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Labor market integration of refugees to the United States: Do entrepreneurs in the network help?

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Abstract

We investigate whether entrepreneurs in the network of refugees – from the same country of origin – help their labor-market integration by hiring them in their businesses. We analyze the *universe* of refugee cases without U.S. ties who were resettled in the United States between 2005 and 2010 (around 96,000 refugees). Since the U.S. location of cases without U.S. ties is chosen by resettlement agencies as a function of individual characteristics we observe and control for, our results cannot be driven by refugees sorting into specific labor markets. We also address threats to identification due to unobserved characteristics of the labor market of placement. We find that the probability that the refugee is employed 90 days after arrival is positively affected by the number of business owners in his network, but negatively affected by the number of those employed. This suggests that network members who are entrepreneurs hire refugees in their business, while network members working as employees compete with refugees consistent with refugees complementing the former and substituting for the latter.

Keywords: Refugees, labor market integration, entrepreneurship .

JEL Classification: F22, J61

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“An immigrant himself, Chobani yogurt founder [Hamdi Ulukaya] becomes icon for refugees. ... Despite warnings against hiring refugees, Ulukaya has made executive decisions to offer employment to people who have fled from hunger, persecution and fear.” (Al Monitor, October 5, 2015)

1 Introduction

One of the goals of the U.S. Refugee Admissions Program (USRAP) is the successful labor market integration of refugees into the host community. U.S. government agencies closely monitor the economic assimilation of other types of immigrants as well.¹ The drivers of refugees and immigrants labor market integration are also the focus of academic interest. Among the many factors which affect the labor market assimilation of foreign-born workers, social networks are especially important. Social networks are broadly defined as the community of migrants from the same country of origin or community as foreign workers. They are believed to provide information on labor market conditions and opportunities to recent refugees and immigrants (Munshi, 2003; Beaman, 2012). In particular, Munshi (2003) shows that the labor market outcomes of Mexican migrants improve the greater the size of the network from their community of origin back in Mexico. Munshi suggests that networks help migrants by providing job referrals in a situation in which information about jobs is not perfect. Beaman (2012) further explores the role of networks focusing on refugees resettled to the United States. She finds that the vintage of the network is a key variable for the economic assimilation of refugees. Beaman focuses on the labor market integration of refugees who have just arrived (90 days before) to the United States and analyzes the role in this process played by, respectively, refugees who arrived in the latter two years (recent arrivals) and refugees who have been in the United States for more than two years (tenured refugees). She finds that an increase in the number of recently arrived refugees worsens the labor market outcomes of refugees who have just arrived while an increase in the number of tenured refugees improves them. Beaman interprets the results as consistent with a job information story according to which tenured refugees provide job information to just-arrived refugees while recently-arrived refugees compete for job information with just-arrived refugees.

¹See for example <https://www.dhs.gov/blog/2015/12/16/keeping-american-dream-alive>.

In this paper we focus on a different channel through which network members help refugees in the labor market. Refugees and migrants may face discrimination in the labor market. Hence, even with additional information from network members, they may not be able to find a job. This suggests that, while important, information is only one aspect of the impact of migrant networks on the economic assimilation of foreign workers. Motivated by anecdotal evidence, we explore the role of entrepreneurs within the network in facilitating the labor-market integration of refugees. In particular, a recent piece on National Public Radio (NPR) suggests that Belgian Turks fare better in the Belgian labor market than Belgian Moroccans because they are helped (hired) by entrepreneurs in their network (NPR 2016). A similar story made newspapers headlines lately that the CEO of Greek-yogurt Chobani “fills” his plants with refugees. This is the channel we explore in this paper. We investigate whether network members who are entrepreneurs help refugees labor-market integration by hiring them in their businesses.

