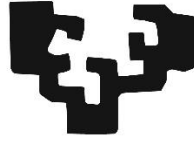


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Universidad
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Unibertsitatea

**United we stand? Three cases on the implementation
of intercooperation among Mondragon cooperatives
and other stakeholders**

Doctoral Thesis

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Abstract

In recent decades, worker cooperatives have gained special entrepreneurial, institutional and academic attention as a supposed instrument of economic stabilisation. There is a relatively large literature on cooperatives that attributes to intercooperation a number of seemingly irrefutable advantages in terms of economies of scale and networking. In cases such as Mondragon, intercooperative solidarity mechanisms have historically been linked to the competitiveness of cooperatives in good economic times and risk mitigation in times of recession. These advantages include the establishment of unemployment insurance, the pooling of profits or intercooperative funds, the reduction of transaction costs and synergies in internationalisation, innovation, marketing and management.

But the real implications of intercooperation for the survival of these firms may have been neglected in research and have always been dealt with in a cross-cutting manner, without an adequate body of literature. The specialised literature rarely addresses the limitations that intercooperation can have. This literature is sometimes biased, adopts mainly a theoretical stance and uses mainly qualitative case studies or quantitative studies based on small samples composed only of cooperative firms. Moreover, the lack of application of principles such as intercooperation in foreign subsidiaries, the financial problems of Eroski, the bankruptcy of Fagor Electrodomésticos in 2013 or the departure from Mondragon of the most successful industrial worker cooperatives are facts that call into question these attributes of intercooperation. These factors are compounded by the theory of the degeneration of cooperative principles and the fact that, in general, cooperative members do not uniformly recognise cooperative principles, with intercooperation being considered as one of the least fundamental. A deeper understanding of the intricacies of intercooperation can be of great interest, not only for the widely interconnected cooperatives in our territory, but also for the entire Basque entrepreneurial network, in which Mondragon is one of the main employers.

By exploring three different approaches to intercooperation, this doctoral thesis seeks to identify the advantages and limitations of this cooperative principle and to draw the main ideas and conclusions on the subject. Thus, it aims to contrast the hitherto almost undisputed link between intercooperation and the success historically attributed to Basque worker cooperatives.

This study carries out an exhaustive bibliometric analysis to present and understand the evolution, the current structure of knowledge and the prospective trajectories of research within the literature on worker cooperatives. It defines five thematic areas and identifies the concept of intercooperation as a feasible cross-cutting theme for the prospective lines of research associated with them. Then, following the common theme of intercooperation, three independent case studies with their corresponding theoretical foundations are studied, for which independent empirical analyses are carried out. The methodologies used range from exploratory-explanatory case studies based on in-depth interviews to quantitative hypothetico-deductive work based on Multiple Linear Regression Models.

Intercooperative labour flexibility and security policies are studied through the case of Fagor Electrodomésticos. It explores how Fagor Electrodomésticos applied flexicurity policies in 2013 to alleviate the social consequences of its disappearance. It looks at the strong resistance of worker-owners to flexicurity policies, mainly before the bankruptcy of the company, and the main reasons for it and at the reluctance of some successful cooperatives in Mondragon to offer permanent relocations to redundant members of Fagor Electrodomésticos.

Intercooperation to promote local agrifood systems is analysed through the case of Eroski. The advantages and limitations of intercooperation between the public administration, small agricultural producers and the Eroski supermarket cooperative in the Basque Country and Navarre to promote a local agrifood system are identified. The retailer emerges as the main agent with the potential to boost the supply of the local agro-livestock sector and promote its professionalisation through the formation of agricultural cooperatives and other associative networks. The relevance of a correct alignment of organisational culture between the retailer and its suppliers and the influence of co-dependence and power imbalances between these two parties is highlighted.

Intercooperation to improve innovation performance is analysed through the case of Basque cooperatives. Being a cooperative interacts positively and significantly with the impact that cooperation with customers, universities and research centres has on innovation performance. Cooperation in research enables cooperatives to obtain competitive advantages in innovations new to the firm and competitive parity in innovations new to the market.

