan. *Journal of Development Economics*, 139:203–216.

Friedberg, R. M. (2001). The impact of mass migration on the israeli labor market. *The Quarterly Journal of Economics*, 116(4):1373–1408.

Frontex (2019). Migratory Routes. Technical report, European Border and Coast Guard Agency.

Gerrans, P., Faff, R., and Hartnett, N. (2015). Individual financial risk tolerance and the global financial crisis. *Accounting & Finance*, 55(1):165–185.

Ghani, E., Goswami, A. G., and Kerr, W. R. (2016). Highway to success: The impact of the golden quadrilateral project for the location and performance of indian manufacturing. *The Economic Journal*, 126(591):317–357.

Guiso, L., Sapienza, P., and Zingales, L. (2006). Does culture affect economic outcomes? *Journal of Economic Perspectives*, 20(2):23–48.

Guiso, L., Sapienza, P., and Zingales, L. (2018). Time varying risk aversion. *Journal of Financial Economics*, 128(3):403–421.

Hangartner, D., Dinas, E., Marbach, M., Matakos, K., and Xefteris, D. (2019). Does exposure to the refugee crisis make natives more hostile? *American Political Science Review*, 113(2):442–455.

Hart, D. M. and Acs, Z. J. (2011). High-tech immigrant entrepreneurship in the united states. *Economic Development Quarterly*, 25(2):116–129.

Hartog, J., Ferrer-i Carbonell, A., and Jonker, N. (2002). Linking measured risk aversion to individual characteristics. *Kyklos*, 55(1):3–26.

Henderson, J. V., Storeygard, A., and Weil, D. N. (2012). Measuring economic growth from outer space. *American economic review*, 102(2):994–1028.

Henderson, V., Storeygard, A., and Weil, D. N. (2011). A bright idea for measuring economic growth. *American Economic Review*, 101(3):194–99.

Hunt, J. (1992). The impact of the 1962 repatriates from algeria on the french labor market. *ILR Review*, 45(3):556–572.

Hunt, J. and Gauthier-Loiselle, M. (2010). How much does immigration boost innovation? *American Economic Journal: Macroeconomics*, 2(2):31–56.

Knack, S. and Keefer, P. (1997). Does social capital have an economic payoff? a cross-country investigation. *The Quarterly Journal of Economics*, 112(4):1251–1288.

Mesnard, A. (2004). Temporary migration and capital market imperfections. *Oxford Economic Papers*, 56(2):242–262.

Miguelez, E. (2019). Collaborative patents and the mobility of knowledge workers. *Technovation*.

Neville, F., Orser, B., Riding, A., and Jung, O. (2014). Do young firms owned by recent immigrants outperform other young firms? *Journal of Business Venturing*, 29(1):55–71.

Nykvist, J. (2008). Entrepreneurship and liquidity constraints: Evidence from sweden. *Scandinavian Journal of Economics*, 110(1):23–43.

Parsons, C. and Vézina, P.-L. (2018). Migrant networks and trade: The vietnamese boat people as a natural experiment. *The Economic Journal*, 128(612):F210–F234.

Peri, G. and Yasenov, V. (2019). The labor market effects of a refugee wave synthetic control method meets the mariel boatlift. *Journal of Human Resources*, 54(2):267–309.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49(1):65–85.

Pettigrew, T. F. and Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5):751.

Piracha, M. and Vadean, F. (2010). Return migration and occupational choice: Evidence from albania. *World Development*, 38(8):1141–1155.

Rapoport, H. and Docquier, F. (2006). The economics of migrants' remittances. *Handbook of the Economics of Giving, Altruism and Reciprocity*, 2:1135–1198.

Sapienza, P., Toldra-Simats, A., and Zingales, L. (2013). Understanding trust. *The Economic Journal*, 123(573):1313–1332.

Sauer, R. M. and Wiesemeyer, K. H. (2018). Entrepreneurship and gender: differential access to finance and divergent business value. *Oxford Review of Economic Policy*, 34(4):584–596.

Sauer, R. M. and Wilson, T. (2016). The rise of female entrepreneurs: New evidence on gender differences in liquidity constraints. *European Economic Review*, 86:73–86.

Schildberg-Hörisch, H. (2018). Are risk preferences stable? *Journal of Economic Perspectives*, 32(2):135–54.

Steinmayr, A. (2018). Contact matters: Exposure to refugees and voting for the far-right. Technical report, Working Paper.

Stewart Jr, W. H. and Roth, P. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology*, 86(1):145.

Storey, D. J. and Johnson, S. (1987). *Job generation and labour market change*. Springer.

Tinti, P. and Reitano, T. (2018). *Migrant, refugee, smuggler, saviour*. Oxford University Press.

Tumen, S. (2016). The economic impact of syrian refugees on host countries: Quasi-experimental evidence from turkey. *American Economic Review*, 106(5):456–60.

Unel, B. (2018). Effects of immigration on native entrepreneurship in the us. *Mimeo*.

Voors, M. J., Nillesen, E. E. M., Verwimp, P., Bulte, E. H., Lensink, R., and Van Soest, D. P. (2012). Violent conflict and behavior: A field experiment in burundi. *American Economic Review*, 102(2):941–64.

Wahba, J. and Zenou, Y. (2012). Out of sight, out of mind: Migration, entrepreneurship and social capital. *Regional Science and Urban Economics*, 42(5):890–903.

Welter, F. (2012). All you need is trust? a critical review of the trust and entrepreneurship literature. *International Small Business Journal*, 30(3):193–212.

Welter, F. and Smallbone, D. (2006). Exploring the role of trust in entrepreneurial activity. *Entrepreneurship Theory and Practice*, 30(4):465–475.

Williamson, O. E. (1993). Calculativeness, trust, and economic organization. *The journal of Law and Economics*, 36(1, Part 2):453–486.

