THE ECONOMIC IMPACT OF SOCIAL ENTREPRENEURSHIP: AN EXPLORATORY ANALYSIS OF THE LINKAGE BETWEEN SOCIAL COOPERATION AND LOCAL GROWTH IN ITALY

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1. Introduction

Social entrepreneurship is a phenomenon that is attracting increasing interest within the field of economics. It refers, in general terms, to all those entrepreneurial ventures that are not oriented toward individual profit maximization but rather the pursuit of public benefit purposes that enable the generation of social value (Huybrechts and Nicholls 2012). As recently pointed out by the OECD (2022), social enterprises have strong potential and can provide a crucial contribution to promoting more inclusive and sustainable growth. These firms have grown in importance over the past decade by expanding their reach within the European Union, contributing to important policy objectives, such as job creation, inclusiveness, equal opportunities, sustainability, and civic participation (European Commission 2020).

Considering these premises, with this article I aim to assess the economic impact of this emerging phenomenon. Focusing on the Italian context, I specifically analyze the contribution of social cooperatives — which are the most important expression of social entrepreneurship in Italy (Picciotti *et al.* 2014) — to the economic growth of provinces (NUTS-3) through the lens of relational capital. I choose Italy because it represents a fascinating case study in light of its important cooperative tradition that has allowed it to be one of the pioneering countries of social entrepreneurship (Terzo 2021a).

I investigate the Italian case using a panel data set of 106 NUTS-3 regions spanning the period from 2012 to 2019. Specifically, I apply a linear within-estimator technique with fixed effects to the so-called Barro regression (β-convergence model) addressing the well-known econometric issues of reverse causality and estimation bias resulting from unobserved province-specific influences.

I structure this analysis to test the hypothesis that social cooperatives may, through the creation of relational networks based on the principle of unconditional reciprocity that fosters the spread of generalized trust, stimulate the economic growth of Italian provinces. The results of the econometric investigation confirm the presence of a positive linkage between the local diffusion of social cooperation and

economic growth, providing novel evidence on an issue still partially unexplored by empirical studies.

The remainder of the paper is structured as follows. Section 2 describes the theoretical framework. Section 3 illustrates the empirical strategy, while Section 4 comments on the results of the econometric analysis. Finally, Section 5 offers some concluding remarks.

2. Theoretical background

As argued above, this study focuses on social cooperatives, which constitute a universe — the social cooperation — that has become pivotal in the expansion of the social economy in Italy (Terzo, 2021b). They are playing an increasingly important role in the economies of high-income countries that seek to maintain high welfare standards while meeting increasingly tight budget constraints (Pesenti, 2014).

The social cooperative firm, to which Italian law recognizes by right the legal status of social enterprise, produces goods and services to pursue, unlike traditional cooperatives, the general interest of the community in which it operates. It has an innovative nature, through the goods or services it offers, and through the organization or production methods it resorts to, contributing to social cohesion, employment, and the reduction of inequalities (Becchetti and Pisani, 2015).

This organization, as a non-profit institution, can be considered a relational good, since it facilitates, through the implementation of activities aimed at pursuing the general interest, the development of trust relationships based on the principle of reciprocity (Terzo *et al.*, 2022). Following Poledrini (2015), it is possible to highlight how social cooperatives base their activities on the principle of unconditional reciprocity, defined by Bruni (2008) as the propensity to cooperate because of intrinsic motivations — for example, in a spirit of solidarity — and not to get a material benefit in exchange.

The orientation toward unconditional forms of reciprocity is what distinguishes a social cooperative from a traditional cooperative or capitalist firm. A traditional cooperative, indeed, is characterized by the pursuit of members' interests, while a capitalist firm is by that of shareholders, giving rise to cooperative actions that, in different ways, can generate particularist forms of trust. Social cooperatives, on the other hand, can foster, through the adoption of cooperative behaviour based on the principle of unconditional reciprocity, the spread of generalized trust.

