THE SPATIAL DETERMINANTS OF EMPLOYMENT GROWTH IN THE COOPERATIVE SECTOR: AN ANALYSIS OF ITALIAN PROVINCES

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1. Introduction

The cooperative enterprise, usually defined as a democratically controlled organisation operating in the interest of its members (Pérotin, 2012), is acquiring increasingly significant importance in contemporary market economies. In recent years, the cooperative sector has made a decisive contribution in promoting the resilience of economic systems, increasing organisational diversity and providing a proactive response to worsening economic conditions (Sabatini et al., 2014).

Several studies (e.g. Birchall and Ketilson, 2009; Birchall, 2013; Carini and Carpita, 2014; Costa and Carini, 2016) have highlighted how cooperatives were more resistant to the recessive shock fuelled by the global financial crisis of 2007-2008 compared to other types of enterprises, especially in those countries with an essential cooperative tradition where these organisations are firmly rooted in local communities and whose resilience is not a novelty element, but a stable and persistent feature over time (Pérotin, 2006, 2012, 2016; Roelants et al., 2012, 2014). During the great recession, the cooperative sector has not only limited itself to safeguarding employment levels but, in some cases, has significantly contributed to the creation of new jobs (Carini and Carpita, 2014).

For this reason, it has attracted the attention of scholars and policy-makers, as it represents a potential source of innovative solutions to ensure the stability and sustainability of economic development paths (Eurofound, 2019). In fact, following the great recession started in 2008, the role of traditional capitalist enterprises in promoting economic development through the pursuit of self-interested objectives linked to maximising profits has been questioned (Stiglitz, 2009). Hence, both in the academic and political circles, the desire to humanise an increasingly less inclusive institution—such as the market economy—is emerging. In this perspective, the cooperative enterprises can make a decisive contribution, since it not only responds to the needs of the individual—by creating work, income, and employment—but

also to those of the community and households by offering goods and services oriented to satisfy increasingly complex needs.

In light of these premises, in this paper we analyse the employment dynamics of the cooperative sector in Italy in the 2012-2018 period, characterised by a recession phase (2012-2014) and a slow recovery phase (2015-2018)[1].

The choice of Italy as a case study depended on the fact that it boasts an essential cooperative tradition; therefore, from its analysis, it is possible to bring out worthwhile evidence about the role that cooperation is assuming within contemporary economic systems. Going into more detail, we first analyse the employment dynamics of the cooperative sector through a descriptive analysis allowing us to bring out the growth trajectories assumed in the period 2012-2018, operating at different levels of territorial detail.

Subsequently, through the adoption of a spatial Shift-Share methodology carried out on provincial data (NUTS-3), we break down the rate of change of the parameter under study in order to analyse the local and structural components taking into account the spatial dependence between the geographical areas. The aim of the research is, therefore, to bring out evidence useful to carry out some reflections on the determinants of employment growth observed within the cooperative sector in recent years and to formulate some hypotheses about prospects that may be the basis for conducting future research.

The remainder of the paper is structured as follows: Section 2 shows a descriptive analysis on the temporal dynamics of employment in the cooperative sector; Section 3 analyses the spatial patterns of these dynamics through the conduction of a spatial Shift-Share methodology. Section 4 offers some further reflections on the prospects of the research regarding the growing importance of the cooperative sector in the current economic systems.

2. Data and descriptive analysis

In order to analyse the employment dynamics in the cooperative sector, we refer to the data on the number of employees of social cooperatives (soc_coop), traditional cooperatives (social cooperatives excluded) (coop) and the overall cooperative sector (coop_tot), whose source is the ASIA database managed by the Italian National Institute of Statistics (ISTAT).

Starting from an analysis of the data at a national level, from table 1 it emerges how in the time interval considered (2012-2018) the number of employees in the cooperative sector grew by 7.2%; a growth higher than that recorded for the entire aggregate of enterprises (entr_tot). However, this growth is driven by the employees

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[1] The choice of the time interval was constrained by the availability of data.

of social cooperatives, whose increase between 2012 and 2018 was 33.5%, considering that the employees of traditional cooperatives reduced by 4.5%.