The successful labor-market integration of refugees and immigrants matters well beyond the labor market. Recently Verwimp (2015) provides anecdotal evidence that bad labor-market outcomes of refugees and migrants may contribute to their political radicalization. In particular Verwimp shows that the number of migrants – both first- and second-generation ones – who leave European countries to become foreign fighters in Syria and Iraq (per million inhabitants) is positively associated with the gap in employment between natives and migrants in each country. This anecdotal evidence is consistent with the piece, mentioned above, from National Public Radio. NPR (2016) suggests that one reason why Belgian Turks are less likely to be radicalized than Belgian Moroccans is that the former end up faring better in the labor market.² The literature on migration and crime also underlines the importance of labor market integration. The link between migration and crime has been found to be weak or in many cases non-existent (Bell and Machin, 2013; Amuedo-Dorantes

²“Turks and Moroccans immigrated to Belgium around the same time in the 1970s. And yet, when it comes to radicalization, the two groups couldn’t be more different. Scores of Moroccans have left for Syria [to join ISIS], and there is not one recorded Turk who has followed the same path. ... Both Belgian Turks and Moroccans face labor-market discrimination in the Belgian labor market. Yet, Belgian Turks end up faring better in the labor market. ... Belgian Turks are somewhat more insulated because when they don’t get a job they think they’re qualified for, they turn to entrepreneurs in their own communities for help.” (NPR story, April 4, 2016: “When It Comes To Radicalization In Belgium, Turks and Moroccans Are Different.”)

et al., 2017). However, when asylum seekers have been found to increase crimes, such impact seems to be mostly explained by barriers to labor market integration (Butcher and Piehl, 1998; Bell et al., 2013; Spenkuch, 2014). Couttenier et al. (2016) even show that offering labor market access to asylum seekers eliminates the impact of asylum seekers on violent crimes. Similarly, Mastrobuoni and Pinotti (2015) show that, when labor market opportunities for migrants improve once they are granted legal status, the risk of crime recidivism decreases.

In this paper we focus on the *universe* of refugee cases without U.S. ties who were resettled in the United States between 2005 and 2010 (around 96,000 refugees). Cases without U.S. ties are those of refugees with no family or friends in the United States.³ Importantly, their location within the United States is chosen by refugee resettlement agencies as a function of individual characteristics which we can observe and control for in the analysis. More specifically, the resettlement agencies consider the characteristics of the refugees and the availability of various local programs and communities able to meet the refugees needs. This implies that our results cannot be driven by refugees sorting into specific labor markets. We also address threats to identification due to unobserved characteristics of the labor market of placement.

We measure the labor market integration of the refugee with a variable indicating whether the refugee is employed 90 days after arrival. We define the social network of a refugee as the community of refugees from the same country of origin as the just-arrived refugee and living in the same commuting zone where the refugee is placed upon arrival and is currently observed. In addition, using the 2005 American Community Survey, we can measure the fraction of business owners (self-employed) and employees in each network at the beginning of the period of analysis.

We find that, the greater the number of business owners in the network of the refugee, the higher the probability that the refugee is employed 90 days after arrival. At the same time, the greater the number within the network of those employed, the lower the probability that the refugee is employed 90 days after arrival. These results are consistent with the hypothesis that network members owning their business hire refugees, while network members working as employees compete with refugees. In other words, refugees complement network members who own businesses and

³Refugees who report to have a U.S. tie (family or friends living in the U.S.) will be located as much as possible in the same geographic location than their U.S. tie.

substitute for network members who work as employees. In terms of magnitude, our findings indicate that a one standard deviation increase in the refugees network raises her probability of being employed by about 2 percentage points.

To conclude, the analysis suggests that one channel through which network members help refugees is by hiring them in their businesses. We discuss and rule out alternative mechanisms. The results are both statistically and economically significant. Important policy implications can be derived from our results. Policymakers may be able to achieve two goals at once by providing business incentives and opportunities to tenured refugees and migrants: i.e., they can help both tenured refugees and migrants as well as just-arrived refugees.