Cooperative firms invest significantly more in external R&D and cooperate more to innovate with more diverse stakeholders.

The geographical concentration of the studied cooperatives and their sectoral diversity facilitate the application of the principle of intercooperation. This principle assumes a relevant role in providing these worker cooperatives with different tools and advantages. Provided it is carried out with a preventive and well-managed approach, intercooperation allows cooperatives to distinguish themselves as economic entities capable of overcoming the contradiction between their social values and their need for profit. While cooperative values such as intercooperation are, in the current socioeconomic context, very necessary, they are also vulnerable and easily corruptible in the long run. The volatility of today's market means that intercooperation is no longer an advantage over capitalist firms, but a way of keeping up with them.

This doctoral thesis advances in various academic disciplines and areas of knowledge and makes contributions of interest to managers and institutions on the best ways of applying intercooperation and interorganisational cooperation policies to sustainably improve the social welfare of their workers, their positioning in the market, their survival, their territory or their innovation performance. Certain future research lines are also proposed, mainly based on the limitations encountered during the work, such as the replication of the studies in other contexts or the use of other methodologies; the analysis of other types of intercooperation; the limitations of intercooperation for the largest cooperatives; or the clash between the human factor and certain intercooperation measures.

CHAPTER 1

Introduction

1.1. Object of study

Cooperation among cooperatives or intercooperation is one of the cooperative principles by which cooperatives are supposed to conduct their entrepreneurial activity. By exploring three different approaches to intercooperation, this doctoral thesis seeks to identify its advantages and limitations and to draw out the main insights and findings on the subject. Thus, it aims to contrast the hitherto almost undisputed link between intercooperation and the success historically attributed to Basque worker cooperatives.

1.1.1. Worker cooperatives

The definition of cooperative firm, as described in academic and institutional literature, is very broad. It refers to an autonomous association of natural or legal persons, known as members, who voluntarily unite through capital contribution. This capital is used to establish a structure of joint ownership and democratic control, with each member holding equal voting rights, regardless of investment level. The primary aim of cooperatives is to benefit from communal synergies, meeting shared economic, social, and cultural needs and aspirations (Oliver, 1984; Díaz-Foncea & Marcuello, 2013; Battaglia et al., 2015; ICA, 2024a). Under this concept, there are very different types of cooperatives. Cooperatives can produce and market goods (Battilani & Zamagni, 2012) or provide services (Balnave & Patmore, 2012; Mason, 2012) to their members or to their customers (Battaglia et al., 2015). In addition, cooperatives can operate in various sectors, such as agriculture, food, retail, industry, or finances (Mazzarol et al., 2014a). In particular, worker cooperatives are characterised by the fact that their members are also workers in the firm, who form the cooperative in order to be employed by it (Rothschild-Whitt, 1979). Worker cooperatives are present in virtually all economic sectors, making them one of the most common types of cooperatives in the world, along with agricultural, banking and educational cooperatives (Birchall, 2013; Cheney et al., 2014).

According to the World Cooperative Monitor 2023 (ICA, 2024b), we can find 8 worker cooperatives in the top 300 world cooperatives by turnover/GDP per capita: Sistema Unimed (Brazil, #4), Mondragon (Spain, #33), ULCCS ltd (India, #158), Espriu Foundation (Spain, #175), Copservir ltda (Colombia, #203), SACMI (Italy, #223), Manutencoop (Italy, #265),

and Coopservice (Italy, #266). Worker cooperatives represent about 3-4% of the global cooperative sector. There are about 85,000 worker cooperatives in the world, employing approximately 12 million people (Eum, 2017). Europe has more than 35,000 firms of this kind (CECOP, 2024). In Spain the number of worker cooperatives is 17,792 (81% of all cooperatives in the country) with 315,748 worker-members. According to the Basque Department of Employment (2024), in 2022 the number of worker cooperatives in the Basque Country was 3,485. The Basque Country is one of the Spanish regions with the highest density of worker-members, with an average of 48.37 worker-members per worker cooperative (COCETA, 2023), about three times the Spanish average (17.17) (Barea & Monzón, 2011).

