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# **Immigrant entrepreneurship in Europe: a comparative empirical approach**

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The aim of this paper is to use a multi-country approach to assess the role played by individual characteristics and local labor market conditions in influencing migrants' self-employment decisions. The empirical investigation exploits data from the EU Labor Force Survey for the 2005-2016 period and focuses on two countries (Italy and the UK) characterized by significantly different labor market dynamics. Our findings suggest that the impact of individual characteristics is similar across countries, whereas the role of the local economic environment changes significantly, resulting in different migrant entrepreneurship patterns. These findings appear to be consistent with the most recent strand of literature, suggesting that while individual characteristics of self-employed migrants are similar across countries, national and regional differences play a key role in determining migrants' entrepreneurial propensity.

Keywords: migrants, entrepreneurship, econometric, multi-country approach, regional approach

## **Introduction**

The population of foreign origin has increased steadily over the last 20 years in all European Union countries. This pattern is partly explained by the EU enlargement to the East and partly by the increased migratory flows from North Africa, the Middle East and China. The strong acceleration of this phenomenon generated mixed reactions among EU residents: in several cases, foreign born people are perceived by as a problem, rather than as an opportunity for economic and social development, as occurred historically (for example, with the strong migration flows from Europe to the Americas during the first globalization wave).

Migration occurs primarily for economic reasons (Ratha et al. 2019). Therefore, migrant inflows tend to be closely linked to the labor market structures of the destination countries. On the one hand, employment opportunities influence migration routes, driving migrants to destinations characterized by more attractive jobs. On the other hand, the entrance of foreign workers often reshapes the regional and national structure of the labor market in the destination country (De and Vezzoli, 2018). This latter aspect contrasts the view of migrant workers as marginal players in the host economic environment, especially at the beginning of their relocation experience.

While several migrants operate as salaried workers, a significant share of them engage in self-employment, becoming entrepreneurs. As for migrant workers, it is plausible to assume that the host economic environment will be reshaped by the presence of these new economic actors, while at the same time influencing the opportunities available for migrant entrepreneurs. Such aspects have been incorporated by two relevant strands of the theoretical literature on migrant entrepreneurship, namely the ‘theory of disadvantage’ (Bonacich 1973; Kim 1981; I. Light 1984) and the ‘mixed-embedded’ framework (Kloosterman, Van Der Leun, and Rath 1999; Kloosterman and Rath 2006). However, the dynamics behind these complex interactions is still far from being understood, especially from an empirical perspective.

Empirical work on migrant entrepreneurship is limited, and in most cases these investigations tend to be focused on a specific country (Yuengert 1995; Irastorza 2010; Canello 2016; Tibajev 2019). Furthermore, the role played by the host economic environment in shaping migrant self-employment decisions, as well as their outcomes, is still far from being fully understood. In an attempt to fill this gap, the present article proposes an empirical investigation to evaluate the role played by individual characteristics and local labor market conditions in influencing migrants’ self-employment decisions. The empirical framework is

based on a multi-country approach, allowing to account for the complexity of the migrant entrepreneurship phenomenon. The goal of this investigation is threefold: first, we verify how the economic environment of different hosting countries shapes migrants' propensity towards self-employment relative to natives in different ways. Second, we evaluate if migrants' individual characteristics are quite similar even across different countries, also in influencing their propensity towards entrepreneurship. Third, we assess the extent to which regional environmental conditions influence migrant entrepreneurship dynamics, considering that it is the regional industrial structure to pull migrants into entrepreneurship, rather than unemployment or migrant-specific conditions to push them outside the regular labor market.

The research setting for this analysis is defined by two countries, Italy and UK, characterized by self-employment levels of natives and migrants at the antipodes within the European landscape (see among others Vah Jevšnik e Lukšič Hacin [2011]). We use the EU Labor Force Survey (LFS), the largest European dataset on labor, conducted yearly through individual surveys consistently for 34 participating countries. We exploit information on workers at the individual level between 2005 and 2016, and from which we can use the NUTS-2 codification to construct information at the regional level. In order to take into consideration specifically economic migration, we consider immigrants only from not fully developed countries (therefore, excluding migrant from North America, Australia and, in particular, other EU-15 countries).

Our results validate the hypothesis that individual characteristics of migrant entrepreneurs are similar across countries, but they interact differently with local labor markets, resulting in different migrant entrepreneurship patterns. These findings appear to be consistent with the most recent strand of literature on the topic, suggesting that while individual characteristics of self-employed migrants are similar across countries, national and regional differences play a key role in determining migrants' entrepreneurial propensity.

## **Literature review**

### ***Theoretical literature***

The research on immigrant entrepreneurship has a long history, which began in the 1970s and the 1980s with the study of migrant communities in the United States (I. H. Light and Paden 1973; Wilson and Portes 1980). The topic increasingly took importance also in Europe, due to the fact that several countries that used to be sources of migrants became important destinations of migration inflows. In response to these transformations, migration became a relevant issue because its social and policy implications for international organizations (OECD 2010) and also for EU institutions (OECD and European Commission 2021). For the purpose of our analysis, we identify four main strands of literature on migrant entrepreneurship.

Traditionally, research emphasized the differences between ‘native’ and immigrant entrepreneurs in motivations, available resources, experiences and culture (Light and Paden 1973; Aldrich et al. 1985; Aldrich and Waldinger 1990; Waldinger, Aldrich, and Ward 2000).