To highlight that between 2012 and 2014—i.e. in a period in which negative or zero economic growth rates were recorded at a national level—the overall cooperative sector shows an employment growth of 3.4% (8.2% in social cooperatives and 1.2% in traditional cooperatives), against a 3.2% reduction in the global entrepreneurial system.

Table 1 – *Percent variations of employees in the period 2012-2014 and 2012-2018 (NUTS 1 data).*

	Δ 12-14	Δ 12-18
coop_tot	3.4	7.2
soc_coop	8.2	33.5
coop	1.2	-4.5
entr_tot	-3.2	3.4

Source: *ASIA database – Istat*

By focusing on the provincial level (NUTS-3), with the support of figure 1 it is possible to highlight how, concerning the overall cooperative sector, the situation is quite heterogeneous at a spatial level, even if the highest growth rates are mainly registered in the Central-Southern provinces. Only 27 provinces out of 107 considered highlight negative changes, showing how employment growth in the cooperative sector is substantially widespread throughout the country.

As previously highlighted, the growth of cooperative employment is driven in particular by social cooperation sector, within which favourable variations are observed in almost all provinces. While as regards traditional cooperatives, a widespread reduction emerges, which is more intense in the northern provinces.

This brief descriptive analysis highlights the counter-cyclical and resilient nature of the cooperative sector, in particular of social cooperation. Referring to a study conducted by Eurofound (2019), it is possible to mention some factors that may be at the basis of the cooperatives' ability to adapt to cyclical fluctuations and structural changes in the economic system, namely:

a) Wage flexibility. Employees in cooperative enterprises, whose environment stimulates the diffusion of social trust (Sabatini et al., 2014), are more likely than those of capitalist enterprises to make sacrifices to ensure greater responsiveness of the organisation to cyclical instability; since, being owners, they have a vested interest in its surviving and thriving (e.g. Borzaga and Tortia, 2006; Boeri and Jimeno, 2016; Bailly et al., 2017; Basterretxea and Storey, 2018).

b) Democratic decision-making processes. This characteristic is seen as a potential barrier to the development of cooperative enterprises as it slows down the times with which they respond to challenges and opportunities (Millstone 2015; Basterretxea and Storey, 2018). However, as claimed by Eurofound (2016), it is also possible that there is some slowness in making decisions regarding job losses, with the consequent maintenance of employment levels in the short term. c) Asset-lock. Given the ban, total or partial, on the distribution of profits, many cooperative enterprises have financial reserves which can be used to safeguard jobs and the level of wages during periods of crisis (Navarra, 2013).

Figure 1 – *Percentage change in the number of employees of the cooperative sector in the period 2012-2018 (NUTS-3 data).*

(a) soc_coop   (b) coop   (c) coop tot
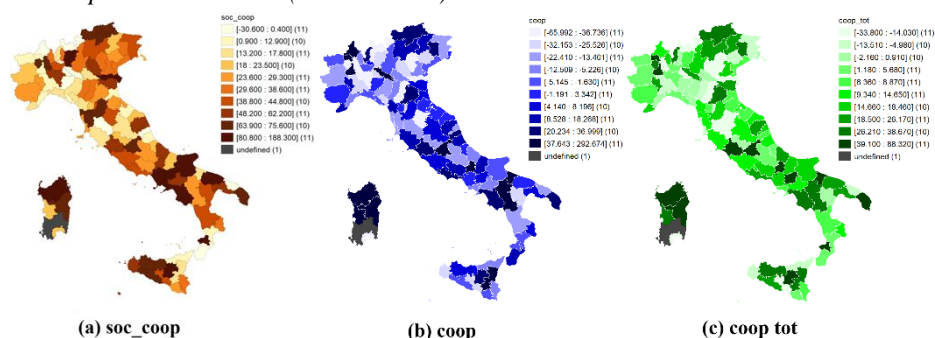
Source: our elaboration on ASIA database – Istat

3. Analysis of temporal dynamics and spatial patterns

The employment dynamics of social cooperatives take on one side an evident anti-cyclical significance revealing a series of vulnerabilities of local labour markets spread across the territories of the whole country.

