Quality of institutions and employment dynamics of social enterprises: Evidence from Italian regions

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Francesco Savoia, Federica Bandini, Daniela Bolzani, Eleonora Grassi *

Abstract

This paper empirically investigates the effect of the quality of regional institutions on social enterprises' employment growth. Using an original panel dataset of social enterprises during 2011-2020, FE and GMM estimates provide three findings. First, higher institutional quality at the regional level positively affects firms' employment. Second, the effect is heterogenous and varies across firms' size. Third, corruption in the provision of public services significantly inhibits the "speed" of employment growth for micro and SMEs.

Keywords: Social entrepreneurship; Social economy; Institutions; Corruption; Employment; Regional development.

JEL: L31, O43, R58

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Introduction

Over the last decade, the social economy has gained prominence in the international policy agenda by offering concrete and innovative solutions to the grand challenges of recent times. The social economy is expected to increase living standards due to driving economic and employment growth—effectively combining social aims and profit purposes in a sustainable way.[1] In addition, social enterprises have displayed remarkable resilience in terms of employment generation and protection during periods of economic crisis (OECD/EU, 2017)[2], and thus represent one of the biggest inclusive job creation areas in European countries (European Commission, 2012).

However, according to the European Commission (2021), the social economy is not evenly developed across the European Union (EU), leaving "major untapped economic and job creation potential for the social economy in several member states and regions". In addition, the development of social enterprises is also problematic because firms' growth is essential for maximising social impact and reconciling such impact with market goals, thus avoiding mission drift (Bauwens et al., 2019; Davies et al., 2019; Ometto et al., 2019).

The role of institutions is among the key factors of uneven development of entrepreneurship and received initial attention from scholars, although needing a systematic assessment in the case of social entrepreneurship (Sahasranamam & Nandakumar, 2020, p.114). Institutional factors are important for entrepreneurship (Aidis et al., 2012; Autio et al., 2010; Estrin et al., 2013; Stephan et al., 2015) and exert direct and indirect influence on growth and development (Acemoglu et al., 2014; North, 1990; Rodrik, 2003). For instance, recent evidence indicates that institutions are important for both the quality and quantity of entrepreneurship (Chowdhury et al., 2019), play a central role in explaining firm productivity (Agostino et al., 2020a; Lasagni et al., 2015), and drive entrepreneurship in terms of entry rate (Agostino et al., 2020b). Although institutions can help explain

[1] Social entrepreneurship contributes to the implementation of SDGs by addressing a wide range of societal challenges, including the social and economic integration of vulnerable people, environmental sustainability, responsible consumption and production, and the promotion of equal opportunities and civic participation (European Commission, 2020; OECD/EU, 2017).

[2] Between 2008 and 2014, in Italy, Belgium and France, the employment of social enterprises grew respectively at a rate of 20%, 12%, and 0.8%, while employment in mainstream or private enterprises decreased (OECD/EU, 2017).

how entrepreneurial activities are shaped, mechanisms leading from institutions to economic growth remain unexplored. Thus, there is still a "limited understanding of the role that the institutional context plays in economic growth through the influence of entrepreneurial activity" (Urbano et al., 2019, p.22). Recent scholarship on this topic has remarked on the importance of (1) identifying what kind of institution matters, as the evidence seems to assign a prominent role to informal aspects; (2) researching the interplay between entrepreneurship and institutions, as a bidirectional relationship may exist; and (3) departing from the main focus on country-level dynamics, namely by moving towards a growing recognition of regional-level dynamics (e.g., Bjørnskov & Foss, 2016; Urbano et al., 2019).

In this paper, we provide novel evidence about the relationship between institutions and the growth of social enterprises. Specifically, we derive new empirical insights by exploring the case of Italy, which has a long-standing tradition in social business initiatives (European Commission, 2020; Scarlato, 2012) and yet a high level of within-country disparities in the quality of institutions. This work aims to answer the following research questions: Does the quality of institutions affect the growth of social enterprises at the regional level? Which institutional dimensions matter for firm-level growth dynamics? Given the significance of employment growth as a measure of success for social enterprises,[3] this paper examines absolute and relative employment variations in Italian social enterprises using longitudinal data, thus addressing prior scholarly concerns about measurement and data limitations, unable to move beyond the entry "intention" and growth "aspirations" of social enterprises (Sahasranamam & Nandakumar, 2020; Stephan et al., 2015).[4] Using panel data estimates, we confirm the role of institutional quality in explaining employment dynamics in social enterprises over time.

[3] For instance, the Employment Package of the European Commission (2012, p. 4) states that: "Social economy actors and social enterprises are important drivers of inclusive job creation and social innovation and require specific support, including through public procurement and access to finance".

[4] Generally, firm-growth studies have focused on employment, sales, profits or value added as standard measures (Coad, 2007), making a distinction between absolute and relative growth measures and between different types of firm-growth patterns (Delmar et al., 2003). In addition, regarding the choice of variables, scholars have noted that growth measures are not interchangeable and may not reflect growth in terms of other metrics (McKelvie & Wiklund, 2010). In line with the EU policy framework and outcomes, we use absolute and relative employment variations as objective measures of employment dynamics.