As shown in a large empirical literature (e.g., Beugelsdijk *et al.,* 2004; Bjørnskov, 2012; Dincer and Uslaner, 2012; Zak and Knack, 2001), generalized trust is a key factor in the economic growth of territories. Repeated interactions between members of a collective promote the dissemination of information and the relevance of

reputation. The higher opportunity cost associated with opportunistic actions makes agent behaviour more predictable, resulting in an overall reduction in uncertainty. For these motivations, an increase in trust-based relations may reduce the average cost of transactions, just as an increase in physical capital reduces the average cost of production (Sabatini, 2008).

Considering that social cooperation represents, in the light of its features as a relational good, a source of generalized trust, I thus empirically test the hypothesis that a greater local diffusion of social cooperatives corresponds to the higher economic performance of territories.

3. Econometric approach

3.1. Data

The data set is a strongly balanced panel for 106 Italian provinces (NUTS-3) over the period from 2012 to 2019. A detailed list of the variables included in the model is provided in Table 1 together with some descriptive statistics and the correlation matrix of explanatory variables.

As a dependent variable, I consider the annual growth rate of value added per capita, measured as the logarithmic difference in value added per capita between years t and t-1:

$$\Delta VA\_pc_{it} = lnVA\_pc_t - lnVA\_pc_{t-1} \tag{1}$$

The variable of interest is the local diffusion of social cooperatives, which is expressed as follows:

$$SOC\_COOP_{it} = (social\ cooperatives/total\ firms)*10,000 \tag{2}$$

It represents, therefore, the number of social cooperatives per 10,000 total firms, expressing the weight of social cooperation within local entrepreneurial systems. Considering that social cooperatives represent the majority of social enterprises operating in Italy (Borzaga and Musella 2020), this indicator can be considered a reliable proxy of the degree of social entrepreneurship in a territory.

I also include in the analysis a set of variables useful for controlling some socio-economic characteristics of local contexts. To control the β convergence hypothesis (e,g., Barro, 1991, Barro *et al*., 1991; Barro and Sala-i-Martin, 1992a, 1992b), I include the initial level of value added per capita (*VA_pc*). To control the endowment of human capital, I consider a proxy indicating the percentage of people aged 25-39 with a tertiary level of education (ISCED 5,6,7 and 8) (*HUM_CAP*). I also control for the sectoral composition of the local economy, including the percentage of value-

added represented by the manufacturing sector (*MANUFACT*), and the agglomeration effects through a variable expressing the population density (number of inhabitants per square kilometres) (*POP_DENS*). Finally, to control the level of trustworthiness I include a variable indicating the number of reported crimes per 10,000 inhabitants (*CRIME*).

The dependent variable is measured for the period 2013-2019, while the explanatory variables are for the period 2012-2018. This lagging of explanatory variables allows us to mitigate the reverse causality bias.

3.2 Empirical strategy

I use regression analysis to estimate the determinants of local economic growth. Two conventional approaches for estimating panel data are the fixed–effects and random–effects procedures. However, whether the individual province fixed–effects are correlated with other exogenous variables, the random–effects estimation procedure yields inconsistent estimates. A Hausman test shows that the fixed province–effects are correlated with the other exogenous variables, suggesting that the fixed–effects estimation procedure is the more appropriate choice. On a theoretical basis, a fixed–effects technique is more appropriate because the data are not a sampling of provinces. Hence, for both theoretical and empirical reasons, I adopt the fixed–effects procedure, estimating the following equation:

$$\Delta VA\_pc_{it} = \beta_0 + \beta_1 VA\_pc_{i,\,t-1} + \beta_2 SOC\_COOP_{i,t-1} + \beta_3 X_{i,t-1} + \Phi_i + u_i \qquad (3)$$

Where, as described above, ΔVA_pc is the annual growth rate of value added per capita, VA_pc the initial level of value added per capita, SOC_COOP the number of social cooperatives per 10,000 total firms, X a vector of control variables, Φ the province fixed effects and u the error term. Given the panel nature of the data, I also address the potential for serial correlation. A Durbin–Watson test indicates that autocorrelation is a concern; therefore, all standard errors are clustered at the province level.