This early research strand insisted on cultural explanations to account for immigrant propensity for business, adopting immigrant culture as main variable to explain their business skills (Bonacich 1973; Light 1984).

The other traditional strand of literature is the one that has been grouped under the definition of ‘theories of disadvantage’. In this analysis, the main explanation for migrant entrepreneurship was to be found in the many obstacles (language, education level, skills, but also racism and discrimination) preventing immigrants from finding a job, leaving them with the only economic alternative of creating their own business (Bonacich 1973; Light 1980; Kim 1981). Along with limited mobility in the labor market, other reasons for self-employment propensity may derive by the opportunity structures (Curci and Mackoy 2010), such as ethnic enclaves and social support networks (R. Chaganti and Greene 2002). In this

view, the market is divided in two parts: a mainstream sector and a migrant/minority business sector (Light et al. 1994). The core of the latter is mainly composed by co-ethnic workers, the self-employed and their employees (Zubair and Brzozowski 2018). Several researchers investigated the main reasons for enclave markets, highlighting the strong ties of the co-ethnic community in providing different forms of solidarity (Danes et al. 2008), also in form of privileged contacts with co-ethnic financial lenders, suppliers and clients (Rajman and Tienda 2003) and therefore, a protection from non-ethnic economic competitors (Achidi Ndofor and Priem 2011). Anyway, these kinds of benefits are mainly defensive, but also limiting for the enterprises which remain within the enclave market: migrant enterprises are therefore small firms, creating low added value and profits (Brzozowski 2017), and they base their competitiveness on assets derived or associated with the community of origin and which limits its activity to captive ethnic markets (Wilson and Portes 1980).

A different stand of literature focused more on the study of entrepreneurs' strategies, rather than strictly on the migration aspect. This literature is more centred on the entrepreneur and his individual resources. (Light 1984) divides them between ethnic resources (similarly to enclave theories, what a migrant benefit from its co-ethnic community, in terms of financial support, solidarity and the access to co-ethnic customers, suppliers and employees) and class resources. The latter are not available to all migrants, since they derive from the social and economic position in the society, referring to economic status, capital endowment, and therefore the level of education that endow with human capital and professional experience (Yoon 1991; Ram, Jones, and Villares-Varela 2017; Min and Bozorgmehr 2000; Sanders and Nee 1996; Virdee 2006). Ethnic and class resources interact in the definition of migrant entrepreneurs' strategies, resulting in firm heterogeneity that cannot be reduced to the only form of enclave markets (Freiling and Harima 2019; Sinkovics and Reuber 2021).

In following studies, this was defined as a strategy of ‘breaking out’ from niches to mainstream market (Achidi Ndofor and Priem 2011), that migrant entrepreneurs operate properly to overcome the aforementioned limits of ethnic markets, entering in increasingly diversified sectors and addressing native consumers through the supply of products and services not necessarily linked to their own culture of origin (R.(R.)S. Chaganti et al. 2008; Jones, Barrett, and McEvoy 2000; Sahin, Nijkamp, and Suzuki 2014; Arrighetti, Bolzani, and Lasagni 2012; 2014; Lassalle and Scott 2018; Wang and Warn 2018).

A further step in this direction was the definition of ‘mixed embeddedness’ as a way of ‘relating the resources of immigrant entrepreneurs to the opportunity structure’ (Kloosterman, Van Der Leun, and Rath 1999). Mixed embeddedness can be considered more as a conceptual framework (Kloosterman and Rath 2006) than a single theory. Resources, characteristics and skills of migrants interact with the context they live in, which can offer opportunities or limitations to become entrepreneurs. In this framework, it is possible to open different analyses: on institutions (Rath and Kloosterman 2000), market conditions (Aldrich and Waldinger 1990), transnationalism and links with the country of origin (Portes, Haller, and Guarnizo 2002; Ambrosini 2012). Moreover, it is possible to deepen the study of both the organizational models adopted and the opportunities pursued: the strategic use of ethnicity (Rusinovic 2008), the relation between entrepreneurs' strategies and capital endowment (Achidi Ndofor and Priem 2011), or the ‘vacancy chain theory’ for which migrants open firms in market spaces left empty by natives (Rath and Kloosterman 2000).

Moreover, there are many contributions analysing properly different theories on migrant entrepreneurship: among those Baycan-Levent and Nijkamp (2009) perform a broad review of previous contribution to compare theories, as well as a comparative analysis across eight European countries.

### *Empirical literature*

Various researchers approached the study of migrant entrepreneurship with an empirical quantitative methodology in order to test the previously elaborated theories and hypotheses. (Borjas 1986) find that for the US in the 70s-80s immigrants entrepreneurship rate is higher than for natives, attributing this to the enclave effect, and observing a positive impact of assimilation (the length of permanency in the hosting country). Yuengert (1995) 'attempts to explain high rates of immigrant self-employment, relative to native workers' for US. He finds support for the home-country self-employment hypothesis (migrants with higher self-employment propensity come from countries with high self-employment rates) and the tax-avoidance hypothesis, but not for the enclave hypothesis considering the specific ethnic communities (Cuban, Mexican and Chinese). The home-country self-employment hypothesis is tested also by Tibajev (2019) for Sweden, which contrarily finds little evidence in its support, while supporting the entrepreneurial human capital hypothesis, for which migrants with previous self-employment experience have a significant higher propensity toward entrepreneurship. Still for Sweden, Andersson, Larsson, and Öner (2021) test the enclave hypothesis: their results suggest that the number of local entrepreneurs within Middle Eastern enclaves fosters the probability of a co-ethnic migrant to become self-employed, rather than the overall size of the enclave. With a similar setting, (Miao 2020) studies the relationship between local unemployment rate and migrant self-employment, finding that in Sweden unemployment does not generally push migrants toward self-employment (as the enclave theory suggested), with the exception of migrants from the Middle East. Sanders and Nee (1996) study different ethnic groups Asian and Hispanic immigrants in the United States, finding that interethnic differences are mainly driven by human capital and family composition.