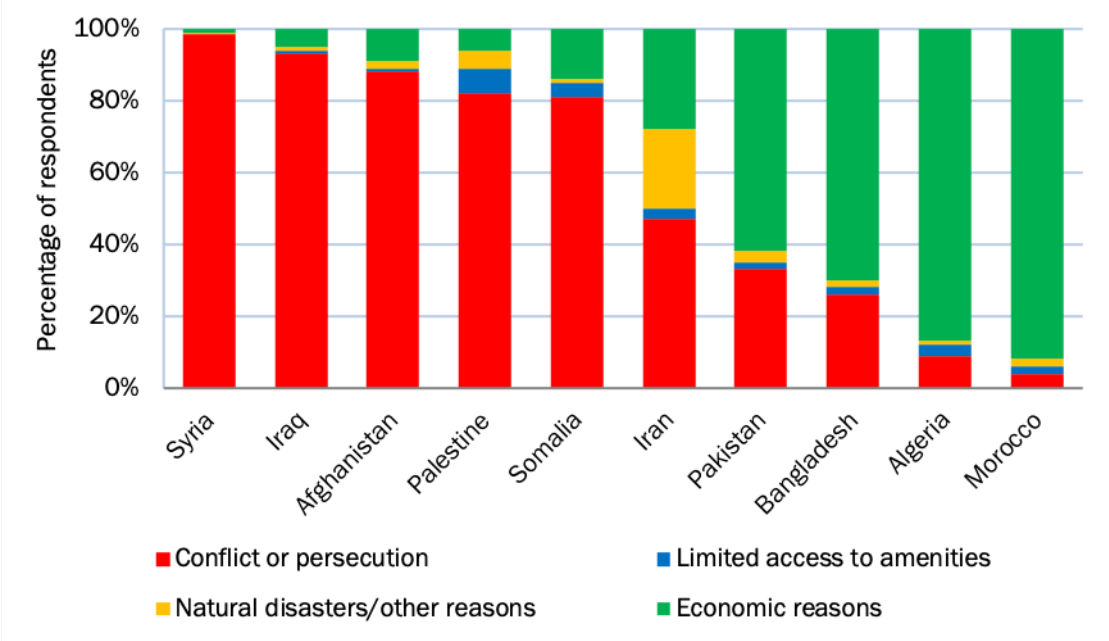
Woodruff, C. (2001). Firm finance from the bottom up: microenterprises in mexico. In *Conference on Financial Markets in Mexico, organized by the Center for Research on Economic Development and Policy Reform at Stanford University*.

Woodruff, C. and Zenteno, R. (2007). Migration networks and microenterprises in mexico. *Journal of Development Economics*, 82(2):509–528.

Zak, P. J. and Knack, S. (2001). Trust and growth. *The Economic Journal*, 111(470):295–321.

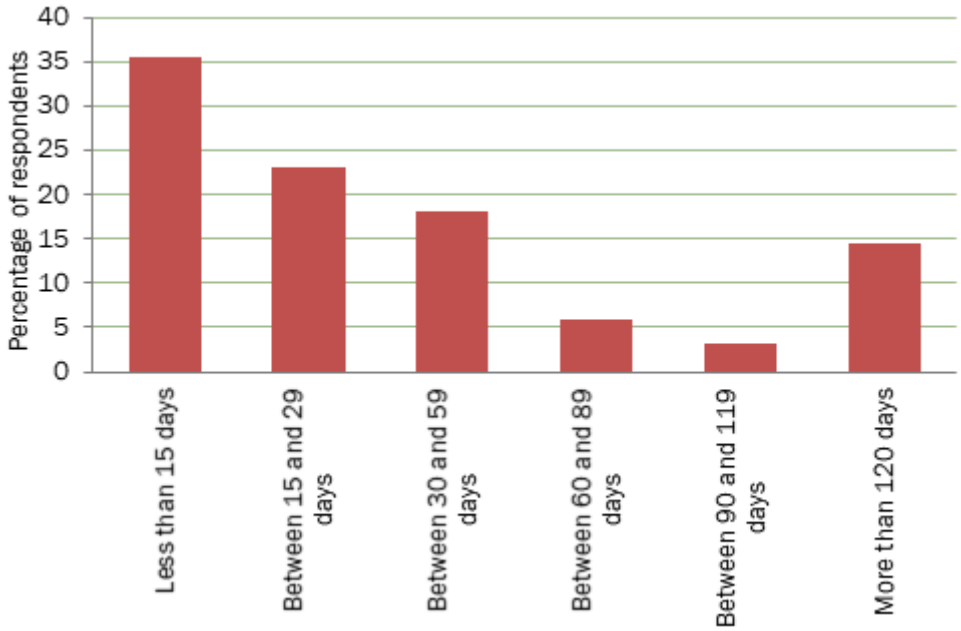
Figures

Figure 1: Reasons for Leaving by Main Source Countries



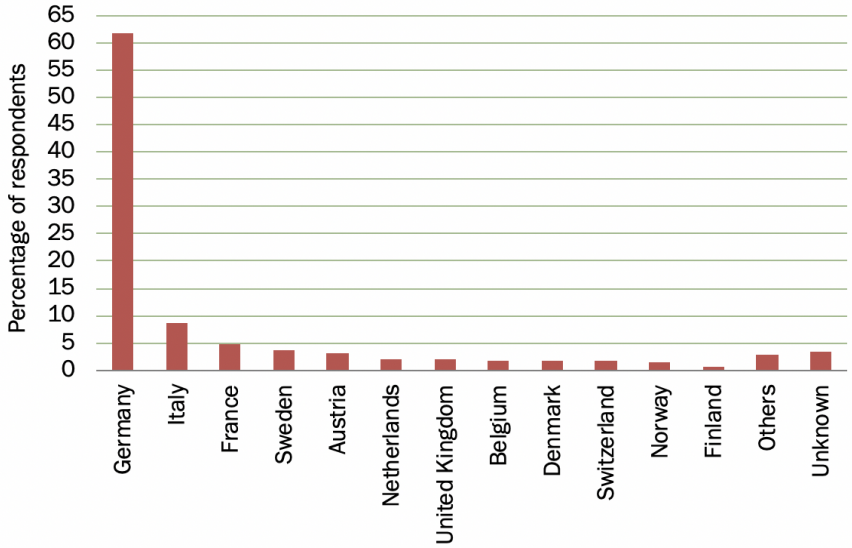
Source: Flow Monitoring Surveys, 2015 and 2016.