Considering how there would be a problem of reverse causality, which can only be mitigated by lagging the explanatory variables, I also estimate a regression model with instrumental variables. In this model, the variable *SOC_COOP* is treated as endogenous and instrumented with two variables. Following widespread literature, I consider two instruments that should be strongly correlated with the variable of interest and should not have a direct impact on economic growth. Since social capital can be a determinant of the creation of social cooperatives, I include in the analysis a proxy of civicness; that is, the percentage of separate waste collection of municipalities (*SEP_WASTE*) (employed, for instance, in Terzo 2021a and Caporale *et al.*, 2016). As shown by Kim and Kim (2015), a determinant of the spread of non-

profit organizations — such as social cooperatives — can be the heterogeneity of the population; that is, the size of the registered foreign population as a percentage of the total population (*POP_HET*), which I employ as a further instrument.

Table 1 − *Summary statistics (panel A) and correlation matrix of explanatory variable (panel B).*

PANEL A					
Variable	**Source**	**Mean**	**SD**	**Min**	**Max**
ΔVA_pc	Centro studi G. Tagliacarne	0.0134	0.0229	-0.1983	0.1920
VA_pc	Centro studi G. Tagliacarne	22736	6157	12992	48666
SOC_COOP	Unioncamere	3.80	1.94	0.98	9.70
POP_DENS	Istat	269.4	376.5	37.09	2614
HUM_CAP	Istat	23.06	5.43	10.80	43.80
MANUFACT	Centro studi G. Tagliacarne	16.16	7.98	4.07	37.04
CRIME	Istat	193.5	84.84	23.00	548.7
SEP_WASTE	Istat	48.76	18.91	4.80	87.90
POP_HET	Istat	7.45	3.38	1.36	16.93

PANEL B							
		1	2	3	4	5	6
1	*VA_pc*	1.0					
2	*SOC_COOP*	-0.6	1.0				
3	*POP_DENS*	0.3	-0.2	1.0			
4	*HUM_CAP*	0.6	-0.3	0.2	1.0		
5	*MANUFACT*	0.5	-0.5	0.4	0.3	1.0	
6	*CRIME*	0.5	-0.6	0.1	0.2	0.1	1.0

3.3 Results

Table 2 shows the results of some specifications of the baseline model. Column 1 indicates a specification in which I include only the initial level of value added per capita to test the hypothesis of convergence, which is confirmed since the coefficient is negative and statistically significant. Next, I include the variable of interest (Column 2), which shows a positive and statistically significant coefficient. This coefficient does not change in sign and significance following the subsequent introduction of the control variables (Column 3). These results, which at this stage I interpret as robust correlation, represent initial evidence confirming the work's hypothesis.

Table 2 − *Estimation results I (N = 742).*

Dependent variable ΔVA_pc	Ordinary Least Squares (OLS) regressions		
	(1)	**(2)**	**(3)**
VA_pc	- 0.0695**	-0.1042***	-0.1838***
	(0.0284)	(0.0274)	(0.0338)
SOC_COOP		0.0819***	0.0468***
		(0.0104)	(0.0099)
POP_DENS			-0.0087***
			(0.0021)
HUM_CAP			0.0274***
			(0.0082)
MANUFACT			-0.0719***
			(0.0254)
CRIME			-0.0180**
			(0.0078)

Note. All estimates include a constant term and the provincial fixed-effects (not shown). All explanatory variables are log-transformed. Clustered robust standard errors are shown in brackets. ***p<1%; **p<5%; * p<10%.

With regard to the control variables, the positive sign of the *HUM_CAP* variable is consistent with the well-established literature that highlights the crucial role of human capital in economic growth processes (e.g., Barro, 2001; Gennaioli *et al*., 2013; Lucas, 2015). Contrary to expectations, I find a negative sign for the *POP_DENS* and *MANUFACT* variables. These results, which should be interpreted as simple correlation, can be explained by taking into account how the most industrialized and urbanized areas are those that probably suffered most from the effects of the Great Recession, having the most difficulty in the recovery path. The result on population density is congruent with what Muringani (2022) recently found. Finally, the negative sign of the *CRIME* variable is consistent with some empirical studies that have found how crime negatively impacts the value added of Italian provinces (e.g., Carboni and Detotto 2016; Mauro and Carmeci 2007).

