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Institutional embeddedness and self-employment: does ethnicity matter?

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Abstract
This paper seeks to provide new insights about the role played by institutional embeddedness in explaining self-employment (SE) in Europe. In addition to the variables typically used to capture formal institutions, we have considered informal institutions such as the relevance of the shadow economy and the perception of corruption. We have also explored the mediating role played by ethnicity, assuming that the native and foreign-born populations have different attitudes toward SE. Moreover, unlike most previous studies, which tend to focus on a specific country, our analysis is conducted in a multi-country framework. Our results highlight the heterogeneous impact of the institutional framework on SE decisions between these two population groups. More specifically, informal institutions have opposite effects on natives and migrants.

Keywords: self-employment, entrepreneurship, institutions
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1. Introduction

Self-employment (SE) accounts for an increasing share of new jobs and is regarded as a key economic policy solution to reduce unemployment as well as a good way to promote invention and innovation (Willis et al, 2019; Pantea, 2022). The promotion of institutional framework

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conditions that are more conducive to SE is well-established on the policy agenda (OECD and the European Commission, 2021). However, the fiscal and social treatment of SE may differ considerably across European countries.[1] The purpose of this paper is to identify the impact of the institutional framework on SE in Europe and to explore the potential differences between the foreign-born and native populations with regard to SE. Previous work on this topic has mainly focused on the United States and confirms that migrants start firms at higher rates than native-born individuals and play outsized roles in high-growth entrepreneurship (Kerr and Kerr; 2020 and Azoulay et al; 2022). The high SE entry rate among migrants seems to be driven either by poor labour market opportunities, which push migrants into entrepreneurial activity, or by the self-selection of migrants into SE (the process of migrating tends to select for people who are less risk averse). Surprisingly, there is hardly any evidence about this topic in Europe, despite the share of migrants among the self-employed having nearly doubled over the past decade, increasing from 6% in 2011 to 11% in 2020 (OECD and European Commission, 2021). This growth is partially explained by the EU enlargement to the East as well as by the increased migratory flows from North Africa, the Middle East and China (Rinaldi et al, 2023). The scarce available evidence about our research topic in the European context as well as the increase in migration flows to Europe during the analysed period justify the need for this study.

Our contribution is twofold. Firstly, we provide further insights into the controversial evidence regarding the main determinants of SE at the macro level: although there seems to be a good deal of agreement about the individual characteristics that are positively related to SE, the same cannot be said of the role played by the economic and institutional environment of the host country (Rinaldi et al, 2023). The different patterns in SE across countries suggest that common factors such as technological trends or shifts in industry distribution are not at work here, or that their effect has been offset by the influence of other variables that show little variability over time or only slow convergence across different economies. Institutional characteristics are likely to be among these variables as they are relatively stable over time and, despite economic convergence, countries differ significantly as to taxation, business, and labour market regulation (Torrini, 2005; Nejad and Young, 2016). One issue that, to the best of our knowledge, has not been analysed yet is the role played by informal institutions such as the shadow economy and the global perception of corruption; these variables constitute the focus of this paper. Secondly, we explore the mediating role played by ethnicity in the impact of the institutional framework on SE. To that end, we examine whether certain institutions affect native and foreign-born population groups differently. Some studies have concluded that migrants in Europe are less likely than natives to be self-employed (Naude et al, 2017; Kahanec and Guzi, 2017). Our previous work on this issue in European countries (see Cuadros et al, 2021; 2023) has shown that self-employed natives are more sensitive to local conditions than foreign-born self-employed workers. The findings of this new study corroborate the evidence from our previous studies by showing that, whereas informal institutions exert a positive impact

[1] See, for instance, Spasova and Wilkens (2018) or Eurofund (2017, 2024).

on SE for natives, the effect is the opposite for migrants.

2. Data and estimation methodology

Our empirical analysis examines the impact of institutions on the aggregate SE rate for the 27 members of the European Union for the period 2004-2022, distinguishing between natives and migrants. To conduct the analysis, we have built an econometric model including alternative indicators measuring institutional quality. Additionally, we have included control variables aimed at capturing the effect of the macroeconomic framework. We have used the fully modified ordinary least squares (FMOLS) (Phillips and Hansen, 1990) method based on grouped estimations, which allows us to estimate cointegrated regressions while avoiding endogeneity and serial correlation issues. In this section, we describe the variables included in the model and the main hypotheses regarding their expected effects on SE.

2.a. Institutional quality indicators: the role of formal and informal institutions

The institutional variables typically analysed in relation to SE capture a wide variety of aspects such as the quality of legal institutions (e.g., protection of property rights), the level of corruption, the regulation of employment protection and the access to finance (Fritsch et al, 2021). Entrepreneurship-facilitating entry conditions must also be considered, as they are assumed to be beneficial for SE: lighter bureaucratic and administrative burdens help ease the business decision-making process.

