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Is Self-Employment for Migrants? Evidence from Italy*

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Abstract

Using a unique Italian dataset covering the period from 2004 to 2020, we assess the immigrant-native gap in entrepreneurship and investigate potential channels behind it. The data allow us to account for many observable individual, household and migration-related characteristics, as well as for risk aversion, which is typically not observed but is crucial for self-employment decision. In addition, we are also able to incorporate firm-specific factors into the analysis, such as firm size and firm age. Unlike most existing studies, we find that immigrants in Italy are *less* likely to be self-employed. This negative gap is confirmed when using propensity score matching methodology. The negative gap is not significant for mixed immigrant-native couples, suggesting that intermarriage may constitute an important additional assimilation channel. Moreover, we find some evidence that the negative gap is largely driven by self-employed with employees and is present only in older firms.

Keywords: Immigrants, self-employment, intermarriage, propensity score matching
JEL Classification: F22, J21, J15

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1. Introduction

Immigrants' performance in the labor market of the receiving country and their integration are of major importance and highly relevant for policy. Recent epidemiological and political developments, along with the war in Ukraine and the influx of refugees, have spurred increased attention and interest in these issues. The labor market performance of immigrants and ethnic minorities, as well as their assimilation in terms of employment and earnings, has been analyzed in numerous studies (see, among others, seminal contributions by Chiswick, 1978 and Borjas, 1987; and Kahanec et al., 2011 for an overview of immigrants' and ethnic minorities' labor market outcomes in EU countries). A specific strand of this literature focuses on immigrant entrepreneurship (see, Fairlie and Lofstom, 2015, and Lofstom and Wang, 2022 for surveys).

Self-employment, is viewed by policymakers as an important route out of poverty and unemployment, particularly for migrants who are often perceived as more entrepreneurial and risk-tolerant. Self-employed immigrants contribute substantially to the host country's economy by creating jobs, bringing expertise and innovation, transferring knowledge, and fostering economic and social networks between their countries of origin and destination. Individuals may be "pulled" into self-employment by the prospect of higher income compared to paid employment or by favorable attributes such as greater freedom, flexibility, and self-realization. Conversely, individuals may be "pushed" into self-employment due to their disadvantaged position in the labor market, such as unemployed individuals who cannot find a job in the wage sector, or recent immigrants facing language barriers, inadequate qualifications, or discrimination (see, among others, Clark and Drinkwater, 1998; Constant and Zimmermann, 2006; Orrenius and Zavodny, 2009). Indeed, migrants are often employed in risky and marginal jobs, including temporary and informal employment (Orrenius and Zavodny, 2009). [1]

Immigrants and natives are likely to have different propensities for self-employment due to various factors, including differences in labor market prospects, savings patterns, wealth accumulation, and access to financial resources and credit. Risk attitudes are another crucial determinant, yet they are usually not included into analyses due to the lack of data on risk preferences. Cultural differences also play a significant role. Finally, selection into self-employment and migrants' selection are relevant.

[1] In development economics literature, self-employment is often linked to the presence of an informal sector. This literature suggests that self-employment, particularly in small firms, frequently serves as a proxy for informality, and different types of self-employment are included in definitions of informal jobs (see, for example, La Porta and Shleifer, 2008, Lehmann and Zaiceva, 2015 and the references therein).

Empirical studies for developed countries usually report a higher rate of business ownership and self-employment among immigrants compared to natives, although with considerable heterogeneity across different ethnic and immigrant groups (see, for example, Borjas, 1986; Fairlie et al., 2012; Lofstrom and Wang, 2022; for the US; Clark and Drinkwater, 1998, 2000, 2010; Clark et al., 2017 for the UK; Le, 2000 for Australia; Li, 2001 for Canada; Schuetze and Antecol, 2007 for Australia, Canada, and the US; and reviews by Fairlie and Lofstrom, 2015 and Lofstrom and Wang, 2022). On the other hand, Constant and Zimmermann (2006) report similar self-employment propensities among immigrants and natives in Germany, while Lofstrom and Wang (2009) study causes of the low self-employment rate among Mexican-Americans and Georgarakos and Tatsiramos (2009a) find a lower survival probability in entrepreneurship for Mexicans and other Hispanic immigrants in the US.

This paper contributes to this literature and examines the immigrant-native gap in self-employment using a comprehensive dataset for Italy spanning 2004–2020 and exploring the potential drivers behind this gap. To this aim, we utilize the Bank of Italy Survey of Household Income and Wealth (SHIW), merging it with additional aggregate-level data from the Italian National Institute of Statistics (ISTAT) and the Study and Research Centre IDOS. Our dataset allows us to account for a wide range of observable individual socio-economic and demographic characteristics, as well as household and migration-related factors. Additionally, we incorporate firm-specific variables such as firm size and firm age. To mitigate potential bias from unobserved heterogeneity and selection, we control for a rich set of individual, household and firm characteristics as well as for risk attitudes, which are usually not available to researchers yet crucial for both migration and self-employment decisions. Furthermore, we apply propensity score matching methodology, matching on a rich set of observable characteristics to strengthen the robustness of our findings.

To shed light on the potential channels behind the immigrant-native self-employment gap, we analyze heterogeneity in self-employment choices by gender and human capital, as well as by important migrant characteristics such as region of origin, migration motives, and intermarriage patterns between immigrants and natives. Moreover, while recent literature emphasizes differentiating between various types of self-employment, particularly between solo self-employed and self-employed with employees, few studies make this distinction due to data limitations. Our data enable us to differentiate between these types as well as to include firm age. Finally, to the best of our knowledge, this is the first paper on this topic for Italy, contributing to the limited evidence on immigrants' integration into the Italian labor market.

Italy is particularly suited for such analysis due to its high levels of immigration in recent decades and a remarkably high self-employment rate. The country has seen one of the fastest increases

in immigration, spurred by significant inflows of immigrants following EU eastern enlargements and recent large refugee inflows. The share of foreign-born individuals amounted to 10.4% in 2022 (OECD, 2023), making it comparable to traditional immigrant-receiving countries. In terms of entrepreneurship, Italy has one of the highest self-employment rates among OECD countries: 21.5% in 2022, compared to 6.6% in the US, 7.2% in Canada, 8.7% in Germany, and 14.5% in the EU27 (OECD, 2024).

Our main results indicate that, contrary to the majority of existing studies, there is a significant *negative* immigrant-native gap in self-employment in Italy. There is also evidence of assimilation, as self-employment proclivity increases with years since migration. The gap is larger for men and is present for both low-skilled and high-skilled individuals, although more robust for the low-skilled. This suggests that both groups of migrants may face barriers to starting and running a business, such as difficulties accessing financial capital, information, networks, and dealing with bureaucracy. The gap is also larger for economic migrants (i.e., those who migrate for job-related reasons) and for migrants from Sub-Saharan Africa, while it is insignificant for migrants from Asia and Oceania, confirming a higher self-employment proclivity among Asian migrants in Italy.

Overall, our paper contributes to the literature on immigrant entrepreneurship by showing that the previously established positive immigrant-native gap and immigrants' higher propensity to start their own businesses may not hold in other contexts. Our findings contribute also to the literature by highlighting the importance of distinguishing between different types of immigrants, immigrant households and businesses. In particular, while previous research has shown that intermarriage has an asymmetric effect on business start-up decisions and entrepreneurial survival, decreasing the former and increasing the latter (Georgarakos and Tatsiramos, 2009b), we demonstrate that being married to a native may indeed serve as an additional assimilation channel, as the negative gap is absent for mixed immigrant-native couples. Immigrants married to natives may have easier access to local networks and social capital, information about local labor market and financial resources; marriage to a native may also provide access to a family business and help in accumulating country-specific human capital, including learning the local language.

Equally important, our findings suggest that immigrant entrepreneurs who create new jobs, a particularly relevant group for policy targeting, may face additional challenges in doing so. We find some evidence that the negative gap is largely driven by self-employed individuals with employees, whereas for solo self-employed individuals, the gap is insignificant. Additionally, the negative gap is entirely attributable to older firms, while in newly established businesses the gap is even positive. This aligns with immigration being a relatively recent phenomenon in Italy and suggests that recent immigrants establish their own businesses as an alternative to wage employment, being not less

entrepreneurial than natives. However, it also seems to indicate lower success and survival rates for their businesses over time.

The rest of the paper is organized as follows. The next section provides an overview of the determinants of self-employment decisions, with a particular focus on immigrant entrepreneurship. Section 3 provides background information on immigration and entrepreneurship in Italy. Section 4 discusses the data and empirical methodology, while Section 5 presents the main results. Section 6 investigates heterogeneity and potential drivers, and Section 7 explores additional factors that may affect the gap. Robustness checks are shown in Section 8. Finally, Section 8 concludes and presents implications for policy.

2. Factors Affecting Immigrants' Self-Employment Decision

Numerous factors affecting self-employment decisions have been documented in the literature. Lofstrom and Wang (2022) categorize these into micro-economic, macro-economic, and institutional and social factors. Studies analyzing individual micro-economic determinants of self-employment are based on a theoretical framework where individuals compare the expected income from wage employment to that from self-employment. Existing empirical evidence suggests that human capital (education, experience, language proficiency), financial capital (wealth, access to credit), and social capital (family structure, intergenerational links, and ethnic enclaves) are important determinants (see reviews in Lofstrom and Wang, 2022, and Fairlie and Lofstrom, 2015).

Regarding human capital, the relationship with education is generally positive, though mixed evidence exists (see Lofstrom and Wang, 2022, and Fairlie and Lofstrom, 2015 and the references therein). In the US, for example, the lower educational attainment of Mexican Americans is partly responsible for their lower business ownership rates, while higher educational levels among Asians translate into higher business ownership within this group. Limited English language proficiency may hinder communication with potential customers or suppliers, thus lowering the probability of self-employment. Conversely, limited language skills can also make it more difficult to find a job in the wage sector, thereby increasing the likelihood of self-employment. Kahn et al. (2017) finds a U-shaped relationship between ability and entrepreneurship (more precisely, in non-science entrepreneurship, while for science entrepreneurship the relationship is increasing). This implies that low skilled immigrants are more likely to self-employ because of barriers to waged employment, and high-skilled immigrants are more likely to self-employ because of their technical skills and ability to innovate. Additionally, Ulceluse (2020) investigates the relationship between overeducation and self-

employment, and finds that the likelihood of being overeducated decreases for self-employed immigrants, suggesting that immigrants may choose self-employment in order to minimize overeducation. Finally, previous self-employment experience in the home country also matters and has been found to be a significant determinant of self-employment in the destination country (Akee et al., 2013).

Personal wealth, access to financial capital, and liquidity constraints are crucial factors affecting the probability of becoming an entrepreneur. Immigrants and ethnic minorities generally have lower wealth, fewer financial resources, and more difficulties accessing external financial capital (see, for example, Cobb-Clark and Hildebrand, 2006; Fairlie et al., 2021; Bertocchi et al., 2023; and reviews in Lofstrom and Wang, 2022, and Fairlie and Lofstrom, 2015).

Length of stay in the host country is also important. Borjas (1986) documents a strong positive impact of assimilation, measured by years since migration, on the likelihood of self-employment. He argues that, since self-employment requires financial capital, newly arrived migrants often lack sufficient wealth to start a business. Borjas (1986) also shows that cohort effects matter, with self-employment rates being higher among recent immigrant cohorts compared to earlier ones, which he attributes to worsening opportunities in the salaried sector for immigrants.

Moreover, migrant men and women may have different propensities to become entrepreneurs (see, for example, Colombelli et al., 2021). Additionally, immigrant-owned businesses are often concentrated in specific sectors, such as construction, trade, or professional services (Fairlie and Lofstrom, 2015). Migrants are also likely to move into self-employment from unemployment or inactivity (Constant and Zimmermann, 2014; Georgarakos and Tatsiramos, 2009a), and self-employment often serves as a stepping-stone to salaried employment (see, for example, Georgarakos and Tatsiramos, 2009b).

Migrant and ethnic networks also play a significant role in immigrants' self-employment decisions. Migrant entrepreneurs often provide jobs for their co-nationals and have a comparative advantage in meeting the demand for ethnic goods among their communities (Borjas, 1986; Borjas and Bronars, 1989).[2] They also assist with access to financial resources and credit. Living in an ethnic enclave can further increase self-employment (see Fairlie and Lofstrom, 2015; Lofstrom and Wang, 2022, and the references therein). Additionally, being married to a native can influence self-employment through networks. Georgarakos and Tatsiramos (2009b) show that intermarriage with a

[2] Borjas and Bronars (1989) develop a model of consumer discrimination and test its implications using empirical data from the US. They demonstrate that ethnic differences in self-employment and income can arise in markets characterized by consumer discrimination and incomplete information about both the price of goods and the race of the seller. Their model also suggests important implications regarding selection into self-employment, indicating that able capable Blacks are less likely to self-select into self-employment than able Whites.

native significantly affects both the likelihood of starting a business and its survival, albeit in opposite ways. Intermarriage may provide easier access to local networks, which could help with transitions into paid employment and reduce the chances of starting a business. Conversely, once a business is established, these networks may enhance its survival.

Risk attitudes are another important determinant of self-employment. Caliendo et al. (2009) find that individuals who are less risk-averse are more likely to start a business, particularly when transitioning from regular employment. However, for those coming from unemployment or inactivity, risk attitudes do not significantly impact the likelihood of self-employment. Caliendo et al. (2010) also identify an inverse U-shaped relationship between risk attitudes and entrepreneurial survival, with those having moderate risk attitudes surviving longer than those with very low or high risk levels. These studies do not consider migrants specifically, though. Generally, migrants are found to be more willing to take risks (Orrenius and Zavodny, 2009; Dohmen et al., 2011; Akguc et al., 2016), although Bonin et al. (2009) find that first-generation migrants in Germany have lower risk attitudes compared to natives, with attitudes equalizing in the second generation. A recent study by Deole and Rieger (2022) shows that the gap in risk preferences between immigrants and natives has widened for recent immigration cohorts in Germany. They find that economic migrants intending to stay temporarily have risk preferences similar to natives, while other immigrants are more risk-averse than natives.