Figure 2: Number of Days Spent in Transit



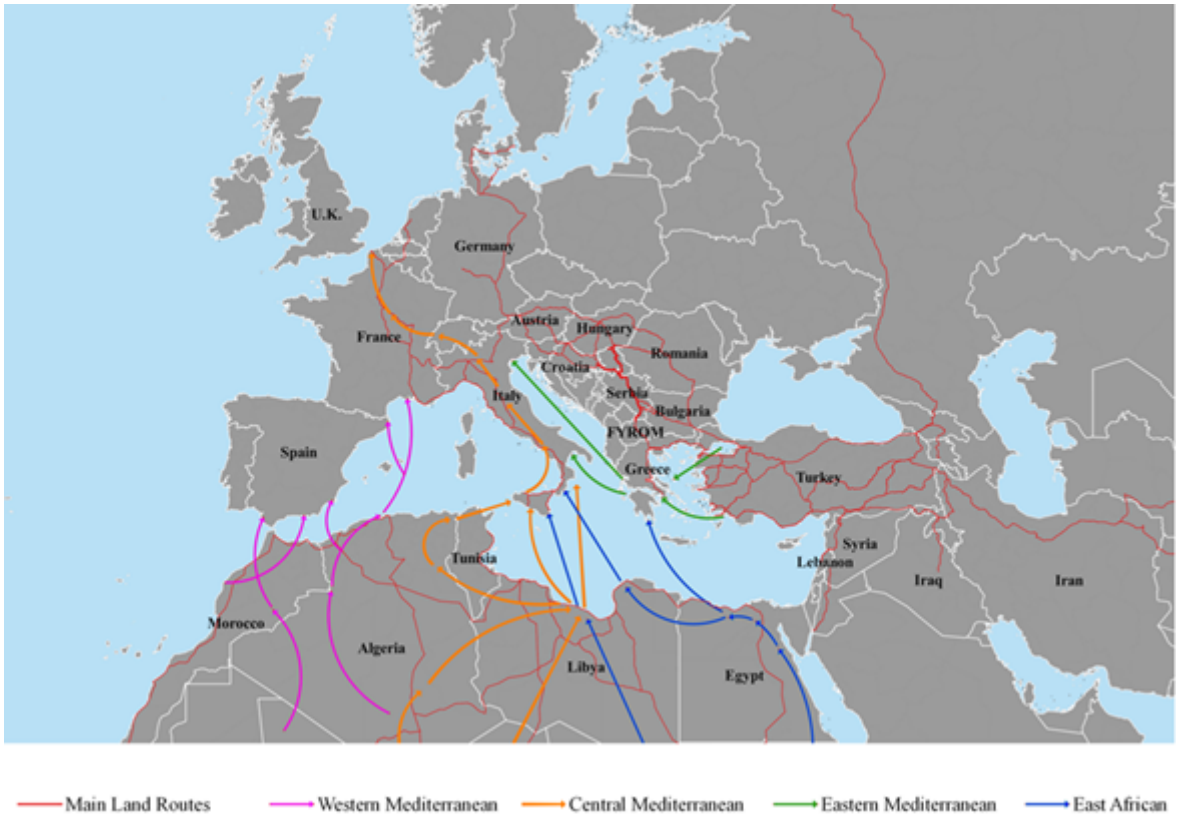
Source: Flow Monitoring Surveys, 2015 and 2016.

Figure 3: Intended Destination Countries



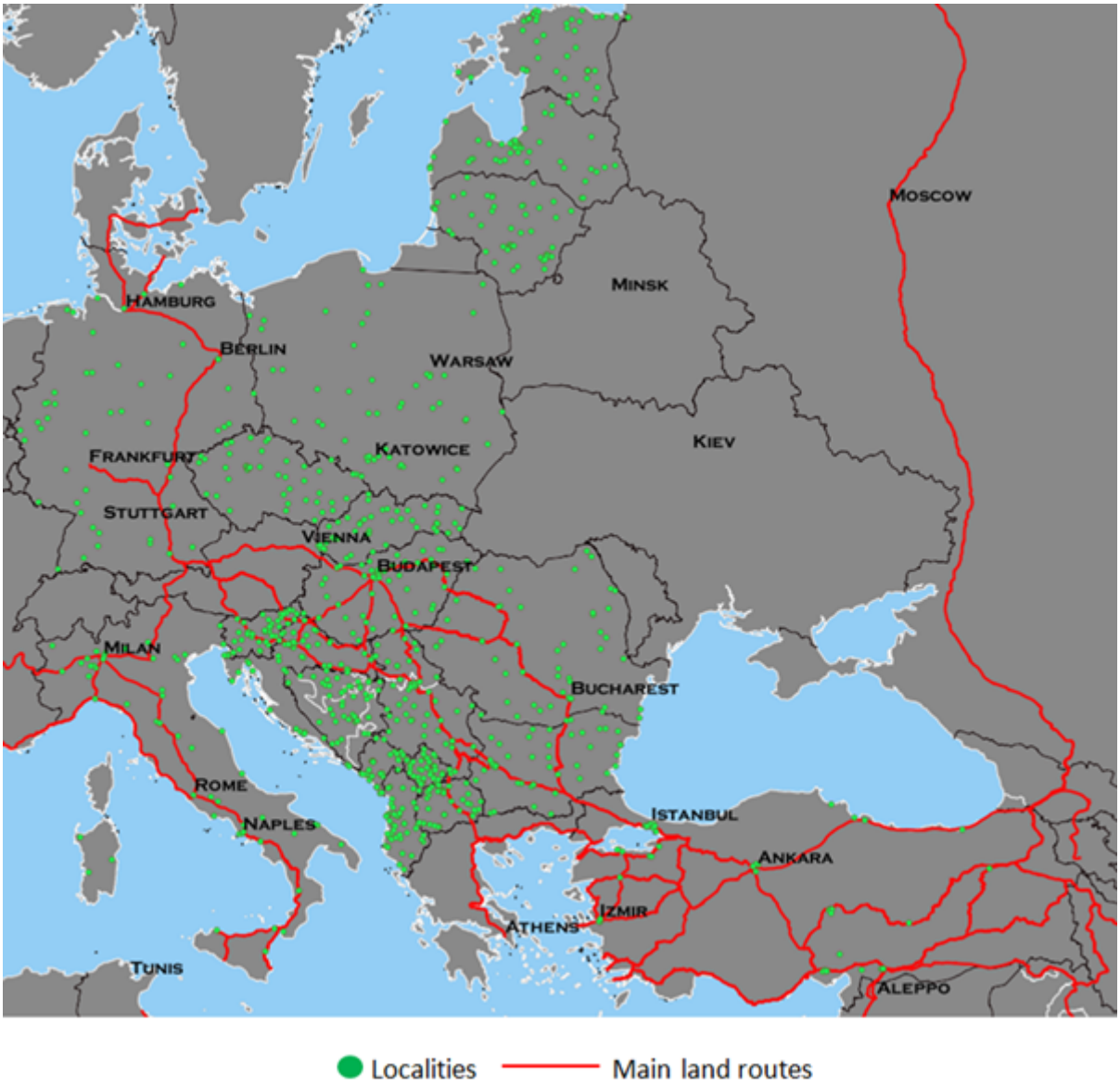
Source: Flow Monitoring Surveys, 2015 and 2016. Intended destination countries of respondents from Afghanistan, Iraq and Syria.