Moreover, it is associated with a productive transformation of local economies who re-read their development project by placing at the centre a model of social economy, whose pivot is the mutualism. The growth of the cooperative sector, as highlighted in the previous Section, is part of a broader scenario in which the role of Social Economy is growing considerably at European level (e.g., Cermelli et al., 2019a, 2019b). Even in a context of steady persistence of dualism, which confirms the specific feature of the Italian territorial structure, a significant differentiation of local patterns in the area under study emerges: the average size of employment in the Central-Northern provinces grows differentiated compared to the Southern ones as well as the variability increases especially in the latter. In order to estimate more

precisely the specific contribution of the territorial systems, we first adopt the Shift-Share model in its classic formulation, which provides for the decomposition of the total variation through a linear filter highlighting the contribution of the specific areas as well as the tendential and sectoral-technological factor (Dunn, 1960; Esteban-Marquillas, 1972; Klaasen and Paelinck, 1972). Secondly, we adopt the decomposition model revisited by Nazara and Hewings (2003, 2004) in light of the critical observations provided by Zaccomer (2006) and Faramondi (2007); it is a spatial analysis framework also aims to identify spatial contagion, proposing a more articulated formulation for which reference should be made to Patacchini (2008), Mayor and López (2008), Pasquariello (2011), and Zaccomer and Grassetti (2014). The spatial model is enriched by introducing some components expressed in terms of spatial lag: in particular, we consider that relating to the neighbourhood effect of the individual province estimated through a spatial contiguity matrix[2].

We report below some useful considerations emerged from the observation of the analysis of signs in both models (without and with spatial constraint). The analysis reported concerns two aggregates: employment in social cooperatives (soc_coop) and that in total cooperatives (coop_tot). Figure 2 shows two maps relating to the variable signs, conventionally obtained by the joint observation of the signs of the two estimated components (sectoral and local) in the case of a linear filter according to the classical decomposition analysis: in both cases, it is possible to glimpse a similar behaviour at the provincial level, except for a more unfavourable dynamic of social cooperatives in the Central and North-Eastern territories, as well as a robust sectoral effect in many provinces of the Centre-North and the two major islands, while the local effects are very different in the two distributions but with an evident prevalence of adverse effects in many provinces in the Centre[3].

Concerning spatial analysis, we carried out various elaborations in order to estimate the spatial effects, employing different types of constraints and measurement models. The results presented below were obtained through the adoption of a binary contiguity matrix. Table 2 shows the cross-classification of the provinces according to the "three-way" signs analysis proposed by Faramondi (2007) and Pasquariello (2011): the eight clusters are related to the combination of the signs observed in the "sectoral", "neighbourhood", and "local" components.

The spatial effect is highlighted above all by the neighbourhood component, which measures the presence of spatial correlation between the contiguous areas. In the table we thus wanted to summarise various information: the first relating to the combination of signs identifying a wide range of behaviours deriving from the variation observed among the occupational indicators; the second compares the

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[2] We also estimated the spatial correlation using an inverse distance matrix, getting the same results in terms of the spatial distribution of neighbourhood effects.
[3] In the analysis we do not include the province of "Sud Sardegna" due to the lack of data.

territorial distribution of the total number of cooperatives and social cooperatives. The two sectors, although they grow in an aggregate way, show a differentiation of local behaviours and show an equally differentiated spatial structure.

We highlight in bold the provinces classified in the same group, and as it is possible to observe they are not many; this leads us to hypothesise a non-homogeneous relationship between the two territorial distributions.

The spatial dynamics highlighted by the two indicators (soc_coop and coop_tot) appear more symmetrical in Clusters 3, 4 and 7 respectively, while Clusters 5, 1 and 6 are less symmetrical, respectively. In both cases, the neighbourhood effect is predominantly positive: it could therefore be assumed that the dynamism of the social economy tends to manifest itself in a widespread sectorial way and to be infected both positively and negatively.