Previous literature has emphasized substantial heterogeneity in self-employment propensity across different ethnicities and countries of origin, suggesting that cultural factors play a significant role (see Borjas, 1986; Fairlie and Meyer, 1996; Clark and Drinkwater, 1998; Fairlie and Lofstrom, 2015; Lofstrom and Wang, 2022 and the references therein). Migration motives also matter for self-employment decisions. Those more likely to earn higher salaries in paid employment, such as study and economic migrants, are less likely to engage in self-employment compared to family and asylum migrants who are likely to earn lower wages (Kone et al., 2021). Legal status in the destination country is another factor, as illegal migrants face challenges in obtaining formal employment contracts and accessing financial resources crucial for starting and running a business (see Fairlie and Lofstrom, 2015; Lofstrom and Wang, 2022 and the references therein).

Finally, recent literature indicates that differentiating between types of self-employment is also crucial. The distinction between self-employed individuals without employees (solo self-employed) and those with employees can reveal different impacts and gaps for different groups (Lofstrom and Wang, 2022; Boeri et al., 2020). Earlier studies often did not make this distinction due to data limitations. Boeri et al. (2020) use data from the UK, US, and Italy and find that solo self-employed individuals have lower earnings and work fewer hours per week compared to those with employees, and also suggest that solo self-employed are more likely to choose this option out of

necessity, while self-employed with employees are likely pulled into it. Lofstrom and Wang (2022), reviewing results from various studies, note that while some immigrant-owned businesses hire new employees and create jobs, many of these jobs are filled by other immigrants; while other studies find that immigrant-owned firms hire a similar number or fewer workers compared to native firms. Green et al. (2023) use immigrant arrival records and administrative data from Canada and find that immigrants are not more entrepreneurial than natives in terms of opening incorporated firms with employees. Higher immigrant firm ownership rates are mainly due to non-incorporated firms, which do not create jobs but often serve as a last resort.

To sum up, numerous factors affect immigrants' self-employment decisions. Besides, in order to accurately analyze the immigrant-native gap, it is essential to investigate potential heterogeneity and distinguish between different types of self-employment, as the gap and the impact of these factors may vary across different groups.

3. Immigration and Self-Employment in Italy

Italy represents an excellent case for analyzing immigrant entrepreneurship due to its relatively high immigration rates, especially in recent years, and its notably high self-employment rate.

Italy has transformed from an emigration country into an immigration country, with the foreign-born population increasing significantly over the past few decades. In 2022, the share of foreign-born residents amounted to 10.4% (OECD, 2023), approaching levels seen in traditional immigrant-receiving countries such as the US (14%), the UK (14.3%), and Germany (16.8%).[3] Women make up 53% of the immigrant population in Italy, with Albania, Romania, and Morocco being the primary countries of origin (ibid). Immigrants are primarily concentrated in the North-West, particularly in Lombardy, followed by the Centre and the North-East regions (Istat, 2024).

In 2021, the immigration inflow to Italy consisted mainly of individuals arriving for family-related reasons (50%), followed by labor migrants (20%), those benefiting from free-movement agreements (19%), and humanitarian migrants (9%) (OECD, 2023). By 2022, the foreign-born population in Italy had a higher employment rate than the native-born population (62.4% vs. 59.8%),

[3] It is important to note that another definition of immigrant is based on citizenship status, and in Italy the *Jus Sanguinis* law applies. This means that individuals born abroad but who hold Italian citizenship are classified as immigrants in our analysis. However, the decision to acquire citizenship is influenced by various factors, which introduces an additional source of endogeneity into the analysis. The possibility of dual citizenship further complicates the analysis. Additionally, using a definition based on country of birth ensures that our findings are comparable to those from previous studies. Nevertheless, we also estimated the models using citizenship status instead of foreign-born status, and the results were nearly identical.

but also a higher unemployment rate (10.8% vs. 7.7%). This resulted in a higher participation rate among immigrants compared to natives (69.9% vs. 64.8%) (OECD, 2023).

Mariani et al. (2020) show that immigrants in Italy are primarily employed in low-skilled sectors such as agriculture, construction, accommodation and food services, and other services (including household services).[4] Notably, 60% of immigrants work in household services, which constitutes about one-third of the total labor force.[5] The authors suggest that the concentration of immigrants in low-skilled jobs reflects their human capital, including linguistic barriers, and also point to evidence of over-education among migrants (see also Dell'Aringa and Pagani, 2011; Fullin and Reyneri, 2011; Fellini et al., 2018). The authors conclude that there is no evidence of wage discrimination against immigrants in Italy, as wages for second-generation migrants converge with those of natives; however, first-generation migrants appear to face relatively greater disadvantages. Additionally, they argue that there seems to be no substantial impact on natives' employment, wages, or the productive structure (see also Gavosto et al., 1999; Venturini and Villosio, 2006; Staffolani and Valentini, 2010; De Arcangelis et al., 2015; Etzo et al., 2017).[6]

Bertocchi et al. (2023) analyze differences in financial behavior between natives and immigrants in Italy and find that immigrants possess substantially less wealth than natives, as the immigrant-native wealth gap is negative and significant across the entire wealth distribution. Additionally, immigrant status is negatively associated with the likelihood of holding risky assets, housing, mortgages, businesses, and valuables, and it increases the likelihood of financial fragility.

An earlier study by Fullin and Reyneri (2011), using the 2005 Italian LFS data, shows that immigrants in Italy generally do not face a higher risk of unemployment but are instead penalized in terms of the socio-professional status of their jobs, often working in low-quality occupations. Additionally, the authors argue that because many immigrant workers have been employed illegally, their job quality seldom improves even after they gain access to legal employment through regularization, including for highly educated workers. Moreover, unlike in other countries, this segregation of immigrants into low-ranking occupations in Italy is not due to their education; in fact,

[4] The authors provide a descriptive analysis of immigration trends and impacts in Italy, using a definition based on citizenship.

[5] Few studies have analyzed the immigrant-native gaps in labor market outcomes in Italy, primarily due to data-related challenges (for a review of the available literature, see Mariani et al., 2020). Some researchers have examined inequalities and the integration of immigrants by analyzing wages, income distribution, poverty, and deprivation, finding evidence of the disadvantaged position of immigrants (Ceccarelli et al., 2014; D'Agostino et al., 2016; Berti et al., 2014).

[6] Interestingly, immigration has been found to significantly affect Italian women's labor supply and fertility. For instance, an increase in immigrant women working in household services has increased the hours worked by native women (Barone and Mocetti, 2011). In areas with a higher supply of immigrant services, women over 55 with elderly dependents at home have delayed their retirement (Peri et al., 2015). Moreover, Mariani and Rosati (2022) show that an increase in immigrant female workers in Italy, many of whom specialize in childcare, has led to an increase in native births.

the penalty is amplified when educational attainment is considered. The authors conclude that the demand for low-skilled labor and the large underground economy are significant factors affecting immigrants' integration into the Italian labor market. According to the authors, immigrants in Italy have relatively easy access to unskilled and semi-skilled manual jobs but face significant challenges in obtaining non-manual jobs and, particularly relevant to our paper, in entering self-employment. Indeed, as the authors suggest, *"In other countries, immigrants have managed to avoid the barriers to their occupational upgrading by rapidly entering self-employment, but this does not appear to be the case in Italy, because only a long stay in the country fosters access to the petty bourgeoisie. The reason for that may be that self-employment is still very widespread in Italy and has a good social status, so that formal and informal barriers slow down the entry of immigrants, who can fill vacancies only in the most burdensome independent activities (from catering to construction)*" (pp. 143-144).

Regarding entrepreneurship, Italy is characterized by one of the highest self-employment rates among OECD countries: 21.5% in 2022, compared to 6.6% in the US, 7.2% in Canada, 8.7% in Germany, and 14.5% in the EU27 (OECD, 2024). Additionally, the self-employment rate for women in Italy is 16.1%, while for men it reaches 25.5% (OECD, 2024).

According to Eurostat (2024), the self-employment rate in Italy has been declining since the mid-1990s, dropping from 24% in 1995 to 19.3% in 2023, with both male and female self-employment showing a decreasing trend (see Figure 1). Figure 2 compares the trends in entrepreneurship between immigrants and natives, revealing that self-employment is substantially higher among natives.

Regarding the distribution of self-employed individuals across economic activities in Italy, Eurostat (2024) reports that in 2023, 20% worked in wholesale and retail trade and motor vehicle repair activities, followed by 18% in professional, scientific, and technical activities, and 11% in construction. The majority of the self-employed have upper-secondary and post-secondary non-tertiary education, with 79.5% of this group having vocational education (ibid).

The OECD (2018) report identifies key barriers to business creation in Italy, including a fear of failure and a lack of skills necessary to start a business. Credit constraints are also a significant barrier, particularly for groups such as women, immigrants, and young people, who may face greater challenges in obtaining credit.[7] Regarding immigrant entrepreneurship, the OECD (2018) suggests that with increasing inflows of immigrants and refugees, this is rapidly becoming a significant policy issue in Italy. There has been a notable rise in the number of immigrant-owned businesses, which

[7] Indeed, Alesina et al. (2013) show that in Italy, women pay more for credit than men, even after controlling for various characteristics of the business type, borrower, and credit market structure. This differential is not driven by women being riskier borrowers or using different types of banks.

exhibited a growth rate of 3.4% in 2017, compared to 0.75% for all Italian businesses, representing 9.6% of all firms registered in Italy. Additionally, immigrant entrepreneurs are generally younger than their Italian counterparts, with around one-quarter being women. The primary countries of origin for these entrepreneurs are Morocco and China. Immigrant entrepreneurs are predominantly located in the North and Centre regions of Italy, such as Lombardy, Lazio, Tuscany, and also in Campania. They are traditionally concentrated in sectors like trade, distribution, and construction, but there has been significant growth in services, particularly in hotels and restaurants and business services. There is also a strong immigrant presence in the fashion industry (especially among female entrepreneurs) and in handcrafts. The main barriers to ethnic entrepreneurship include liquidity and credit constraints, difficulties in navigating start-up procedures and legal requirements, and challenges in building networks and partnerships (OECD, 2018).

Boeri et al. (2020) show that the overall decline in self-employment in many OECD countries is primarily due to a decrease in self-employment with employees, while self-employment without employees has increased in many countries, including Italy. In Italy, the share of solo self-employed individuals among all self-employed rose from 47.06% in 2000 to 72.34% in 2017. They also demonstrate that these two groups of self-employed sort into different occupations: the main occupations for the self-employed with employees are production or retail managers, whereas in Italy, solo self-employed individuals are often shopkeepers, lawyers, and sales agents. Moreover, they find that individuals are more likely to enter solo self-employment from unemployment rather than from traditional employment, and that solo self-employed tend to have lower earnings and work fewer weekly hours than those with employees and often report feeling underemployed, indicating a desire to work more hours. Overall, their analysis underscores the importance of differentiating between types of self-employment and suggests that solo self-employed individuals are more likely to choose this path out of necessity, whereas those self-employed with employees are more likely to be pulled into it.[8]

[8] A separate strand of the literature investigates the relationship between self-employment and labor market institutions. In Southern European countries, such as Italy, Spain, Greece, and Portugal, a higher prevalence of self-employment is often linked to labor market rigidity, including strict employment protection legislation (EPL) and higher unemployment rates. However, Robson (2003) finds little evidence of a positive relationship between self-employment and EPL once other control variables are accounted for. Blanchflower (2000) investigates determinants of self-employment across OECD countries and finds a negative relationship between self-employment rates and unemployment rates in many countries, suggesting that self-employment is not necessarily a response to high unemployment. Torrini (2005) also finds no robust connection between self-employment and EPL but identifies a positive correlation between self-employment and product market regulation, as well as a negative relation with unemployment benefits. Ulceluse and Kahanec (2018) find that EPL of regular contracts affects native self-employment positively, with some evidence of a negative effect for immigrants, while EPL of temporary contracts positively affects immigrants' self-employment.

4. Data and Empirical Strategy

To assess the immigrant-native gap in entrepreneurship, we rely on eight waves of the Bank of Italy's Survey of Household Income and Wealth (SHIW), i.e. 2004, 2006, 2008, 2010, 2012, 2014, 2016 and 2020. Each wave includes approximately 8,000 households and 19,000 individuals.[9]

The SHIW's basic sampling unit is the household, but it provides detailed socio-demographic information for each household member, including their relationship with the head of the household, age, gender, marital status, education, and employment status. Our empirical analysis focuses on individual-level data. From the original sample of 150,918 individuals, we exclude non-working individuals (38,069 observations), those younger than 18 or older than 65 years (61,580 observations), and those reporting negative consumption or not reporting their sector of activity (23 and 132 observations, respectively). This results in a final sample of 51,114 individual observations.

To assess the immigrant-native gap in self-employment, we first estimate probit regressions using different specifications of the following model:

$$y_{it} = \beta_0 + \beta_1 Immigrant_i + \beta_2 YSM_i + \boldsymbol{X\beta} + \tau_t + a + \epsilon_{it} \qquad (1)$$

where y_{it} is a binary variable that equals 1 if individual i is self-employed and 0 otherwise (i.e. if the individual works as an employee). The binary variable $Immigrant_i$ equals 1 if individual i is non-native, so that β_1 captures the immigrant-native gap in the likelihood of being self-employed.

In the main analysis, we employ a broad definition of self-employed that includes all forms of non-dependent employment, such as professionals, freelancers, individual entrepreneurs, owners or members of family businesses, and shareholders or partners in quoted businesses. In the robustness checks below, we use a narrower definition (see Section 8).

Our preferred specification includes the continuous variable YSM_i , which measures the years-since-migration of individual i, and which is equal to 0 for natives, by definition. The model also incorporates a rich set of control variables, collected in matrix **X**. These controls include individual characteristics (such as age, gender, marital status, and education dummies) and household-level variables (including household size, household wealth quartile dummies, and a financial risk-aversion variable). The risk-aversion variable takes the value of 1 for households where the financial respondent[10] prefers a "No risk, low returns" type of financial investment. Additionally, we extend the baseline model to include dummies for the sector of work, using agriculture as the reference

[9] The SHIW is organized as a rotating panel, meaning that within each wave, half of the sample units are replaced with new ones. Further details about the SHIW are available here: https://www.bancaditalia.it/statistiche/tematiche/indagini-famiglie-imprese.