Figure 4: Mediterranean Sea Routes and Main Land Routes



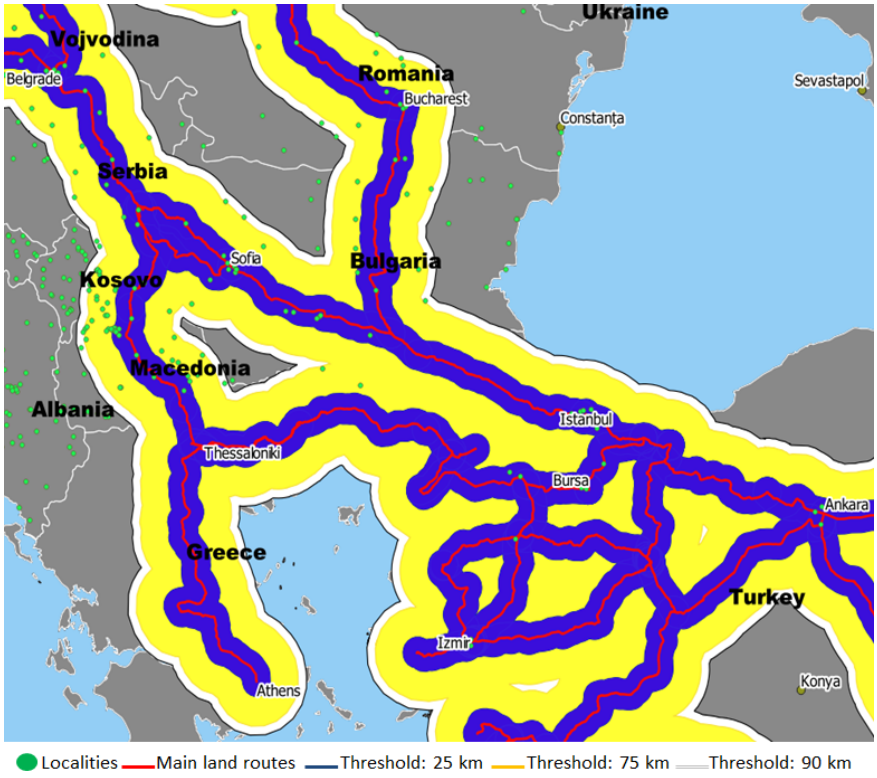
Source: IOM and authors' calculations. The map is for illustration purposes only. Names and boundaries do not imply official endorsement or acceptance by the EBRD or IOM.

Figure 5: *Life in Transition Survey* Localities



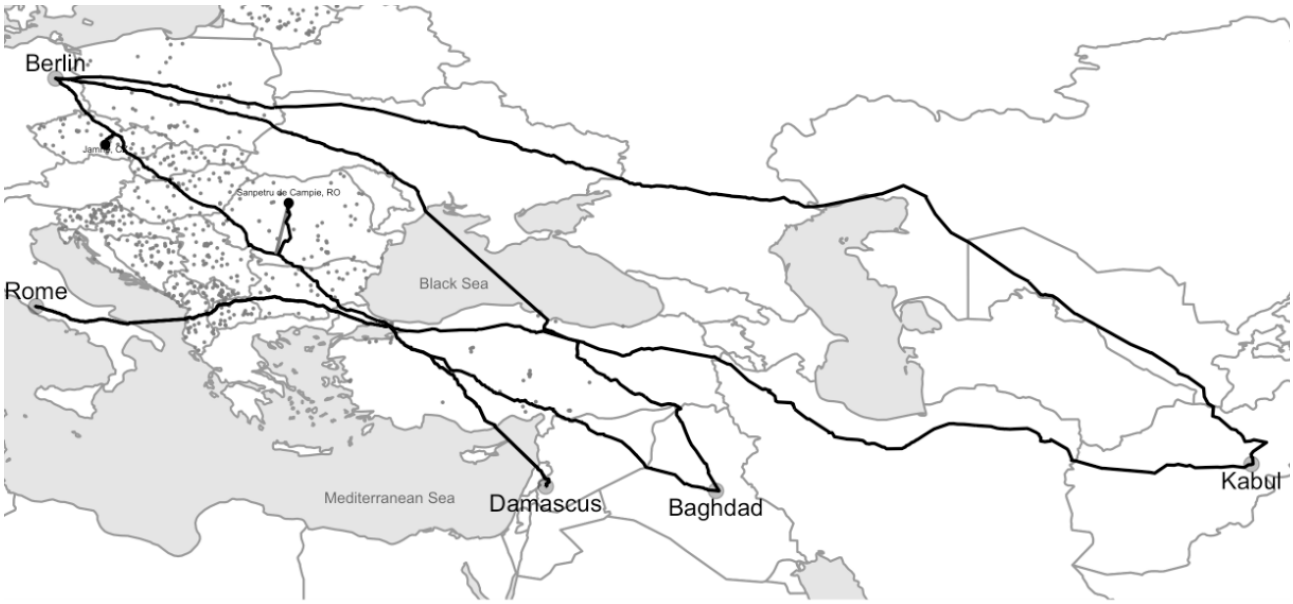
Source: Life in Transition Survey and IOM. Notes: The map illustrates all localities used in the sample. Names and boundaries do not imply official endorsement or acceptance by the EBRD or IOM.

