Impact of Cooperatives on Economic Growth and Employment in Italy

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Article Type
Research Article

Application Date
2024.06.27

Acceptance Date
2025.03.19

DOI
10.53306/klujfeas.1506232

JEL Code
P13, O40, J21, C23

Abstract

The concepts of economic growth and employment evidently have a deep-rooted history in the economics literature. Especially with the effect of the intellectual revolution and enlightenment that took place in parallel with the Industrial Revolution, the developments in science have also found reflection in the field of economy. The modern cooperative movement, which advocates a participatory and democratic management structure, has spread to Europe and to the world starting from England depending on the pace of industrialization. Today, cooperatives operating in developed countries have an important role in supporting economic growth and employment in their economies. In line with the sustainable development goals, it is observed that the importance attributed to cooperatives has increased throughout Europe, especially in the European Union countries. Accordingly, in this study, the effect of cooperatives on economic growth and employment in Italy, which has a long history of cooperative movement, is analyzed econometrically with the models created using the data from Italian National Institute of Statistics regarding Italy's 21 Nomenclature of Territorial Units for Statistics-2 regions for the period of 2011-2022. According to the findings from the econometric analysis, it is seen that the employment created by the cooperatives has positive and statistically significant effects on economic growth and employment.

Anahtar Kelimeler: Cooperatives, Economic Growth, Employment, Panel Data Analysis

Citation: Hacısüleyman, D. (2025). Impact of cooperatives on economic growth and employment in italy. *Kırklareli University Journal of the Faculty of Economics and Administrative Sciences, 14*(1), 1-22. https://doi.org/10.53306/klujfeas.1506232

Statement: This study was prepared in accordance with the values of "Research and Publication Ethics" and checked in a similarity control program. All responsibility for the study belongs to the author(s). The statements of research and publication ethics of the study are given on the last page.

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İtalya'da Kooperatiflerin Ekonomik Büyüme ve İstihdam Üzerine Etkisi

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Öz

Ekonomik büyüme ve istihdam kavramlarının, ekonomi literatüründe köklü bir geçmişe sahip olduğu açıktır. Özellikle Sanayi Devrimi ile paralel olarak gerçekleşen entelektüel devrim ve aydınlanmanın etkisiyle, bilimdeki gelişmeler ekonomi alanında da yansıma bulmuştur. Katılımcı ve demokratik bir yönetim yapısını savunan modern kooperatifçilik hareketi, sanayileşme hızına bağlı olarak İngiltere'den başlayarak Avrupa'ya ve dünyaya yayılmıştır. Günümüzde, gelişmiş ülkelerde faaliyet gösteren kooperatifler, ekonomilerinde büyüme ve istihdamı desteklemede önemli bir rol oynamaktadır. Sürdürülebilir kalkınma hedefleri doğrultusunda, Avrupa genelinde, özellikle Avrupa Birliği ülkelerinde kooperatiflere verilen önemin arttığı görülmektedir. Bu bağlamda, bu çalışmada, uzun bir kooperatif hareketi geçmişine sahip olan İtalya'nın kooperatiflerinin ekonomik büyüme ve istihdam üzerindeki etkisi, 2011-2022 dönemi için İtalya'nın 21 İstatistiki Bölge Birimleri Sınıflandırması-Düzey 2 bölgesine ait İtalya Ulusal İstatistik Enstitüsü verileri kullanılarak oluşturulan modellerle ekonometrik olarak analiz edilmektedir. Ekonometrik analizden elde edilen bulgulara göre, kooperatifler tarafından sağlanan istihdamın, ekonomik büyüme ve toplam istihdam üzerinde olumlu ve istatistiksel olarak anlamlı etkileri olduğu görülmektedir.

Makale Türü
Araştırma Makalesi

Başvuru Tarihi
27.06.2024

Kabul Tarihi
19.03.2025

DOI
10.53306/klujfeas.1506232

JEL Kodu
P13, O40, J21, C23

Anahtar Kelimeler: Kooperatifler, Ekonomik Büyüme, İstihdam, Panel Veri Analizi

Atıf: Hacısüleyman, D. (2025). İtalya'da kooperatiflerin ekonomik büyüme ve istihdam üzerine etkisi. *Kırklareli Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *14*(1), 1-22. https://doi.org/10.53306/klujfeas.1506232

Bilgilendirme: Bu çalışma "Araştırma ve Yayın Etiği" değerlerine uygun olarak hazırlanmış ve benzerlik kontrol programında kontrol edilmiştir. Çalışmanın tüm sorumluluğu yazara aittir. Çalışmaya ait araştırma ve yayın etiği beyanlarına son sayfada yer verilmiştir.

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Introduction

The 18th century marks a period in human history when growth and employment began to be systematically examined within the economic literature, representing a revolutionary era both physically and intellectually. While views on production, distribution, and social structure have been proposed since ancient times, it is during this period that the significance of the product is understood, and the transition from the concept of the product to the concept of economic growth takes place. Before the Industrial Revolution, there was no significant economic growth in all of human history. However, with the Industrial Revolution, the rapidly increasing production brought along with it, a rising capitalist class at the same pace. Yet, the other essential factor in the importance of industrial production, namely labor or the working class, faced extremely poor working and living conditions.

The formation of the predecessors of modern cooperatives was significantly influenced by the needs arising from the conditions faced by the working class, much like the conditions mentioned earlier. The cooperative movement, characterized by the philosophy of working together and solidarity, rapidly spread from England, starting with the Industrial Revolution, to all of Europe and then to America.

It is stated that cooperatives operating in developed countries today play a significant role in supporting economic growth and employment within their respective economies (Roelants et al., 2014, p. 75). Additionally, due to their structure based on a culture of solidarity, cooperatives are not only suitable tools for increasing production and income levels but are also well-suited for building a sustainable economic structure that considers social and environmental impacts. Over time, their ability to generate solutions to changing adverse conditions makes cooperatives effective instruments for constructing an economic framework that prioritizes sustainability.

Cooperatives, whose primary purpose is not profit, have emerged as structures that bring together partners to meet their needs in line with current conditions, providing benefits for both the partners involved and the community. Cooperatives that create employment opportunities in their regions contribute to strengthening the regional economy by increasing the spending rate within the region through the distribution of the surplus income among local partners (Zeuli and Cropp, 2004, p.77). In line with sustainable development goals, the importance attributed to cooperatives has increased, especially in European Union countries and across Europe as a whole.