Table 3 shows the estimates of IV regressions using a Two-stage least squares (2SLS) estimator. In Columns (1) and (2) I estimate the model separately including the two instruments, while in Column (3) they are jointly included. Looking at the tests of the first two specifications, where the instruments are included individually, it is possible to see how the under-identification tests reject the null hypothesis in both cases. Moreover, the weak identification tests indicate values of the F statistic that are well above the Staiger and Stock (1997) rule of thumb value of 10. The same results are obtained in the third specification (Column 3), where the instruments are

both included. In this case, we can also verify the over-identification test, which does not reject the null hypothesis that the instruments are uncorrelated with the error term. Hence, the instruments are exogenous and not weak. The results of these estimates confirm the existence of a positive linkage between the local diffusion of social cooperation and the economic performance of Italian provinces, which is therefore robust to reverse causality issue. The control variables all confirm the same signs. However, unlike previous estimates, only *VA_pc* and *HUM_CAP* retain statistical significance.

Table 3 − *Estimation results II (N=742).*

Dependent variable	IV-2SLS regressions		
ΔVA_pc	**(1)**	**(2)**	**(3)**
VA_pc	-0.1914***	-0.1921***	-0.1916***
	(0.0443)	(0.0450)	(0.0446)
SOC_COOP	0.1716***	0.1826***	0.1743***
	(0.0461)	(0.0541)	(0.0445)
POP_DENS	-0.0100	-0.0101	-0.0100
	(0.0106)	(0.0106)	(0.0106)
HUM_CAP	0.0203**	0.0196**	0.0201**
	(0.0086)	(0.0088)	(0.0086)
MANUFACT	0.0184	0.0264	0.0203
	(0.0442)	(0.0483)	(0.0403)
CRIME	-0.0107	-0.0100	-0.0105
	(0.0085)	(0.0090)	(0.0086)
Instrumental variables	*pop_het*	*sep_waste*	*pop_het sep_waste*
Underidentification test – p-value (Kleibergen-Paap rk LM statistic)	0.0000	0.0000	0.0000
Weak identification test (Kleibergen-Paap rk Wald F statistic)	69.614	56.248	40.715
Overidentification test – p-value Hansen J statistic	—	—	0.7945

Note. All estimates include a constant term and provincial fixed effects (not shown). All explanatory variables are log-transformed. Clustered robust standard errors are shown in brackets. ***p<1%; **p<5%;* p<10%. First-stage estimates are not reported (they are available upon request).

4. Concluding remarks

This article aimed to provide some evidence of the impact that social cooperation has on the economic performance of territories, focusing on the Italian context. The features of this sector — which constitutes a virtuous example of social entrepreneurship — mean that it can be characterized as a pivotal component of a territory's endowment of social capital, contributing to the generation of a virtuous process of economic growth.

To test the hypothesis that social cooperation, by its being a relational good, can be a determinant of local economic growth, I structured an econometric analysis on a sample of 106 Italian provinces (NUTS-3) for the period 2012-2019. The results of this analysis confirm the potential virtuous role of social cooperation in local economic growth processes, indicating that a greater diffusion of social cooperatives within local entrepreneurial systems corresponds to higher levels of economic performance.

Although this evidence represents only a first attempt to delineate a possible causal link between social cooperation and economic growth, it appears promising and could be useful in directing future research towards a better understanding of how social-oriented business models can promote more equitable and sustainable growth models that can reduce the regional disparities that characterize countries like Italy.

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SUMMARY

With this article I aim to investigate the linkage between social entrepreneurship and local economic growth through the lens of relational capital. Focusing on the Italian context, I consider the role of social cooperation — which constitutes a fundamental expression of social entrepreneurship in Italy — in stimulating the economic growth of provinces (NUTS-3). Specifically, I conjecture that social cooperative can contribute to local economic growth through the development of relational networks based on the principle of unconditional reciprocity that enable the spread of generalized trust, which, as reported in a large body of literature, is a key factor in the advancement of market economies. A panel analysis covering the period 2012-2019 shows results that confirm the hypothesis that social cooperation may be a determinant of local growth.

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