There are few papers empirically testing both individual characteristics and environment conditions as in the mixed-embeddedness framework. Tavassoli and Trippel



(2019) 'examine the relation between ethnic communities (ECs) and immigrant entrepreneurship in Swedish regions' through a longitudinal dataset (2003-2010): they find that entrepreneurship is not explained by being embedded in a region with a high share of the same ethnic community (as in the enclave theory), but rather by living in a region with a high share of immigrant entrepreneurs. Irastorza (2010) in a very wide research on migrant entrepreneurship in Spain, performs an empirical analysis on determinants on likelihood of becoming self-employment combining individual-related factors and environmental variables on thirteen Spanish regions, such as population density, the share of foreign population, unemployment rate and new firm born rate: his results partially supports the hypothesis that environmental factors have a positive influence, in particular the new firm born rate and the low unemployment rate.

Various researchers started considering also other aspects and problematic of entrepreneurship, such as the quality of work, precariousness and the issue of sham self-employment. Aldén et al. (2022) studying differences between migrants and natives self-employed in Sweden, find that migrants work harder while earning less, encountering several problems also in the relation with the customers and in general with the quality of work. Finally, Berwing (2019) study the case of Germany, stressing that self-employment may be read as a flexible work arrangement in a post-Fordist framework, meaning a general more precarious and involuntary working condition. The authors do not find a general higher risk of precarious self-employment for migrants than for natives, suggesting adopting a comparative approach between European countries in further research.

As some of these recent contributions noted, in order to further advance in the research of this topic a comparative approach would help to study differences of migrant entrepreneurship characteristics across countries. We move in this direction, as we present in the next section.

## **Methodology and data**

### *Hypothesis development*

Different theories of migrant entrepreneurship underlie different factors that explain migrant propensity toward entrepreneurship. The literature strand on ethnic enclaves and disadvantage theory considers only one model of migrant enterprise. The main implication is that migrant propensity toward entrepreneurship is homogeneous across different hosting countries. Instead, more recent models up to the mixed-embeddedness framework and the breaking out theory take into account the heterogeneity of migrant enterprises, and that such heterogeneity derives from environmental conditions that vary across countries.

Socio-economic as well as institutional conditions shape both migration patterns and self-employment propension. Therefore, it is reasonable to hypothesize that different migrant entrepreneurship models will emerge across the different labor markets of EU countries. More specifically, we want to assess whether differences in migrant entrepreneurship patterns across countries are driven by individual characteristics of migrants or socio-economic condition of local labor markets.

We can synthesize our main research question in four hypotheses:

**Hp1** migrants' entrepreneurial propensity relative to natives is shaped by the socio-economic conditions of the host country, relative both to migrants and labor dynamics.

Our first hypothesis is that, in line with theories such as the mixed-embeddedness, migrant propensity toward self-employment is driven by socio-economic conditions of the host country. On the one hand, differences arise from policies regulating immigration (narrow or wide access, general or labor-selective quotas) but also on general attractiveness of the country in term of labor opportunity, as well as other conditions (language barriers, logistic and institutional links with the country of origin). On the other hand, economic institutions can

also determine the easiness of opening a new business, support and favor self-employment and entrepreneurship. In this sense, it is always important to compare the level and the condition of migrant entrepreneurship to natives. In this regard, we expect to assist to different dynamics across countries.

**Hp2** individual characteristics determining immigrant entrepreneurship propensity are similar across countries.

We want further explore determinants of differences in migrant entrepreneurship across countries. From previous literature, we know which kind of individual resources influence propensity of migrant entrepreneurship: sex, education, seniority, family status. We investigate whether these characteristics are significantly different in immigrant population of different countries, and whether they impact self-employment propensity in different directions.

**Hp3a** regional conditions on unemployment or migrant-specific conditions do not strongly push immigrant into entrepreneurship.

Against the ‘disadvantage theory’, we do not foresee that there is a ‘push effect’ expelling migrants from the regular labor market into self-employment as the only viable option for income. To control for that, we explore variables as the unemployment rate, and the immigrant’s share over the population within regions.

**Hp3b** regional conditions on industrial structure pull immigrants into entrepreneurship.

Instead, we expect to see stronger determinants of migrant self-employment propensity in structural economic regional conditions. Different local contexts offer different opportunity structures to migrants to become self-employed. Investigating regional variables such as the

share of self-employment on total employment, barriers to entry and sectoral concentration, we expect that such variables will have a ‘pull effect’ attracting migrants into entrepreneurship.