We find that the effect is heterogenous and depends on firms' size. Finally, corruption in the provision of public services significantly inhibits the "speed" of employment growth for Micro and SMEs.

Data and methodology

We assembled an original firm-level panel dataset by drawing on different sources referring to Italian social enterprises between 2011 and 2020. Following the EU operational definition of social enterprise, we included all the entities whose primary purpose is to respond to social and environmental problems through business activities and inclusive governance (European Commission, 2020, p.20). In the context of Italy, we thus included: social cooperatives, ex-lege social enterprises, benefit corporations, and innovative start-ups with a social vocation (often referred to as *Siavs*). The data collection procedure involved several steps: We first retrieved general information and financial statements on cooperatives, social enterprises and benefit corporations by searching the *Aida* database (Bureau Van Djik). We then extended the sample by matching *Siavs* information, from the Italian Chambers of Commerce, with the financial statements available in *Aida*. Finally, we combined firm-level data with a set of regional socio-economic variables from Eurostat and regional measures of the quality of institutions from Charron et al. (2022). The final dataset consisted of an unbalanced panel of 13,506 firms, mainly Micro and SME, proportionally distributed among macro areas and regions in absolute and relative terms (Tables 1-2).

Table 1 – Sample composition by legal status and size classes

	Micro	SMEs	Large	n.a.	TOTAL
Social Enterprises+Benefit corporations	1,265	423	10	432	2,130
Siavs	195	2	0	48	245
Social cooperatives	5,559	2,953	107	2,512	11,131
Total	7,019	3,378	117	2,992	13,506

Notes: This sample includes active and non-active firms. Size classes calculated using the average number of employees over years: Micro<10, SMEs<250, Large>=250 (n.a. refers to missing data).

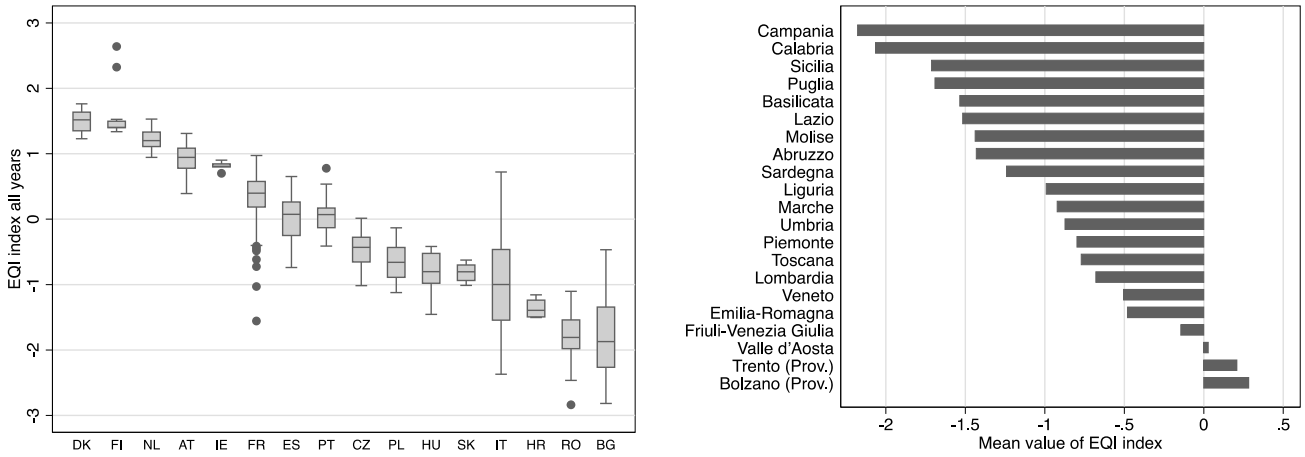
Table 2 – Regional distribution by legal status

	NUTS1 codes	Regions	NUTS2 codes	Social Enterprises + Benefit corporations	Siavs	Social Cooperatives	TOTAL	Share/total firms (%)
North	ITC	Piemonte	ITC1	162	22	330	514	0.45
		Valle d'Aosta	ITC2	2	0	7	9	0.27
		Liguria	ITC3	44	9	385	438	0.98
		Lombardia	ITC4	359	85	1,209	1,653	0.36
	ITH	Bolzano (Province)	ITH1	16	4	81	101	0.30
		Trento (Province)	ITH2	19	3	108	130	0.38
		Veneto	ITH3	129	10	495	634	0.35
		Emilia-Romagna	ITH5	87	17	576	680	0.39
		Friuli-Venezia Giulia	ITH4	44	6	73	123	0.36
Centre	ITI	Toscana	ITI1	148	7	455	610	0.41
		Umbria	ITI2	41	0	129	170	0.56
		Marche	ITI3	43	6	175	224	0.38
		Lazio	ITI4	158	32	1,498	1,688	0.48
South	ITF	Abruzzo	ITF1	21	5	212	238	0.50
		Basilicata	ITF5	33	1	208	242	1.47
		Calabria	ITF6	37	2	522	561	1.19
		Campania	ITF3	483	19	1,465	1,967	0.88
		Molise	ITF2	13	0	84	97	0.97
		Puglia	ITF4	102	4	942	1,048	0.81
	ITG	Sardegna	ITG2	70	4	577	651	1.33
		Sicilia	ITG1	119	9	1,600	1,728	1.28
		TOTAL		2,130	245	11,131	13,506	0.59