Firstly, we consider a general measure of the entrepreneurship-facilitating quality of a country's institutions. Whereas Brieger and Gielnik (2021) used business-friendly regulation, we follow Fritsch et al (2021) and use the overall Doing Business score. The latter study finds that the ease of Doing Business has a positive impact on both SE and paid employment in Europe. Secondly, to capture the importance of informal institutions, we include Schneider and Asllani's (2022) indicator of the size of the shadow economy, defined as "all economic activities that are hidden from official authorities for monetary, regulatory, and institutional reasons", measuring it as a share of the national GDP. According to Baycan-Levent and Nijkamp (2009), the informal economy is more likely to provide an opportunity for SE in Southern European countries, which are assumed to have weaker institutional controls than Northern European countries.

We also analyse three measures of institutional quality obtained from the World Governance Indicators (WGI) database: (1) *Control of corruption*, (2) *Regulatory quality* and (3) *Rule of law*. The Control of corruption index captures perceptions of the extent to which public power is exercised for private gain. Corruption can be considered as an informal institution and can offer a way to avoid an inefficient regulatory environment (Chowdhury et al, 2019). Dhreher and Gassebner (2013) studied 43 countries and found a positive relationship between corruption and entrepreneurship in highly regulated countries. Regulatory quality captures

perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Nejad and Young (2016) found that improvements in legal systems and property rights appear to be the strongest pull factor for potential migrants. Migrants are attracted to destinations with less burdensome regulations and stronger property rights and legal systems. Finally, rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. To avoid collinearity problems, we do not simultaneously include regressors obtained from different data sources.

2.b. Control variables

We include several control variables that allow us to account for the macroeconomic environment. They mostly relate to the labour market (unemployment rates and wages), the role of the public sector (public expenditure, taxes and social contributions), interest rates and the level of education.

Regarding unemployment, there is some disagreement in the literature as to whether high unemployment discourages SE because of the lack of available opportunities or encourages it because of the lack of viable alternatives. On the one hand, recessions drive up unemployment, pushing some members of the workforce into SE. Faria et al (2009, 2010) and Porras-Arena and Martín-Roman (2019) observed this countercyclical effect in changes in SE. Also, an economic downturn may increase the number of opportunity entrepreneurs due to lower costs of capital, materials and/or labour (Willis et al, 2019). On the other hand, entrepreneurial activities are less likely to fail in economic booms, meaning they act as a pull factor for SE. Miao (2020) found evidence of this effect in Sweden for both natives and migrants. Accordingly, Halicioglua and Yolac (2015) concluded that the impact of unemployment on SE in OECD countries is rather ambiguous.

The interest rate is included as a control variable because one possible impediment to entrepreneurship is lack of capital. Entrepreneurs may face liquidity constraints. All else being equal, people with greater family assets are more likely to switch to SE from employment (Blanchflower, 2000). Individuals with more wealth and those with lower financial constraints are more likely to become self-employed (Torrini, 2005; Fritsch et al, 2021).

With respect to human capital, the literature reports conflicting evidence on the role of formal education. For example, Rinaldi et al (2023) found that education has a significant and positive influence on migrant SE in Italy, but this effect is significant and negative in the UK. The explanation the authors gave for this result is that in the UK it is possible for a migrant with a high level of education to find a good job in a prestigious occupation, while in Italy it is almost impossible.

Finally, public expenditure, taxes and social contributions have also been included in the analysis. Torrini (2005) showed that the expansion of the public sector has a significant negative impact on SE in a panel of OECD countries: a larger proportion of employment in

sectors such as defence, justice, and general administration, where there is no place for SE, automatically reduces the share of SE in total employment. The influence of taxes and social contributions, however, is more ambiguous, as it can either stimulate or reduce the SE rate. On the one hand, a high level of corporate taxes reduces start-up opportunities and makes business management less appealing (Fritsch et al, 2021). On the other hand, self-employed workers are assumed to have more opportunities to hide income from the tax authorities, leading several studies to posit a positive relationship between taxation and SE (Torrini, 2005).

The control variables are defined as follows: Unemployment is the ratio of the unemployed to the active population (*lfsa_ugan* from Eurostat); public expenditure is government consumption calculated as a percentage of GDP (*nama_10_gdp* from Eurostat); wages and social security contributions are measured in current prices (*nama_10_gdp* from Eurostat); education is the percentage of people with tertiary education (*sdg_04_20* from Eurostat); taxes are income taxes on individuals and households including holding gains calculated as a percentage of GDP (*gov_10a_taxag* from Eurostat); and finally, the interest rate is the one-year Euribor (https://data.ecb.europa.eu/). Table 1 displays descriptive statistics for all the variables used in our research.