### *A multi-country approach*

In order to investigate these four hypotheses in a comprehensive but synthetical manner, we perform a comparative analysis between Italy and UK. We chose these two countries because their very different migration history, and because their self-employment structure both for natives and migrants represent polarized cases within the European landscape, in terms of levels and trends (see among others Vah Jevšnik and Lukšič Hacin [2011]; OECD and European Commission [2021]).

Whereas today, Western EU members are countries receiving migratory flows, historically migration patterns have been very different, shaping various possibilities of integration in the local labor markets. UK has always been an immigration receiving country due to its colonial history: immigration continued also after the World War II, with a renewed push since the 1990s, similarly to other centre and northern EU countries. Its already high percentage of migrant population did not prevent anyway a significant increase in the recent years due to migration from eastern Europe following EU enlargement (Ciupijus 2011). On the other hand, Italy as the rest of Mediterranean countries (along with Ireland and Finland) became immigration receiving countries across the 1980s-1990s because of both better economic conditions, and a redirection of migrations properly due to more restrictive migration policies in the northern Europe (Boswell 2018). These trends can be seen also in the more limited time span of our data (**Figure 1**): between 2005 and 2016 working-age migrant population increased in Italy from 3.9% to 12.2% (+230%), while in UK from 7.1% to 13.9% (+96%).

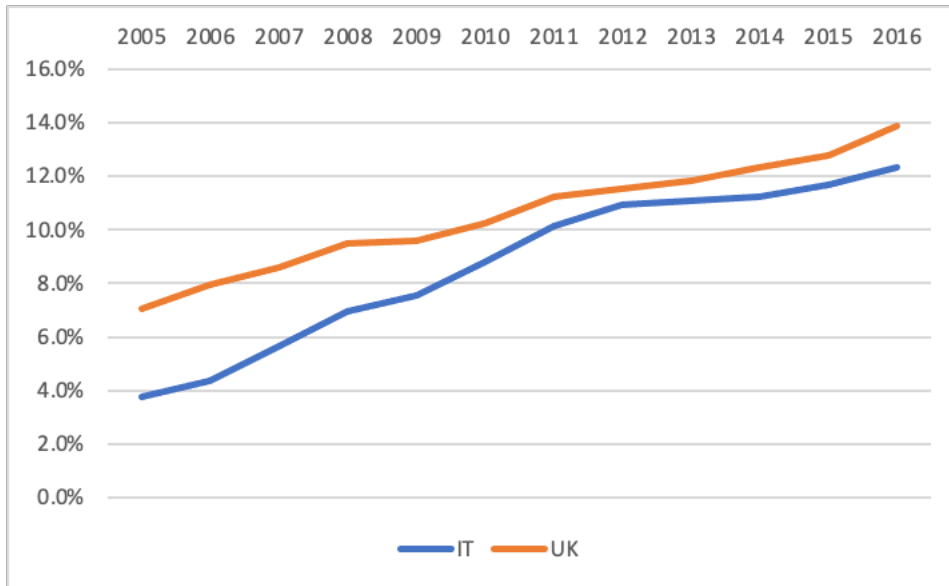


Figure 1. Working age migrant population trends in Italy and UK. LFS data 2005-2016, our elaboration.

Considering the different structures of labor markets, and thus propensity toward self-employment, northern European countries present relatively lower levels of native self-employment, and Mediterranean countries higher levels. In **figure 2** we can have a first glance at the difference in entrepreneurship trends for nationals and foreigners in the two countries. Between 2005 and 2016, in UK we have a slight but persistent tendency of both categories towards an increase in the percentage of self-employment over the total workforce. Natives' self-employment moves from 12.1% to 14.1% (+2 % points), while migrants from 14% to 18.3 (+4.3 % points), showing a consistently higher propensity of migrants' respect to natives, which is also widening the gap approximately since 2012. On the contrary, in Italy the same period shows a declining trajectory of self-employment, that for migrants goes from 16% to 12.3% (-3.7 % points), but what strikes most is the incredibly higher percentage of natives' self-employment respect to UK: from 25.6% to 23% (- 2.6 % points). This is very similar to other Mediterranean countries, which present all a high rate of native self-employment (Greece, Portugal and Spain, and although less strongly, with Ireland).

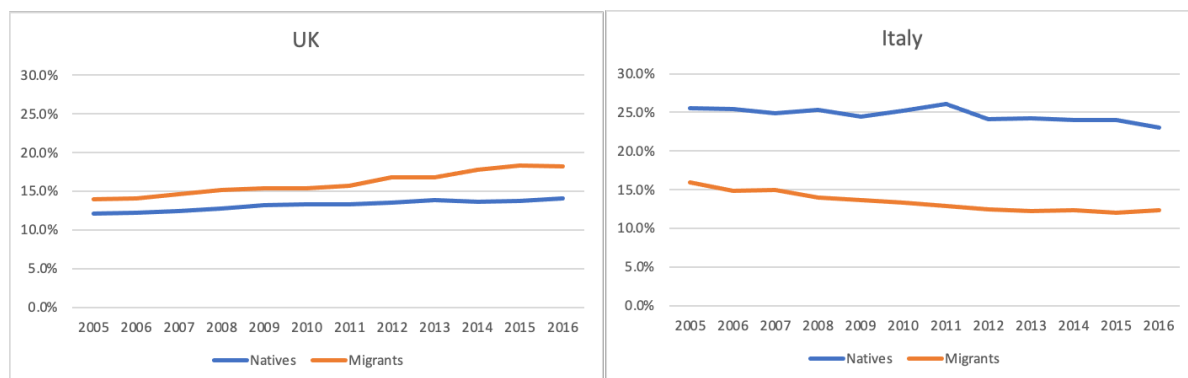


Figure 2. Self-employment trends in Italy and UK. LFS data 2005-2016, our elaboration.