Regarding the socioeconomic and institutional features, it is well known that the European context reveals a high degree of heterogeneity across and within countries, and these imbalances are especially strong for Italy (Charron et al., 2015; Savoia, 2020; Tabellini, 2010). Figure 1 shows a comparison of within-country variations in the quality of institutions in the EU and the regional variations for Italy, measured by the European Quality of Government Index (EQI).[5] Looking at the box plots on the left, the considerable within-country gap characterising the Italian context is clear. The pooled data of the EQI index show that Italy is well below the EU average (set to 0) and has the highest within-country variation and the lowest scores in the level of institutional quality. On the right side, the diagram bars display the regional mean values of EQI in Italy, indicating a significant gap between the northern and southern regions.

[5] EQI index is based on survey data where respondents are asked about their perceptions and experiences with the corruption of the public sector, and the extent to which they believe public sector services are of good quality and impartially allocated. Further details are available in Charron et al. (2015).

Figure 1 – EQI index: EU within-country variations and between-regions disparities in Italy



Notes: within-country values in the box plots are expressed in relation to the EU average, with positive (negative) values indicating high (low) quality of institutions. Box plots report minimum, maximum, interquartile range (IQR), and median values. Vertical lines below (above) the IQR include data points within 1.5*IQR of the lower (upper) quartile. Dots represent outside values.

We employed different model specifications for panel data to study the effect of institutional quality on firms' employment variations from 2011 to 2020. We controlled for unobserved time-invariant regional characteristics, dealing with potential source of omitted variable bias, by running Fixed Effects (FE). In addition, we also estimated a dynamic panel data model with the Generalised Method of Moments (GMM) to achieve consistent estimates. In our model, we controlled for a standard set of firm- and regional-level variables using the following baseline specifications:

$$Empl_{i,\,t} = \alpha + \beta_1 EQI_{r,\,t} + \beta_2 Empl_{i,\,t-1} + \gamma\, X_{i,\,t} + \delta_t + \varepsilon_{i,\,t} \qquad (1)$$

$$\frac{Empl_{i,\,t} - Empl_{i,\,t-1}}{Empl_{i,\,t-1}} = \alpha + \beta_1 EQI_{r,\,t} + \beta_2 Empl_{i,\,t-1} + \gamma\, X_{i,\,t} + \delta_t + \varepsilon_{i,\,t} \qquad (2)$$

$$with\ \ \varepsilon_{i,\,t} = \mu_{i,\,t} + v_{i,\,t}$$

where our dependent variable is the employment level of each firm over time in (1) and the employment growth rate in (2). *EQI* is the regional European Quality of Government Index, $Empl_{i,\,t-1}$ is the lagged values of the employment to control for the effect of past employment level on current level; $X_{i,\,t}$ is a vector of control variables. The controls include firm-level characteristics, such as total investments (*INVEST*

TOTAL), investments in tangible assets (*INVEST MATERIAL*) and intangible assets (*INVEST IMMAT*), labour cost (*LAB COST*), productivity measures of capital and labour expressed by per capita value added (*VA PER CAPITA*) and labour cost over sales (*LAB COST/TURNOVER*), profitability (*ROI*). They also encompass macro-economic characteristics, such as GDP per capita (*GDP PER CAPITA*), share of public expenditure in R&D activities (*R&D GOV EXP*), and level of regional unemployment (*UNEMPL RATE*). δ_t includes time dummies for common shocks and $\varepsilon_{i,\,t}$ is the error term that includes unobserved firm-level effects $\mu_{i,\,t}$ and the observation-specific errors $v_{i,\,t}$. The summary statistics and the correlation table are available in the appendix as supplementary material.

Results and discussion

Table 3 reports our baseline findings for the full sample of active social enterprises. In this baseline set, the coefficient of the EQI index is positive and statistically significant across the specifications, indicating that an increase in regional institutional quality corresponds to a rise in firms' employment levels. Not surprisingly, we observed that the magnitude of the EQI effect declines with the inclusion of the full set of controls. Regarding the regional controls, the public expenditure in R&D and the level of development seem to positively impact firm employment, although the coefficients have weak (p<0.10) or no statistical significance in the last specification. The unemployment rate is not correlated with our variable of interest.