2 Data and Identification strategy

Our analysis is based on data from several sources and exploits variation across commuting zones, years and nationalities of origin of refugees. First, we exploit the Worldwide Refugee Admissions Processing System (WRAPS) data set housed at the Refugee Processing Center (RPC) which is part of the Bureau of Population, Refugees, and Migration (PRM) at the U.S. Department of State⁴. WRAPS contains detailed information about refugees resettled to the United States from 1990 to the present. Information is not only provided about their year of arrival, the city and state of placement but also about individual characteristics such as age, gender, level of education, and country of origin of the refugees. Second, we use data from the 2005 American Community Survey to measure the fraction of business owners (self-employed) and employees in each network at the beginning of the period of analysis. Third, we exploit data from the 1990 U.S. Census to construct nationality-specific in-marriage rates which we use as a source of exogenous variation of entrepreneurship rates of refugees from each source country.

The total number of refugees admitted through the U.S. Refugee Admissions Program is decided annually by a Presidential Determination. We exploit the resettlement policy implemented by the U.S. Refugee Admissions Program. To assess their case for admission to the United States, all refugee

⁴Refugee records in WRAPS are protected under Section 222(f) of the Immigration and Nationality Act, 8 U.S.C. §1202(f), and may be subject to the Privacy Act of 1974, as amended, 5 U.S.C. §552a.

applicants are interviewed overseas by an officer from the U.S. Citizenship and Immigration Services in the Department of Homeland Security.

The main challenge in the empirical analysis is to address the following two threats to identification of a causal effect. Whenever one observes the labor-market outcomes of migrants in a given locality, sorting at the individual level based on unobserved characteristics - might be a concern. For example, if refugees are free to choose where to locate, those especially driven and smart might go where there are more opportunities to open a business. In that case, a positive correlation between the number of entrepreneurs in the network and the refugees employment status would be driven by the selection of easily-employable refugees into a location with high network entrepreneurship. This is not an issue in our empirical analysis since we analyze cases of refugees with no family members or friends already in the United States, the so called cases without U.S. ties. The placement upon arrival of refugees without U.S. ties is decided by refugee resettlement agencies, not by the refugee.⁵ In addition, we observe all the individual characteristics of refugees known by the agencies at the time of the placement decision and can control for them in the empirical analysis – note that no agency employee meets the refugee until the placement decision has been made.

The second threat to identification of a causal effect is unobserved characteristics of the labor market. For example, a given location may have higher returns to the skills owned by foreign workers from a given country of origin. Hence it might be that resettlement agencies place refugees from a given country of origin in specific locations. The results we find suggest this is not an issue in our analysis: If the commuting zone where the refugee is placed had higher returns to the skills owned by workers of her country of origin, then we should observe a positive correlation between the employment status of older cohorts of refugees and just-arrived refugees from the same country of origin. As shown in section 4, we instead observe a negative correlation. In addition, we also include commuting zone (CZ) by nationality fixed effects, together with commuting zone by year and nationality by year fixed effects.

In other words, we control for the fact that a given commuting zone may be a better match on average for refugees from a given country of origin as well as for time-varying labor-market conditions of the

⁵Strictly speaking, refugees with U.S. ties do not chose their location either but are likely to be placed close to their relatives.

commuting zone and of refugees of a given nationality.

Hence we assess the role of refugee networks, in shaping refugees labor market outcomes 90 days upon arrival, by estimating the following specification:

$$\begin{aligned}
 Y_{ijkt} &= \beta_0 + \beta_1 Network_{jk(t-1)} + \beta_2 (Network_{jk(t-1)} * SelfEmployedShare_{jk(2004)}) \\
 &+ \delta' X_{ijkt} + \alpha_{kt} + \alpha_{jt} + \alpha_{jk} + \epsilon_{ijkt}
 \end{aligned}
 \tag{1}$$