### ***Data***

In order to develop an empirical model, we rely on the LFS dataset, the largest European dataset on the labor market, a yearly survey on working-age individuals living in the EU member countries. Among the different labor-related dimensions it covers, we exploit information about individual characteristics and working status, using the years from 2005, the first year in which country of origin of respondents is registered, to 2016. Moreover, the NUTS-2 codification allows us to retrieve information also at the regional level.

In **table 1** we present the summary statistics of the variables of our interests for Italy and UK. According to our hypothesis we divide them in two main categories: individual-level variables and regional-level variables. In order to give a first glance at the differences between natives and migrants, we present their data separately.

Variable	Italy				UK			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
<i>Individual-level (whole pop)</i>								
Migrant (1=yes)	0.086	0.280028	0	1	0.105	0.306	0	1
Self-employed (1=yes)	0.128	0.33421	0	1	0.093	0.290	0	1
N. obs:	4,771,108				787,221			
<i>Individual-level (natives)</i>								
Self-employed (1=yes)	0.132	0.339	0	1	0.092	0.288	0	1
Male (1=yes)	0.493	0.500	0	1	0.481	0.500	0	1
Married (1=yes)	0.564	0.496	0	1	0.483	0.500	0	1
Working in manufacturing (1=yes)	0.071	0.256	0	1	0.050	0.219	0	1
Education level	2.643	1.122	0	6	3.336	0.996	0	6
Age	41.747	13.959	17	62	40.406	14.272	17	62
N. obs:	4,307,645				683,500			
<i>Individual-level (migrants)</i>								
Self-employed (1=yes)	0.082	0.274	0	1	0.098	0.298	0	1
Male (1=yes)	0.450	0.497	0	1	0.466	0.499	0	1
Married (1=yes)	0.589	0.492	0	1	0.602	0.490	0	1
Working in manufacturing (1=yes)	0.098	0.298	0	1	0.056	0.231	0	1
Education level	2.510	1.137	0	6	3.305	1.125	0	6
Age	37.918	11.625	17	62	38.206	12.168	17	62
Seniority	12.905	9.642	1	67	13.445	12.656	1	62
N. obs:	404,141				79,943			
<i>Regional-level</i>								
Unemployment rate (% , whole pop)	5.612	2.327	1.806	11.720	4.527	1.162	2.512	7.355
Self-employment rate (% , whole pop)	23.754	2.340	18.135	30.398	13.247	2.080	7.886	19.094
Foreign population (%)	8.670	4.669	0.884	17.977	9.400	7.937	1.037	38.423
N. obs (per year):	20				12			

Table 1. Summary statistics. LFS data 2005-2016. Source: elaborations on Eurostat - Labour Force Survey data. Note: elaborations for the period 2005-2016 (9 years). For educational level the values are elaborated on ISCED codes (ranging from 0= no formal education to 6=doctorate). For “Regional level” variables: data are summarized by mean values at NUTS-2 level (basic regions for the application of regional policies).

About individual characteristics, there are those that are generally considered for entrepreneurs and those specific to immigrant persons. Number of observations are for the whole time-span (2005-2016).

First of all, we obviously observe the country of birth in order to determine a binary variable called *migrant*, which takes value 1 if the respondent is not a native, and 0 otherwise; in order to consider economic migration in strict sense, we exclude from the analysis intra-EU15 circulation as well as from North America and Australia, so we leave out respondents with those country of birth. Second, we derive a binary variable *self-employed* taking value 1 if the respondent declares to be self-employed and 0 if employee: this will be our main

dependent variable in our regressions. As we can see, the means confirm what observed in figure 2: for Italy in the whole timespan natives self-employed are the 13.2% of the native workers, while migrants self-employed are the 8.2% of migrant workers; the relative dimension is the opposite in UK, with native self-employment at 9.2% and migrant self-employment at 9.8%.

For what concerns characteristics commonly used to study entrepreneurship, we take sex into consideration with the *male* dummy variable (1: male; 0: female) and the family status with the *married* dummy variable (1: married; 0: not married): while in Italy native and migrants have similar share of married workers (56.4% vs 58.9%), in UK there is a relevant difference in favor of migrants (48.3% vs 60.2%). In order to measure barriers to entry, we create another dummy variable *working in manufacture* (1: yes; 0: no): Italy presents more workers in the manufacture sector than UK, and migrants in both countries tend to be more present in manufacturing. We measure *education* with the highest level of education or training successfully completed, ISCED codification, ranging from 0 (no formal education) to 6 (Doctorate)<sup>1</sup> with the UK having on average a higher level of education than Italy. Finally, we can measure the *age* of workers, with Italy slightly older than UK, while in both countries migrants are relatively younger.

About immigrant-specific characteristics, we can measure *seniority*, the years of residence in the hosting country, with the migrant population in Italy with a lower mean value.