Following the firm-level application of Arellano and Bond (1991), we expected employment to exhibit a delayed adjustment in response to changes in factors such as capital stock of firms (investments) and wages (labour cost), as hiring and firing workers is costly. The coefficients of the control variables relating to firms' characteristics were statistically significant and displayed the expected sign. In the last specification, we expanded the model by controlling for profitability, as well as the tangible and intangible component of the investments. The results held in both cases, confirming the positive role of the investments and showing that

expenditure in tangible assets has a significantly higher effect.[6] Finally, more profitable firms seem to gain more in terms of employment variations.[7]

Table 3 – Fixed Effects (FE) 2011-2020: Full sample (Dep. Var. Employment levels)

	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample
EQI Index	0.060***	0.079***	0.081***	0.084***	0.091***	0.032***	0.033**	0.037**
	(0.020)	(0.020)	(0.020)	(0.020)	(0.019)	(0.012)	(0.017)	(0.019)
GDP PER CAPITA		0.021***	0.018***	0.019***	0.010*	0.013***	0.008	-0.003
		(0.007)	(0.007)	(0.007)	(0.006)	(0.004)	(0.007)	(0.008)
UNEMPL RATE			-0.004	-0.005	-0.004	-0.004*	-0.005	-0.007
			(0.003)	(0.003)	(0.003)	(0.002)	(0.004)	(0.005)
R&D GOV EXP				0.001	0.001**	0.001**	0.001*	0.001*
				(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
INVEST TOTAL ln					0.114***	0.059***	0.066***	
					(0.006)	(0.004)	(0.006)	
LAB COST ln					-0.186***	-0.327***	-0.438***	-0.526***
					(0.011)	(0.013)	(0.022)	(0.028)
L. EMPLOYMENT ln						0.503***	0.457***	0.430***
						(0.010)	(0.017)	(0.024)
ROI ln							0.012***	0.009*
							(0.004)	(0.005)
INVEST IMMAT ln								0.013***
								(0.004)
INVEST MATERIAL ln								0.062***
								(0.007)
Constant	2.278***	1.771***	1.879***	1.818***	1.697***	-0.281**	-0.339	-0.091
	(0.026)	(0.167)	(0.179)	(0.181)	(0.179)	(0.136)	(0.227)	(0.290)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F-stat	53.44***	53.77***	49.38***	45.65***	72.25***	314.60***	136.00***	94.38***
Adj. R-Sq.	0.049	0.049	0.049	0.049	0.124	0.394	0.421	0.442
R-Sq. within	0.049	0.049	0.050	0.050	0.124	0.395	0.421	0.443
R-Sq. between	0.021	0.048	0.050	0.043	0.138	0.870	0.830	0.800
Obs.	48263	48263	48263	48263	45849	39830	20431	13901
Firms	6285	6285	6285	6285	6116	5764	4335	3243

Notes: Firm level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

We re-investigated this relationship by disaggregating the full sample according to the size classes of firms. We speculate that the quality of regional institutions might affect firms' development non-linearly, as large firms would have higher ability to absorb the economic costs stemming from weak institutions.

[6] In other specifications (not reported for brevity), we also controlled for experience using firms' age; the results were still generally confirmed.

[7] Unfortunately, data availability significantly reduced the sample size in some specifications (e.g., ROI).

Table 4 reports the FE estimates for Micro, SMEs, and Large (Columns 1-3). The results reveal that firm size matters: In the full sample, the effect of institutional quality on firms' employment growth was mainly driven by SMEs. Regional controls were not significant, apart from the government expenditure in R&D (positive for SMEs, $p<0.10$), while the results for the set of firms' characteristics hold in both sign and magnitude. Our evidence regarding the heterogeneity of institutions' effectiveness is consistent with the view of Agostino et al. (2020a) on European regions.

Given the characteristics of our data and the nature of the relationship under investigation, we also estimated a dynamic panel data model with GMM to control for different sources of endogeneity: namely, unobserved heterogeneity, simultaneity, and dynamic endogeneity (Roodman, 2009). In our case, the embodied assumptions of the GMM estimator include a dynamic dependent variable, the potential endogeneity of some regressors (or predetermined regressors, but not strictly exogenous), idiosyncratic disturbances uncorrelated across firms, and a "small T, large N" panel.

We first estimated the dynamic panel model with OLS and FE. Then we ran Difference GMM, instrumenting only the lagged values of suspected endogenous variables with levels (i.e., employment, labour cost) and System GMM (Blundell and Bond, 1998), instrumenting the levels of the variables with differences. The results support the second strategy, having regression coefficients of the lagged dependent variable within the credible range of the upward-biased OLS and the downward-biased FE estimates (using orthogonal deviations transformation).

Table 4 (Columns 4-6) reports the System-GMM robustness analyses for the full sample and SMEs. The results from the baseline and extended dynamic specifications confirmed our evidence: The EQI coefficients were significant and had a larger effect on firm-level employment. Interestingly, we found statistically significant gains in the EQI coefficients ($p<0.01$), while a corresponding variation of the EQI effect doubled for the full sample. The negative and significant coefficients of GDP and unemployment rate suggests that there may be fewer growth opportunities for entrepreneurs in underdeveloped regions. The positive effect of

labour cost is not surprising, as it may reflect the higher qualifications of the firms' labour force, especially for SMEs. Regarding the productivity measures of capital and labour, the sign of the coefficients could be linked to social enterprises' predominantly non-labour-intensive activity in some sectors.