One of the missions outlined by the International Cooperative Alliance for cooperatives is prioritizing employee well-being and fostering community welfare. In Italy, these organizations play a prominent role by providing significant employment in various regions and making notable contributions to the country's overall economic output and job creation (Costa and Delbono, 2021, p.4). It is asserted that cooperatives are uniquely positioned to strengthen resilience, given their foundation in solving complex challenges. By fostering innovation, collaboration, and community-driven decision-making, they bridge organizational and societal resilience. Events that prompt collective action can further enhance their role in building resilient communities, and societies and markets with a greater concentration of cooperatives are expected to be generally more resilient (Isenring, 2024, p. 156). This study aims to assess the impact of cooperatives on economic growth and employment in Italy, which has a long-standing cooperative movement history and a widespread presence of cooperatives across the country. Focusing on the cooperatives' contribution, the study uses econometric models based on data from the Italian National Institute of Statistics for the period of 2011–2022. This period is of importance as it

includes the years during which the European Debt Crisis and the COVID-19 Pandemic occurred, and Italy has been significantly affected by both of these crises (Lane, 2012, p. 50-51; Hopkin, 2012, p. 36; Palermo, 2021, p. 119).

1. Development of the Cooperative Movement Worldwide and in Italy

According to the definition provided by the International Cooperative Alliance, a cooperative is expressed as an autonomous association created voluntarily by individuals who come together through a joint venture with common social, economic, and cultural needs. The cooperative is characterized by collective ownership and democratic governance to meet these shared needs (ICA, 1995, p. 3).

In the framework of the definition put forth by the International Cooperative Alliance, cooperatives are characterized as businesses owned by their members—whether producers, consumers, or workers. The rationale for the existence of cooperatives is to meet the needs of their members. Cooperatives are democratically managed enterprises based on voluntary partnership, where entry and exit are freely allowed. The operational capital of cooperatives is provided through direct investments by the members and through surplus incomes generated. A portion of the net earnings in cooperatives is distributed among the members based on their transactions with the cooperative (Majee and Hoyt, 2011, p. 51).

When considering the formation of cooperatives as a movement, it is evident that it is not only a result of developments emerging during the Industrial Revolution in the 19th century but also a significant means of economic, political, and societal change, leading to the empowerment of workers into an activist structure. The cooperative movement, playing a crucial role in the life of local communities, has maintained its importance not only throughout the 19th century, especially in countries like Britain but also in the 20th century. One of the key factors behind the prominence of cooperatives is the desire of individuals, particularly those constituting the working class, to obtain honest products at a reasonable price and to do so within a framework that includes their democratic participation. The pioneers in making this happen, particularly in the British context, were the Rochdale Pioneers in 1844. Their initiative was crucial in laying the foundation for the cooperative movement. The essence of cooperatives is formed by improving the economic conditions of its members and, beyond that, achieving developments in social, cultural, and political aspects. The spirit of cooperatives lies in elevating working-class families to a better life through these means (Jackson, 2016, p. 28-29).

It is possible to classify the organizational forms of businesses based on their ownership structures. The ownership structure of a business determines who will benefit from the management and activities of that business. When the concept of a business is mentioned, ownership structures often refer to capitalist ownership. In such businesses, entrepreneurs contribute a certain portion of the capital, and the management of the business is overseen by boards of directors established for this purpose. Alongside these businesses, public economic enterprises owned by the state represent another business structure. The administration of state-owned enterprises is carried out by elected politicians chosen by the citizens. Public economic enterprises play a more regulatory role than a competitive one in the market and operate with a focus on the public interest (Birchall, 2012, p. 265-266).

Capitalist enterprises, including multinational capitalist corporations and cooperatives, reflect various structures of corporate organization. Both structures have their unique internal regulations. These organizations, formed as a result of their stakeholders coming together around a common goal, act as

singular entities in their relationships with other individuals and legal entities. It is possible to state that traditional capitalist companies and cooperatives, which have coexisted for a long time, have significantly influenced each other. Nation-states have also been influenced and inspired by various ideas represented by both cooperative movements and traditional capitalist organizations (Vargas-Cetina, 2011, p. 127).

Business models where ownership is shared among partners and cooperatives have recently garnered increasing attention, particularly from politicians. As a reflection of this, the United Nations declared the year 2012 as the International Year of Cooperatives. The primary reason for this heightened interest lies in the search for a miraculous method to achieve rapid economic growth and development in less developed countries and to meet the Millennium Development Goals by 2015 (Birchall, 2012, p. 263-264).

The Italian cooperative movement, with its roots dating back to the 15th century where primitive cooperative enterprises were established in the northern part of the country, has a rich history with diverse origins, primarily drawing its strength from rural areas. However, the period when cooperatives developed as a movement is the 19th century, and by the end of this period, there were thousands of active cooperatives, with around 8,000 of them functioning before the First World War (Tereshtenko, 1944, p. 289).

The roots of modern Italian cooperatives, which operate in various sectors such as agriculture, construction, social services, retail, and credit, and have reached enormous proportions, date back to the 19th century (Menzani and Zamagni, 2010, p. 104). The founders and pioneers of Italian cooperatives were influenced by various cooperative examples in 19th-century Europe, such as the consumer cooperatives of the Rochdale Pioneers in England, worker cooperatives in France, and credit cooperatives established in Germany and Austria based on the models proposed by Raiffeisen and Schulze-Delitzsch. The emergence and prevalence of such cooperative models in Italy occurred partly due to the country's different regional economic structures and development levels and partly due to the diverse needs of local markets in different regions (Borzaga et al., 2010, p. 1).