for individual i from nationality group j in commuting zone k at year t . Our sample includes about 96,000 individuals coming from 88 origin countries arriving in 154 U.S. commuting zones between 2005 and 2010.⁶ Note that commuting zones have been recognized as the most coherent unit of analysis to investigate labor market dynamics in the United States (Autor and Dorn, 2013).⁷ The variable Y_{ijkt} is the employment status 90 days after arrival of individual i from nationality group j in commuting zone k at year t . The main regressors of interest are the network variables. We first construct the stock of refugees of nationality j resettled in commuting zone k up to the year before individual i 's placement, $Network_{jk(t-1)}$. In addition, based on the 2005 American Community Survey, we construct the share of self-employed in the stock of migrants from the same origin country in the same commuting zone prior to the period of investigation (2004), $SelfEmployedShare_{jk(2004)}$.⁸ The interaction term between the refugee network and the share of self-employed in the migrant network is the key variable of the empirical analysis. Our hypothesis is that migrant entrepreneurs facilitate the labor market integration of refugees from the same country of origin by hiring them in their businesses. In that case we would expect to estimate $\beta_2 > 0$.

Since refugees without U.S. ties are placed by resettlement agencies, we augment the specification with individual characteristics (age, household size, education, participation in support programs, ...), X_{ijkt} , known by the resettlement agency at the time of placement. Controlling for the individual

⁶In comparison, Beaman (2012) seminally exploits information on 1,600 refugees resettled in 16 metropolitan areas between 2001 and 2005.

⁷“Commuting Zones are clusters of U.S. counties that are characterized by strong within-cluster and weak between-cluster commuting ties.” (David Dorn: <http://www.ddorn.net/data.htm>). We use the crosswalks provided by David Dorn to match PUMAs from the American Community Survey to 1990 commuting zones.

⁸Similarly, in additional results, we also use the share of *employed* migrants.

characteristics of refugees (X_{ijkt}) renders the refugees location decision made by the resettlement agency plausibly exogenous with respect to individual unobserved characteristics.

As mentioned above, we also include a battery of fixed effects which control for unobserved aggregate factors that might affect the refugee's labor market outcomes. Commuting zone by year fixed effects, α_{kt} , capture unobserved time-varying heterogeneity at the commuting zone level including productivity shocks. Nationality by year fixed effects, α_{jt} , control for unobserved time-varying heterogeneity across countries of origin. Nationality by commuting zone fixed effects, α_{jk} control for the fact that resettlement agencies may place refugees from certain nationalities in specific locations where they have better labor-market outcomes (higher probability of being employed and higher entrepreneurship rates). Finally, the error terms are clustered at the commuting zone-year level.⁹

Table 1: Descriptive Statistics

	Obs.	Mean	St. Dev.	Min.	Max.
Panel A : No controls					
Employed	75,385	0.309	(0.462)	0	1
Network	75,385	491.048	(690.963)	0	7061
Share of self. empl. (2004) \times Network (up to t-1)	75,385	77.903	(212.595)	0	1494.57
Share of Empl. (2004) \times Network (up to t-1)	75,385	298.076	(546.678)	0	5302.92
Panel B : With instrumental variables					
Employed	62,680	0.316	(0.465)	0	1
Network	62,680	540.407	(736.566)	0	7061
Share of self. empl. (2004) \times Network (up to t-1)	62,680	93.652	(229.968)	0	1494.57
Share of Empl. (2004) \times Network (up to t-1)	62,680	355.633	(582.603)	0	5302.92
Share of self. empl. (2004)	62,680	0.1128	0.2143	0	1
In-Marriage rate (1990) \times Network (up to t-1)	62,680	104.5358	(301.699)	0	2869.139
In-Marriage rate (1990)	62,680	0.155	(0.145)	0	0.9375

Notes: All network variables are divided by 100.

⁹Our results are robust to using nationality-commuting zone level clustering.

3 Results

Table 2 presents the main results for the probability to be employed within 90 days after the arrival of refugees, estimated by a linear probability model. Coefficients for individual characteristics observed by resettlement agencies such as age (and its square), the household size, the education levels, and indicators for participation into support programs have expected signs. Although essential to render the refugee-based networks variables plausibly exogenous, these coefficients are not shown for presentation purpose but are available upon request.