Table 4 – FE - GMM 2011-2020: Firms' subsamples (Dep. Var. Employment levels)

	(1)	(2)	(3)	(4)	(5)	(6)
	FE Micro	FE SMEs	FE Large	GMM Full Sample	GMM Full Sample	GMM SMEs
EQI Index	-0.002	0.041**	0.122	0.118***	0.070***	0.056***
	(0.044)	(0.021)	(0.081)	(0.039)	(0.014)	(0.015)
GDP PER CAPITA	0.003	-0.009	-0.056	-0.003	-0.006**	-0.008***
	(0.017)	(0.010)	(0.048)	(0.003)	(0.002)	(0.003)
UNEMPL RATE	-0.008	-0.004	-0.022	0.002	-0.002	-0.009***
	(0.008)	(0.006)	(0.022)	(0.005)	(0.003)	(0.003)
R&D GOV EXP	0.000	0.002*	0.001	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.002)	(0.000)	(0.000)	(0.000)
INVEST IMMAT ln	0.013	0.012***	0.024*	0.005	0.001	-0.007**
	(0.011)	(0.004)	(0.014)	(0.033)	(0.003)	(0.003)
INVEST MATERIAL ln	0.041***	0.071***	0.073*	-0.117*	0.038***	0.016***
	(0.012)	(0.008)	(0.041)	(0.063)	(0.006)	(0.004)
LAB COST ln	-0.337***	-0.710***	-0.597***	0.103	0.868***	0.905***
	(0.033)	(0.036)	(0.151)	(0.089)	(0.076)	(0.142)
L. EMPLOYMENT ln	0.409***	0.466***	0.133	0.402***	0.246***	0.359***
	(0.028)	(0.025)	(0.081)	(0.075)	(0.043)	(0.131)
L2. *EMPLOYMENT ln*				0.086***	0.064***	-0.041
				(0.018)	(0.011)	(0.049)
ROI ln	-0.004	0.017**	-0.018	-0.036	0.032***	0.018***
	(0.009)	(0.007)	(0.015)	(0.024)	(0.005)	(0.005)
LAB COST/TURNOVER				-0.635***	-0.662***	-0.639***
				(0.126)	(0.048)	(0.090)
VA PER CAPITA ln					-1.001***	-1.039***
					(0.074)	(0.118)
Constant	-0.318	-0.556	4.866**	-0.459**	-0.428***	-0.252
	(0.505)	(0.350)	(1.935)	(0.221)	(0.136)	(0.210)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-Sq.	0.312	0.541	0.300			
R-Sq. within	0.315	0.541	0.316			
R-Sq. between	0.410	0.693	0.295			
Obs	4001	9152	748	12072	12052	8115
Firms	1287	1857	99	2984	2982	1785
No. of instruments				50	53	53
AR1 (p-value)				0.000	0.001	0.005
AR2 (p-value)				0.638	0.120	0.397
Hansen-J (p-value)				0.123	0.463	0.795

Notes: Firm-level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Finally, we assessed whether there is an effect on the "speed" of employment variations using the annual employment growth rate as a dependent variable. In this setting, we sought to fully capture the effect of institutional quality by also looking at each pillar composing the EQI index: namely, the sub-dimension

concerning the quality of public services, the impartiality and the level of corruption in the provision of public services. Disaggregating the sample according to the firm-size classes and decomposing the EQI index, we found that the level of corruption significantly inhibits the speed of employment growth for Micro and SMEs (Table 5).[8] The effect of corruption was statistically significant ($p<0.05$) and a larger impact was observed for SMEs (-0.175) as opposed to micro enterprises (-0.091); meanwhile, the quality and impartiality pillars had no effect in these specifications. This evidence aligns with Estrin et al.'s (2013) findings regarding the impact of corruption on five-year employment "growth aspirations". Looking at the controls, the results generally align with our previous estimates. In addition, the results highlight the positive role of investments in intangible assets on the speed of employment growth for Micro enterprises—likely reflecting the concentration of younger and innovative enterprises operating in high-tech service sectors (such as the *Siavs*).

We checked the robustness of these results by estimating dynamic panel data models (Table A4 in the appendix); for brevity, we only report the specification with the corruption pillar. Our results further verify that the level of corruption has a constraining effect on the speed of employment growth for SMEs, as well as generally confirm the evidence of FE specification for both macro- and firm-level controls. More interestingly, the magnitude of the effect (-0.309) was more prominent compared to FE estimates (-0.175) in this setting. Further analysis is needed to understand the dynamics of firms below the threshold of fifty employees: We observed no corruption effect for Micro, but a weakly significant and smaller effect for the micro-small subsample (with employees <50). We believe that further research could illuminate this relationship by exploring the heterogeneity of sectors and firms' business models.[9]

[8] We also investigated the effect of EQI pillars for the full sample baseline specification presented in Table 3. The results indicated that the quality of services supplied has a significant positive effect on employment variations (in levels). No significant effect was detected for the impartiality and corruption pillars (see Table A3 of the appendix in the supplementary material).

[9] Concerning the business models, see the recent evidence for Italian social cooperatives in Bandini et al. (2021).