The earliest recorded examples of modern cooperatives date back to the 1850s. The consumer cooperative movement initiated by the Turin Workers' Association is a significant example that emerged parallel to the Rochdale model but independently of its influence. The glass production cooperative established in Altare is also cited as one of the pioneering Italian cooperatives, with both cooperative initiatives starting in the year 1854. (Oakeshott, 1990, p. 147). The beginning of the expansion process of the Italian cooperative movement is referred to as the golden age of cooperatives, which started in the early 20th century. During this period, the characteristics that would define the cooperative movement in the long term were strengthened. Ideological divisions occurred under overarching organizations that overlapped and competed with each other. The three largest umbrella organizations were Legacoop with socialist roots, Confcooperative with Catholic Church origins, and the republican-liberal umbrella organization (Menzani and Zamagni, 2010, p. 104).

The majority of the first cooperatives established were inspired by Giuseppe Mazzini's liberal cooperatives. However, in the 1880s, socialist views began to spread and influence the cooperative movement. After the publication of the encyclical Rerum Novarum by Pope Leo XIII in 1891, Catholics also increased their social activities, especially in Italy, during the 1890s. Within the cooperative

movement, their activities focused on the proliferation of farmer cooperatives, such as rural credit cooperatives, as well as milk and wine cooperatives (Zamagni and Zamagni, 2010, p. 48). Similar to the United Kingdom and France, the crucial period for the development of cooperatives in Italy was in the 1880s, primarily based on worker cooperatives. The first Italian Cooperatives Congress was convened in 1886, and the following year, the first cooperative federation, Federazione delle Cooperative Italiane, was established. In 1893, through a name change, the federation adopted the name Lega. (Oakeshott, 1990, p. 147-148).

In Italy, the number of registered cooperatives reached 4,896 in 1885. With the development of the cooperative movement, this number increased to 7,400 in 1910, and the cooperative membership exceeded one million. In the early 1920s, after the Fascist regime came to power, socialist, Catholic, and republican democratic cooperatives all suffered a severe blow, and the rapid development of the cooperative movement was sharply hindered. However, although the policies of the Fascist regime did not lead to the disappearance of the cooperative movement, they slowed down its growth, causing differentiation in the development of various cooperative sectors and notably contributing to the development of farmer cooperatives. After the end of World War II, the number of cooperatives managed to surpass the levels of the early 1930s (Costa et al., 2012, p. 39-40).

The industrial democracy model, based on the principle of workers having knowledge and control in the production process, was proposed in bills presented to the parliament in 1921 and 1946. However, due to concerns that the role of unions as representatives of workers would be jeopardized, the proposals faced opposition from unions and were not legally established. Nevertheless, in the 1970s, a socialist coalition government implemented significant changes in industrial relations and national policies. During this period, laws and collective bargaining agreements were put into effect, establishing the legal existence of industrial democracy in Italy (Veneziani, 1987, p. 69).

During the global economic crisis of the 1970s and early 1980s, cooperatives emerged as significant economic actors. While the overall economy experienced, at best, stagnation in employment, cooperatives saw a substantial increase in employment during this period. In the entire European Economic Community, the precursor to the European Union, cooperatives witnessed a 76% increase in employment, compared to a general employment increase of around 2%. In Italy, these figures indicate an 86.2% increase in employment for cooperatives, contrasting with a 3.8% increase in overall employment in the economy (Smith and Rothbaum, 2013, p. 4).

Table 1. Cooperatives according to the Official Cencuses (1951-2001)

Year	Number of Cooperative	% of total companies*	Employees	% of total employees*
1951	10.782	0,7	137.885	2,0
1961	12.229	0,6	192.008	2,2
1971	10.744	0,5	207.477	1,9
1981	19.900	0,7	362.435	2,8

1991	35.646	1,1	584.322	4,0
2001	53.393	1,2	935.239	5,8

*Note: * excluding public institutions*

(La cooperazione italiana nei dati dei censimenti, https://www.cooperazione.net/fileadmin/coop/uploads/La_cooperazione_italiana_nei_dati_dei_censimenti_01.pdf, 25.06.2019, s. 5.)

Table 1 shows that in the 1951 census, there were approximately 11,000 cooperatives operating in Italy, employing nearly 138,000 workers. While the share of cooperatives in total enterprises is below 1%, cooperatives contribute to over 2% of total employment. The results of censuses conducted since 1971 indicate a parallel increase in the number of cooperatives and their employment capacities. In 2001, with over 53,000 cooperatives, approximately 1 million people were employed, representing a significant share of Italy's total employment at 5.8%.

Birchall and Ketilson, evaluating the effects of the 2008 global crisis, state that in Spain, during the peak of the financial crisis, the Basque region was able to maintain a stable low level of unemployment through cooperatives. This was achieved by those laid off by less successful cooperatives being hired by other cooperatives. They also highlight that worker cooperatives in Italy were generally functional in coping with the effects of the 2008 global crisis (Birchall and Ketilson, 2009, p. 29-32). Following this crisis, also known as the Great Recession, there was an increase in employment generated by cooperatives in sixteen out of the twenty-one regions of Italy during the period 2012-2017. In nine regions, the recorded employment increases were above 10%. In 2017, the number of employees engaged by 57,000 cooperatives in Italy was reported as 1.13 million, constituting 6.6% of the country's total employment. When considering the entire social economy, including associations, foundations, and similar organizations, the share of employment in the European Union averages around 6%. Italy's presence in employment within the social economy exceeds the European Union average (OECD, 2021, p. 3).

Table 2. Italian Cooperatives by Types (2021)

Type	Number	(%)
Cooperative Credit Bank	265	0,20
Agricultural Consortium	53	0,05
Cooperative Consortium	211	0,20
Financial and Guarantee Consortium	364	0,30
Fishing Cooperatives	1.410	1,30
Agricultural Products Delivery Cooperatives	5.435	4,90

Consumer Cooperatives	1.187	1,10
Retailer Cooperatives	145	0,10
Agricultural Labor Cooperatives	3.955	3,60
Production and Labor Cooperatives	53.622	48,40
Transport Cooperatives	2.208	2,00
Housing Construction Cooperatives	8.066	7,30
Social Cooperatives	23.920	21,60
Mutual Aid Societies	374	0,30
Other/Uncategorized Cooperatives	9.493	8,65
Total	110.708	100,00

(MISE, 2021)

Table 2 shows the sectoral and numerical distribution of cooperatives in Italy according to the 2021 data from the Ministry of Economic Development. As understood from the table, the cooperative movement in Italy has a significant presence in many sectors. In addition to many individual cooperatives, associations and consortia of various cooperatives also play an important role. Production-worker cooperatives, numbering close to 54 thousand, make up almost half of the total cooperatives. Social cooperatives, ranking second, have a share of around 22% with approximately 24 thousand units. The total number of cooperatives operating in Italy in 2021 is over 110 thousand.