[10] A respondent who is mainly responsible for the financial decisions of the household.

category. Finally, τ_t, and a represent year and area of residence fixed effects, respectively, and ϵ_{it} denotes the error term.

A potential concern when comparing immigrants and natives is unobserved heterogeneity and selection bias, as unobservable characteristics may also be correlated with immigrant status. Not only are migrants a selected group of the population, but there is also selection into self-employment. Key unobservable factors that could confound the estimation include individual ability, motivation, entrepreneurial skills, and risk preferences. To reduce potential biases, we first include a comprehensive set of individual and household characteristics, as well as a financial risk aversion variable, which is typically not available in standard data sets. Further, to check robustness of our results, we also estimate a propensity score matching model, in which we match immigrants (the treatment group) with non-immigrants (the control group) based on observable characteristics.[11]

Next, we conduct a heterogeneity analysis to explore the potential drivers behind the immigrant-native gap in self-employment. We start by splitting the sample based on gender (males vs. females) and education level (high vs. low education). We then examine the role of firm-specific characteristics. Recognizing the potential differences between solo entrepreneurs and self-employed individuals with employees, we use firm size to differentiate between these groups. We estimate the gap separately for self-employed individuals without employees (solo entrepreneurs) and those with employees. Additionally, we investigate the gap in relatively young versus established firms (based on the year of establishment).

Finally, we explore the role of migrants' characteristics by replacing the immigrant dummy in model (1) with a set of covariates reflecting these aspects. Specifically, regarding region of origin, we include dummies for immigrants from the EU15 and North America, new EU member states, other European countries, North Africa, Sub-Saharan Africa, Central and South America, Asia, and Oceania (with natives as the reference category)[12]. Regarding migration motives, we include dummies indicating whether migration was primarily for job-related reasons, family reunification, or

[11] In the first step of this procedure, we estimate the propensity score, which is the probability of being an immigrant given a set of observable characteristics. We start with a parsimonious model that includes only pre-determined exogenous characteristics and then progressively introduce additional variables. Our preferred specification includes a comprehensive set of covariates: age, gender, marital status, education, household size, wealth quartiles, risk aversion, as well as year and region of residence. In the second step, individuals are matched based on the estimated propensity score to balance the sample statistics between immigrants and natives. Ideally, to consistently estimate the treatment effect in the matching procedure one should match on pre-treatment characteristics, which unfortunately are not available in our data. Nevertheless, the specification with pre-determined exogenous characteristics produces similar results. Note also that the data used in this study is a rotating panel. However, we cannot use panel fixed effects models because the main variable of interest, immigration status, is time-invariant. By employing matching methodology, controlling for risk aversion, and comparing observationally similar treated and control groups, we aim to at least reduce the bias in our estimates.

[12] In the survey, each immigrant is asked to report their country of origin. However, for privacy reasons, data on individual countries of origin are not available to external users. These confidential data were provided by the Bank of Italy for this research at the aggregate level for the years 2006-2012.

other reasons (with natives as the reference category). To investigate the role of intermarriage, we re-estimate the model using a subsample of couples, and include dummies for couples where both individuals are immigrants, immigrant-native couples (mixed), and couples where both individuals are natives (reference category).

Descriptive statistics for the main variables are presented in Table 1, while Table A1 in the Appendix provides a detailed description of the data and variables used. In the overall sample, 18% of individuals are self-employed, and 10.6% are immigrants. The proportion of self-employed is approximately double among natives compared to immigrants, with 19% of natives being self-employed versus 9% of immigrants. Immigrants are, on average, slightly younger than natives (40 vs. 42 years old) and have a smaller proportion of males, single individuals, and individuals with higher education. Additionally, immigrants have smaller families and lower wealth compared to natives. Somewhat surprisingly, but consistent with several studies reviewed in Section 2, immigrants are found to be more risk-averse than natives. Regarding sector of employment, immigrants are overrepresented in agriculture, construction, and private (e.g., domestic) services, while they are underrepresented in transport, finance, real estate, other professional services, and public administration. Job-related reasons represent the main motives for migration.

Table 2 and Figure 3 compare selected characteristics of immigrants and natives before and after propensity score matching. After matching, the differences in characteristics are much smaller and largely not statistically significant. The only exception is the gender variable, which, although reduced in magnitude, remains significant after matching. In robustness checks, we use a *forced* matching procedure, in which we force the gender variable to be balanced after matching, and the results remain qualitatively unaffected (available upon request). Figure 4 tests the common support assumption and confirms its validity, indicating that we are matching only comparable immigrants and natives (with only 4 observations found off the support).

5. Main Results

In this section, we investigate how an individual's immigrant status affects the probability of being self-employed. The main results are reported in Table 3. Interestingly, and in contrast to most existing studies, we find a statistically significant and *negative* immigrant-native gap in the probability of entrepreneurship in Italy. Specifically, in our preferred specification, the results suggest that an immigrant has a 10.75 percentage point lower probability of being self-employed compared to a native if sectors are included in the model (9.28 percentage point lower probability in the model without sectors). This gap, which is particularly robust across all estimated specifications, is economically relevant when compared to the sample average of 18 percent. Additionally, the number

of years since migration has a significant and positive effect on the probability of self-employment. This suggests that, while migrants initially have lower chances of self-employment—possibly due to a lack of relevant qualifications, linguistic barriers, limited knowledge of local networks and social capital, or lower wealth and difficulties in accessing financial resources—there is assimilation over time, as the propensity for self-employment increases with the years spent in Italy.

Regarding other determinants of self-employment, and consistent with the literature, males, individuals with higher education, and those who are wealthier are more likely to be entrepreneurs. As expected and in line with Caliendo et al. (2009, 2010), risk-averse individuals have a lower likelihood of being self-employed. In terms of sectors, compared to agriculture, self-employment is more likely in trade, equally likely in construction and real estate, and less likely in all remaining sectors.

Table 4 reports the average treatment effect for the treated (ATT). The propensity score matching estimator indicates a significant and negative gap in all specifications considered, ranging from 10.40 to 2.13 percentage points. In our preferred specification (column 4), this gap is lower in magnitude if compared to probit estimates, but remains statistically significant and negative, consistent with the estimates reported in Table 3.

In summary, our results provide robust evidence that, in Italy, immigrants have a significantly lower probability of being self-employed compared to natives.

6. Potential Drivers

In this section, we proceed with a heterogeneity analysis and explore the mechanisms and the potential drivers of the observed negative gap, aiming to identify factors that may help explain this gap. First, we investigate the role of individual characteristics and split the sample by gender and skills. Next, we examine firm-level characteristics and related factors, focusing on firm size, and firm age. Finally, we investigate the role of migrants' characteristics, specifically considering region of origin, migration motive, and intermarriage.

6.1 The Role of Individual Characteristics

Existing literature shows that gender is an important factor in shaping the probability of being self-employed (see, e.g., Colombelli et al., 2021, and Oggero et al., 2020). Table 5 reports the estimated effects by gender. We find that the gap is largely driven by men, as the gap for women is smaller in magnitude. This suggests that immigrant men in Italy may face greater difficulties in starting and running a business.

It is likely that the gap in entrepreneurship differs between highly skilled and low-skilled or medium-skilled individuals (see Section 2). To address this, we explore the role of education. The results in Table 6 show that for individuals with lower levels of education (less than a university degree), the estimates are negative, significant and robust. In contrast, for highly skilled individuals (those with a university degree), the estimated effect is only marginally significant when additional controls are included and is highly significant only in the specification with sectors of employment.[13] Overall, these results seem to suggest that the negative gap in entrepreneurship is present for both low-skilled and highly-skilled individuals, although is more robust for the former group, suggesting in turn probably greater difficulties they may face in dealing with the bureaucracy required to start a business and accessing information and financial resources.

6.2 The Role of Firm Characteristics

Existing literature highlights the importance of distinguishing between different types of self-employment, particularly firms with employees versus those without. Earlier studies often lack this distinction, mainly due to data availability, while conclusions regarding the immigrant-native gap may significantly depend on the type of self-employment (see Section 2). The reason for this being that immigrant-owned firms that hire employees create new jobs and may be considered as "successful entrepreneurs", whereas solo self-employed individuals may be pushed into self-employment out of necessity, making it a last resort.

In this subsection, we examine the presence of the immigrant-native gap in these two types of firms. The results in Table 7 seem to suggest that the negative gap is primarily driven by self-employed individuals with employees (although they are significant only in the specification with sectors). These findings are consistent with recent literature, particularly the results from Green et al. (2023), which show that, in Canada, immigrants are not more entrepreneurial in terms of starting new firms with employees. Instead, higher immigrant firm ownership is attributed to non-incorporated businesses (solo self-employment). In the Italian context, these results indicate that solo self-employed immigrants are not less entrepreneurial than natives but also point towards potential challenges for immigrant firm owners in hiring additional workers.

[13] Note, however, that sectors of employment are endogenous, since they are correlated with both immigrant status and self-employment. They also capture some of the effects associated with being an immigrant, as natives, especially those who are highly skilled, are more likely to be employed in certain sectors, such as finance or high-skilled professional roles. Including sector as an additional control may overcontrol for the effect of immigrant status, particularly for highly skilled individuals, as it could reflect advantages tied to being native (a so-called "bad controls" problem, see, for example, Angrist and Pischke, 2015). Additionally, the sample size of highly skilled immigrants in some sectors is very small. Considering these issues, results for the highly skilled, should be interpreted with caution. Nevertheless, we estimate the regressions also including sectors of employment to be consistent with the existing studies.

Another firm-level variable that may impact the gap between immigrant and native entrepreneurs is the age of the firm. In Italy, where entrepreneurship is prevalent, many businesses are long-established and family-owned. We therefore expect that the probability of self-employment for migrants is lower in older firms compared to natives and that the negative immigrant-native gap is larger in older firms. The results in Table 8 support these expectations. The gap is negative in firms older than 20 years, while it is positive in new firms. This aligns with immigration being a relatively recent phenomenon in Italy and suggests that recent immigrants establish their own businesses as an alternative to wage employment and that they are not less entrepreneurial than natives. However, it might also indicate lower success and survival rates for their businesses over time.

6.3 The Role of Migrant Characteristics

In this subsection, we further investigate the heterogeneity in self-employment by focusing on migrant-related characteristics, such as region of origin, migration motives, and intermarriage. To this end, we modify model (1) by replacing the immigrant dummy with a set of dummy variables for the respective groups.

Existing literature shows substantial heterogeneity in self-employment propensity by ethnicity and country of origin, suggesting that cultural factors matter (see Borjas, 1986; Fairlie and Meyer, 1996; Clark and Drinkwater, 1998; Fairlie and Lofstrom, 2015, and references therein). To account for these differences, Table 9 presents estimates from our baseline model, where the immigrant dummy is replaced with a set of dummy variables representing immigrants' countries of origin, grouped into seven regions: EU15 and North America (around 8.7% of immigrants in our sample), New EU member states (20.5%), Other Europe (27.7%), North Africa (12%), Sub-Saharan Africa (9.1%), Central and South America (19.4%), and Asia and Oceania (12.6%). This information is only available for the years 2006 to 2012. To enable comparison with the main results, the first column of Table 9 reports estimates of the immigrant dummy for our preferred specification with a full set of controls and for this time period. The results suggest two key findings. First, the gap is negative for immigrants from all regions, except for those from Asia and Oceania, indicating that for these migrants, the likelihood of self-employment is similar to that of natives. Second, immigrants from Sub-Saharan Africa face the largest negative gap in self-employment, which is almost twice as large as the gap faced by migrants from Europe and North America.

Previous literature has also found that the reasons for migration influence the decision to become self-employed (Kone et al., 2021). We therefore investigate the role of migration motives, distinguishing between job-related reasons, family reunification, and other reasons. The results in the last column of Table 10 indicate that migration motives do play a significant role. Immigrants who

come to Italy for job-related reasons face the largest negative gap in the probability of being self-employed compared to natives. This gap is also negative and significant, though smaller in magnitude, for non-economic migrants—those who come for family reunification—while it is insignificant for migrants with other unspecified reasons. Consistent with existing literature, these findings suggest that migrants who are likely to earn higher salaries in paid employment, such as study and economic migrants, are less likely to engage in self-employment compared to family and asylum migrants, who are more likely to earn lower wages (Kone et al., 2021).

Finally, we turn to the analysis of intermarriage between migrants and natives, as it has been shown in the literature that intermarriage significantly impacts the self-employment propensity of migrants (see, e.g., Georgarakos and Tatsiramos, 2009b). To this aim, we focus on a subsample of individuals who are part of a stable couple (either married or in a partnership). Following the literature, we define three dummy variables to indicate whether an individual is part of a couple of natives (both partners are natives), a couple of immigrants (both partners are immigrants), or a mixed couple (an immigrant married to a native). The first column of Table 11 presents the estimated marginal effects of the immigrant dummy for the subsample of couples, allowing for a comparison with the baseline model in Table 3. The results show that the estimated marginal effect is very similar to that obtained for the full sample. Table 11 indicates that the gap is entirely driven by couples where both partners are immigrants and is insignificant for mixed immigrant-native couples, which is consistent with results in Georgarakos and Tatsiramos (2009b). It is also in line with the literature that studies the importance of culture, social capital and, in particular, family ties, which are important in Italy (see Alesina and Giuliano, 2015 and the references therein). Overall, our findings suggest that intermarriage significantly influences the likelihood of entrepreneurship for migrants, as immigrants married to natives may have easier access to local networks, including information about labor and financial markets, social capital, formal credit, and knowledge of bureaucratic procedures. Moreover, intermarriage may facilitate assimilation and accumulation of country-specific human capital, including learning local language.

7. Additional Factors

In this section, we experiment with including in our model additional variables that may confound the estimates of the negative effect reported above. To this aim, we consider different measures of access to credit and indebtedness, as well as easiness of starting a business for immigrants.