Column (1) of Table 2 shows a coefficient which is statistically not different from zero. Hence the size of the network per se does not seem to affect the probability to be employed in our large sample. At the same time column (2) shows evidence of heterogeneity in the impact of networks consistent with our hypothesis. In that regression we introduce the size of the network both linearly and in interaction with the share of entrepreneurs in the network defined in 2004. While the network variable remains insignificant for the probability to be employed, the interaction term has a positive and significant impact. If the refugee is resettled in places where the number of self-employed in the refugee network as captured by the product of the entrepreneurship rate and the size of the network - is high, then the probability to be employed increases significantly. Note that the linear effect of the time-invariant entrepreneurship rate of a given nationality in a given commuting zone is absorbed by the nationality by commuting zone fixed effects. In terms of magnitude, a one standard deviation increase in the interaction term raises the probability that a refugee is employed by 2 percentage points.¹⁰ In columns (3) and (4), adding other individual controls such as the level of education or the participation to support programs leaves the partial effect virtually unchanged.

Note that it is very unlikely that refugees who have just arrived are business owners themselves, for the following reasons: first, we observe refugees only 90 days after arrival, which is too short a time to open a business; in addition, Beaman (2003) documents that the average wage of refugees at 90 days after arrival is consistent with minimum wage occupations. Hence our results are not capturing the fact that refugees of a certain nationality (both newcomers and other refugees) have an easier time to open a business in a given commuting zone at a certain point in time. In addition,

¹⁰The partial effect is obtained by multiplying the estimated coefficient by the standard deviation (212.6).

we can also rule out stories in which newcomers learn the skills to open a business in areas and times where co-nationals have higher entrepreneurship rates.

Table 2: Main regressions

Dep. var.	(1)	(2)	(3)	(4)
	Employed			
Network(t-1)	-0.0001 (0.003)	-0.0041 (0.003)	-0.0038 (0.003)	-0.0018 (0.003)
Share of self. empl. (2004) × Network (up to t-1)		0.0098*** (0.003)	0.0103*** (0.003)	0.0095*** (0.003)
CZ-Year FE	Y	Y	Y	Y
Nationality-Year FE	Y	Y	Y	Y
CZ-Nationality FE	Y	Y	Y	Y
Ind. Controls (1)	Y	Y	Y	Y
Ind. Controls (2)	N	N	Y	Y
Ind. Controls (3)	N	N	N	Y
Observations	96,524	74,189	74,189	73,318
R-squared	0.228	0.232	0.239	0.317

Notes: Robust standard errors clustered at the Commuting Zone-Year level in parentheses. *, **, ***: significant at 10%, 5%, and 1%, respectively. All network variables are divided by 100. The first set of individual control variables (*Ind.Controls(1)*) include age of the refugee, whether he or she receives a matching grant source of support, and the household size. The second set of individual control variables (*Ind.Controls(2)*) include education levels (primary, secondary, university, graduate, none, vocational or adult education). The third set of individual control variables (*Ind.Controls(3)*) include indications of whether the refugee has received all required core services, has source(s) of support from relatives or other non-government, has government cash assistance support, has a medical assistance source of support, has a source of support from Social Security, has other source(s) of support, the amount of R & P funds spent on behalf of this family, and the amount of R & P cash provided to this family.

4 Robustness

Table 3 presents a series of robustness checks. First, our results support the hypothesis that network effects are largely driven by the complementarity between tenured members and newcomers. One corollary is that employed members in the networks should directly compete for jobs with newcomers. In Panel A of Table 3, we introduce the share of employed migrant members interacted with the refugee network. This variable has the expected negative sign and confirms our prior that the labor market mechanism could largely explain the role of networks in labor market integration among refugees in the United States.

In Panels B and C of Table 3, we investigate how much our main results depend on the way we constructed our main variable of interest. In Panel B, we consider the share of self-employed among the migrant network defined in 2005, not in 2004. Our coefficient decreases in magnitude but keeps the expected positive sign.¹¹ Furthermore, Panel C revisits our empirical specification by only considering tenured members of the networks. In her seminal paper, Beaman (2012) indeed found that only refugees arriving 3 years prior to the year of resettlement have a positive impact on the probability of newcomers to be employed. We do find large coefficients but our conclusion on the importance of labor markets in network analysis remains unchanged.