2. Literature Review

Italy's cooperative movement, like its global counterparts, faces limitations in producing consistent, long-term data. Studies often highlight this challenge, focusing on sectoral comparisons of cooperative and traditional firm models. Despite these insights, a significant gap exists in econometric research that quantifies the regional and national impacts of cooperatives on economic growth and employment.

Bartlett et al. (1992) conducted an empirical comparison of producer cooperatives and private firms in Emilia-Romagna and Tuscany. Their study highlighted cooperatives' superior efficiency, labor-intensive production methods, and income equality, along with their stable industrial relations. Complementing this, Smith (1994) argued that cooperatives excel in competitive environments through product differentiation strategies, showcasing stronger income and profitability metrics compared to traditional firms. The relationship between market pressures and cooperative efficiency was explored by Maietta and Sena (2008), who examined wine-producing cooperatives in Italy. Their findings suggested that increased market pressures enhance technical efficiency but do not significantly impact market share. This aligns with Fazzini and Russo's (2014) analysis of wine-sector cooperatives, which highlighted cooperatives' capacity to leverage EU support for infrastructure improvements despite challenges such as higher debt ratios.

Costa et al. (2012) provided a statistical overview of cooperatives, emphasizing their contribution to Italy's total production and employment. Building on this macroeconomic perspective, Fusco and Migliaccio (2018) examined cooperatives' financial resilience during crises, noting stable liquidity and gradual improvements in capitalization, showcasing their counter-cyclical nature. George et al. (2019) added to this by demonstrating how collective reserves in cooperatives enhance productivity and facilitate long-term investment. The resilience of cooperatives during economic downturns was further analyzed by Borzaga et al. (2019), who quantified cooperatives' value-added contributions and employment stability during the recent economic crisis. This theme was echoed by Costa and Delbono (2021), whose findings indicated that cooperative-led employment enhances regional economic resilience, even as their value-added impact on GDP remained limited.

Adaptability to crises, such as the COVID-19 pandemic, has been a recurring focus. Tortia and Troisi (2021) highlighted cooperatives' ability to stabilize operations and protect employment during such shocks, often outperforming other non-profits in innovation and recovery. Similarly, Filippetti and Tuzi (2023) underscored the role of regional systems in crisis management, supported by cooperatives' capacity to tailor responses to local needs. The geographical and sectoral variations within cooperatives have also been a focus. Costa et al. (2023) linked regions with robust cooperative sectors to better income equality and employment outcomes, emphasizing cooperatives' role in mitigating economic shocks. However, the issue of exploitative spurious cooperatives was noted as a challenge to the sector's overall efficacy. Lee and Van Cayseele (2024) provided further nuance by examining cooperatives in Italy's fruits, vegetables, and dairy sectors, revealing mixed outcomes in terms of market power and resilience.

Collectively, these studies underscore the multifaceted role of cooperatives in Italy's socio-economic landscape. While they provide valuable insights, they predominantly adopt qualitative or sector-specific approaches, leaving gaps in understanding their broader macroeconomic impacts. This study aims to address these gaps by employing econometric models to analyze the extent and direction of cooperatives' contributions to Italy's economic growth and employment.

3. Data and Method

This study examines the effects of employment created by cooperatives on economic growth and the overall employment level in Italy for the twelve-year period from 2011 to 2022, using dynamic panel data analysis. All variables used in the econometric analysis were obtained from the Italy National Institute of Statistics database for a total of 21 NUTS Level 2 regions.

Studies on the impact of the cooperative movement on the economy in Italy, as observed in the literature, mostly focus on sectoral comparisons, with some studies directed towards regional and national levels examining the positive effects of the cooperative movement on economic resilience and welfare. However, there appears to be a gap in the literature in substantiating these alleged positive effects of cooperatives on the economy with quantitative and concrete results.

In line with this, this study concretely demonstrates the effects of the employment level created by cooperatives in Italy on economic growth and the overall employment level. Considering the dynamic nature of the macroeconomic variables under consideration, dynamic panel data analysis is preferred.

Econometric analysis processes primarily utilize three types of data: time series, cross-sectional, and panel data. Time series analysis involves using time series data, which represents the values of variables over a specific time interval. In cross-sectional data analysis, the values of variables at a single point in time are used. Panel data analysis combines time series and cross-sectional data for a more comprehensive approach (Cameron and Trivedi, 2005, p. 697).

Many economic relationships are inherently dynamic in nature. One of the advantages of panel data analysis is that it provides researchers with the opportunity to better understand this dynamic structure. These dynamic relationships are characterized by the presence of a lagged dependent variable among independent variables (Baltagi, 2021, p. 187).

$Y_{it} = \delta Y_{it-1} + \beta X'_{it} + \mu_i + u_{it}$ $i = 1, \ldots, N$ $t = 1, \ldots, T$

When the first difference estimator is used, the unit effect (μi) is eliminated from the model, but the lagged dependent variable, which is included as an independent variable in the model, is not orthogonal to the error term, meaning it is endogenous. Therefore, deviations occur in the estimations. However, after the first difference transformation, the correlation between the lagged dependent variable and the error term can be controlled through the use of instrumental variables. In line with this, in the method developed by Anderson and Hsiao, after taking the first difference, independent variables except from the first differences of the lagged values of the dependent variable become instrumental variables of themselves. Instead of the first lag of the dependent variable, instrumental variables such as Y_{it-2} or ΔY_{it-2} are recommended. Although the estimators produced by this method are consistent, it is not effective due to the inability to use all moment conditions and the autocorrelation resulting from differencing the error term. Therefore, in another method developed by Arellano and Bond, in the first stage, the first difference model is transformed using the instrumental variable matrix, and in the second stage, this resulting model is estimated using the generalized least squares method (Yerdelen Tatoğlu, 2023, p. 154).