Specifically, regarding access to credit, we use the following variables: a dummy *Access to Credit* indicating whether the household has requested and obtained a loan (1 if yes, 0 otherwise); a dummy *Partially Constraint* for cases where the loan was requested but only partially obtained (1 if partially obtained, 0 otherwise); a dummy *Discouraged* for households that did not request a loan due to the expectation of not being financed (1 if not requested, 0 otherwise); and an informal debt dummy, which equals 1 if the household has informal debt (i.e., debt with parents, relatives, or friends). The results in Table 12 show that having access to credit, either in full or only partially, is associated with a higher probability of being self-employed. However, being self-employed is also significantly and positively correlated with not requesting a loan due to discouragement, indicating possibly that self-employment might be an option chosen out of necessity. Informal debt, on the other hand, does not appear to vary with the likelihood of being self-employed. Despite these variations, the immigrant-native gap remains remarkably robust in terms of statistical significance and magnitude, even when all these additional variables are included together into the model.

Next, we focus on business-related indebtedness and introduce the following additional variables: whether a household has professional debts specifically for business purposes (1 if yes, 0 otherwise); the amount paid for professional debts (a continuous variable capturing the total amount paid by a household for these loans); and residual professional debts (a continuous variable indicating the remaining amount a household still needs to repay). Table 13 presents the estimated results. The table shows, in line with expectations, that the likelihood of self-employment is positively correlated with the ability to obtain professional debt for business purposes (although it is not correlated with the amount already paid or still needing to be repaid). Regardless of how professional debts are measured, the negative immigrant-native gap remains large, robust, and consistent with our baseline results. Overall, these findings suggest that neither access to credit nor business-related indebtedness significantly alters the magnitude of the negative gap.

Finally, we incorporate into the analysis aggregate-level variables that serve as proxies for the ease of doing business for migrants. Specifically, we include: the number of firms run by immigrants in the region of residence, either as an absolute number or as a share of the total number of firms in that region for the given year;[14] the share of immigrants in the region of residence; the share of immigrants in the region of residence who come from the same geographical area as the individual i

[14] These data are retrieved from the "Rapporto Immigrazione e Imprenditoria – Aggiornamento Statistico" for the years 2015, 2017, 2018 and 2020 produced by the Centro Studi e Ricerche IDOS, https://www.dossierimmigrazione.it.

in the household (networks);[15] and services for immigrants, proxied by per-capita public expenditures for migrants in the region of residence.

The results are reported in Table 14 and suggest several interesting implications. First, the share of firms run by immigrants is negatively correlated with the probability of self-employment. This may be due to increased competition in the labor market, suggesting that a higher presence of immigrant-run firms could reduce opportunities for new entrepreneurs by increasing market saturation, and that migrant entrepreneurs might be substitutes to natives or previous migrants. Secondly, while the overall share of immigrants is not statistically significant, networks – defined as the share of immigrants from the same geographical area – is positively correlated with self-employment. This finding supports the idea that migrant networks can provide valuable access to information, resources, and opportunities, or facilitate specialization in businesses targeted to the immigrant community. Third, services for migrants, as proxied by per-capita public expenditures, do not significantly impact self-employment.

Overall, the results in this section show that immigrant-native gap remains robust, negative and significant after including these additional variables.

8. Robustness Checks

In this section, we examine the robustness of our results by applying alternative estimation methodologies, redefining the sample and the dependent variable, including additional potential confounding factors in the model, and estimating the gap across different years.

First, we apply another estimation methodology, namely the linear probability model. The results, presented in Table 15, are very similar to those in Table 3.

Then, we assess the robustness of our results to alternative definitions of the sample and of the dependent variable. First, following suggestions from some existing studies, we exclude the agricultural sector from our analysis. The results, using manufacturing as the reference category, remain largely unchanged when agriculture is excluded (see Table 16).

Subsequently, we experiment with a narrower definition of the dependent variable. Previously, the dependent variable included all forms of non-dependent employment, such as professionals, freelancers, individual entrepreneurs, owners or members of family businesses, and shareholders or partners in quoted businesses. In this exercise, we use a more restrictive definition of

[15] The share of immigrants in the region of residence, as well as the share of immigrants from the same region of origin was computed by the authors, using Istat regional data on total resident population and on immigrants by country of origin, aggregated as in Bertocchi et al. (2023).

self-employed, including only individual entrepreneurs, freelancers, and owners or members of family businesses, excluding professionals and shareholders. Table 17 presents the results and shows that although the estimates lose some significance, likely due to the reduced number of observations, the effect remains negative and is statistically significant in many specifications.

Finally, we explore whether the negative immigrant-native gap was present over the years and whether the COVID-19 pandemic had any impact on this gap.[16] Figure 5 shows that the immigrant-native gap has consistently been negative and significant, both economically and statistically, across the available years. From 2004 to 2016, there was a slow but steady convergence toward natives, although the gap remained negative, statistically significant, and consistent in magnitude. In 2020, the year of the COVID-19 outbreak, there was a sharp reduction in the magnitude of the gap, which decreased to approximately 8 percentage points. This suggests that either migrants increased their rate of enterprise openings during the pandemic (which is unlikely) or that native entrepreneurs closed their businesses at a relatively higher rate. Overall, these findings confirm that the negative immigrant-native gap was present throughout the years and persisted during the COVID-19 pandemic.

9. Conclusion

Using unique data for Italy over the period 2004-2020, we document a sizeable self-employment gap between immigrants and natives. In particular, controlling for a rich set of individual and household characteristics, including risk aversion and years since migration, we find a *negative* gap ranging between 2 and 11 percentage points, suggesting that, in Italy, immigrants are *less* likely to be self-employed than natives. This gap is economically relevant considering that 1 out of 5 working individuals in our dataset work as self-employed. We also find evidence of assimilation, as self-employment proclivity increases with years since migration. The negative gap in self-employment is robust to employing alternative estimation methodologies, using alternative definitions of the dependent variable and of the sample, including additional potential confounding factors in the model, and estimating the gap across different years.

[16] Several recent studies have analyzed the effects of the COVID-19 pandemic on small businesses and the self-employed (see, among others, Fairlie, 2020; Fairlie et al., 2022; Belitski et al., 2022; Miroshnychenko et al., 2023; and the review by Sorgner, 2023). However, to the best of our knowledge, none have examined its impact on the immigrant-native gap in self-employment. Fairlie (2020) explores the early impact of COVID-19 on small business owners in the U.S., including immigrants and ethnic minorities. He reports the largest-ever drop in active business owners, with losses observed across nearly all industries. The most significant losses were among African-American businesses, which faced a 41% decline, followed by Latin and Asian business owners. Fairlie (2020) also suggests that industry composition partly contributed to these disproportionate losses. Notably for our study, he finds that immigrant business owners experienced a 36% reduction in their activities.

Performing heterogeneity analysis, we find that the gap is larger for men and for migrants from Sub-Saharan Africa, while it is insignificant for migrants from Asia and Oceania, confirming higher self-employment proclivity of Asian migrants in Italy. We also find that the gap is larger for economic migrants (i.e., those who migrate for job-related reasons). This suggests that migrants who are likely to find a job and earn higher salaries in paid employment, such as study and economic migrants, are less likely to engage in self-employment compared to family and asylum migrants, which is in line with existing studies. Additionally, our results indicate that the gap in entrepreneurship is present for both low-skilled and highly-skilled individuals, although is more robust for the former group, suggesting in turn probably greater difficulties they may face in dealing with the bureaucracy required to start a business and accessing information and financial resources.

We also analyze intermarriage patterns between migrants and natives and find that the gap is present for both-immigrant couples and is insignificant for mixed immigrant-native couples. This suggests that intermarriage matters, and being married to a native may provide an easier access to local networks, to information about labor and financial markets, social capital, financial resources and credit, better knowledge about the bureaucracy or even a job in a family business, while also helping in accumulating country-specific human capital, including learning local language.

Existing literature highlights that it is important to distinguish between different types of self-employment, in particular, to differentiate between solo self-employed and those with employees. The reason for this being that immigrant-owned firms that hire employees create new jobs and may be considered as "successful entrepreneurs", whereas solo self-employed individuals may be pushed into self-employment out of necessity, making it a last resort. Our analysis suggests that the negative gap is primarily driven by self-employed individuals with employees (although is significant only in the specification with sectors), while for solo self-employed individuals, the gap is insignificant. These results seem to indicate that, in Italy, solo self-employed immigrants are not less entrepreneurial than natives, but also point towards potential challenges for immigrant firm owners in hiring additional workers.

Additionally, we find that the negative gap is entirely attributable to the older firms (older than 20 years), and is even positive in younger firms. This is in line with the expectations, given the high prevalence of self-employment in Italy and that many businesses are long-established and family-owned. It also aligns with immigration being a relatively recent phenomenon in Italy and suggests that recent immigrants establish their own businesses as an alternative to wage employment and that they are not less entrepreneurial than natives. However, it also seems to point towards lower success and survival rates for their businesses over time.

The negative gap we find is in contrast to many previous studies. We link this to the specificity of the Italian labor market, where entrepreneurship is widespread among natives, there is a high demand for unskilled immigrant labor, and especially a large informal sector. While immigrants in other countries may use self-employment as an alternative outside option or a stepping stone to salaried employment, in Italy, they may encounter additional challenges, particularly in managing firms with employees and sustaining their businesses over time.

Overall, our findings suggest that in countries with high share of self-employment, rigid labor and imperfect financial markets, as well as large informal sector, such as Southern European countries, immigrants may face additional challenges to their integration. In this context, self-employment may become less attractive for them.

Indeed, as documented by Fullin and Reyneri (2010), in Italy immigrants face difficulties in entering self-employment, and are disadvantaged with respect to the quality and socio-professional status of their job, and this segregation to low rank occupations is not due to their poor education. As the authors argue, entering self-employment to upgrade occupational status is not the case in Italy and both formal and informal barriers matter, while the chances are higher for those who have resided for long; this is due to good social status of self-employment and its popularity among natives, while immigrants fill in most difficult jobs (ibid).

Our findings suggest important implications for both immigration and integration policies. Additionally, they highlight the critical role of policies that promote migrant entrepreneurship. Specifically, inclusive entrepreneurship policies that offer all individuals equal opportunities to establish sustainable businesses are fundamental (OECD, 2018). To attract "the best and the brightest," a country must ensure a business-friendly environment by reducing labor and financial market inefficiencies, cutting bureaucracy, and increasing transparency.

If it is true that highly-skilled immigrant self-employed individuals and "successful entrepreneurs", those who create jobs for others, face additional challenges, policies targeting these groups are necessary. These are the groups that drive innovation, create jobs, and contribute to a country's economic growth. Moreover, policies that incentivize and support immigrant start-ups by providing information and, when necessary, access to resources would help ensure the long-term success and survival of immigrant-owned businesses.

Nevertheless, further research that carefully distinguishes between different types of immigrant self-employed individuals and their businesses, including studies from other countries, and analyzes the survival probabilities of these groups, is necessary to shed more light on this important issue.

References

Abadie, A. , Imbens, G. (2011). Bias-corrected matching estimators for average treatment effects. *Journal of Business & Economic Statistics*, 29, 1–11 .

Akee, R.K.Q., Jaeger, D.A. and Tatsiramos, K. (2013). The Persistence of Self-Employment Across Borders: New Evidence on Legal Immigrants to the United States. *Economics Bulletin*, 33 (1), 126-137.

Akguc, M., Liu, X., Tani, M., and Zimmermann, K.F. (2016). Risk Attitudes and Migration. *China Economic Review*, 37 (C), 166-176

Alesina, A. and P. Giuliano (2015). Culture and Institutions. *Journal of Economic Literature*, 53 (4): 898–944.

Alesina, A.F., F. Lotti, P. E. Mistrulli (2013). Do Women Pay More for Credit? Evidence From Italy, *Journal of the European Economic Association*, 11, Suppl_1, 45–66.

Angrist, J.D. and Pischke, J.-S. (2015). *Mastering Metrics*. The Path from Cause to Effect, Ch. 6. Princeton University Press.

Barone, G., and S. Mocetti, (2011). With a little help from abroad: the effect of low-skilled immigration on the female labour supply. *Labour Economics*, 18(5), 664-675

Belitski, M., Guenther, C., Kritikos, A. S., & Thurik, R. (2022). Economic effects of the COVID-19 pandemic on entrepreneurship and small businesses. *Small Business Economics*, 58(2), 593–609.

Berti, F., D'Agostino, A., Lemmi, A., and Neri, L. (2014). Poverty and deprivation of immigrants vs. natives in Italy. *International Journal of Social Economics*, 41 (8), 630-649.

Bertocchi, G., Brunetti, M. and Zaiceva, A. (2023). The Financial Decisions of Immigrant and Native Households: Evidence from Italy. *Italian Economic Journal*, 9, 117-174.

Blanchflower, D.G. (2000). Self-employment in OECD countries. *Labour Economics*, 7(5), 471-505.

Boeri, T., G. Giupponi, A.B. Krueger, and S. Machin (2020). Solo Self-Employment and Alternative Work Arrangements: A Cross-Country Perspective on the Changing Composition of Jobs. *Journal of Economic Perspectives*, 34(1): 170-195.

Bonin, H., Constant, A., Tatsiramos, K., and Zimmermann, K.F. (2009). Native-Migrant Differences in Risk Attitudes. *Applied Economics Letters*, 16 (15), 1581-1586.

Borjas, G.J. (1986). The self-employment experience of immigrants. *Journal of Human Resources* 21 (Fall), 487–506

Borjas, G. J. (1987). Self-Selection and the Earnings of Immigrants. *The American Economic Review*, 77 (4), 531–553.

Borjas, G.J. and Bronars, S.G. (1989). Consumer Discrimination and Self-Employment. *Journal of Political Economy*, 97 (3), 581-605

Caleindo, 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, 153-167.

Caleindo, M., Fossen F.M., and Kritikos, A.S. (2010). The impact of risk attitudes on entrepreneurial survival. *Journal of Economic Behavior and Organization*, 76, 45-63.