Figure 2 – *S&S analysis of signs*
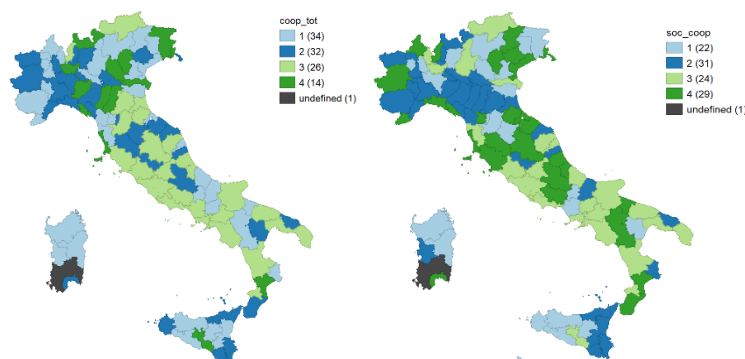
Source: our elaboration on ASIA database – Istat

Furthermore, the local effects, detected with equal incidence in the macro-areas of the country, highlight a significantly positive employment trend in the Southern provinces as well as a reasonably widespread downsizing in the Central-Northern provinces. This statistical evidence suggests a series of critical elements for discussion and numerous insights.

We limit ourselves here to noting some particularly relevant: the cooperative model widespread in the country and its employment growth is affected by a sector mix affecting counter-cyclically in part of the Center and the South and in a pro-cyclical way in most of the Center and North; it is a model characterised by strong roots in local economies and constitutes an important employment basin in almost all the provinces of the South, not without some differences (such as between Eastern

and Western Sicily, between North and South Sardegna and within the Basilicata region between Potenza and Matera).

Table 2 – *Cross-classification of provinces according to the spatial analysis of the signs*

	soc_coop	coop_tot
Cluster 1 (+ + +)*	Aosta, Venezia, Padova, Piacenza, Reggio nell'Emilia, Perugia, Potenza, Trapani, Palermo, Agrigento, **Sassari, Nuoro**	Genova, Trieste, Piacenza, Avellino, Taranto, Fermo, **Sassari**, **Nuoro**, Oristano
Cluster 2 (+ - +)	Novara, Pavia, Mantova, **Ferrara, Ascoli Piceno**, Arezzo, Rieti, **Lecce**, Crotone, **Enna**	Vercelli, Cuneo, Asti, Aosta, Imperia, Sondrio, Cremona, Bolzano, Venezia, Udine, **Ferrara**, **Ascoli Piceno**, Pistoia, Livorno, Pisa, Grosseto, Brindisi, **Lecce,** Matera, Rimini, Prato, Palermo, Agrigento, **Enna**, Catania
Cluster 3 (+ + -)	Vercelli, Cuneo, Asti, **Alessandria, Savona, La Spezia, Verona, Vicenza**, Pesaro e Urbino, Ancona, Massa Carrara, **Latina, Caserta, Napoli**	**Alessandria, Savona, La Spezia**, Pavia, Mantova, **Verona**, **Vicenza**, Gorizia, Rieti, **Latina**, Frosinone, **Caserta**, **Napoli**, Campobasso, Lecco, Crotone, Ragusa
Cluster 4 (- + +)	Cremona, Parma, Grosseto, **Benevento**, Avellino, **Salerno**, L'Aquila, **Teramo**, Taranto, Matera, Pordenone, **Isernia, Lodi**, Caltanissetta	Milano, Treviso, Massa Carrara, Arezzo, Roma, **Benevento**, **Salerno**, **Teramo**, Pescara, Chieti, Foggia, Bari, Potenza Cosenza, **Isernia**, Biella, **Lodi**, Barletta-Andria-Trani
Cluster 5 (- + -)	Torino, Imperia, Genova, Como, **Rovigo**, Trieste, Modena, Terni, Roma, Frosinone, Chieti, Foggia, Rimini, Prato	**Rovigo,** Parma, Reggio nell'Emilia, Ravenna, Pesaro e Urbino
Cluster 6 (- - -)	Varese, Milano, Udine, Gorizia, Bologna, Lucca, Pistoia, Pisa, **Siena**, Viterbo, Campobasso, Bari, **Verbano-Cusio-Ossola**, Monza e della Brianza, Cagliari	Como, Bergamo, Brescia, Padova, Modena, Ancona, **Siena**, **Verbano-Cusio-Ossola**, Caltanissetta
Cluster 7 (+ - -)	Bergamo, Bolzano, **Trento, Belluno,** Ravenna, Forlì-Cesena, Macerata, **Firenze**, Livorno, Brindisi, Lecco, Fermo, Messina, Catania, Ragusa, **Siracusa**, Oristano	Torino, Novara, Varese, **Trento**, **Belluno,** Bologna, Forlì-Cesena, **Firenze**, Perugia, Terni, Monza e della Brianza, Trapani, Messina, **Siracusa**, Cagliari
Cluster 8 (- - +)	Sondrio, Brescia, Treviso, Pescara, Cosenza, **Catanzaro, Reggio di Calabria**, Biella, **Vibo Valentia**, Barletta-Andria-Trani	Macerata, Lucca, Viterbo, L'Aquila, **Catanzaro**, **Reggio di Calabria**, Pordenone, **Vibo Valentia**