Table 1. Descriptive statistics

	Mean	Std. Dev.	Minimum	Maximum	Observations
Dependent Variables					
Total self-employment	0.12	0.04	0.06	0.26	513
Native self-employment	0.12	0.04	0.06	0.28	506
Foreign-born self-employment	0.49	1.38	0.04	12.79	442
Explanatory Variables					
Doing Business	84.71	8.88	51.47	95.91	389
Shadow Economy	19.31	7.19	6.10	35.30	513
Corruption	0.97	0.79	-0.38	2.46	513
Regulatory Quality	1.16	0.44	0.14	2.04	513
Rule of Law	1.08	0.60	-0.19	2.12	513
Unemployment	0.08	0.04	0.02	0.28	513
Wages	164303	278915	1963	1665852	513
Interest Rate	0.01	0.02	0.00	0.05	513
Education	36.59	10.73	12.60	62.60	513
Social Contributions	0.19	0.07	0.03	0.41	511
Public Expenditure	19.91	3.01	11.20	27.90	513
Taxes	7.66	4.74	2.30	29.00	513

Source: see sources in section 2

3. Results

Table 2 shows the estimates for our baseline model.[2] We estimate three different equations that include alternative indicators for institutional quality (both formal and informal). Column (1) presents the results for the use of the Doing Business indicator as explanatory variable. Column (2) uses an indicator of the share of the shadow economy in each country, and column (3) combines three indicators obtained from the WGI database. All equations include the control variables described in the previous section.

Table 2. Self-employment rate (all)

	(1)	(2)	(3)
Doing Business	0.007**		
	(2.231)		
Shadow Economy		0.234***	
		(6.096)	
Corruption			0.076***
			(4.320)
Regulatory Quality			0.066***
			(3.116)
Rule of Law			-0.052*
			(-1.931)
Unemployment	-0.017	-0.066***	-0.050***
	(-0.792)	*(-6.786)*	*(-4.122)*
Wages	-0.038	-0.035	0.008
	(-0.759)	*(-1.519)*	*(0.290)*
Interest Rate	-0.039	-0.656***	-0.496***
	(-0.144)	*(-4.473)*	*(-2.687)*
Education	-0.226***	-0.105***	-0.123***
	(-4.944)	*(-4.002)*	*(-3.492)*
Social Contributions	0.250***	0.013	0.041
	(4.538)	*(0.487)*	*(1.326)*
Public Expenditure	-0.415***	0.016	0.046
	(-3.830)	*(0.410)*	*(0.999)*
Taxes	-0.044	0.010	-0.001
	(-0.641)	*(0.443)*	*(0.972)*
Observations	356	510	484

Source: authors

Note: t-statistics are reported in parentheses. The symbols ***, ** and * mean rejection of the null hypothesis

[2] As a preliminary analysis, we tested for unit roots in the series and found that the variables are I (1). Also, we performed panel cointegration tests, confirming the existence of cointegration among the variables. These results are not included for the sake of brevity but are available on request.

at the 1%, 5% and 10% significance levels, respectively.

Starting with equation (1), we observe that the Doing Business indicator is statistically significant with a positive impact on the dependent variable. Not surprisingly, this result confirms that SE increases in business-friendly environments. Equation (2), which includes an indicator of the shadow economy, provides evidence supporting the idea that a higher share of economic activity outside of the formal economy increases the share of SE.

Regarding the combined effect of the indicators included in Equation (3), we obtain a statistically significant effect in all cases. The corruption and regulatory quality variables display a positive effect, whereas the influence of the rule of law on the dependent variable is negative. Taken together, the positive effect of corruption and the negative effect of the rule of law suggest that the more possibilities there are for individuals to overcome institutional restrictions (labour regulation and/or tax procedures), the more attractive SE becomes. Furthermore, the positive impact of regulatory quality confirms that legislation aimed at promoting private initiative contributes to more individuals starting their own business.

Most of the results related to the control variables reflect the controversy highlighted in the previous section. Let us start with the labour market indicators. Unemployment rates negatively affect the probability of becoming self-employed, whereas the level of wages is not statistically significant. Our results therefore support the existence of procyclical behaviour of SE, in contrast with the evidence mentioned above. Educational level displays a negative and significant effect in all cases. Thus, on average, more educated individuals are more likely to find jobs in the labour market, meaning that they do not need to start their own business. Apparently, less educated individuals find it more profitable to work for themselves. SE is also negatively affected by interest rates, confirming the importance of the availability and cost of financial resources for the development of entrepreneurial activities.

Regarding public sector indicators, we do not observe a significant influence on the dependent variable in most of our estimates. Only in equation (1) do we observe a significant effect of *social contributions* (positive) and *public expenditure* (negative). Whereas the latter confirms previous evidence regarding the detrimental influence of the relative size of the public sector on the SE rate, the positive impact of social contributions is somewhat counterintuitive, as they should mean higher costs of SE (at least for self-employed individuals that become employers).