Although the settlement of refugees can be considered as plausibly exogenous and our results are robust to the introduction of different fixed effects aiming at capturing unobserved characteristics at the commuting zone and nationality levels, we cannot exclude the possibility that our main variable of interest is correlated with the error terms. That would be the case if the quality of the match between migrants from certain countries of origin and the commuting zones of destination would change over time.¹² To deal with this possible endogeneity bias, we implement an instrumental variable strategy. The proposed instrumental variable is constructed by multiplying the plausibly exogenous

¹¹Our results are also robust to using the annual variation in the share of self-employed members in the network. Nonetheless, it makes our variable of interest more sensitive to endogeneity concerns.

¹²Our main concern relates to the share of self-employed people among the migrant networks. The negative coefficient obtained for the share of employed members among migrant networks is likely to constitute a lower-bound estimate, given the likely upward bias. Such a negative sign is also somewhat reassuring since there is no reason to believe that the unobserved omitted variable at the aggregate level should be specific to the employment status among network members.

Table 3: Robustness checks

Dep. var.	(1)	(2)	(3)
	Employed		
Panel A	With the share of employed members		
Share of self. empl. (2004)	0.0163***	0.0168***	0.0150***
× Network (up to t-1)	(0.005)	(0.005)	(0.005)
Share of empl. (2004)	-0.0089**	-0.0090**	-0.0077*
× Network (up to t-1)	(0.004)	(0.004)	(0.004)
Observations	74,189	74,189	73,318
R-squared	0.232	0.239	0.317
Panel B	Self-employed share defined in 2005		
Share of self. empl. (2005)	0.0042**	0.0037**	0.0024*
× Network (up to t-1)	(0.002)	(0.002)	(0.001)
Observations	89,731	89,731	89,042
R-squared	0.218	0.228	0.309
Panel C	Only with tenured members		
Share of self. empl. (2004)	0.0225**	0.0229***	0.0197**
× Network (up to t-3)	(0.009)	(0.009)	(0.008)
Observations	74,189	74,189	73,318
R-squared	0.232	0.239	0.317
Panel D	2SLS		
Share of self. empl. (2004)	0.0414**	0.0428**	0.0447**
× Network (up to t-1)	(0.021)	(0.021)	(0.019)
Observations	61,575	61,575	60,777
R-squared	0.233	0.238	0.314
Kleibergen-Paap rk Wald F	11.05	11.03	11.25
CZ-Year FE	Y	Y	Y
Nationality-Year FE	Y	Y	Y
CZ-Nationality FE	Y	Y	Y
Ind. Controls (1)	Y	Y	Y
Ind. Controls (2)	N	Y	Y
Ind. Controls (3)	N	N	Y

Notes: Robust standard errors clustered at the Commuting Zone-Year level in parentheses. *, **, ***: significant at 10%, 5%, and 1%, respectively. All network variables are divided by 100. The *Network* variable is included and remains insignificant in all regressions. The three sets of individual control variables are described below Table 2.

refugee network with the in-marriage rate defined at the nationality level. The rationale for such an instrumental variable is based on Kerr and Mandorff (2015) who demonstrate that socially-isolated groups (as measured by high in-marriage rates) achieve high levels of entrepreneurial activities.¹³ As shown in Figure 1, there is indeed a positive correlation between the two. Using such exogenous variation in the nationality-specific degree of entrepreneurship interacted with the size of the networks as an instrumental variable, Panel D of Table 3 confirms the positive effect of the share of self-employed members in the network. The first-stage relationships are strong with the associated Kleibergen-Paap rk Wald F statistics standing at about 11, above the Stock and Yogo (2005) critical values with 10 percent absolute bias. We present these results as a robustness check since the specification is likely to capture a local treatment effect among particularly entrepreneurial groups.