Ceccarelli, C., Giorgi, G.M., and Guandalini, A. (2014). Is Italy a Melting Pot? *Rivista Italiana di Economia Demografia e Statistica*, vol. LXVIII, n. 3 /4, Luglio-Dicembre, 23-30.

Chiswick, B. R. (1978). The Effect of Americanization on the Earnings of Foreign-born Men. *Journal of Political Economy*, 86 (5), 897–921.

Clark and Drinkwater (1998). Ethnicity and Self-Employment in Britain. *Oxford Bulletin of Economics and Statistics*, 60 (3), 383-407.

Clark, K., and Drinkwater, S. (2000). Pushed out or pulled in? Self-employment among ethnic minorities in England and Wales. *Labour Econo*mics, 7, 603–628.

Clark, K., Drinkwater, S. (2010). Patterns of ethnic self-employment in time and space: Evidence from British Census microdata. *Small Business Economics*, 34 (3), 323–338.

Clark K., Drinkwater S. and Robinson C. (2017) Self-employment amongst migrant groups: new evidence from England and Wales. *Small Business Economics*, 48(4):1047–1069.

Cobb-Clark, D.A., and Hildebrand, V. (2006). The Wealth of Mexican Americans. *Journal of Human Resources*, 41 (4), 841-868.

Colombelli, A., E. Grinza, V Meliciani and M. Rossi (2021). Pulling Effects in Migrant Entrepreneurship: Does Gender Matter? *Economic Geography*, 97:1, 1-33

Constant, A.F. and K.F. Zimmermann (2006). The Making of Entrepreneurs in Germany: Are Native Men and Immigrants Alike? *Small Business Economics*, 26, 279-300.

Constant, A.F. and K.F. Zimmermann (2014). Self-employment against employment or unemployment: Markov transitions across the business cycle, *Eurasian Business Review*, 4 (1), 51-87

D'Agostino, A., Regoli, A., Cornelio, G., and Berti, F. (2016). Studying Income Inequality of Immigrant Communities in Italy, *Social Indicators Research*, 127, 83-100.

De Arcangelis, G., Di Porto, E. and Santoni, G. (2015). Migration, labor tasks and production structure, *Regional Science and Urban Economics*, 53, 156-169.

Dell'Aringa, C. and Pagani, L. (2011). Labour Market Assimilation and Over-Education: The Case of Immigrant Workers in Italy, *Economia Politica*, n. 2, Agosto, 219-240.

Deole, S.S. and M.O. Rieger (2022). The immigrant-native gap in risk and time preferences in Germany: levels, socio-economic determinants, and recent changes. *Journal of Population Economics*, 36, 743–778.

Dohmen, T., Falk, A., Huffman, D.B, Sunde, U., Schupp, J., and Wagner, G.G. (2011). Individual Risk Attitudes: Measurement, Determinants, and Behavioral Consequences, *Journal of the European Economic Association*, 9 (3), 522–550.

Etzo, I., Massidda, C., Mattana, P., and Piras, R. (2017). The impact of immigration on output and its components: A sectoral analysis for Italy at regional level, *Economia Politica*, 34(3), 533-564.

Eurostat (2024). Data Browser: https://ec.europa.eu/eurostat/databrowser/, Access on June 13, 2024.

Fairlie, R.W. (2020). The impact of COVID-19 on small business owners: Evidence from the first three months after widespread social-distancing restrictions. *Journal of Economics & Management Strategy*, 29(4), 727-740.

Fairlie, R.W. and Lofstom, M. (2015). Immigration and Entrepreneurship. In: Chiswick, B.R. (Ed.), *Handbook of the Economics of International Migration*, vol. 1B, Chapter 17, 877-911.

Fairlie, R.W. and Meyer, B.D. (1996), Ethnic and Racial Self-Employment Differences and Possible Explanations. *Journal of Human Resources*, 31 (4), 757-793

Fairlie, R.W., Robb, A, and Robinson, D.T. (2021). Black and White: Access to Capital Among Minority-Owned Start-ups. *Management Science*, 68 (4), 2377-2400.

Fairlier, R.W., Fossen, F.M, Johnsen, R and Droboniku, G. (2022). Were Small Businesses More Likely to Permanently Close in the Pandemic? NBER Working Paper No. 30285.

Fairlie, R.W., Zissimopoulos, J., Krashinsky, H.A., and Kumar, K. (2012). Indian Entrepreneurial Success in the United States, Canada and United Kingdom. *Research in Labor Economics*, 36, 285-318

Fellini, I., Guetto, R. and Reyneri, E. (2018). Poor Returns to Origin-Country Education of NonWestern Immigrants in Italy: An Analysis of Occupational Status on Arrival and Mobility. *Social Inclusion*, 6(3), 34-47.

Fullin, G. and Reyneri, E. (2011), Low Unemployment and Bad Jobs for New Immigrants in Italy. *International Migration*, 49: 118-147.

Gavosto, A., Venturini, A., and Villosio, C. (1999). Do immigrants compete with natives?. *Labour*, 13(3), 603-621.

Georgarakos, D. and K. Tatsiramos (2009a). Entrepreneurship and survival dynamics of immigrants to the U.S. and their descendants. *Labour Economics*, 16 (2), 161-170.

Georgarakos, D. and K. Tatsiramos (2009b). Immigrant Self-Employment: Does Intermarriage Matter? *Research in Labor Economics*, Vol. 29 (Ethnicity and Labor Market Outcomes), 253–271

Green, D.A., H. Liu, Y. Ostrovsky, G. Picot (2023). Are Immigrants Particularly Entrepreneurial? Policy Lessons from a Selective Immigration System. IZA Discussion Paper No. 16515.

Istat (2024), Istituto Nazionale di Statistica, https://www.istat.it/en/data/databases/

Kahanec, M., A. Zaiceva and K.F. Zimmermann (2011). Ethnic Minorities in the European Union: An Overview. In: M. Kahanec and K. F. Zimmermann (Eds.), *Ethnic Diversity in European Labor Markets*, Cheltenham: Edward Elgar Publishing: 1-30

Kahn, S., G. La Mattina, and M. J. MacGarvie (2017). "Misfits", "stars", and immigrant entrepreneurship. *Small Business Economics*, 49, 533-557.

Kone, Z.L., Ruiz, I., and Vargas-Silva, C. (2021). Self-employment and reason for migration: are those who migrate for asylum different from other migrants? *Small Business Economics*, 56, 947–962.

La Porta R, and A. Shleifer (2008). The unofficial economy and economic development. *Brookings Papers on Economic Activity*, Fall: 275–352.

Le A.T. (2000) The determinants of immigrant self-employment in Australia. *International Migration Review*, 34(1): 183

Li P.S. (2001). Immigrants' propensity to self-employment: evidence from Canada. *International Migration Review*, 35(4): 1106–1128

Lehmann, H. and A. Zaiceva (2015.) Redefining informality and measuring its determinants: Evidence from the Russian labour market. *Journal of International Development*, 27 (4), 464 – 488.

Lofstrom M., C. Wang (2009) Mexican-American self-employment: a dynamic analysis of business ownership. *Research in Labor Economics*, 29: 197–227.

Lofstom, M. and C. Wang (2022). Immigrant Entrepreneurs. In: K.F. Zimmermann (Ed.) *Handbook of Labor, Human Resources and Population Economics*, Springer Nature Switzerland, https://doi.org/10.1007/978-3-319-57365-6_97-1, 1-32.

Mariani R.D., Rosati F.C. Immigrant supply of marketable child care and native fertility in Italy. *Journal of Demographic Economics* (2022), 88(4):503-533.

Mariani, R.D., A. Pasquini and F.C. Rosati (2020). Elementary Facts about Immigration in Itlay: What Do We Know about Immigration and Its Impacts? IZA Discussion Paper No. 13181.

Miroshnychenko, I., Vocalelli, G., De Massis, A., Grassi, S., and Ravazzolo, F. (2023). The COVID-19 pandemic and family business performance. *Small Business Economics*, in press.

OECD (2024), Self-employment rate (indicator). doi: 10.1787/fb58715e-en (Accessed on 12 June 2024)

OECD (2023). "Italy", In: International Migration Outlook 2023, OECD Publishing, Paris, https://doi.org/10.1787/fad4ec5a-ren

OECD (2018). Inclusive Entrepreneurship Policies: Country Assessment Notes. Italy, 2018. OECD/European Union, 2018.

Oggero, N., Rossi,M.C., and Ughetto, E. (2020). Entrepreneurial spirits in women and men. The role of financial literacy and digital skills, *Small Business Economics*, 55, 313-327.

Orrenius,P.M. and M. Zavodny (2009). Do Immigrants Work in Riskier Jobs? *Demography*, 46 (3), 535-551.

Peri, G., A. Romiti, and M. Rossi (2015). Immigrants, domestic labor and women's retirement decisions, *Labour Economics*, 36, 18-34.

Robson, M. T. (2003). Does Stricter Employment Protection Legislation Promote Self-Employment? *Small Business Economics*, *21*(3), 309–319.

Schuetze, H.J. and Antecol, H. (2007). Immigration, entrepreneurship and the venture start-up process. In: Parker, S. (Ed.), *The Life Cycle of Entrepreneurial Ventures*: International Handbook Series on Entrepreneurship, vol. 3. Springer, New York.

Sorgner, A. (2023): Covid-19 and Entrepreneurship, GLO Discussion Paper, No. 1287, Global Labor Organization (GLO), Essen

Staffolani, S., and Valentini, E. (2010). Does immigration raise blue and white collar wages of natives? The case of Italy. *Labour*, 24 (3), 295-310.

Torrini, R. (2005). Cross-country differences in self-employment rates: the role of institutions. *Labour Economics*, 12, 661-683.

Ulceluse, M. (2020). Self-employment as a stepping stone to better labor market matching: a comparison between immigrants and natives. *Journal of Demographic Economics*, 86, 479-501.

Ulceluse, M. and M. Kahanec (2018) Self-employment as a vehicle for labour market integration of immigrants and natives: the role of employment protection legislation. *International Journal of Manpower*, 39(8), 1064–1079.

Venturini, A., and Villosio, C. (2006). Labour market effects of immigration into Italy: An empirical analysis, *International Labour Review*, 145 (1-2), 91-118.

Table 1: Descriptive statistics, full sample and by immigrant.

Variables	Full Sample					Natives			Immigrant			
	Obs.	Mean	Std. dev.	Min	Max	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Signif.
Self employed	51,114	0.180	0.384	0	1	46,789	0.191	0.393	4,325	0.087	0.283	***
Solo self-employed	51,114	0.019	0.138	0	1	46,789	0.020	0.140	4,325	0.013	0.112	***
Immigrant	51,114	0.106	0.308	0	1	46,789	0.000	0.000	4,325	1.000	0.000	
Intermarriage												
Both Natives	28,602	0.895	0.307	0	1	26,671	0.975	0.156	1,931	0.420	0.494	***
Mixed Couple	28,602	0.058	0.233	0	1	26,671	0.025	0.156	0	0.000	0.000	
Both Immigrants	28,602	0.048	0.213	0	1	0	0.000	0.000	1,931	0.580	0.494	
Region of origin												
Italy	27,407	0.891	0.312	0	1	25,017	1.000	0.000	0	0.000	0.000	
EU15&North America	27,407	0.009	0.097	0	1	0	0.000	0.000	2,390	0.087	0.281	
New EU	27,407	0.022	0.148	0	1	0	0.000	0.000	2,390	0.205	0.404	
Non EU	27,407	0.030	0.171	0	1	0	0.000	0.000	2,390	0.277	0.448	
North Africa	27,407	0.013	0.114	0	1	0	0.000	0.000	2,390	0.120	0.325	
Sub Saharan Africa	27,407	0.010	0.099	0	1	0	0.000	0.000	2,390	0.091	0.288	
Central and South America	27,407	0.010	0.101	0	1	0	0.000	0.000	2,390	0.094	0.292	
Asia and Oceania	27,407	0.014	0.116	0	1	0	0.000	0.000	2,390	0.126	0.332	
Migration motive												
Family reunion	50,004	0.022	0.148	0	1	0	0.000	0.000	3,215	0.261	0.439	
Job	50,004	0.060	0.238	0	1	0	0.000	0.000	3,215	0.700	0.458	
Other reason	50,004	0.003	0.058	0	1	46,789	0.000	0.000	3,215	0.039	0.193	***
Years since migration	50,057	1.274	5.091	0	63	46,789	0.000	0.000	3,268	14.426	10.192	***
Year	0	0.000	0.000	0	0	0	0.000	0.000	0	0.000	0.000	
2004	51,114	0.122	0.327	0	1	46,789	0.128	0.334	4,325	0.067	0.250	***
2006	51,114	0.126	0.332	0	1	46,789	0.131	0.337	4,325	0.090	0.287	***
2008	51,114	0.127	0.333	0	1	46,789	0.127	0.333	4,325	0.125	0.331	
2010	51,114	0.127	0.333	0	1	46,789	0.125	0.331	4,325	0.142	0.349	***
2012	51,114	0.122	0.328	0	1	46,789	0.118	0.323	4,325	0.157	0.364	***
2014	51,114	0.123	0.328	0	1	46,789	0.121	0.326	4,325	0.140	0.347	***