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<sup>1</sup> In order to make comparable two educational systems that are different, for UK we group together the Lower secondary education and the Short-cycle tertiary education (the latter inexistent in Italy). Therefore, the scale of education is: 0 No formal education; 1 Primary education; 2 Lower secondary education + Short-cycle tertiary education; 3 Upper secondary education; 4 Bachelor, 5 Master, 6 Doctorate.



Thanks to the NUTS codification at 2 digits, we can build three main variables at the regional-level. The number of observations is not for the whole period, but by single year (since they are constant over time), so that we count 20 regions in Italy and 12 in UK. Italy respect to UK has on average, over the whole population, higher regional unemployment rate (5.6% vs 4.5%) and self-employment rate (23.7% vs 13.2%). The average regional rate of migrant population is lower in Italy than in UK (8.7% vs 9.4%).

Finally, we take into consideration economic cycle by designing three dummy variables on year: precrisis (2005-2007), crisis (2008-2010) and postcrisis (2011-2016).

### ***Empirical model***

Here we present a binomial probit model, with the propensity of being a self-employed as the dependent variable, and as dependent variables both individual and regional variables, while the unit of observation stays the individual. Since we use also regional data, we cluster errors at the region level.

In order to test our hypotheses, we design two different specifications.

The first one includes the whole working population, both natives and immigrants, in order to properly consider the effect of being a foreign on the propensity towards self-employment, setting the equation

$$\Pr(\text{self-employed}_{i,r} = 1 \mid \beta_i, \gamma_i, \delta_r) = \alpha + \beta \text{migrant}_i + \gamma \text{individual}_i + \delta \text{regional}_r + \epsilon \text{timedummies}_{t+} \epsilon_i \quad (1)$$

where *self-employed* is the dependent variable of the model, which assumes the value 1 if the worker *i* in the region *r* is self-employed and the propensity, *migrant<sub>i</sub>* is a dummy variable taking value 1 if the individual *i* is a migrant. We include also *individual<sub>i</sub>* the set of independent variables comprehending individual characteristics (sex, education, age, marital status,

whether working the manufacturing sector or not), and *regional<sub>r</sub>* the set of regional variables (unemployment, self-employment rate, and the percentage of migrant population) measured for the region *r* in which the individual lives. Finally, we use *timedummies<sub>i</sub>*, consisting in dummy variables capturing the macroeconomic cycle effects (the dummy *crisis* taking value 1 in years 2008-2011 and *post-crisis*, taking value 1 in years 2012-2016.)

The second specification considers only migrant population (so only in case *migrant=1*). Because of this, we do not include *migrant<sub>i</sub>*, as an independent variable, but we can take into consideration the migrant-specific characteristic of *seniority<sub>i</sub>*, and the regional percentage of migrant population *foreignpopulation<sub>r</sub>*, while the rest of the equation remains the same.

$$\Pr(\text{self-employed}_{i,r,migrant=1} = 1 \mid \beta_i, \gamma_i, \delta_r) = \alpha + \beta \text{seniority}_i + \gamma \text{individual}_i \quad (2) \\ + \delta \text{regional}_r + \epsilon \text{timedummies}_t + \zeta \text{sectordummies}_s + \epsilon_i$$

## Results and discussion

In **table 2** we present the results of the regression based on the first equation for the whole working population (columns 1-2) in order to measure the effect of the *migrant* dummy as dependent variable, and on the second equation only for the migrant population (columns 3-4) in order to take into account migrant-specific variables (*seniority* and *foreign population*).

Dependent variable: Self-employed (1=yes)				
	1		2	
	Italy	UK	Italy	UK
	Whole population		Migrant population	
<i>Individual-level</i>				
Migrant (1=yes)	-0.324***	0.066***		
	-0.03	-0.02		
Male (1=yes)	0.438***	0.489***	0.433***	0.470***
	-0.03	-0.02	-0.03	-0.02
Married (1=yes)	0.011	0.078***	0.058***	0.142**
	-0.01	-0.01	-0.01	-0.06
Working in manufacturing (1=yes)	-0.555***	-0.599***	-0.772***	-0.740***
	-0.05	-0.03	-0.05	-0.1
Education level	0.018**	-0.030***	0.037*	-0.076***
	-0.01	-0.01	-0.02	-0.01
Age	0.011***	0.017***	-0.001	0.011***
	0	0	0	0
Seniority			0.019***	0.006*
			0	0
<i>Regional level</i>				
Unemployment rate (%)	-0.017***	0.003	0.01	-0.01
	0	0	-0.01	-0.01
Self-employment rate (%)	0.031***	0.046***	0.046***	0.007
	0	0	-0.01	-0.01
Foreign population (%)			-0.005	0.007***
			-0.01	0
<i>Time dummies</i>				
Crisis (2008-2010)	0.097***	0.049***	-0.023	0.026
	-0.02	-0.01	-0.04	-0.03
Post-crisis (2011-2016)	0.124***	0.045***	-0.084	0.089***
	-0.02	-0.01	-0.06	-0.03
_cons	-2.155***	-2.705***	-2.643***	-1.858***
	-0.13	-0.03	-0.18	-0.2
N	2609507	525224	2640207	541785
AUC (Area under ROC curve)	0.6466	0.6859	0.6969	0.6917

Table 2. Probit results

Note: Standard errors clustered by regions in parentheses. Asterisks denote significance levels: \*=sig. 10%; \*\*=sig. 5%; \*\*\*=sig. 1%. The main criteria used for measuring the goodness of fit is the area under the ROC curve (AUC) using ROC curve analysis. The larger the value of AUC, the better the model used in data classification and prediction.