However, the Arellano and Bond estimator tends to be weak in situations where there are many autoregressive parameters or when the unit effect variance is significantly higher than the error term variance. This weakness is also evident when dealing with unbalanced panel data or when the time dimension (T) is small (Blundell and Bond, 2000, p.325; Yerdelen Tatoğlu, 2023, p. 161).

As an alternative to the first difference transformation, another method was proposed by Arellano and Bover (1995). In this method, instead of taking the difference of the previous period from the current period, the data loss resulting from the first differences method is minimized by taking the difference of the average of all possible future values of a variable. Blundell and Bond emphasize the importance of the extra moment condition utilized to obtain an effective estimator when the time dimension is smaller (N>T). In this alternative method, the original and transformed equations are considered together as a system, and an estimation is obtained accordingly. Therefore, this estimator is referred to as a generalized method of moments (GMM) estimator for the system, and it is possible to obtain a much more effective estimator compared to other dynamic panel data methods with this approach. The validity of the obtained estimation results is subject to various tests. The significance of independent variables in explaining the dependent variable can be tested using the Wald test, the validity of instrumental variables can be assessed with the Sargan test, and the first and second-order

autocorrelation of error terms can be checked using the Arellano Bond test (Yerdelen Tatoğlu, 2023, p. 161-176).

In this study, a system generalized method of moments estimator, which is more effective and has higher predictive power compared to other dynamic panel data analysis methods, is used in line with the structure of the dataset utilized in the econometric analysis process. Model estimations in the econometric analysis were carried out using the STATA program.

3.1. Growth Model

In this model, the impact of employment created by cooperatives in Italy on economic growth for the twelve-year period from 2011 to 2022 has been examined using dynamic panel data analysis. All variables used in the econometric analysis were obtained from the Italy National Institute of Statistics database for a total of 21 NUTS Level 2 regions.

In the model, when examining the impact of employment created by cooperatives on growth, the main factors considered as sources of growth are included among the independent variables. The model established for this purpose is expressed as follows:

$$lngdp_{it} = \alpha_i + \beta_1 lnempcoop_{it} + \beta_2 lngdp_{it-1} + \beta_3 lnresdevexpri_{it} + \beta_4 highedlabratio_{it} + \beta_5 totmigratio_{it} + \beta_6 govexeduingdp_{it} + \beta_7 govexhealthingdp_{it} + \beta_8 labforatio_{it} + \varepsilon_{it}$$

In the analysis stage of the model, firstly the descriptive statistics of the variables included in the model were examined.

Table 3. Descriptive Statistics for Growth Model Variables

Variable	Observation	Mean	Standard deviation	Minimum	Maximum
lngdp	252	10.75583	1.10763	8.355403	12.90806
lnempcoop	252	10.27961	1.199973	7.541683	12.31919
lnresdevexpri	252	19.18463	1.716515	14.70669	22.14274
highedlabratio	252	.2062356	.0315034	.1311293	.3128344
totmigratio	252	1.264286	3.628879	-14	13,5
govexeduingdp	252	.0407757	.0123307	.0220606	.0646956
govexhealthingdp	252	.0746242	.0211419	.0446693	.1447411
labforatio	252	.6403849	.0163036	.602	.68

Due to the geometric series property exhibited by some variables in the model, it is deemed appropriate to use them in logarithmic form.

Table 4. Variance Inflation Factor (VIF) in the Growth Model

Variable	VIF	1/VIF
lnempcoop	9.65	0.103595
lngdp_L1	5.42	0.184450
lnresdevexpri	8.72	0.114619
highedlabratio	1.47	0.679489
totmigratio	1.62	0.619171
govexeduingdp	4.63	0.215781
govexhealthingdp	3.48	0.287627
labforatio	2.50	0.400605
Mean VIF	4.69	

An important criterion examining the presence of multicollinearity in the model is the Variance Inflation Factor (VIF). This factor determines to what extent the variances of parameter estimates deviate from their true values due to the presence of multicollinearity. Accordingly, if the VIF value is between 0 and 5, there is no multicollinearity; if it is between 5 and 10, there is a moderate degree of multicollinearity; and if it is greater than 10, there is a strong multicollinearity (Yerdelen Tatoğlu, 2020, p. 115).

As seen from Table 4, the average VIF value for the growth model is 4.69, which is less than 5, indicating that there is no multicollinearity among the independent variables in the model.

3.2. Employment Model

In this model, the impact of employment created by cooperatives in Italy on total employment has been examined using dynamic panel data analysis for the twelve-year period. All the variables used in the econometric analysis were obtained from the National Institute of Statistics of Italy for a total of 21 NUTS Level 2 regions. The model, constructed in line with the aim of the study, explores the effect of employment generated by cooperatives on total employment, considering the main factors evaluated to be influential on employment among the independent variables. The model is expressed as follows:

$$lemployed_{it} = \alpha_i + \beta_1 lnempcoop_{it} + \beta_2 lemployed_{it-1} + \beta_3 lnresdevexpri_{it} + \beta_4 govexeduingdp_{it} + \beta_5 govexhealthingdp_{it} + \beta_6 totmigratio_{it} + \varepsilon_{it}$$

In the analysis stage of the model, firstly the descriptive statistics of the variables included in the model were examined.

Table 5. Descriptive Statistics for Employment Model Variables

Variable	Observation	Mean	Standard deviation	Minimum	Maximum
lnemployed	252	13.00641	1.178129	10.45717	15.30785
lnempcoop	252	10.27961	1.199973	7.541683	12.31919
lnresdevexpri	252	19.18463	1.716515	14.70669	22.14274
totmigratio	252	.9604762	3.628879	-14	13,5
govexeduingdp	252	.0407757	.0123307	.0220606	.0646956
govexhealthingdp	252	.0746242	.0211419	.0446693	.1447411

Due to the geometric series property exhibited by some variables in the model, it is deemed appropriate to use them in logarithmic form.

Table 6. Variance Inflation Factor (VIF) in the Employment Model

Variable	VIF	1/VIF
lnempcoop	8.99	0.111236
lnemployed_L1	5.17	0.193397
lnresdevexpri	6.97	0.143520
govexeduingdp	3.22	0.310486
govexhealthingdp	3.05	0.327502
totmigratio	1.61	0.621489
Mean VIF	4.84	

As seen from table 6, the average VIF value for the employment model is 4.84, which is less than 5, indicating that there is no multicollinearity among the independent variables.