Variables	Full Sample					Natives			Immigrant			
	Obs.	Mean	Std. dev.	Min	Max	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Signif.
2016	51,114	0.126	0.332	0	1	46,789	0.124	0.330	4,325	0.138	0.345	**
2020	51,114	0.127	0.333	0	1	46,789	0.125	0.331	4,325	0.140	0.347	**
Macroarea of residence	0	0.000	0.000	0	0	0	0.000	0.000	0	0.000	0.000	
North West	51,114	0.264	0.441	0	1	46,789	0.261	0.439	4,325	0.293	0.455	***
North East	51,114	0.259	0.438	0	1	46,789	0.247	0.431	4,325	0.365	0.482	***
Center	51,114	0.203	0.402	0	1	46,789	0.200	0.400	4,325	0.224	0.417	***
South	51,114	0.198	0.398	0	1	46,789	0.212	0.409	4,325	0.081	0.272	***
Islands	51,114	0.076	0.265	0	1	46,789	0.080	0.272	4,325	0.037	0.190	***
Age	51,114	42.465	10.587	19	64	46,789	42.755	10.660	4,325	40.024	9.613	***
Male	51,114	0.583	0.493	0	1	46,789	0.584	0.493	4,325	0.567	0.495	**
Civil Status												
Married	51,114	0.612	0.487	0	1	46,789	0.609	0.488	4,325	0.634	0.482	***
Single	51,114	0.303	0.460	0	1	46,789	0.309	0.462	4,325	0.257	0.437	***
Divorced	51,114	0.070	0.255	0	1	46,789	0.068	0.252	4,325	0.086	0.281	***
Widow	51,114	0.014	0.119	0	1	46,789	0.013	0.115	4,325	0.023	0.151	***
Higher Education	51,114	0.178	0.383	0	1	46,789	0.186	0.389	4,325	0.116	0.320	***
Household size	51,114	3.117	1.253	1	12	46,789	3.141	1.210	4,325	2.914	1.556	***
Net Wealth (in 1,000€)	51,114	260.360	550.308	-1586	84855.3	46,789	282.611	572.348	4,325	73.394	236.279	***
Risk averse	46,667	0.496	0.500	0	1	42,687	0.475	0.499	3,980	0.664	0.472	***
Sector												
Agriculture	51,114	0.048	0.213	0	1	46,789	0.047	0.211	4,325	0.055	0.228	**
Manufacturing	51,114	0.212	0.409	0	1	46,789	0.211	0.408	4,325	0.222	0.416	
Construction	51,114	0.071	0.257	0	1	46,789	0.065	0.246	4,325	0.123	0.329	***
Trade	51,114	0.171	0.377	0	1	46,789	0.171	0.376	4,325	0.174	0.379	
Transport	51,114	0.052	0.222	0	1	46,789	0.053	0.224	4,325	0.043	0.204	***
Financial	51,114	0.033	0.178	0	1	46,789	0.036	0.186	4,325	0.006	0.077	***
Real estate	51,114	0.061	0.239	0	1	46,789	0.066	0.248	4,325	0.020	0.142	***
Private services	51,114	0.117	0.322	0	1	46,789	0.101	0.302	4,325	0.253	0.435	***
Public Administration	51,114	0.233	0.423	0	1	46,789	0.248	0.432	4,325	0.100	0.300	***
International organizations	51,114	0.003	0.051	0	1	46,789	0.003	0.051	4,325	0.003	0.055	
Access to credit	51,114	0.053	0.225	0	1	46,789	0.055	0.228	4,325	0.039	0.193	***

Variables	Full Sample					Natives			Immigrant			
	Obs.	Mean	Std. dev.	Min	Max	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Signif.
Partially constraint	51,114	0.003	0.053	0	1	46,789	0.003	0.054	4,325	0.002	0.043	
Discouraged	51,114	0.035	0.185	0	1	46,789	0.035	0.184	4,325	0.038	0.192	
Informal debt	51,114	0.027	0.164	0	1	46,789	0.025	0.157	4,325	0.047	0.211	***
Has professional debts	29,845	0.011	0.106	0	1	27,013	0.012	0.111	2,832	0.003	0.056	***
Amount paid for professional debts	29,845	0.200	4.197	0	320	27,013	0.225	4.475	2,832	0.019	0.466	***
Residual professional debt	29,845	1.273	37.312	0	2500	27,013	1.429	39.796	2,832	0.148	3.568	***
Share of immigrant firms	36,862	11.000	10.725	0.245	66.53	33,431	10.794	10.567	3,431	12.525	11.715	***
Number of immigrant firms	36,862	35.982	30.179	0.127	116.78	33,431	35.211	30.158	3,431	41.688	29.717	***
Share of immigrants	51,114	0.092	0.117	0	0.62	46,789	0.090	0.116	4,325	0.111	0.120	***
Network	51,114	0.001	0.008	0	0.13	46,789	0.000	0.000	4,325	0.013	0.023	***
Services for immigrants	23,038	5.164	4.412	0.001	27.31	20,838	5.120	4.416	2,200	5.484	4.373	***

Note: All statistics are computed using the sample weights.

Table 2: Descriptive statistics, before and after propensity score matching.

	Before PS matching					After PS matching				
	Immigrant	Natives	Difference	t-stat		Immigrant	Natives	Difference	t-stat	
Macroarea of residence	2.23	2.70	-0.47	-21.79	***	2.23	2.24	-0.01	-0.58	
Year	2011.80	2011.30	0.50	6.73	***	2011.80	2011.80	0.00	0.33	
Age	41.49	44.28	-2.79	-15.44	***	41.49	41.06	0.43	1.90	*
Gender	0.53	0.58	-0.05	-5.89	***	0.53	0.50	0.03	3.30	***
Marital Status	1.50	1.46	0.04	3.37	***	1.50	1.48	0.02	0.88	
Higher education	0.13	0.21	-0.08	-12.41	***	0.13	0.14	-0.01	-1.81	*
Household size	3.01	3.21	-0.20	-9.82	***	3.01	3.02	-0.01	-0.17	
Wealth quartile	1.66	2.82	-1.16	-64.64	***	1.66	1.68	-0.02	-0.90	
Risk averse	0.65	0.46	0.19	23.20	***	0.65	0.64	0.00	0.35	

For each variable, the table reports the mean for immigrants and natives, and the difference between the two means before and after propensity score matching. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: Immigrant-native gap in entrepreneurship

	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	-0.1022***	-0.0906***	-0.0339***	-0.0395***	-0.0928***	-0.1075***
	(0.006)	(0.007)	(0.009)	(0.009)	(0.013)	(0.011)
Age		0.0035***	0.0019***	0.0018***	0.0016***	0.0031***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male		0.0687***	0.0714***	0.0726***	0.0741***	0.0608***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Single		0.0116*	-0.0013	-0.0006	-0.0040	-0.0077
		(0.007)	(0.007)	(0.007)	(0.007)	(0.006)
Divorced		0.0063	0.0254**	0.0271**	0.0267**	0.0219**
		(0.010)	(0.010)	(0.011)	(0.011)	(0.010)
Widow		-0.0327**	-0.0154	-0.0129	-0.0109	-0.0361**
		(0.016)	(0.017)	(0.018)	(0.019)	(0.017)
Higher Education		0.0543***	0.0144**	0.0129**	0.0130**	0.0874***
		(0.007)	(0.006)	(0.007)	(0.007)	(0.008)
Household Size		0.0053**	-0.0060***	-0.0058***	-0.0067***	-0.0052**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Wealth, 2nd Quartile			0.0652***	0.0624***	0.0575***	0.0605***
			(0.006)	(0.007)	(0.007)	(0.006)
Wealth, 3rd Quartile			0.0734***	0.0679***	0.0630***	0.0689***
			(0.006)	(0.007)	(0.007)	(0.006)
Wealth, 4th Quartile			0.2199***	0.2132***	0.2075***	0.1999***
			(0.007)	(0.008)	(0.008)	(0.007)
Risk Averse				-0.0122**	-0.0115**	-0.0122***
				(0.005)	(0.005)	(0.005)
Years since Migration					0.0033***	0.0037***
					(0.001)	(0.001)
Sector:						
Manufacturing						-0.2075***
						(0.014)
Construction						-0.0239
						(0.017)
Trade						0.0421***
						(0.015)
Transport						-0.1923***
						(0.016)
Financial services						-0.2037***
						(0.016)
Real estate						0.0160
						(0.018)
Private services						-0.0637***
						(0.016)
Public Administration						-0.2790***
						(0.014)
International organizations						-0.2106***
						(0.031)
Fixed	YES	YES	YES	YES	YES	YES
Observations	51,114	51,114	51,114	46,667	45,955	45,955
R-squared	0.0110	0.0300	0.0697	0.0701	0.0708	0.194

Note: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards, are reported in parentheses. Fixed controls include year and macro region fixed effects. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Propensity score matching estimates

	(1)	(2)	(3)	(4)	(5)
ATT	-0.0933***	-0.1040***	-0.0776***	-0.0231***	-0.0213***
	(0.005)	(0.005)	(0.007)	(0.007)	(0.008)
Fixed	NO	YES	YES	YES	YES
Age	YES	NO	YES	YES	YES
Gender	YES	NO	YES	YES	YES
Civil Status	NO	NO	YES	YES	YES
Education	NO	NO	YES	YES	YES
Household size	NO	NO	YES	YES	YES
Wealth	NO	NO	NO	YES	YES
Risk Aversion	NO	NO	NO	NO	YES
Observations	51,114	51,114	51,114	51,114	46,667

Note: The table reports the estimated average treatment effect on the treated (ATT) is obtained based on the bias-corrected Abadie and Imbens (2011) matching estimator, where the treatment is being an immigrant. The dependent variable is the dummy for self-employed. Finally, *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Immigrant-native gap, by gender

	(1)	(2)	(3)	(4)
	Males		Females	
Immigrant	-0.1280***	-0.1656***	-0.0821***	-0.0823***
	(0.033)	(0.025)	(0.027)	(0.024)
Fixed	YES	YES	YES	YES
Individual variables	YES	YES	YES	YES
Household variables	YES	YES	YES	YES
Year since migration	YES	YES	YES	YES
Sector	NO	YES	NO	YES
Observations	26,651	26,651	19,304	19,304
R-squared	0.0787	0.204	0.0471	0.174

Note: The table reports the marginal effects of a probit regression, estimated using population weights, and robust standard errors, clustered at the household level in parentheses. The dependent variable is a dummy for being self-employed. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 6: Immigrant-native gap, by level of education

	(1)	(2)	(3)	(4)
	Low Education		High Education	
Immigrant	-0.1045***	-0.1173***	-0.0936*	-0.1548***
	(0.020)	(0.019)	(0.052)	(0.045)
Fixed	YES	YES	YES	YES
Individual variables	YES	YES	YES	YES
Household variables	YES	YES	YES	YES
Year since migration	YES	YES	YES	YES
Sector	NO	YES	NO	YES
Observations	36,544	36,544	9,411	9,411
R-squared	0.0851	0.209	0.0352	0.193

Note: The table reports the marginal effects of a probit regression, estimated using population weights, and robust standard errors, clustered at the household level in parentheses. High Education stands for having a university degree or higher. The dependent variable is a dummy for being self-employed. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, and marital status. Household-level characteristics include household size, household wealth and risk-aversion. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Immigrant-native gap, by number of employees

	(1)	(2)	(3)	(4)
	Solo self-employed (no employees)		Self-employed with employees	
Immigrant	0.0089	-0.0778	-0.0833	-0.1974**
	(0.060)	(0.057)	(0.101)	(0.086)
Fixed	YES	YES	YES	YES
Individual variables	YES	YES	YES	YES
Household variables	YES	YES	YES	YES
Year since migration	YES	YES	YES	YES
Sector	NO	YES	NO	YES
Observations	8,690	8,690	4,284	4,284
R-squared	0.0995	0.259	0.145	0.260

Note: The table reports the marginal effects of a probit regression, estimated using population weights, and with robust standard errors, clustered at the household level in parentheses. The dependent variable is a dummy for being self-employed. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 8: Immigrant-native gap, by age of the firm

	(1)	(2)	(3)	(4)
	New (less than 20years)		Old (more than 20 years)	
Immigrant	0.3271***	0.2507***	-0.4623**	-0.4619***
	(0.051)	(0.082)	(0.184)	(0.145)
Fixed	YES	YES	YES	YES
Individual variables	YES	YES	YES	YES
Household variables	YES	YES	YES	YES
Year since migration	YES	YES	YES	YES
Sector	NO	YES	NO	YES
Observations	1,296	1,295	1,744	1,744
R-squared	0.0991	0.213	0.279	0.394

Note: The table reports the marginal effects of a probit regression, estimated using population weights, and with robust standard errors, clustered at the household level in parentheses. The dependent variable is a dummy for being self-employed. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9: Immigrant-native gap, by region of origin

	(1)	(2)	(3)
Immigrant	-0.1044***		
	(0.009)		
EU15&NA		-0.1185***	-0.1060***
		(0.034)	(0.037)
New EU		-0.1200***	-0.1237***
		(0.020)	(0.019)
Other EU		-0.1024***	-0.1211***
		(0.025)	(0.021)
North Africa		-0.1048***	-0.1252***
		(0.033)	(0.026)
Sub Saharan Africa		-0.1757***	-0.1776***
		(0.012)	(0.012)
Central and South America		-0.1027***	-0.1142***
		(0.036)	(0.030)
Asia and Oceania		-0.0243	-0.0619
		(0.047)	(0.039)
Risk Averse		-0.0112	-0.0122*
		(0.008)	(0.007)
Years since Migration		0.0056***	0.0055***
		(0.002)	(0.002)
Fixed	YES	YES	YES
Individual variables	YES	YES	YES
Household variables	YES	YES	YES
Year since migration	YES	YES	YES
Sector	NO	NO	YES
Observations	27,407	26,765	26,765
R-squared	0.00992	0.0665	0.197

Notes: the table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards are reported in parentheses. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 10: Immigrant-native gap, by migration motive

	(1)	(2)	(3)
Family reunion	-0.0884***	-0.0885***	-0.0842***
	(0.013)	(0.027)	(0.027)
Job	-0.1280***	-0.0932***	-0.1077***
	(0.007)	(0.017)	(0.014)
Other reason	-0.0146	0.0045	-0.0215
	(0.038)	(0.047)	(0.043)
Fixed	YES	YES	YES
Individual variables	NO	YES	YES
Household variables	NO	YES	YES
Year since migration	NO	YES	YES
Sector	NO	NO	YES
Observations	50,004	45,702	45,702
R-squared	0.0122	0.0703	0.194

Notes: the table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards are reported in parentheses. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 11: Immigrant-native gap, by intermarriage

	(1)	(2)	(3)
Immigrant	-0.0957***		
	(0.010)		
Mixed Couple		-0.0210	-0.0303
		(0.021)	(0.018)
Both Immigrants		-0.1056***	-0.1191***
		(0.021)	(0.018)
Fixed	YES	YES	YES
Individual variables	NO	YES	YES
Household variables	NO	YES	YES
Year since migration	NO	YES	YES
Sector	NO	NO	YES
Observations	28,602	26,034	26,034
R-squared	0.00766	0.0621	0.204

Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards are reported in parentheses. Fixed controls include year and macro region fixed effects. Individual demographic characteristics include age, gender, marital status and education. Household-level characteristics include household size, household wealth and risk-aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 12: Immigrant-native gap: access to credit

	(1)	(2)	(3)	(4)	(6)
Immigrant	-0.1071***	-0.1071***	-0.1074***	-0.1076***	-0.1066***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Access to credit	0.0221*				0.0243**
	(0.012)				(0.012)
Partially constraint		0.2139***			0.2179***
		(0.065)			(0.065)
Discouraged			0.0368**		0.0391***
			(0.014)		(0.015)
Informal debt				0.0092	0.0017
				(0.015)	(0.015)
Observations	45,955	45,955	45,955	45,955	45,955
R-squared	0.194	0.195	0.194	0.194	0.196

Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level are reported in parentheses. All regression specifications include controls for age, gender, marital status, education, years since migration, and sector of employment as well as household size, household wealth and risk aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 13: Immigrant-native gap: professional debts

	(1)	(2)	(3)
Immigrant	-0.1101***	-0.1135***	-0.1133***
	(0.016)	(0.015)	(0.015)
Has professional debts	0.3924***		
	(0.040)		
Amount paid for professional debts		0.0019	
		(0.001)	
Residual professional debts			0.0004
			(0.000)
Observations	29,631	29,631	29,631
R-squared	0.206	0.194	0.195

Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level are reported in parentheses. All regression specifications include controls for age, gender, marital status, education, years since migration, and sector of employment as well as household size, household wealth and risk aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 14: Immigrant-native gap: easiness of running a business for migrants.