Figure 6: Zoomed Image for Treatment and Control Localities



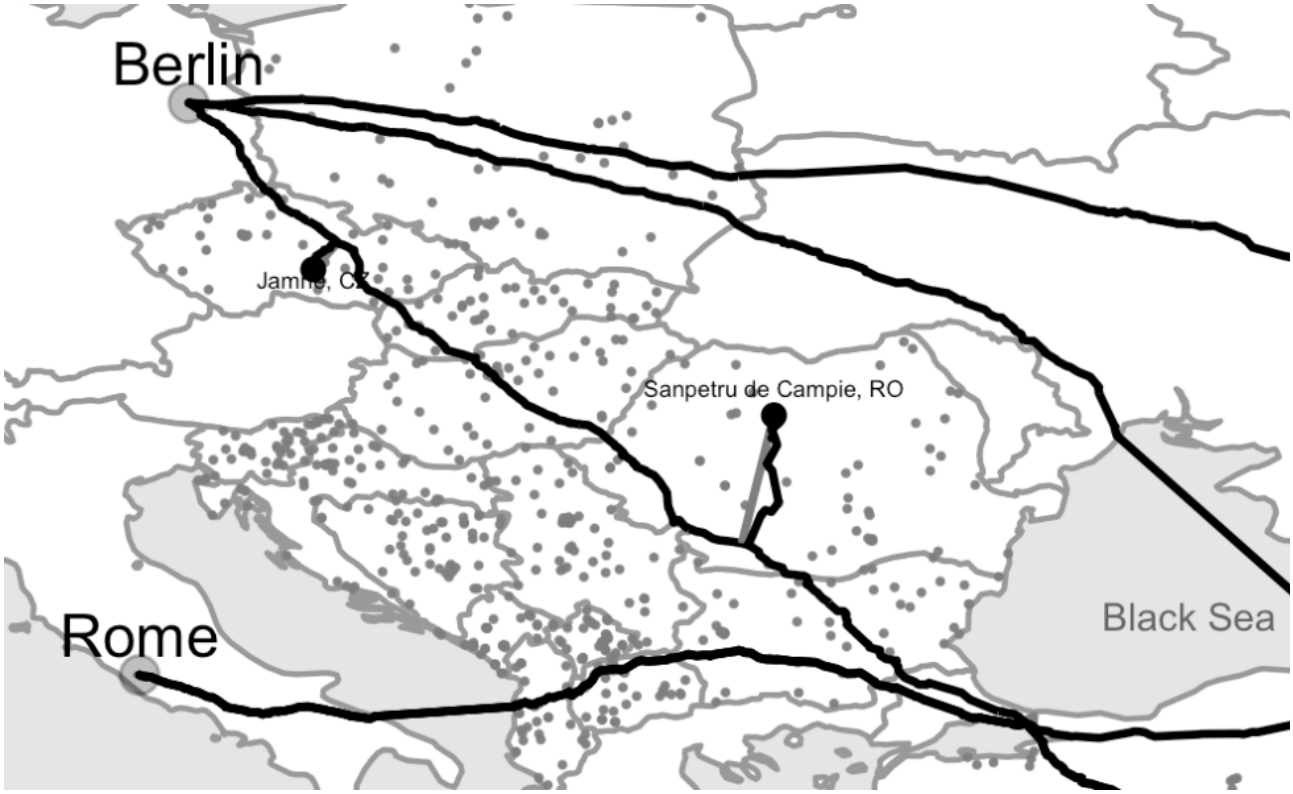
Source: Life in Transition Survey and IOM. Notes: The map provides a zoomed image for treatment and control localities based on alternative distances to migrant routes. Names and boundaries do not imply official endorsement or acceptance by the EBRD or IOM.

Figure 7: IV Explanation Map – Routes that Minimize Walking Time



Source: Google Maps, *Life in Transition Survey*, IOM. Names and boundaries do not imply official endorsement or acceptance by the EBRD or IOM.

Figure 8: IV Explanation Map - Zoomed-in Image



Source: Google Maps, *Life in Transition Survey*, IOM. Names and boundaries do not imply official endorsement or acceptance by the EBRD or IOM.

Tables

Table 1: Mode of Transport by Survey Country

	(1) Walk	(2) Land (vehicle, bus or train)	(3) Boat	(4) Air
Survey				
Bulgaria	0.91	0.08	0.05	0.05
Croatia	0.91	0.07	0.02	0.00
FYR Macedonia	0.86	0.12	0.02	0.00
Greece	0.02	0.02	0.95	0.05
Hungary	0.88	0.10	0.01	0.01
Serbia	0.61	0.38	0.00	0.01
Slovenia	0.09	0.68	0.23	0.00

Source: Flow Monitoring Surveys. Notes: Shares of the mode of transport by survey country.

Table 2: (a) Descriptive Characteristics

	(Localities that are nearby migrant routes, threshold: 15 km or less)		(Localities that are further away from migrant routes, threshold: more than 15 km)	
	Pre-treatment (2010)	Post-treatment (2016)	Pre-treatment (2010)	Post-treatment (2016)
Main Outcome Variables				
Tried to set up a business	0.18 (0.38)	0.11 (0.31)	0.15 (0.36)	0.15 (0.35)
Self-employment rate	0.10 (0.30)	0.06 (0.23)	0.10 (0.30)	0.10 (0.29)
Employment rate (exc. Self-employment)	0.45 (0.50)	0.55 (0.50)	0.49 (0.50)	0.57 (0.50)
Unemployment rate	0.07 (0.26)	0.05 (0.21)	0.11 (0.31)	0.09 (0.28)
Control Variables				
Age	43.71 (11.40)	42.95 (11.33)	43.45 (11.51)	45.11 (11.60)
Male	0.41 (0.49)	0.47 (0.50)	0.41 (0.49)	0.46 (0.50)
No degree	0.03 (0.18)	0.01 (0.09)	0.03 (0.17)	0.01 (0.09)
Primary education	0.20 (0.40)	0.13 (0.33)	0.13 (0.33)	0.09 (0.29)
Lower secondary education	0.14 (0.35)	0.15 (0.35)	0.18 (0.38)	0.16 (0.36)
Higher secondary education (<15 years)	0.32 (0.47)	0.39 (0.49)	0.36 (0.48)	0.37 (0.48)
Married (<15 years)	0.65 (0.48)	0.70 (0.46)	0.69 (0.46)	0.60 (0.49)
Urban (<15 years)	0.82 (0.38)	0.81 (0.39)	0.57 (0.49)	0.57 (0.49)
Have a bank account	0.60 (0.49)	0.74 (0.44)	0.65 (0.48)	0.80 (0.40)
Household owns a house	0.79 (0.41)	0.71 (0.45)	0.87 (0.34)	0.82 (0.38)
Household owns a car	0.55 (0.50)	0.63 (0.48)	0.63 (0.48)	0.67 (0.47)
Number of Observations	2,318	2,444	8,882	9,786

Notes: Means (standard deviations). Source: Life in Transition Survey, 2010 and 2016. Notes: Means (standard deviations).