Table 5 - Fixed Effects (FE) 2011-2020: Firms' subsamples and EQI Pillars (Dep. Var. Employment growth rate)

	Micro	Micro	Micro	SMEs	SMEs	SMEs	Large	Large	Large
EQI Quality	-0.015			-0.029			-0.649		
	(0.027)			(0.042)			(4.565)		
EQI Impartiality		0.061			-0.094			-12.446	
		(0.053)			(0.120)			(11.853)	
EQI Corruption			-0.091**			-0.175**			-7.071
			(0.040)			(0.083)			(6.834)
GDP PER CAPITA	-0.001	0.004	-0.009	0.057	0.052	0.043	-8.739	-9.374	-8.546
	(0.013)	(0.013)	(0.013)	(0.041)	(0.037)	(0.038)	(7.134)	(7.573)	(6.991)
UNEMPL RATE	-0.004	-0.002	-0.001	-0.023	-0.029	-0.020	-3.280	-3.765	-3.456
	(0.007)	(0.008)	(0.007)	(0.016)	(0.020)	(0.016)	(3.221)	(3.593)	(3.356)
R&D GOV EXP	0.000	0.000	0.000	0.002	0.003	0.002	-0.036	-0.045	-0.024
	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.125)	(0.127)	(0.123)
INVEST IMMAT ln	0.019*	0.019*	0.019*	-0.048	-0.048	-0.047	-0.358	-0.454	-0.367
	(0.011)	(0.011)	(0.011)	(0.043)	(0.043)	(0.042)	(0.917)	(0.873)	(0.872)
INVEST MATERIAL ln	-0.007	-0.007	-0.007	0.081	0.081	0.080	-2.329	-2.025	-2.287
	(0.014)	(0.014)	(0.014)	(0.067)	(0.068)	(0.067)	(3.123)	(2.879)	(3.005)
LAB COST ln	0.290***	0.289***	0.290***	-0.470	-0.469	-0.466	28.105	28.259	27.844
	(0.080)	(0.080)	(0.080)	(0.412)	(0.413)	(0.412)	(32.197)	(31.769)	(32.243)
L. EMPLOYMENT ln	-0.184***	-0.184***	-0.184***	-0.024***	-0.024***	-0.024***	-0.116	-0.116	-0.116
	(0.013)	(0.013)	(0.013)	(0.005)	(0.005)	(0.005)	(0.092)	(0.092)	(0.092)
LAB COST/TURNOVER	-0.645***	-0.645***	-0.646***	-0.947***	-0.946***	-0.952***	-53.352	-53.555	-54.267
	(0.073)	(0.073)	(0.074)	(0.222)	(0.222)	(0.224)	(42.787)	(42.785)	(43.231)
VA PER CAPITA ln	-0.416***	-0.416***	-0.417***	-0.838**	-0.840**	-0.840**	16.191	16.802	16.642
	(0.048)	(0.048)	(0.048)	(0.343)	(0.344)	(0.343)	(20.971)	(21.045)	(21.725)
Constant	-0.779*	-0.824**	-0.703*	-9.130***	-9.001***	-8.932***	210.078	225.784	195.804
	(0.399)	(0.404)	(0.398)	(2.290)	(2.230)	(2.216)	(201.739)	(211.315)	(193.725)
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F-stat	22.47***	22.31***	22.37***	9.21***	8.98***	8.92***	0.46	0.44	0.44
Adj. R-Sq.	0.359	0.359	0.359	0.107	0.107	0.108	0.124	0.126	0.125
R-Sq. within	0.360	0.360	0.361	0.108	0.108	0.109	0.142	0.144	0.143
R-Sq. between	0.048	0.044	0.051	0.006	0.007	0.009	0.002	0.002	0.002
Obs.	9631	9631	9631	14424	14424	14424	865	865	865
Firms	2114	2114	2114	2148	2148	2148	101	101	101

Notes: Firm-level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$. Table A5 in the appendix reports results for the full sample.

Conclusions

Policymakers, especially in Europe, are interested in creating a conducive environment to boost the social economy and benefit from wider social cohesion and solidarity, increased labour market inclusion and employment growth. However, significant disparities remain in how social enterprises evolve across different

regions. Understanding the factors that drive the growth of social enterprises and their capacity to create new employment is thus relevant to sustainable and inclusive development prospects in the EU.

This study contributes to that understanding by exploring the effect of regional institutional quality on the employment dynamics of social enterprises in Italy—a notable case of high within-country heterogeneity. Using panel data, evidence confirmed the positive role of institutional quality in employment dynamics. In addition, we qualified this finding by showing that the effect is heterogenous and varies across firms' size, being more beneficial to employment growth in SMEs. Furthermore, we found that higher levels of corruption in public service provision matter for the "speed" of employment growth of Micro and SMEs.

These results have implications for business strategy. First, they suggest that social enterprises, especially those small and medium in size, should pay special attention to whether they approach the external environment proactively or reactively. Our findings lend support to the argument related to the "sand" effect of corruption, which generally implies additional costs to firms' transactions, increased uncertainty, an unfavourable environment for entrepreneurship growth, and adverse supply-side effects on entrepreneurs, encouraging therefore rent-seeking activities (Aidis et al., 2010; Desai & Acs, 2007; Estrin et al., 2013). However, it is worth noting that institutional factors may vary significantly also within regions, especially regarding the general public's perception and awareness of the informal dimension of corruption. This implies a need to develop sustainable solutions that consider local resources, policies and cultural norms and to build solid partnerships with local institutions.