*The signs in brackets relate, in sequence, to Sectorial effect, Neighbour effect and Own-region effect **Source:** *our elaboration on a scheme proposed by Pasquarelli (2011) and Faramondi (2007).*

4. Conclusions and prospects for future research

In this paper, we have tried to show how the growth of the cooperative sector in Italy can highlight, albeit with the necessary distinctions on a territorial level, how cooperative enterprises represent—as argued by an increasingly consolidated scientific literature—organisational forms able to fill the gaps of the welfare state and the market in providing answers to the emerging social needs of the citizens. In this sense, they would propose themselves as activators of civil development processes, involving within the production process those segments of the population otherwise left out from the processes of empowerment (Scarlato, 2013; Weaver, 2019). The quantitative analyses we have conducted represent a preliminary step within a broader research path in which we intend to reflect on the contribution that cooperative enterprises can offer in the promotion of more inclusive and sustainable economic development models.

Intending to proceed in this direction, we believe it necessary to ask: the collective narratives on cooperation—especially the Italian one, which is characterised, according to a broad and consolidated literature, by a marked reference to mutuality and solidarity—the presence of those spurious cooperatives constituting the downside of the social capital? (Sciarrone, 2009; Terzo, 2019).The large presence of cooperatives in the less-developed areas and sectors depending on transfers and support from the State (for example, health and education), can paradoxically be the cause of the economic backwardness of these areas? Can the employment growth in the cooperation sector, highlighted in section 3, be vitiated by the presence of organisations operating for opportunistic or, in some cases, criminal purposes, such as intercepting public funds or laundering money?[4]

In the case of such spurious cooperatives, the solidarity and mutualist mission of the typical cooperative enterprise would therefore seem to fail, emerging a form of "cooperative isomorphic camouflage" (Di Maggio, 2020, p.122) occurring when cooperative governance is useful to exercise forms of predatory dumping. Therefore, they enter the productive fabric penalising those cooperative enterprises which, on the other hand, embody the principles of mutuality, horizontality, and solidarity. We conclude this paper with a question that summarises the previous ones and which, in essence, opens up a necessary reflection: it is possible to imagine a model better interpreting the data on cooperatives and cleans the evidence from what we could call "cooperative error": that is, in fact, the isomorphic camouflage of the spurious cooperatives? It is the interpretative challenge that this work launches. The hope is that it also concerns all those who deal with complex and critical phenomena that

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[4] In recent years it has been ascertained how historical criminal organisations set up ad hoc cooperatives to intercept public funds intended for the immigration emergency or post-earthquake reconstruction (La Spina, 2016; Mete and Sciarrone, 2016).

refer to a social economy which—precisely because it is "social"— has the task of improving, for the better, the destiny of as many people as possible. Since the latter is aimed at promoting the common good, it cannot contain within it the slightest trace of distortions making it different from what it actually is, or that perhaps—it would be better to say—it should be.

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SUMMARY

**The spatial determinants of employment growth in the cooperative sector:
An analysis of Italian provinces**

This paper analyses the temporal dynamics and spatial patterns of employment in Italian cooperative sector. Through a spatial Shift-Share analysis adopting NUTS-3 data, we try to highlight the main determinants of the growth of cooperative employment in the period 2012-2018. The evidence suggests a series of critical elements of discussion and numerous insights; we limit ourselves here to noting some particularly relevant ones: the cooperative model widespread in the country and its employment growth suffers from a sectoral mix influencing in an anticyclical way in part of the Centre and the South and in a pro-cyclical way in most of the Centre-North.

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