Table 2: (b) Descriptive Characteristics

	(Localities that are nearby migrant routes, threshold: 15 km or less)		(Localities that are further away from migrant routes, threshold: more than 15 km)	
	Pre-treatment (2010)	Post-treatment (2016)	Pre-treatment (2010)	Post-treatment (2016)
Outcomes for mechanisms				
Willingness to take risk	0.05 (0.22)	0.04 (0.21)	0.05 (0.22)	0.06 (0.25)
Law and order exist in the country	0.41 (0.49)	0.34 (0.47)	0.32 (0.47)	0.37 (0.48)
Peace and stability exist in the country	0.55 (0.50)	0.52 (0.50)	0.53 (0.50)	0.56 (0.49)
Happy with the political situation	0.25 (0.43)	0.22 (0.41)	0.17 (0.38)	0.25 (0.43)
Happy with the economic situation	0.21 (0.41)	0.26 (0.44)	0.13 (0.34)	0.25 (0.43)
Willingness to pay extra tax	0.67 (0.47)	0.60 (0.49)	0.62 (0.48)	0.59 (0.49)
Life satisfaction	0.40 (0.49)	0.46 (0.50)	0.39 (0.49)	0.50 (0.50)
Job satisfaction	0.52 (0.50)	0.49 (0.50)	0.55 (0.50)	0.55 (0.50)
Satisfaction with financial situation	0.28 (0.45)	0.37 (0.48)	0.25 (0.43)	0.36 (0.48)
Children will have a better life	0.35 (0.48)	0.37 (0.48)	0.47 (0.50)	0.46 (0.50)
Trust in national government	0.51 (0.50)	0.46 (0.50)	0.41 (0.49)	0.43 (0.49)
Trust in regional government	0.41 (0.49)	0.34 (0.47)	0.32 (0.47)	0.37 (0.48)
Trust in local government	0.44 (0.50)	0.31 (0.46)	0.40 (0.49)	0.35 (0.48)
Trust in armed forces	0.30 (0.46)	0.26 (0.44)	0.31 (0.46)	0.30 (0.46)
Trust in foreign investors	0.18 (0.38)	0.21 (0.40)	0.16 (0.36)	0.23 (0.42)
Trust in foreigners	0.52 (0.50)	0.48 (0.50)	0.55 (0.50)	0.55 (0.50)
Trust in other people	0.24 (0.43)	0.28 (0.50)	0.33 (0.47)	0.31 (0.46)
Lost wallet likely to be returned	0.31 (0.47)	0.40 (0.49)	0.33 (0.47)	0.38 (0.49)
Attitudes towards migrants				
Immigrants make a valuable contribution	0.21 (0.41)	0.12 (0.32)	0.24 (0.43)	0.17 (0.37)
Immigrants are a burden	0.51 (0.50)	0.71 (0.45)	0.38 (0.48)	0.59 (0.49)
Prefer not to have ... as neighbours				
... Migrants	0.18 (0.38)	0.39 (0.49)	0.13 (0.34)	0.25 (0.44)
... Homosexuals	0.56 (0.49)	0.44(0.50)	0.55 (0.50)	0.45 (0.50)
... People of a different race	0.15 (0.35)	0.11 (0.31)	0.12 (0.33)	0.12 (0.32)
... People who speak a different language	0.09 (0.29)	0.04 (0.20)	0.05 (0.22)	0.03 (0.17)
... Roma people	0.42 (0.49)	0.34 (0.47)	0.41 (0.49)	0.39 (0.48)

Notes: Source: Life in Transition Survey, 2010 and 2016. The sample sizes for some variables are different due to missing data. Means (standard deviations).

Table 3: OLS Estimates

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Outcome: Tried to set up a business				
Migration effect: 2016*log distance	0.016***	0.018***	0.018***	0.017***
	(0.003)	(0.004)	(0.004)	(0.004)
R-squared	0.075	0.075	0.1	0.109
Outcome: Self-employment				
Migration effect: 2016*log distance	0.013***	0.007**	0.007**	0.007**
	(0.003)	(0.003)	(0.003)	(0.003)
R-squared	0.091	0.091	0.107	0.112
N	23501	23501	23430	23430
Fixed effects (locality and year)	Yes	Yes	Yes	Yes
Country-level controls	No	Yes	Yes	Yes
Demographic characteristics	No	No	Yes	Yes
Individual wealth and assets	No	No	No	Yes

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Country characteristics include: the log of country population and the log of GDP per capita. Demographic characteristics include: a male dummy, age and its square, an urban dummy, dummy variables for marital status (married, widowed and divorced/separated), dummy variables for educational attainment (no degree, primary, lower secondary, and upper secondary). Individual wealth and assets include: dummy variables for having a bank account, owning any dwellings, and owning a car. Robust standard errors are clustered at the locality level.

Table 4: IV First-stage Estimates

	(1)	(2)	(3)	(4)
	IV - First Stage	IV - First Stage	IV - First Stage	IV - First Stage
*Outcome: 2016*Log distance to actual route*				
Instrument: 2016*Log Distance to optimal route	0.900***	0.702***	0.704***	0.705***
	(0.031)	(0.037)	(0.037)	(0.037)
First-stage F statistics	825.7	367.33	367.65	370.3
N	23,501	23,501	23,425	23,425
Fixed effects (locality and year)	Yes	Yes	Yes	Yes
Country level controls	No	Yes	Yes	Yes
Demographic characteristics	No	No	Yes	Yes
Individual wealth and assets	No	No	No	Yes

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Country characteristics include: the log of country population and the log of GDP per capita. Demographic characteristics include: a male dummy, age and its square, an urban dummy, dummy variables for marital status (married, widowed and divorced/separated), dummy variables for educational attainment (no degree, primary, lower secondary, and upper secondary). Individual wealth and assets include: dummy variables for having a bank account, owning any dwellings, and owning a car. Robust standard errors are clustered at the locality level.

Table 5: IV Estimates

	(1)	(2)	(3)	(4)
	IV	IV	IV	IV
Outcome: Tried to set up a business				
Migration effect: 2016*Log distance	0.024***	0.037***	0.041***	0.041***
	(0.004)	(0.007)	(0.007)	(0.007)
Outcome: Self-employment				
Migration effect: 2016*Log distance	0.026***	0.030***	0.034***	0.034***
	(0.004)	(0.006)	(0.006)	-0.006
N	23,501	23,501	23,430	23,430
First-stage F statistics	825.7	367.33	367.65	370.3
Fixed effects (locality and year)	Yes	Yes	Yes	Yes
Country-level controls	No	Yes	Yes	Yes
Demographic characteristics	No	No	Yes	Yes
Individual wealth and assets	No	No	No	Yes

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Country characteristics include: the log of country population and the log of GDP per capita. Demographic characteristics include: a male dummy, age and its square, an urban dummy, dummy variables for marital status (married, widowed and divorced/separated), dummy variables for educational attainment (no degree, primary, lower secondary, and upper secondary). Individual wealth and assets include: dummy variables for having a bank account, owning any dwellings, and owning a car. Robust standard errors are clustered at the locality level.