4. Findings

The growth model is estimated using the two-stage generalized method of moments and with Windmeijer's robust standard errors.

Table 7. Two-Stage System GMM Estimation Results for the Growth Model

Estimation Results of the Model				
Dependent Variable (lngdp)	Coefficient	Robust Standard Error	Test Statistic	Probability
lnempcoop	0.4897152	0.1733125	2.83	0.005
lngdp_L1	0.3487168	0.2446349	1.43	0.154
lnresdevexpri	0.1022403	0.0604299	1.69	0.091
highedlabratio	-1.217463	1.334811	-0.91	0.362
totmigratio	0.0078431	0.0035318	2.22	0.026
govexeduingdp	4.219212	5.751813	0.73	0.463
govexhealthingdp	3.074495	3.220707	0.95	0.340
labforatio	-0.2134296	0.7760162	-0.28	0.783
Testing of Assumptions				
Wald			Chi2(8) = 74434.19	0.000
Sargan			Chi2(11) = 19.24	0.057
Hansen			Chi2(11) = 17.61	0.091
Arellano Bond AR1			z = -2.25	0.024
Arellano Bond AR2			z = -0.91	0.360

As seen from Table 7, according to the Wald test at 99% confidence level, rejecting the null hypothesis (H_0: explanatory variables have no explanatory power for the dependent variable) indicates that the model is statistically significant.

The validity of instrumental variables is checked through the Sargan and robust Hansen tests. According to the results of both tests, the null hypothesis (H_0: over-identification restrictions are valid, in other words, instrumental variables are exogenous) cannot be rejected. This implies that instrumental variables are exogenous, indicating the absence of an endogeneity problem.

According to the results of the Arellano-Bond test for autocorrelation in dynamic panel data models, the null hypothesis (H_0: no autocorrelation) is rejected for first-order autocorrelation (AR1) with a p-value of 0.024, indicating the presence of significant first-order autocorrelation. However, the null hypothesis cannot be rejected for second-order autocorrelation (AR2) with a p-value of 0.360, confirming the absence of significant second-order autocorrelation. These results are consistent with the expectations of a valid System GMM model, where AR1 is expected due to the structure of the model, and the absence of AR2 supports the validity of the instruments (Arellano and Bond, 1991,

p.281; Yerdelen Tatoğlu, 2023, p. 175). In addition to these fundamental assumptions, the condition of the number of instrumental variables (19) being less than the unit size (21) is satisfied in the model.

The results of the two-stage system GMM estimator for the model are also shown in Table 7. Accordingly, among the independent variables, lnempcoop is statistically significant at a 99% confidence level, totmigratio at 95% confidence level, and lnresdevexpri at a 90% confidence level in explaining the dependent variable (lngdp). The other variables are found to be statistically insignificant.

According to the estimation results of the model, a 1% increase in the number of employees in cooperatives leads to a 0.489% increase in GDP. A 1% increase private sector R&D expenditure results in a 0.10% increase in the current period's (t period) value. Additionally, a 1% increase in the total migration rate leads to a 0.78% increase in GDP.

Table 8. Two-Stage System GMM Estimation Results for the Employment Model

Estimation Results of the Model				
Dependent Variable (lnemployed)	Coefficient	Robust Standard Error	Test Statistic	Probability
lnempcoop	0.3927367	0.0730981	5.37	0.000
lnemployed_L1	0.489507	0.1202986	4.07	0.000
lnresdevexpri	0.1169717	0.0515155	2.27	0.023
govexeduingdp	3.228463	5.552187	0.58	0.561
govexhealthingdp	3.160261	3.060298	1.03	0.302
totmigratio	0.0084013	0.0023775	3.53	0.000
Testing of Assumptions				
Wald			Chi2(6) = 148405.96	0.000
Sargan			Chi2(11) = 14.61	0.201
Hansen			Chi2(11) = 12.78	0.308
Arellano Bond AR1			z = -1.29	0.195
Arellano Bond AR2			z = -1.51	0.131

The employment model is estimated using the two-stage generalized method of moments and with Windmeijer's robust standard errors. The estimation results of the model are shown in Table 8.

As seen from the table, according to the Wald test at 99% confidence level, rejecting the null hypothesis (H_0: explanatory variables have no explanatory power for the dependent variable) indicates that the

model is significant. The validity of instrumental variables is checked through the Sargan and robust Hansen tests. According to the results of both tests, the null hypothesis (H_0: over-identification restrictions are valid, in other words, instrumental variables are exogenous) cannot be rejected. This implies that instrumental variables are exogenous, indicating the absence of an endogeneity problem. According to the results of the Arellano and Bond test, testing for the presence of autocorrelation in dynamic panel data models, the null hypothesis (H_0: no autocorrelation) cannot be rejected for both first-order autocorrelation (AR1) and second-order autocorrelation (AR2). Therefore, it is understood that there is no autocorrelation of either order.

In addition to these fundamental assumptions, the condition of the number of instrumental variables (17) being less than the unit size (21) is satisfied in the model.

The results of the two-stage system GMM estimator for the model are also shown in Table 8. Accordingly, among the independent variables, lnempcoop, lagged variable (lnemployed_L1), and totmigratio are statistically significant at 99% confidence level, lnresdevexpri at 95% confidence level. The other variables are found to be statistically insignificant.

According to the estimation results of the model, a 1% increase in the number of employees in cooperatives leads to a 0.392% increase in total employment. A 1% increase in the lagged value of the dependent variable (total employment in the previous period) results in a 0.489 increase in the current period's total employment. A 1% increase in R&D expenditures in the private sector leads to a 0.11% increase in total employment. A 1% increase in the total migration rate results in a 0,84% increase in total employment.

5. Discussion

This study evaluates the impact of cooperatives on economic growth and employment in Italy, with significant findings emerging from the econometric models. The findings indicate a positive relationship between cooperatives and economic growth. Cooperatives contribute to economic expansion, likely through the generation of local economic activity and stable employment. These findings align with the literature, such as Costa et al. (2012), who highlighted that the cooperative sector accounts for a significant portion of Italy's production and employment, suggesting that cooperatives are important drivers of national economic development.