	(1)	(2)	(3)	(4)	(5)
Immigrant	-0.1077***	-0.1068***	-0.1071***	-0.1229***	-0.1055***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.018)
Number of immigrant firms	-0.0001				
	(0.000)				
Share of immigrant firms		-0.0005***			
		(0.000)			
Share of immigrants			-0.0272		
			(0.028)		
Network				1.0288**	
				(0.426)	
Services for immigrants					-0.0014
					(0.001)
Observations	36,431	36,431	23,038	45,955	45,955
R-squared	0.196	0.197	0.196	0.194	0.194

Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level are reported in parentheses. All regression specifications include controls for age, gender, marital status, education, years since migration, and sector of employment as well as household size, household wealth and risk aversion. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 15: Immigrant-native gap: linear probability model

	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	-0.1014***	-0.0855***	-0.0205**	-0.0249***	-0.0636***	-0.0983***
	(0.006)	(0.009)	(0.009)	(0.009)	(0.015)	(0.015)
Age		0.0700***	0.0741***	0.0752***	0.0766***	0.0663***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Male		0.0124	-0.0015	-0.0006	-0.0035	-0.0099
		(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Single		0.0071	0.0245**	0.0263**	0.0261**	0.0192
		(0.012)	(0.012)	(0.013)	(0.013)	(0.012)
Divorced		-0.0280	-0.0100	-0.0069	-0.0053	-0.0300
		(0.020)	(0.020)	(0.020)	(0.021)	(0.021)
Widow		0.0518***	0.0106	0.0093	0.0093	0.0707***
		(0.009)	(0.009)	(0.010)	(0.010)	(0.009)
Higher Education		0.0055*	-0.0061**	-0.0059**	-0.0067**	-0.0056**
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Household Size		0.0700***	0.0741***	0.0752***	0.0766***	0.0663***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Wealth, 2nd Quartile			0.0651***	0.0614***	0.0569***	0.0659***
			(0.008)	(0.008)	(0.008)	(0.008)
Wealth, 3rd Quartile			0.0749***	0.0683***	0.0641***	0.0767***
			(0.008)	(0.008)	(0.008)	(0.008)
Wealth, 4th Quartile			0.2235***	0.2169***	0.2129***	0.2122***
			(0.010)	(0.010)	(0.010)	(0.010)
Risk Averse				-0.0122**	-0.0115*	-0.0132**
				(0.006)	(0.006)	(0.006)
Years since Migration					0.0022**	0.0028***
					(0.001)	(0.001)
Manufacturing						-0.2104***
						(0.019)
Construction						-0.0318
						(0.022)
Trade						0.0294
						(0.021)
Transport						-0.1977***
						(0.021)
Financial services						-0.2163***
						(0.025)
Real estate						0.0388*
						(0.023)
Private services						-0.0744***
						(0.020)
Public Administration						-0.3037***
						(0.019)
International Organization						-0.2258***
						(0.037)
Fixed	NO	YES	YES	YES	YES	YES
Observations	51,114	51,114	51,114	46,667	45,955	45,955
R-squared	0.0091	0.0267	0.0654	0.0656	0.0658	0.1721

Notes: The table reports the OLS estimates of the coefficients of a linear probability model, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards, in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 16: Immigrant-native gap: excluding agriculture

	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	-0.0907***	-0.0794***	-0.0278**	-0.0328***	-0.0865***	-0.1011***
	(0.007)	(0.009)	(0.012)	(0.011)	(0.016)	(0.014)
Age		0.0032***	0.0018***	0.0017***	0.0016***	0.0031***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male		0.0659***	0.0688***	0.0696***	0.0709***	0.0581***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Single		0.0089	-0.0026	-0.0012	-0.0047	-0.0075
		(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Divorced		0.0093	0.0262**	0.0283**	0.0281**	0.0221*
		(0.013)	(0.013)	(0.014)	(0.014)	(0.013)
Widow		-0.0360*	-0.0209	-0.0193	-0.0175	-0.0393*
		(0.021)	(0.023)	(0.023)	(0.023)	(0.020)
Higher Education		0.0580***	0.0210**	0.0196**	0.0197**	0.0888***
		(0.010)	(0.009)	(0.009)	(0.009)	(0.010)
Household Size		0.0038	-0.0067**	-0.0064**	-0.0073**	-0.0050*
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Wealth, 2nd Quartile			0.0634***	0.0610***	0.0560***	0.0601***
			(0.008)	(0.008)	(0.008)	(0.007)
Wealth, 3rd Quartile			0.0699***	0.0642***	0.0591***	0.0639***
			(0.008)	(0.008)	(0.008)	(0.007)
Wealth, 4th Quartile			0.1982***	0.1908***	0.1850***	0.1804***
			(0.010)	(0.010)	(0.010)	(0.010)
Risk Averse				-0.0153***	-0.0146**	-0.0134**
				(0.006)	(0.006)	(0.005)
Years since Migration					0.0033***	0.0037***
					(0.001)	(0.001)
Construction						0.1812***
						(0.014)
Trade						0.2497***
						(0.012)
Transport						0.0145
						(0.012)
Financial services						0.0054
						(0.014)
Real estate						0.2247***
						(0.014)
Private services						0.1417***
						(0.011)
Public Administration						-0.0722***
						(0.007)
International Organization						-0.0044
						(0.029)
Fixed	YES	YES	YES	YES	YES	YES
Observations	48,986	48,986	48,986	44,775	44,098	44,098
R-squared	0.0102	0.0288	0.0620	0.0627	0.0634	0.189

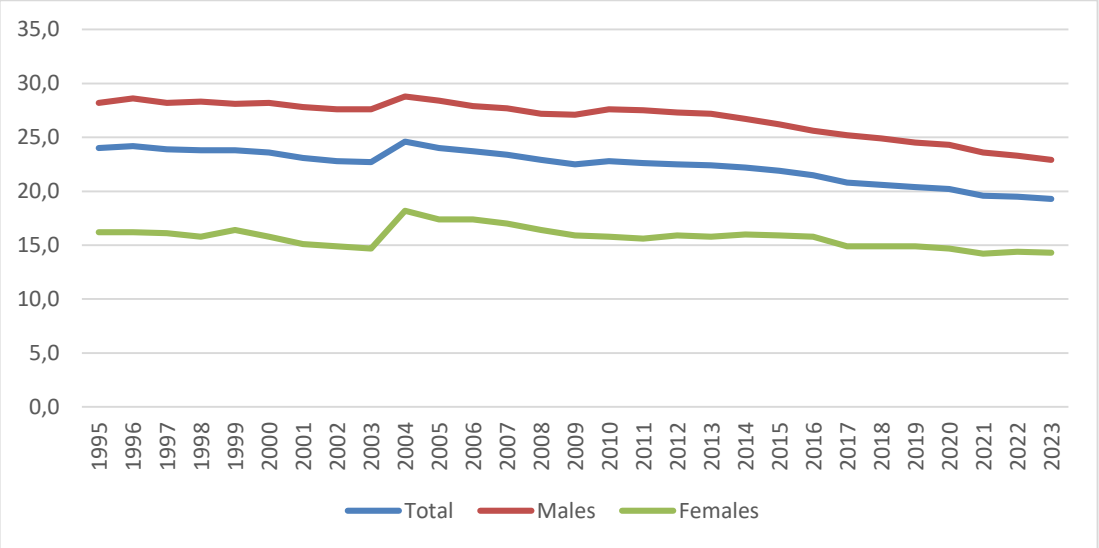
Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards, in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 17: Immigrant-native gap: alternative definition of self-employed

	(1)	(2)	(3)	(4)	(5)	(6)
Immigrant	-0.0472***	-0.0424***	-0.0010	-0.0062	-0.0356**	-0.0512***
	(0.006)	(0.008)	(0.010)	(0.010)	(0.014)	(0.012)
Age		0.0022***	0.0012***	0.0011***	0.0010***	0.0021***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male		0.0381***	0.0406***	0.0403***	0.0415***	0.0350***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Single		0.0088	0.0005	0.0000	-0.0026	-0.0035
		(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
Divorced		0.0066	0.0208*	0.0244**	0.0249**	0.0203*
		(0.010)	(0.011)	(0.012)	(0.012)	(0.011)
Widow		-0.0243	-0.0124	-0.0107	-0.0087	-0.0254
		(0.016)	(0.018)	(0.018)	(0.019)	(0.016)
Higher Education		-0.0676***	-0.0830***	-0.0826***	-0.0832***	-0.0310***
		(0.006)	(0.005)	(0.006)	(0.006)	(0.007)
Household Size		0.0051**	-0.0018	-0.0020	-0.0024	-0.0024
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Wealth, 2nd Quartile			0.0460***	0.0421***	0.0385***	0.0406***
			(0.006)	(0.006)	(0.006)	(0.006)
Wealth, 3rd Quartile			0.0488***	0.0447***	0.0415***	0.0455***
			(0.006)	(0.006)	(0.007)	(0.006)
Wealth, 4th Quartile			0.1456***	0.1386***	0.1349***	0.1313***
			(0.008)	(0.008)	(0.009)	(0.008)
Risk Averse				-0.0018	-0.0015	-0.0051
				(0.005)	(0.005)	(0.005)
Years since Migration					0.0015*	0.0019**
					(0.001)	(0.001)
Manufacturing						-0.1735***
						(0.017)
Construction						-0.0744***
						(0.020)
Trade						0.0220
						(0.020)
Transport						-0.1676***
						(0.019)
Financial services						-0.2200***
						(0.018)
Real estate						-0.1444***
						(0.019)
Private services						-0.0863***
						(0.019)
Public Administration						-0.2326***
						(0.017)
International Organization						-0.1469***
						(0.036)
Fixed	YES	YES	YES	YES	YES	YES
Observations	51,114	51,114	51,114	46,667	45,955	45,955
R-squared	0.0120	0.0355	0.0658	0.0643	0.0650	0.177

Notes: The table reports the marginal effects of a probit regression, estimated using population weights. Robust standard errors, clustered at the household level from model (2) onwards, in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

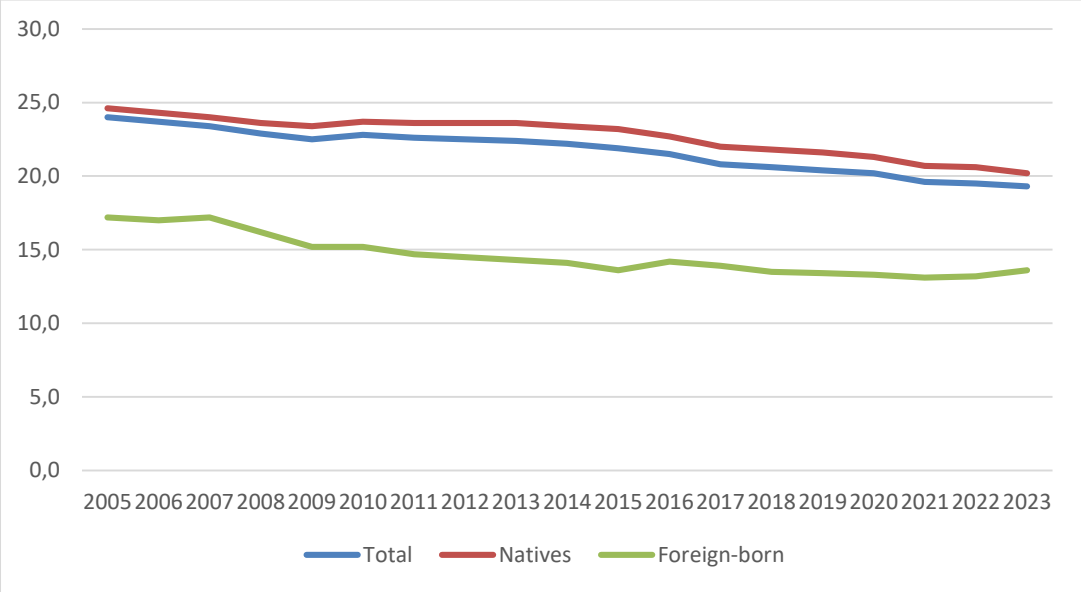
Figure 1: Self-employment rate by gender



Notes: in percent of employed.

Source: Eurostat (2024).

Figure 2: Self-employment rate by immigration status



Note: in percent of employed.

Source: Eurostat (2024).