What we see from **columns 1-2** is that being an immigrant has a significant different impact on the propensity of self-employment: negative for Italy and positive for the UK. We

have to consider that it reflects the difference between the propensity between natives and immigrants towards self-employment, which means that especially for Italy the higher value of the coefficient (-0.324) is probably driven by the higher propensity of being self-employed for Italians.

Overall, this first table suggest that there are indeed differences in propensity across countries.

In **columns 3-4** we consider only the immigrant working population (as in second equation) in order to keep in consideration also immigrant-specific characteristics. We see positive sign for *sex*, *seniority* and *married*: within the immigrant labor force male, married with a longer permanence in the hosting country have more propensity towards self-employment, similarly in both countries. Variable *age* is not significant for Italy and significantly positive for UK. A variable that requires particular attention is *education*, it is significantly positive for Italy, but significantly negative for UK, for both equations. This result may appear contradictory if considering individual characteristic alone, but if we take a look at the distribution of level of education across employees and self-employed (see **appendix**) we observe that migrant self-employed in UK present the same rates of education of the employees, meaning that they are not less educated. The main difference is that in Italy there is little or no options for migrants with a high level of education to find an adequate job in the labor market, (see **appendix**) by the fact that the percentage of migrants in the occupation of manager is practically zero: this suggests that well educated migrants have to create their own 'good jobs' by opening their own shops. In UK, instead, 10% of employed migrants are employed as manager, suggesting that is easier for them find good jobs in the labor market. This is a very important aspect to take into consideration the interaction between individual characteristics and the economic environment.

We see differences on the regional variables, too. Considering only the migrant population, *unemployment* is not significant neither for Italy nor for UK. This may suggest an indication against the disadvantage theory, since propensity towards self-employment is higher for those immigrants living in regions with low unemployment, so that self-employment does not appear as an exit-strategy from not having a job (as considered by (Miao 2020)). Instead, *self-employment rate* is positively significant for Italy, implying that in regions with higher level of overall self-employment, there is a drag effect, and not a saturation effect. Regarding the percentage of *foreign population*, it is positive for UK: although to explore more deeply this cause focusing on specific ethnic communities, this may indicate some sort of enclave markets.

## **Conclusions**

In this paper, we analyzed individual and socio-economic determinants of migrant entrepreneurship, with a comparative approach. EU countries present different levels of migrant entrepreneurship relative to natives': we explored it through a direct comparison of two countries with very different welfare systems: Italy for Mediterranean countries, and UK for Anglo-Saxon countries.

We formulated four hypotheses building on the previous literature and tested them empirically.

The **first hypothesis** is that migrants' entrepreneurial propensity relative to natives is shaped by the environmental conditions of the host country. We do find support for this hypothesis, which is a novelty with respect to the classical literature, that tended to consider migrant entrepreneurship as a similar in all the contexts. Of all the possible causes of such differences, we examine the effects of migrants' individual characteristics and environment conditions.

Our **second hypothesis** considers that migrant entrepreneurs present similar individual characteristics across countries. We develop a probit model, which presents support for this hypothesis: although different in the composition of the region of origin, migrant entrepreneurs are mostly male and married, more educated and with a higher seniority than migrants' employees. These data suggest the migrant entrepreneurs have significant endowment of social capital, knowledge, and contacts in the hosting country, so that the choice of becoming entrepreneurs does not look like the necessity to escape from a disadvantage position, but rather a valid option to increase their working condition and social status. A particular aspect to take into consideration is how these individual characteristics interact with the socio-economic environment, as suggested by the apparently contradictory effect of the level of education on the propensity toward self-employment, which is positive for Italy but negative for UK. Although with similar characteristics, the choice to become self-employed is shaped by the opportunity structure: in UK it is possible for a migrant with high level of education to find a proper job in the top occupations, while in Italy is almost impossible.

We considered this through regional variables. About our **hypothesis 3a**, we do not observe a 'push effect' expelling migrants from the regular labor market into self-employment as expected by the 'disadvantage theory'; in particular we find no relationship between local unemployment rate and migrant entrepreneurship, although for we find significant effect of the regional density of migrant population for UK, but not for Italy. This may suggest a tendency of 'enclave markets', although further analysis on the composition of region of origin is needed.

With the alternative **hypothesis 3b** we consider instead a positive 'pull effect' of the economic environment; in particular we observe for Italy a significant effect of the regional

entrepreneurship rate: the more the percentage of native self-employment in a region, the higher the propensity of migrant workers towards self-employment.

From a policy perspective, our findings suggest that measures directly targeted at migrant entrepreneurs might not be necessarily effective, given the heterogeneous characteristics of the host environments in which most migrants operate. For these and other reasons, the implementation of one-size-fits all policies for migrant entrepreneurship can generate distortions, limiting the benefits associated with the diffusion of an entrepreneurial culture among migrants. Therefore, policy makers should design policies that consistent with the characteristics of the economic environment, reducing economic, social and institutional barriers that can limit the successful development of entrepreneurial activities among migrants.

This paper contributes to the study in this field also by empirically testing the relevance of environment conditions in explaining entrepreneurship propensity with a methodology adopted very little by previous literature. In fact, our results highlight not only that local conditions do matter, but also that they may have different effects in different countries. Because of it, we stress the importance to further develop the study on immigrant entrepreneurship exploiting regional analysis, while keeping also into consideration differences between countries through a comparative approach.