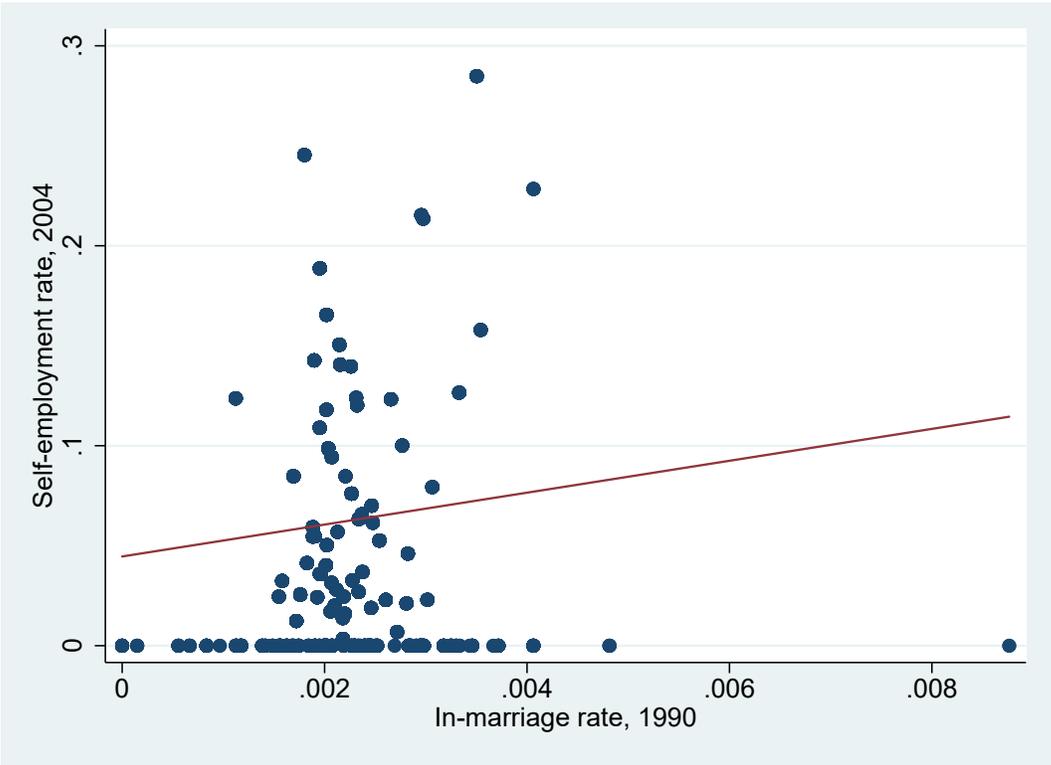
5 Conclusions

In contrast to several studies (Munshi, 2003; Beaman, 2012) underlining the informational role of social networks on the economic assimilation of migrants, this paper highlights another channel. Network members who are entrepreneurs help refugees from the same country of origin, by hiring them in their businesses. By distinguishing for tenured migrant network members between self-employed and employees, we shed light on the importance of labor substitutability (complementarity) between self-employed (employed) migrants and newcomers in explaining labor market integration.

This paper offers novel evidence regarding the successful economic assimilation of refugees in the host community, whose importance has been emphasized by the literature on migration and crime. Our results point to a new policy option consisting of providing business incentives and opportunities to tenured refugees and migrants, facilitating their self-employment and hence easing the labor market

¹³Kerr and Mandorff (2015) seek to understand whether the high prevalence of self-employment among migrants is a rational response to discrimination and difficulties when it comes to having their skills valued by the market or results from a comparative advantage of migrants in entrepreneurship. They provide a theoretical model explaining concentration of ethnic entrepreneurs in particular industries which, validated by a convincing empirical exercise, gives more credit to the latter assumption. Kerr and Mandorff show how social interactions lead to occupational stratification along ethnic lines. They conjecture that members of small social networks develop business specific skills through informal exchanges of information on their business activities and posit that these social interactions are complementary to production.

Figure 1: Correlation between the in-marriage rate and the share of self-employed



integration of newcomers.

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