In Table 3, we analyse native and foreign-born SE separately. Regarding our variables of interest, we observe divergent patterns in their impact on both dependent variables, with the Doing Business index being the only regressor that has a positive effect on both groups. Corruption, regulatory quality and rule of law are significant only in the case of native SE, with the same positive signs that we observed for the aggregate SE rate. Therefore, the outcomes displayed in Table 2 were driven by native SE. *Shadow economy*, on the other hand, displays opposite effects for native and foreign-born SE. As in the previous case, the sign for native SE is the same as for aggregate SE, whereas our model reveals a negative effect on foreign-born

SE.

Table 3. Self-employment rate. By origin of self-employed individuals

	Native			Foreign-born		
	(1)	(2)	(3)	(4)	(5)	(6)
Doing Business	0.005*			0.024**		
	(1.852)			*(2.557)*		
Shadow Economy		0.241***			-1.322**	
		(5.367)			*(-2.212)*	
Corruption			0.079***			0.118
			(4.209)			*(1.607)*
Regulatory Quality			0.054**			-0.060
			(2.531)			*(-0.697)*
Rule of Law			-0.070**			-0.520
			(-2.551)			*(-0.545)*
Unemployment	0.022	-0.046***	-0.033***	-0.279***	0.587**	-0.087
	(1.029)	*(-4.942)*	*(-2.798)*	*(-3.415)*	*(2.064)*	*(-1.454)*
Wages	0.082	-0.027	-0.042	-1.287***	-0.768***	-0.377***
	(1.474)	*(-1.046)*	*(-1.457)*	*(-5.496)*	*(-4.084)*	*(-2.930)*
Interest Rate	0.390	-0.371**	0.082	-2.890**	1.584	-3.632***
	(1.511)	*(-2.275)*	*(0.417)*	*(-2.377)*	*(0.683)*	*(-4.264)*
Education	-0.241***	-0.127***	-0.100***	-0.197	-0.038	-0.434***
	(-5.239)	*(-4.198)*	*(-2.750)*	*(-1.048)*	*(-0.198)*	*(-3.294)*
Social Contributions	0.325***	0.047*	0.053*	0.231	0.196	-0.251
	(6.054)	*(1.660)*	*(1.659)*	*(1.092)*	*(0.989)*	*(-1.572)*
Public Expenditure	-0.547***	-0.019	0.048	-0.678**	-2.188***	-0.688***
	(-5.314)	*(-0.462)*	*(1.013)*	*(-2.058)*	*(-2.920)*	*(-3.812)*
Taxes	-0.047	0.023	-0.026	-0.029	1.636***	0.209*
	(-0.744)	*(1.058)*	*(-0.800)*	*(-0.154)*	*(2.903)*	*(1.740)*
Observations	354	503	481	299	439	410

Source: authors

Note: t-statistics are reported in parentheses. The symbols ***, ** and * mean rejection of the null hypothesis at the 1%, 5% and 10% significance levels, respectively.

Our findings indicate that the SE rates of the foreign-born population seem to be less

sensitive to those elements that require a deeper knowledge of institutional aspects of the host economy. Thus, in countries where the shadow economy represents a significant share of economic activity, it should be easier for natives to opt for SE than it is for the foreign-born population. It is more difficult for foreigners to acquire the skills needed to perform outside the formal economy.

In terms of the control variables, we obtain similar results for native and foreign-born SE in the case of the interest rate, education, and public expenditure. However, labour market variables such as unemployment and wages reveal different patterns for the two dependent variables, and the same happens for social contributions. Native SE does not seem to be affected by wages, whereas wages do have a negative and significant impact on foreign-born SE. Unemployment negatively affects native SE, but the effects are inconsistent in the case of foreign-born SE, as we find a negative effect in equation (4) and a positive one in equation (5). Finally, social contributions are significant for explaining the SE rate for natives but not for the foreign-born population.

4. Concluding remarks

Our results show that SE in Europe benefits from less regulated and more business-friendly environments, particularly for the native self-employed. As such, our findings are in line with most of the previous evidence regarding the impact of formal institutions on SE. However, the outcomes for informal institutions provide interesting new insights about divergent effects for native or foreign-born SE; according to our regressions, both the relative importance of the shadow economy and the perception of corruption have a positive influence on native SE, but the opposite effect on foreign-born SE. These results are similar to previous findings (Cuadros et al, 2021; 2023), which seem to indicate that native self-employed workers are more sensitive to local conditions than foreign-born self-employed workers. Migrants' SE rates seem to be less sensitive to those elements which may require a deeper knowledge of the informal institutions of their host country.

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