Table 6: Reduced-Form Estimates

	(1)	(2)	(3)	(4)
	Reduced Form	Reduced Form	Reduced Form	Reduced Form
Outcome: Tried to set up a business				
Instrument: 2016*Log Distance to optimal route	0.022***	0.026***	0.028***	0.029***
	(0.004)	(0.005)	(0.005)	(0.005)
Outcome: Self-employment				
Instrument: 2016*Log Distance to optimal route	0.024***	0.021***	0.024***	0.024***
	(0.004)	(0.004)	(0.004)	0.004
N	23,501	23,501	23,430	23,430
Fixed effects (locality and year)	Yes	Yes	Yes	Yes
Country level controls	No	Yes	Yes	Yes
Demographic characteristics	No	No	Yes	Yes
Individual wealth and assets	No	No	No	Yes

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Country characteristics include: the log of country population and the log of GDP per capita. Demographic characteristics include: a male dummy, age and its square, an urban dummy, dummy variables for marital status (married, widowed and divorced/separated), dummy variables for educational attainment (no degree, primary, lower secondary, and upper secondary). Individual wealth and assets include: dummy variables for having a bank account, owning any dwellings, and owning a car. Robust standard errors are clustered at the locality level.

Table 7: IV Estimates – Heterogeneity by Demographic Characteristics

	(1)	(2)	(3)	(4)
	IV	IV	IV	IV
Sample is ⇒	Male	Female	Less than tertiary educ.	Tertiary educ. or more
Outcome: Tried to set up a business				
Migration effect: 2016*log distance	0.061***	0.029***	0.043***	0.030*
	(0.013)	(0.007	(0.008)	(0.017)
N	10,269	13,156	18,411	5,019
Outcome: Self-employment				
Migration effect: 2016*log distance	0.061***	0.019***	0.037***	0.023*
	(0.011)	(0.006)	(0.007)	(0.012)
N	10,274	13,156	18,411	5,019
First-stage F statistics	263.47	370.31	385.79	114.17

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 8: IV Estimates – Heterogeneity by Demographic Characteristics

	(1)	(2)	(3)	(4)
	IV	IV	IV	IV
Sample is ⇒	25-44	45-64	Urban	Rural
Outcome: Tried to set up a business				
Migration effect: 2016*log distance	0.047***	0.028***	0.035***	0.087***
	(0.008)	(0.011)	(0.008)	(0.033)
N	11,960	11,470	14,583	8,847
Outcome: Self-employment				
Migration effect: 2016*log distance	0.043***	0.021***	0.032***	0.058*
	(0.008)	(0.008)	(0.006)	(0.032)
N	11,960	11,470	14,583	8,847
First-stage F statistics	324.39	288.55	285.52	34.85

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 9: IV Estimates – Mechanism, Changes in Willingness to Take Risks and Perceived Instability

	(1)	(2)	(3)	(4)	(5)
	IV	IV	IV	IV	IV
Outcome is ⇒	Willingness to take risk	Law and order exist in the country	Peace and stability exist in the country	Happy with the political situation	Happy with the economic situation
Migration effect: 2016*log distance	0.011***	0.045***	0.052***	0.021***	0.045***
	(0.004)	(0.014)	(0.015)	(0.0120	(0.013)
N	22,845	22,929	22,949	22,559	22,092

Outcome is ⇒	Willingness to pay extra tax	Life satisfaction	Job satisfaction	Satisfaction with financial situation	Children will have a better life
Migration effect: 2016*log distance	0.025***	0.022*	0.034***	0.007	-0.005
	(0.01)	(0.013)	(0.014)	(0.011)	(0.014)
N	23,430	23,154	23,154	23,059	21,660
First-stage F statistics	823.26	371.04	290.85	375.17	374.37

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 10: IV Estimates – Mechanism, Changes in Institutional and Interpersonal Trust

	(1)	(2)	(3)	(4)
	IV	IV	IV	IV
Outcome is ⇒	Trust in national government	Trust in regional government	Trust in local government	Trust in armed forces
Migration effect: 2016*log distance	0.034**	0.045***	0.037**	-0.017
	(0.014)	(0.014)	(0.015)	(0.012)
N	22,691	22,929	22,133	20,975
First-stage F statistics	372.6	369.89	378.05	362.58
Outcome is ⇒	Trust in foreign investors	Trust in foreigners	Trust in other people	Lost wallet likely to be returned
Migration effect: 2016*log distance	0.005	0.034**	-0.019	0.015
	(0.01)	(0.014)	(0.014)	(0.014)
N	22,947	16,854	22,216	23,365
First-stage F statistics	372.22	290.85	363.71	370.13

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 11: IV Estimates – Mechanism, Changes in Labor Market Outcomes

	(1)	(2)	(3)	(4)
	IV	IV	IV	IV
Outcome is ⇒	Self-employment	Wage employee	Unemployed	Out of labor force
Migration effect: 2016*log distance	0.034***	-0.013	-0.008	-0.011
	(0.006)	(0.009)	(0.005)	(0.008)
N	23,430	23,430	23,430	23,430
First-stage F statistics	370.31	370.31	370.31	370.31

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 12: IV Estimates – Attitudes towards Migrants and Placebo Outcomes

	(1)	(2)	(3)
Outcomes	Coefficient on Migration effect: 2016*log distance (standard error)	First-stage F statistics	N
Immigrants make a valuable contribution to the national economy of our country	0.027** (0.011)	362.67	20,984
Immigrants are a burden for the national social protection system	-0.026* (0.016)	366.6	21,022
Prefer not to have migrants as neighbors	-0.035*** (0.013)	370.05	23,376
Prefer not to have homosexuals as neighbors	0.013 (0.016)	370.05	23,376
Prefer not to have people of a different race as neighbors	0.017 (0.011)	370.05	23,376
Prefer not to have people who speak a different language as neighbors	0.005 (0.008)	370.05	23,376
Prefer not to have Roma people as neighbors	0.024 (0.014)	370.05	23,376

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 13: IV Estimates – Robustness Checks

	(1)	(2)	(3)
	IV	IV	IV
	Excludes countries with conflict history (Bosnia, Croatia, FYR Macedonia, Kosovo, Montenegro and Slovenia)	Excluding Turkey	Working age population, 18-64
Outcome: Tried to set up a business			
Migration effect: 2016*log distance	0.038***	0.044***	0.042***
	(0.008)	(0.014)	(0.007)
Outcome: Self-employment			
Migration effect: 2016*log distance	0.026***	0.038***	0.034***
	(0.0070	(0.011)	(0.006)
N	15,420	21,890	26,268
First-stage F statistics	341.41	116.98	378.46

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 14: IV Estimates – OutMigration and Compositional Changes