The study also finds a positive impact on employment. Cooperatives appear to play an important role in generating stable, sustainable jobs. This reflects the findings of Borzaga et al. (2019), who identified cooperatives as important sources of employment, particularly in regional economies facing economic challenges. The stability cooperatives offer through their inclusive business models is essential for reducing unemployment in labor-intensive sectors. While the findings offer valuable insights, there are limitations due to the time period (2011–2022) and the scope of the data. The relatively short timeframe limits our ability to assess the long-term impact of cooperatives on economic growth and employment. Future research could extend the dataset and include a broader range of economic indicators to explore the long-term effects of cooperatives.

To promote the establishment of cooperatives, particularly in regions with high unemployment rates, governments can offer financial incentives such tax exemptions, low-interest loans, and cooperative-specific microfinance options. Policymakers should prioritize improving cooperatives' access to

financing, especially in developing countries where credit availability may be limited. Subsidized loans, guarantee funds, or alliances with foreign financial institutions to promote cooperative expansion can all help achieve this.

Cooperatives should be given top priority in regional development projects for both developed and developing nations as a means of economic rehabilitation. These initiatives have the potential to boost sustainable growth and create jobs, especially in areas with low economic standing. Especially in developing nations where such assistance is essential for the survival and expansion of cooperatives, governments and international development organizations should fund training initiatives that improve cooperative management abilities, emphasizing leadership development, financial management, and market expansion.

Conclusion

This study emphasizes the vital role of cooperatives in stimulating economic growth and generating employment in Italy. The econometric analysis reveals that cooperatives are instrumental in fostering economic development by boosting local economic activity and providing steady job opportunities. These findings resonate with earlier research, such as Costa et al. (2012), which quantified cooperatives' contribution to Italy's total production and employment, affirming that cooperatives are a cornerstone of the Italian economy. The study also confirms the results of Borzaga et al. (2019), which shown that cooperatives can sustain employment even in unpredictable circumstances and maintain their resilience throughout economic downturns.

The limited timeframe of the dataset (2011-2022) restricts the ability to assess how cooperatives affect Italy's economic development over extended periods. While the results suggest a positive impact on employment and economic growth, further research is needed to explore how cooperatives adapt to changing economic conditions and whether their influence persists across different economic cycles. Extending the data period would provide deeper insights into the cyclical patterns and potential long-term benefits cooperatives can offer to the national economy.

These findings have important policy consequences. This study suggests that governments give priority to enhancing financial access and assisting cooperative capacity-building activities, drawing on the work of Fusco and Migliaccio (2018), who explored the financial resilience of cooperatives during crises. In both developed and developing countries, such measures can help unlock cooperatives' potential to enhance local economies. Additionally, regional policies that prioritize cooperatives, as suggested by Costa and Delbono (2021), could address unemployment challenges and encourage inclusive growth, particularly in economically marginalized regions.

Moreover, in line with Tortia and Troisi (2021), who highlighted cooperatives' adaptability during crises like COVID-19, cooperatives can be seen as crucial mechanisms for economic resilience. Their stable employment models and ability to adapt quickly to changing conditions make them valuable instruments for economic recovery. Policy interventions should therefore aim not only to foster the growth of cooperatives but also to ensure their inclusion in long-term strategies for sustainable economic development.

In conclusion, cooperatives serve as a practical and impactful model for advancing social justice and economic resilience, especially in regions vulnerable to economic instability. To fully unlock their

potential, future research should focus on assessing the long-term effects of cooperatives, considering broader macroeconomic trends and incorporating longitudinal data that spans multiple economic cycles. Through targeted government policies, cooperatives can fulfill their promise to drive inclusive prosperity, enhance economic stability, and contribute to a more equitable society.

References

Arellano, M., and Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, *58*(2), 277-297. https://doi.org/10.2307/2297968

Arellano, M., and Bover, O. (1995). Another look at the instrumental variable estimation of error-components models, *Journal of Econometrics*, *68*(1), 29-51. https://doi.org/10.1016/0304-4076(94)01642-D

Baltagi, B. H. (2021). *Econometric analysis of panel data* (6th ed.), Springer. https://doi.org/10.1007/978-3-030-53953-5

Bartlett, W., Cable, J., Estrin, S., Jones, Derek C., and Smith, Stephen C. (1992). Labor-managed cooperatives and private firms in North Central Italy: an empirical comparison. *Industrial and Labor Relations Review*, *46*(1), 103-118. https://doi.org/10.2307/2524741

Birchall, J. (2012). The comparative advantages of member-owned businesses. *Review of Social Economy*, *70*(3), 263-294. https://doi.org/10.1080/00346764.2011.632326

Birchall, J., and Ketilson, L. H. (2009). *Resilience of the cooperative business model in times of crisis: sustainable enterprise programme*, ILO.

Blundell, R., & Bond, S. (2000). GMM estimation with persistent panel data: An application to production functions, *Econometric Reviews*, *19*(3), 321-340. https://doi.org/10.1080/07474930008800475

Borzaga, C., Depedri, S., and Bodini, R. (2010). Cooperatives: the Italian experience. *Euricse: Cooperative Opportunities Conference.*

Borzaga C., Calzaroni, M., Carini, C., and Lori, M. (2019). Structure and performance of Italian cooperatives: a quantitative analysis based on combined use of official data. *Journal of Entrepreneurial and Organizational Diversity*, *8*(1), 65-83. https://ssrn.com/abstract=3444230

Cameron, A. C., and Trivedi, P. K. (2005). *Microeconometrics: methods and applications*. Cambridge University Press. https://doi.org/10.1017/CBO9780511811241

Costa, E., Carini, C., and Borzaga, C. (2012). An assessment of cooperatives ın Italy: economic and occupational insights in 2008. *Journal of Co-operative Accounting and Reporting*, *1*(1), 37-52. https://www.smu.ca/webfiles/v2i1a3.pdf

Costa, M., and Delbono, F. (2021). The Italian geography of regional resilience: the role of cooperative firms. *Quaderni - Working Paper DSE, No. 1166, Alma Mater Studiorum - Università di Bologna, Dipartimento di Scienze Economiche (DSE)*. https://dx.doi.org/10.2139/ssrn.3951889

Costa, M., Delbono, F., and Linguiti, F. (2023). Cooperative movement and widespread prosperity across Italian regions. *Annals of Public and Cooperative Economics*, *94*(2), 475-494. https://doi.org/10.1111/apce.12387

Fazzini, M., and Russo, A. (2014). Profitability in the Italian wine sector: an empirical analysis of cooperatives and investor-owned firms. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *4*(3), 128-135.