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## Appendix: education, occupation and wage distribution

A peculiar issue we observed concerns the difference between Italy and UK regarding education as a determinant of migrant entrepreneurship. At a first glance of the econometric results, it may appear that in UK are the less educated migrants those who present more propensity toward self-employment. In order to consider this fact, we can look into education distribution. We do that in **table 3** (we present data only from 2016 since it is rather constant over time): migrant labor force is more educated in the UK than in Italy (short-cycle tertiary education level does not exist in Italy). In both countries self-employed are on average more educated than employees.

Education	employees		self-employed	
	ITA	UK	ITA	UK
No formal educ	3.9%	2.6%	4.7%	1.9%
Primary educ	5.7%	1.5%	6.6%	0.9%
Lower secondary educ	42.2%	39.5%	38.5%	37.2%
Upper secondary educ	38.7%	36.0%	34.9%	36.9%
Bachelor	9.5%	19.2%	15.0%	22.4%
Master	0.1%	1.2%	0.3%	0.8%
Doctorate	0.0%	0.0%	0.0%	0.0%

Table 3. Education level. LFS data 2016.

An issue strongly related with education is the occupation and consequently the wage. From the LFS dataset we can observe the occupation structure, and the decile wage distribution, although only for employees. Overall, UK is way more equalitarian than Italy. The structure of dependent employment is measured in 2016 with ISCO08 codification (**Table 4**), which is already a hierarchical ranking of occupations: from high-skilled occupations (managers) to low-skilled ones (elementary occupations). In

UK, 10.2% of migrants are occupied as managers, against the 0.7% in Italy. 48.5% of migrants in UK are in the top-4 occupations, against 14.1% in Italy.

occupation (ISCO08)	employees		self-employed	
	ITA	UK	ITA	UK
1. Managers	0.70%	10.20%	21.30%	25.20%
2. Professionals	1.90%	15.40%	7.50%	15.80%
3. Technicians	6.30%	12.20%	10.20%	10.00%
4. Clerical support workers	5.20%	10.70%	1.00%	2.30%
5. Service and sales workers	13.50%	20.40%	6.30%	8.70%
6. Skilled agricultural, forestry	2.00%	0.20%	1.60%	0.70%
7. Craft and related trades workers	24.90%	4.30%	28.20%	15.20%
8. Plant and machine operators	13.90%	8.70%	3.40%	15.10%
9. Elementary occupations	31.40%	17.60%	20.50%	6.90%
TOTAL	100%	100%	100%	100%

Table 4. Migrant employees labor structure. LFS data, 2016

This is reflected also in the wage distribution, presented on a decile distribution (**Figure 3**). First, we line up the whole employee's population (both natives and migrants) by wage, and then divide it in 10 equal segments, so that by construction we have the blue line of 10%. Second, we compare the blue line of 10% with the orange line which is the wage distribution of migrants: therefore, an orange line close to the blue one means that the distribution of wages for migrants is like natives. This is the case for UK, but not for Italy: the lowest earning decile comprehends 20% of migrant employee's workforce, so the double of the baseline distribution, while only 2% of migrant employees are in the highest earning decile. Overall, the left-skewed distribution of migrants' wage in Italy, along with the table of occupation composition, means that migrants occupy mainly low-skilled and low-wage jobs.

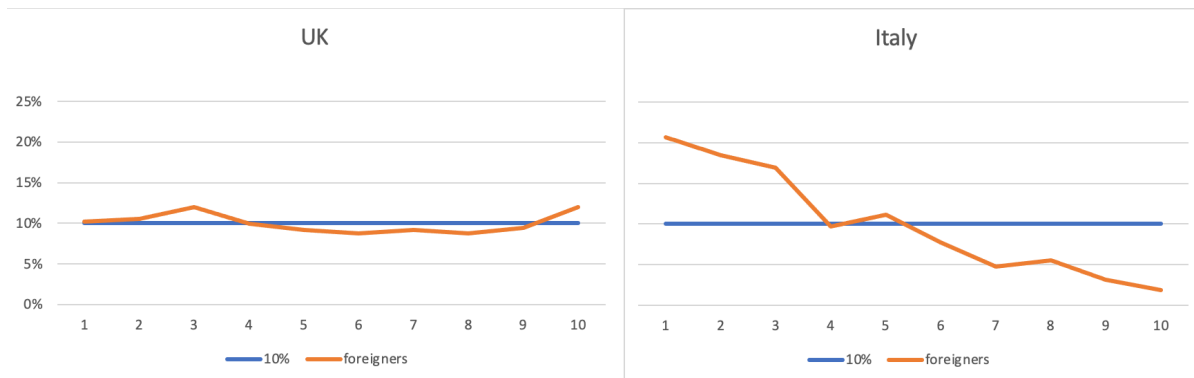


Figure 3. Wage decile distribution. LFS data, 2016

As previously discussed, the main difference between Italy and UK is that there are few or no opportunities for immigrants with a high level of education in Italy to find a suitable job on the labor market, as showed by the fact that almost no immigrants hold managerial positions, which suggests that well-educated immigrants must create their own ‘good jobs’. Instead, 10% of immigrants who are working in the UK are managers, indicating that it may be simpler for them to get rewarding positions there.