	(1)	(2)	(3)
Outcome is ⇒	Tertiary	Less than tertiary	Single
Migration effect: 2016*distance in km (log)	-0.008	0.008	-0.000
	(0.007)	(0.007)	(0.000)
First-stage F statistics	370.31	370.31	370.31
N	23,430	23,430	23,430
Outcome is ⇒	Married	Urban	Rural
Migration effect: 2016*distance in km (log)	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
First-stage F statistics	370.31	370.31	370.31
N	23,430	23,430	23,430
Outcome is ⇒	Ages 25-44	Ages 45-64	Have lived in the same locality at least for 10 years
Migration effect: 2016*distance in km (log)	0.011	-0.011	-0.041***
	(0.005)	(0.005)	(0.008)
First-stage F statistics	370.31	370.31	370.57
N	23,430	23,430	23,245

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table 15: Placebo Estimates – Main Roads

Panel A: Main Outcomes

	(1)	(2)
Outcome is ⇒	Tried to set up a business	Self-Employed
Migration effect: 2016*distance to main road (log)	-0.001 (0.006)	0.004 (0.004)
N	23430	23430

Panel B: Mechanism, Changes in Willingness to Take Risks and Perceived Instability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Outcome is ⇒	Willingness to take risk	Law and order exist in the country	Peace and stability exist in the country	Happy with the political situation	Happy with the economic situation	Life satisfaction	Job satisfaction	Satisfaction with financial situation	Children will have a better life
Migration effect: 2016*distance to main road (log)	0.001 (0.004)	0.014 (0.011)	-0.005 (0.011)	0.035*** (0.008)	-0.001 (0.008)	0.011 (0.009)	0.006 (0.010)	0.009 (0.009)	0.006 (0.011)
N	22845	22929	22949	22559	22902	23154	16854	23059	21660

Panel C: Mechanism, Changes in Willingness to Take Risks and Perceived Instability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Outcome is ⇒	Trust in national government	Trust in regional government	Trust in local government	Trust in armed forces	Trust in police	Trust in foreign investors	Trust in foreigners	Trust in other people	Lost wallet likely to be returned
Migration effect: 2016*distance to main road (log)	0.011 (0.011)	0.014 (0.011)	0.008 (0.010)	0.011 (0.011)	0.014 (0.011)	0.011 (0.008)	0.006 (0.010)	-0.018* (0.011)	0.01 (0.011)
N	22691	22929	22133	22335	22952	22947	16854	22216	23365

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 6. For details on control variables, see notes to Table 6.

Table 16: Placebo Estimates – Main Railroads

Panel A: Main Outcomes

	(1)	(2)
Outcome is ⇒	Tried to set up a business	Self-Employed
Migration effect: 2016*distance to main railroad (log)	-0.005 (0.007)	-0.003 (0.005)
N	23430	23430

Panel B: Mechanism, Changes in Willingness to Take Risks and Perceived Instability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Outcome is ⇒	Willingness to take risk	Law and order exist in the country	Peace and stability exist in the country	Happy with the political situation	Happy with the economic situation	Life satisfaction	Job satisfaction	Satisfaction with financial situation	Children will have a better life
Migration effect: 2016*distance to main railroad (log)	-0.001 (0.006)	-0.013 (0.014)	-0.015 (0.014)	0.001 (0.010)	-0.009 (0.010)	-0.014 (0.011)	-0.011 (0.013)	-0.005 (0.010)	-0.011 (0.013)
N	22845	22929	22949	22559	22902	23154	16854	23059	21660

Panel C: Mechanism, Changes in Willingness to Take Risks and Perceived Instability

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Outcome is ⇒	Trust in national government	Trust in regional government	Trust in local government	Trust in armed forces	Trust in police	Trust in foreign investors	Trust in foreigners	Trust in other people	Lost wallet likely to be returned
Migration effect: 2016*distance to main railroad (log)	-0.016 (0.014)	-0.013 (0.014)	-0.016 (0.013)	-0.026** (0.013)	-0.013 (0.013)	-0.010 (0.010)	-0.011 (0.013)	0.010 (0.012)	0.007 (0.012)
N	22691	22929	22133	22335	22952	22947	16854	22216	23365

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 6. For details on control variables, see notes to Table 6.

Table 17: IV Estimates – Luminosity

	(1)	(2)
Outcome is ⇒	Mean Luminosity (10 km)	Median Luminosity (10 km)
Migration effect: 2016*distance in km (log)	-0.136	-0.021
	(0.1)	(0.017)
First-stage F statistics	370.31	370.31
N	23,430	23,430
Mean	0.22	0.19
Outcome is ⇒	Mean Luminosity (20 km)	Median Luminosity (20 km)
Migration effect:2016*distance in km (log)	-0.022	-0.032
	(0.016)	(0.022)
First-stage F stastics	370.31	370.31
N	23,430	23,430
Mean	0.17	0.12

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Appendix

Table A1: IV Estimates by Thresholds

Outcome: Tried to set up a business	(1)
Treatment: 25 km – migration effect	-0.188***
	(0.000)
First stage F statistics	371.12
N	23,430
Treatment: 50 km – migration effect	-0.123***
	(0.033)
First stage F statistics	386.56
N	23,430
Treatment: 75 km – migration effect	-0.107***
	(0.038)
First stage F statistics	304.29
N	23,430
Treatment: 90 km – migration effect	-0.059
	(0.034)
First stage F statistics	356.31
N	23,430

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table A2: IV Estimates by Thresholds

Outcome: Self-employment	(1)
Treatment: 25 km – migration effect	-0.151***
	(0.000)
First stage F statistics	371.12
N	23,430
Treatment: 50 km – migration effect	-0.108***
	(0.028)
First stage F statistics	386.56
N	23,430
Treatment: 75 km – migration effect	-0.075**
	(0.033)
First stage F statistics	304.29
N	23,430
Treatment: 90 km – migration effect	-0.029
	(0.044)
First stage F statistics	356.31
N	23,430

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.

Table A3: IV Estimates – Controlling for Country-specific Trends

	(1)
	IV
Outcome: Tried to set up a business	
Migration effect: 2016*log distance	0.017**
	(0.008)
Outcome: Self-employment	
Migration effect: 2016*log distance	0.029***
	(0.005)
N	22,064
First-stage F statistics	63
Fixed effects (locality and year)	Yes
Country level controls	Yes
Country-specific linear trends	Yes
Demographic characteristics	Yes
Individual wealth and assets	Yes

Notes: * significant at 10 per cent; ** significant at 5 per cent; *** significant at 1 per cent. Specification is Column 4 of Table 4. For details on control variables, see notes to Table 4.