Figure 3: Standardized bias across covariates before and after PS matching

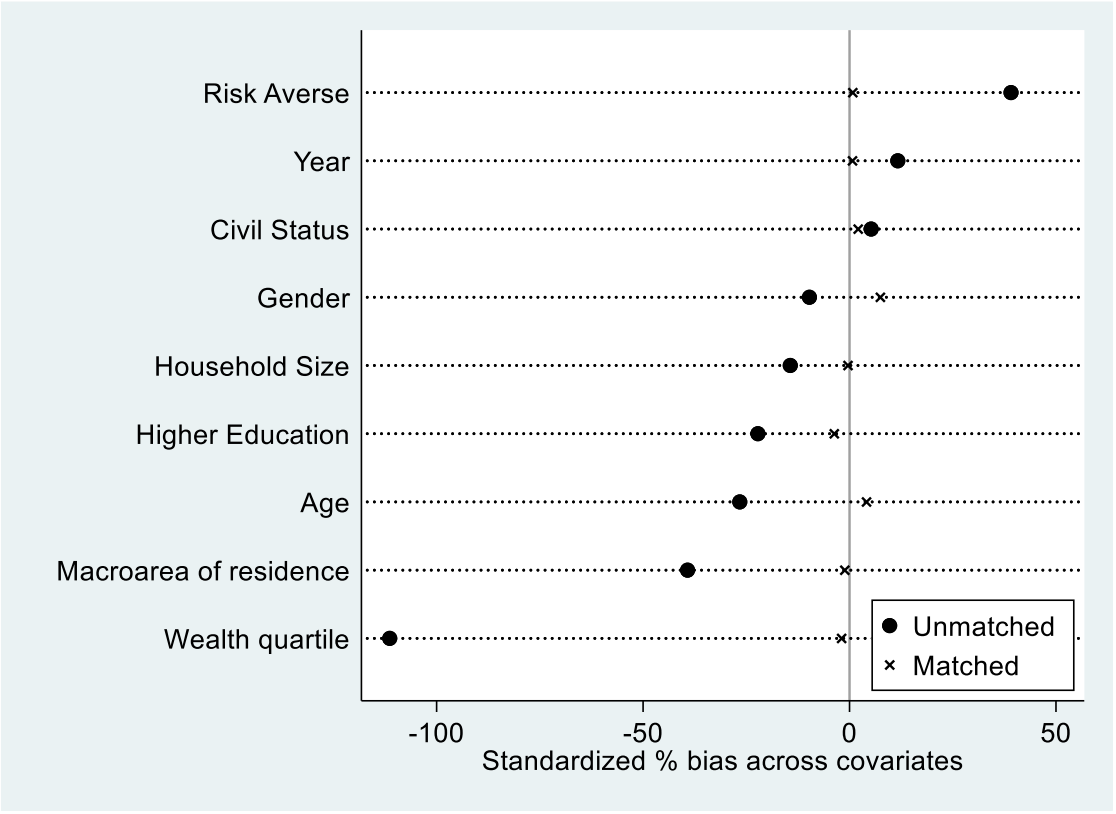


Figure 4: Propensity score distribution, by treatment and common support status

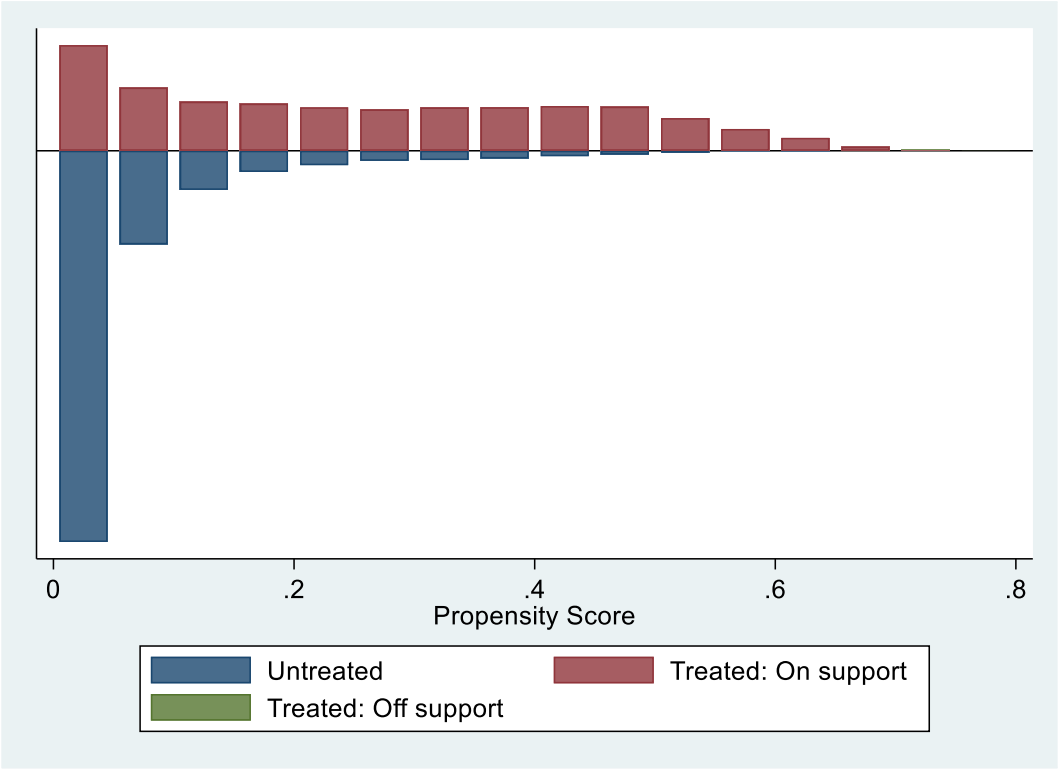
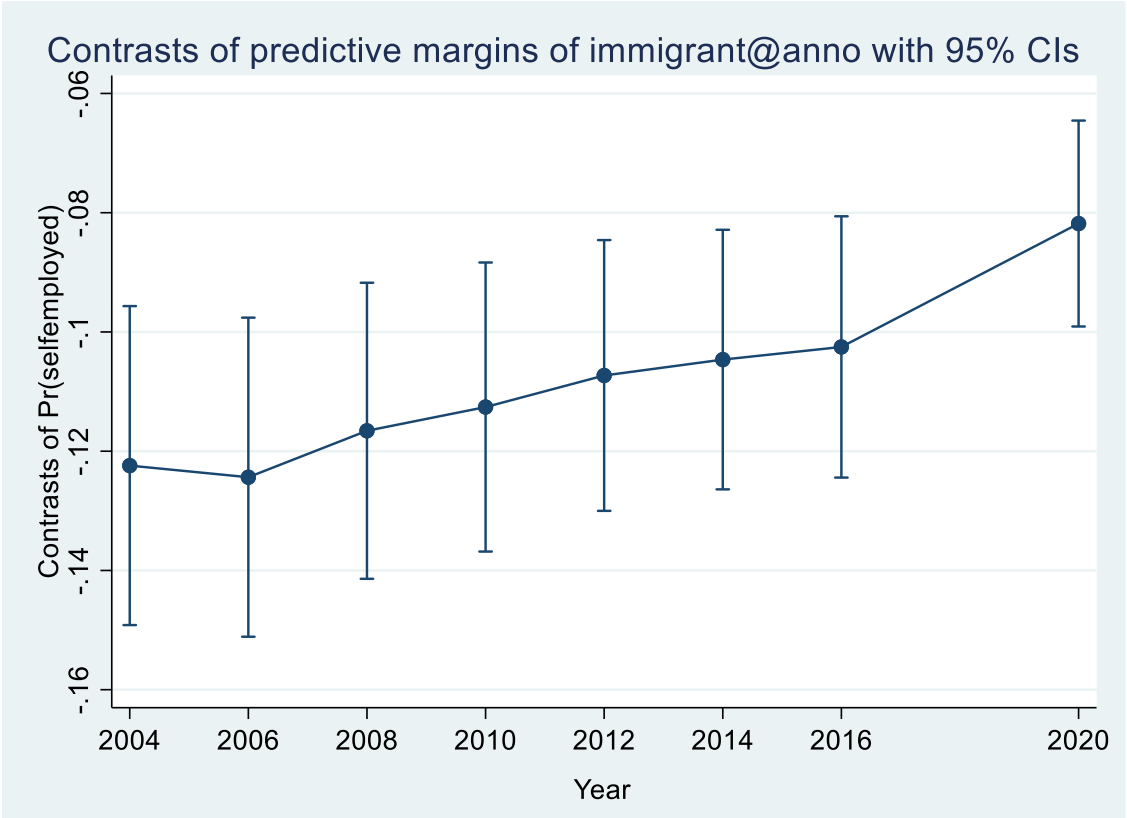


Figure 5: The immigrant-native gap over the 2004-2020 period.



APPENDIX A

Table A1: Data Description

VARIABLE	Description	Source
Self-employed	Binary variable assuming value 1 for individuals working as self-employed, and 0 for those working as employees.	SHIW
Solo self-employed	Binary variable assuming value 1 for self-employed individuals, with no employees, and 0 otherwise.	SHIW
Immigrant	Binary variable assuming value 1 for foreign-born individuals, and 0 for natives.	SHIW
Intermarriage	Set of binary variables locating who – within the couple – is a foreign-born, if any (defined only for households including a couple, either married or in a stable union). The dummies are: - Both Natives takes value 1 for households where both members of the couple are natives, and 0 otherwise - Mixed Immigrant Head takes value 1 for couple households where the household head is foreign-born, while the spouse is not, and 0 otherwise - Mixed Immigrant Spouse takes value 1 for couple households where the spouse is foreign-born, while the head of the household is not, and 0 otherwise - Both Immigrants takes value 1 for couple households where both the household head and the spouse are foreign- born, and 0 otherwise.	SHIW
Region of Origin	Set of binary variables representing the macro-area of the country of birth of the household head among the following: - Italy - EU15 & North America (One the EU15 countries or Canada or USA) - New EU (Bulgaria, Malta, Cyprus, Croatia, Estonia, Latvia, Poland, Romania, Slovakia, Slovenia, or Hungary) - Other Europe (Any other European country not included above) - North Africa - Sub-Saharan Africa - Central & South America - Asia & Oceania	SHIW
Migration motive	Set of binary variables representing the main reason for migration among the following: - Family reunion (join parents or other relatives who formerly moved to Italy) - Job - Other reason (any other reason)	SHIW
Years Since Migration	Discrete variable representing the years since the first arrival in Italy of the head of the household. This variable is set to 0.5 for immigrants who are interviewed less than 12 months since arrival (to distinguish them from natives, for whom it is equal to 0).	SHIW

Macroarea of residence	Set of binary variables taking value 1 for households residing in the relevant macro-region within Italy (i.e., North West, North East, Center, South, and Islands), and 0 otherwise.	SHIW
Age	Integer variable representing the age in years of the head of the household.	SHIW
Male	Binary variable taking value 1 for households headed by a male, and 0 otherwise.	SHIW
Civil status	Set of binary variables representing the marital status of the individual among the following: - Married takes value 1 for individuals married or in a stable cohabitation, and 0 otherwise. - Single takes value 1 for individuals who never married before, 0 otherwise. - Divorced takes value 1 for divorced or separated individuals, and 0 otherwise. - Widow takes value 1 for widows, and 0 otherwise.	SHIW
Higher Education	Binary variable taking value 1 for individuals having completed a university degree, and 0 otherwise.	SHIW
Household Size	Number of household members.	SHIW
Net Wealth	Sum of real and financial assets net of liabilities, in thousand €.	SHIW
Risk Averse	Binary variable taking value 1 if risk aversion level is 4, 0 otherwise. Risk-aversion is measured by a categorical variable representing the preferred risk profile of financial investments among the following: 1 = High risk, high returns 2 = Reasonable risk, good returns 3 = Low risk, reasonable returns 4 = No risk, low returns.	SHIW
Sector	Set of binary variables representing the sector of employment of the working individual among the following: 1 = Agriculture 2 = Manufacturing 3 = Construction (and building) 4 = Trade (wholesale and retail trade, lodging and catering services) 5 = Transport (transport and communication) 6 = Financial (financial and credit services and insurance institutions) 7 = Real estate (real estate, renting services, other professional and business activities) 8=Private services (domestic and other private services) 9=P.A. (Public Administration, i.e. general government, defense, education, health and other public services) 10= International Organizations (extra-territorial organizations and entities)	SHIW
Access to credit	Binary variable taking value 1 when the individual has asked and obtained a loan, and 0 otherwise	SHIW
Partially constraint	Binary variable taking value 1 when the requested loan has been only partially granted (not in the full amount requested)	SHIW
Discouraged	Binary variable taking value 1 when the individual declared s/he did not apply for credit since s/he expected not to be financed	SHIW

Informal debt	Binary variable taking value 1 for households indebted with relatives or friends, and 0 otherwise.	SHIW
Has professional debts	Binary variable taking value 1 when household *j* in year *t* owns a debt specifically for its business, and 0 otherwise.	SHIW
Amount paid for professional debts	Continuous variable measuring the amount paid in year *t* by household *j* for professional loans	SHIW
Residual professional debt	Continuous variable measuring the amount left to be paid by household *j i*n year *t* for the professional loans	SHIW
Number of immigrant firms	Quantitative discrete variable counting the number of firms run by immigrants in the region of residence of household *j* in year *t.*	RII
Share of immigrant firms	Continuous variable computed as the number of firms run by immigrants over total number of firms in the region of residence of household *j* in year *t.*	RII/ISTAT
Share of immigrants	Continuous variable measuring the share of immigrants in the region of residence of household *j* in year *t.*	ISTAT
Network	Continuous variable measuring the share of immigrants in the region of residence of household *j* in year *t* coming from the same geographical area as individual *i* in household *j*	ISTAT
Services for immigrants	Continuous variable measuring the public expenditures for migrants in proportion of the population of the region of residence of household *j* in year *t.*	ISTAT

Note: SHIW stands for (Bank of Italy) Survey on Household Income and Wealth, RII stands for (Rapporto Immigrazione ed Imprenditoria – Aggiornamento Statistico produced by the Centro Studi e Ricerche IDOS), and ISTAT stands for Italian National Statistical Institute (Istituto nazionale di STATistica).