Filippetti, A., and Tuzi, F. (2023). The response of the Italian regions to the pandemic: a quanti-qualitative analysis. *International Review of Public Policy*, *5*(3), 269-291. https://doi.org/10.4000/irpp.3684

Fusco, F., and Migliaccio, G. (2018). Crisis, sectoral and geographical factors: financial dynamics of Italian cooperatives. *EuroMed Journal of Business*, *13*(2), 130-148. https://doi.org/10.1108/EMJB-02-2016-0002

George, D.A.R., Fontanari, E., and Tortia, E.C. (2019). Finance, property rights and productivity in Italian cooperatives. *Euricse Working Paper Series*, No: 110. http://dx.doi.org/10.2139/ssrn.3570682

Hopkin, J. (2012). A slow fuse: Italy and the EU debt crisis. *The International Spectator*, *47*(4), 35-48. https://doi.org/10.1080/03932729.2012.735508

ICA. (1995). Co-operative Principles for the 21st Century. *Review of International Co-operation, 83*(3), 3-68.

Isenring, K. (2024). Balancing flexibility and stability: leveraging cooperatives for organizational resilience, Ambühl, M., Brusoni, S., Niedworok, A., Gutmann, M. (Ed.) in *Cooperatives in an Uncertain World-Contributions to Management Science (pp. 151-175)*, Springer. https://doi.org/10.1007/978-3-031-56200-6_9

Jackson, A.J.H. (2016). The cooperative movement and the education of working men and women: provision by a local society in Lincoln, England, 1861–1914. *International Labor and Working-Class History*, No. 90, 28-51. https://doi.org/10.1017/S014754791600020X

La cooperazione italiana nei dati dei censimenti, Retrieved from https://www.cooperazione.net/fileadmin/coop/uploads/La_cooperazione_italiana_nei_dati_dei_censimenti_01.pdf on June 25, 2021.

Lane, P.R. (2012). The european sovereign debt crisis. *The Journal of Economic Perspectives*, *26*(3), 49-67. https://doi.org/10.1257/jep.26.3.49

Lee, H., and Van Cayseele, P. (2024). Market power, markup volatility and the role of cooperatives in the food value chain: evidence from Italy. *European Review of Agricultural Economics*, *51*(3), 844-894. https://doi.org/10.1093/erae/jbac001

Maietta, O. W., and Sena, V. (2008). Is competition really bad news for cooperatives? Some empirical evidence for Italian producers' cooperatives. *Journal of Productivity Analysis*, *29*(3), 221-233. https://doi.org/10.1007/s11123-008-0100-z

Majee, W., and Hoyt, A. (2011). Cooperatives and community development: a perspective on the use of cooperatives in development. *Journal of Community Practice, 19*(1), 48-61. https://doi.org/10.1080/10705422.2011.550260

Menzani, T., and Zamagni, V. (2010). Cooperative networks in the Italian economy. *Enterprise & Society, 11*(1), 98-127. https://doi.org/10.1093/es/khp029

MISE. (2021). *Descrizione del mondo cooperativo Italiano: Statistiche albo 2021 e bilanci 2019,* Retrieved from https://www.mise.gov.it/images/stories/documenti/Descrizione_del_Mondo_cooperativo_Italiano_-_Novembre_2021.pdf on Jan 15,2022.

Oakeshott, R. (1990). *The case for workers' co-ops.* Palgrave Macmillan UK.

OECD. (2021). The spatial dimension of productivity in Italian cooperatives. *OECD Local Economic and Employment Development (LEED) Papers No. 2021/02 OECD Publishing.* https://doi.org/10.1787/4f9b9d77-en

Palermo, F. (2021). Covid-19 pandemic and its Impact on Italy's governance and security. *Prism*, *9*(4), 118-132.

Roelants, B., Hyungsik E., and Terrasi, E. (2014), *Cooperatives and employment: a global report*, CICOPA.

Smith, S. C. (1994). Innovation and market strategy in Italian industrial cooperatives: econometric evidence on organizational comparative advantage. *Journal of Economic Behavior&Organization, 23*(3), 303-320. https://doi.org/10.1016/0167-2681(94)90004-3

Smith, S. C., and Rothbaum, J. (2013). Cooperatives in a global economy: key economic issues, recent trends, and potential for development*, IZA Policy Paper.*

Tereshtenko, V. J. (1944). The cooperative movement in Italy, *Rochdale Cooperator, 13*(8-9), 289. Retrieved from https://fau.digital.flvc.org/islandora/object/fau%3A32389/datastream/OBJ/view/The_cooperative_movement_in_Italy.pdf on October 25,2019.

Tortia, E., and Troisi, R. (2021). The resilience and adaptative strategies of Italian cooperatives during the covid-19 pandemic. *Foresight and STI Governance*, *15*(4), 78-88. https://doi.org/10.17323/2500-2597.2021.4.78.88

Vargas-Cetina, G. (2011). Corporations, cooperatives, and the state: examples from Italy. *Current Anthropology, 52*(3), 127-136. https://doi.org/10.1086/656784

Veneziani, B. (1987). Industrial democracy in Italy. *International Studies of Management & Organization, 17*(2), 69-77. https://doi.org/10.1080/00208825.1987.11656455

Yerdelen Tatoğlu, F. (2020). *Ekonometri: stata uygulamalı,* Beta Yayınları.

Yerdelen Tatoğlu, F. (2023). *İleri panel veri analizi: stata uygulamalı,* Beta Yayınları.

Zamagni, S., and Zamagni, V. (2010). *Cooperative enterprise: facing the challenge of globalization,* Edward Elgar. https://doi.org/10.4337/9781849805667

Zeuli, K. A., and Cropp, R. (2004). Cooperatives: principles and practices in the 21st century, *Madison WI, University of Wisconsin*.

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