In terms of research, our study encourages a more fine-grained analysis on the effects of organisational models, business models and sector dynamics. A fruitful line of research would be to investigate whether our findings can be applied to enterprises in general or if they are more relevant for social enterprises, considering their need to reconcile market goals with a social mission. In addition, future research on managerial teams should investigate the characteristics associated with resilience to institutional failures.

Our results also have implications for local governance and policymakers, reinforcing the need for "place-specific policies" to enhance public sector efficiency and impartiality, while reducing the uncertainty and institutional failures that incentivise corruption. For instance, they should streamline regulations, increase the transparency of rules, control access to funds, and reform the check and balance mechanisms of territorial governance. Given the growing relevance of this topic for nations' recovery and resilience plans, we encourage future studies to consider a wider set of countries and regions than we explored to add nuance to our findings.

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Appendix. Supplementary Material

Table A1 - Summary statistics

Variables	Description	Sources	Obs	Mean	Std. Dev.	Min	Max
EMPLOYMENT	Annual employment variations	*Aida* BvD	41591	40.639	156.921	0	4925
EMPLOYMENT GROWTH	Annual employment growth rate	*Aida* BvD	41591	.238	7.767	-1	1443
INVEST IMMAT	Investments in intangible assets	*Aida* BvD	41591	.068	.509	-.017	20.992
INVEST MATERIAL	Investments in tangible assets	*Aida* BvD	41591	.275	1.493	-.048	56.392
INVEST TOTAL	Total investments	*Aida* BvD	41591	.397	2.07	-.003	79.735
VA PER CAPITA	Valued added per capita	*Aida* BvD	41591	.021	.02	-.05	.472
LAB COST	Labour cost	*Aida* BvD	41591	.018	.011	0	.1
LAB COST/TURNOVER	Labour cost turnover ratio	*Aida* BvD	41591	-3.181	1.407	-9.768	9.88
ROI	Return on investments (%)	*Aida* BvD	27691	5.295	11.162	-30	29.99
EQI Index	EQI index	QOG Institute	41591	-1.265	.651	-2.37	.72
EQI Quality	EQI quality pillar	QOG Institute	41591	-1.057	.882	-2.574	1.239
EQI Impartiality	EQI impartiality pillar	QOG Institute	41591	-1.339	.583	-2.348	.509
EQI Corruption	EQI corruption pillar	QOG Institute	41591	-1.283	.578	-2.539	.506
GDP PER CAPITA	GDP in pps (thousands of euro pc)	Eurostat	41591	26697.31	8242.408	16200	50600
UNEMPL RATE	Unemployment rate (years 20-64)	Eurostat	41591	13.083	6.082	2.3	23.2
R&D GOV EXP	Government expenditure (euro pc)	Eurostat	41591	48.516	58.175	1.1	256.6

Notes: firm level variables expressed in million euro. Note that we have excluded from the analysis outliers in employment growth rate related to mergers and acquisitions of cooperatives.

Table A2 - Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) *EQI Index*	1.000														
(2) *EQI Quality*	0.947	1.000													
(3) *EQI Impartiality*	0.902	0.765	1.000												
(4) *EQI Corruption*	0.927	0.815	0.785	1.000											
(5) *EMPLOYMENT*	0.265	0.263	0.235	0.237	1.000										
(6) *INVEST TOTAL*	0.320	0.319	0.279	0.288	0.546	1.000									
(7) *INVEST IMMAT*	0.207	0.222	0.166	0.179	0.381	0.670	1.000								
(8) *INVEST MATERIAL*	0.289	0.287	0.255	0.260	0.521	0.909	0.407	1.000							
(9) *LAB COST*	0.289	0.284	0.259	0.259	0.234	0.338	0.201	0.297	1.000						
(10) *ROI*	-0.055	-0.069	-0.038	-0.040	-0.008	-0.180	-0.097	-0.193	-0.002	1.000					
(11) *VA PER CAPITA*	0.152	0.149	0.140	0.134	-0.043	0.227	0.115	0.197	0.497	-0.001	1.000				
(12) *LAB COST/TURNOVER*	-0.266	-0.266	-0.233	-0.238	-0.813	-0.560	-0.401	-0.536	-0.038	0.024	-0.113	1.000			
(13) *GDP PER CAPITA*	0.782	0.779	0.686	0.687	0.241	0.311	0.216	0.273	0.277	-0.057	0.165	-0.274	1.000		
(14) *UNEMPL RATE*	-0.817	-0.792	-0.776	-0.692	-0.250	-0.300	-0.205	-0.269	-0.279	0.046	-0.160	0.271	-0.896	1.000	
(15) *R&D GOV EXP*	-0.017	-0.082	0.022	0.046	-0.005	0.006	-0.022	-0.003	0.016	0.033	0.030	-0.029	0.361	-0.194	1.000

Table A3 – Fixed Effects (FE) 2011-2020: Full sample and EQI pillars (Dep. Var. Employment levels)

	Full Sample	Full Sample	Full Sample
EQI Quality	0.022**		
	(0.011)		
EQI Impartiality		0.019	
		(0.020)	
EQI Corruption			0.018
			(0.018)
GDP PER CAPITA	-0.005	-0.005	-0.005
	(0.008)	(0.008)	(0.008)
UNEMPL RATE	-0.007	-0.005	-0.007
	(0.005)	(0.005)	(0.005)
R&D GOV EXP	0.001**	0.001*	0.001*
	(0.001)	(0.001)	(0.001)
INVEST IMMAT ln	0.013***	0.013***	0.013***
	(0.004)	(0.004)	(0.004)
INVEST MAT ln	0.062***	0.062***	0.062***
	(0.007)	(0.007)	(0.007)
LAB COST ln	-0.526***	-0.526***	-0.526***
	(0.028)	(0.028)	(0.028)
L.EMPLOYMENT ln	0.430***	0.430***	0.430***
	(0.024)	(0.024)	(0.024)
ROI ln	0.009*	0.009*	0.009*
	(0.005)	(0.005)	(0.005)
Constant	-0.067	-0.074	-0.070
	(0.292)	(0.290)	(0.290)
Time dummies	Yes	Yes	Yes
F-stat	94.31***	94.33***	95.43***
Adj. R-Sq.	0.442	0.442	0.442
R-Sq. within	0.443	0.443	0.443
R-Sq. between	0.797	0.793	0.796
Obs.	13901	13901	13901
Firms	3243	3243	3243

Notes: Firm level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A4 – GMM 2011-2020 - Firms' subsamples and EQI corruption pillar (Dep.var. Employment growth rate)

	Micro <10	Micro + Small <50	SMEs <250	Large >=250
EQI Corruption	-0.013	-0.056*	-0.309**	-1.185
	(0.029)	(0.033)	(0.131)	(3.940)
GDP PER CAPITA	-0.007*	-0.010	-0.041**	0.698
	(0.004)	(0.007)	(0.017)	(0.522)
UNEMPL RATE	-0.004	-0.014*	-0.050**	1.550
	(0.005)	(0.008)	(0.020)	(1.125)
R&D GOV EXP	0.000	0.000	0.003*	0.009
	(0.000)	(0.000)	(0.002)	(0.028)
INVEST IMMAT ln	0.027	-0.167*	-0.415	1.371
	(0.049)	(0.097)	(0.280)	(3.455)
INVEST MAT ln	-0.015	0.291	1.057***	7.140
	(0.124)	(0.180)	(0.316)	(4.478)
LAB COST ln	0.137***	0.071	-0.893**	-19.914
	(0.041)	(0.140)	(0.442)	(20.967)
L.EMPLOYMENT ln	-0.072***	-0.041***	-0.012***	-0.002
	(0.013)	(0.006)	(0.004)	(0.011)
LAB COST/TURNOVER	-0.315***	-0.421*	0.108	4.743
	(0.053)	(0.228)	(0.522)	(6.090)
VA PER CAPITA ln	-0.306***	-0.527***	-0.828***	12.736
	(0.070)	(0.085)	(0.257)	(17.990)
Constant	-0.616	-1.601	-3.228	-31.023
	(0.421)	(1.178)	(2.150)	(52.018)
Time dummies	Yes	Yes	Yes	Yes
Obs	9631	19647	14424	865
Firms	2114	3688	2148	101
No. of instruments	36	50	60	60
AR1 (p-value)	0.000	0.050	0.039	0.264
AR2 (p-value)	0.305	0.705	0.395	0.856
Hansen-J (p-value)	0.129	0.095	0.155	0.694

Notes: Firm level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A5 – Fixed Effects (FE) 2011-2020: Full sample and EQI pillars (Dep. Var. Employment growth rate)

	Full sample	Full sample	Full sample
EQI Quality	-0.167		
	(0.257)		
EQI Impartiality		-0.605	
		(0.531)	
EQI Corruption			-0.342*
			(0.187)
GDP PER CAPITA	0.042	0.014	0.024
	(0.092)	(0.092)	(0.097)
UNEMPL RATE	-0.050	-0.084	-0.046
	(0.057)	(0.071)	(0.057)
R&D GOV EXP	0.008	0.008	0.009
	(0.007)	(0.007)	(0.008)
INVEST IMMAT ln	0.034	0.034	0.035
	(0.068)	(0.067)	(0.067)
INVEST MAT ln	0.117	0.118	0.117
	(0.096)	(0.096)	(0.096)
LAB COST ln	0.990	0.994	0.992
	(1.135)	(1.136)	(1.132)
L.EMPLOYMENT ln	-0.067	-0.067	-0.067
	(0.053)	(0.053)	(0.053)
LAB COST/TURNOVER	-1.763	-1.762	-1.766
	(1.085)	(1.083)	(1.084)
VA PER CAPITA ln	-0.974**	-0.976**	-0.975**
	(0.399)	(0.400)	(0.398)
Constant	-2.727	-2.131	-2.515
	(3.935)	(4.192)	(3.926)
Time dummies	Yes	Yes	Yes
F-stat	6.97***	6.88***	6.86***
Adj. R-Sq.	0.080	0.081	0.080
R-Sq. within	0.081	0.081	0.081
R-Sq. between	0.015	0.015	0.015
Obs.	24920	24920	24920
Firms	4363	4363	4363

Notes: Firm level controls expressed in million euro (natural logarithm). R&D government expenditure expressed in euro per inhabitant. Clustered standard errors are in parentheses. Significance levels: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.