The largest volume of business in terms of worker cooperatives in Spain is represented by Mondragon, one of the largest cooperative groups in the world. It is a highly diversified business group that in 2023 had 81 independent cooperatives in various sectors, including the credit cooperative Laboral Kutxa, the retail distribution cooperative Eroski, or a wide range of industrial cooperatives such as Danobat or Orbea. It has subsidiaries in 45 countries, 70,000 workers, a corporate university (Mondragon Unibertsitatea), a centre for developing cooperative culture among managers (Otalora), 12 R&D centres, joint sales and after-sales services, and a turnover of more than 10,000 million euros (Mondragon, 2024). The cases presented in this doctoral thesis focus on cooperatives mostly belonging to this group. To learn more about Mondragon and its history see: Bradley & Gelb (1981, 1987), Thomas & Logan (1982), Ellerman (1982,1984), Whyte & Whyte (1988), Meek & Woodworth (1990), Hoover (1992), Morris (1992), Kasmir (1996), Cheney (1999).

1.1.2. Cooperative values and principles

The cooperative movement was created in the early 19th century with the goal of empowering the poor, fostering self-reliance, and promoting economic development (Yunus & Weber, 2010). The first incarnation of cooperative principles came from the Rochdale Society of Equitable Pioneers, which emerged in 1844 from labour movements such as Owenism and Chartism, which had developed in response to the poverty and inequality resulting from industrialisation and capitalism. When the International Cooperative Alliance (ICA) was founded in 1895, it codified these principles, presenting an idea of enterprise that advocated

social justice and the equitable enrichment of society (Fairbairn, 1994). For more on the historical evolution of cooperative values and principles see Waring (2022).

Historically, literature has attributed anti-cyclical and social behaviour to cooperatives. This behaviour has been linked to the fact that the imperfections of the capitalist economic system are not reproduced in them since they are guided by specific values and principles (Santos Cumplido et al., 2013; Vázquez et al., 2013). Cooperatives form a business model that, despite operating in a profit-making environment, is based on social principles (Carini & Carpita, 2014; Bretos & Marcuello, 2017; Guzmán Alfonso et al., 2020; Bretos et al., 2020). Even when they are driven by profit, as any other firm, they are also supposed to follow some permanent values, present in the cooperative movement since its beginnings: self-help, self-responsibility, democracy, equality, equity, and solidarity. To put these values into practice, cooperatives may use the cooperative principles, which are guidelines or operating rules: (1) Voluntary and Open Membership, (2) Democratic Member Control, (3) Member Economic Participation, (4) Autonomy and Independence, (5) Education, Training, and Information, (6) Cooperation among Cooperatives, and (7) Concern for Community. In practice, cooperatives may heterogeneously apply those principles to guide their decision-making. Their uneven application varies in different types of cooperatives in different situations. The principles are linked, so that when one of them is not followed, all of them suffer (Martínez-Charterina, 1995, p.38).

Cooperatives are supposed to include these values and principles in their regulations and put them into practice in their daily work. Thus, since its foundation in 1956, Mondragon has been based on its ten principles. These are a modified version of the ICA cooperative principles from 1936. They were designed by the founder, José María Arizmendiarieta, to avoid "degeneration" into conventional firms. These ten principles were renewed in 1987 and are: (1) Free membership, (2) Democratic organization, (3) Sovereignty of labour, (4) Instrumental and subordinate character of capital, (5) Participation in management, (6) Solidarity in remuneration, (7) Intercooperation, (8) Social transformation, (9) Universal character, and (10) Education.

Since the end of the 19th century, authors such as Beatrice Potter Webb and her husband (Potter, 1891; Webb & Webb, 1920) have been pointing out the possible degeneration of these

values into ones more similar to those of capitalist forms of business. This view has prevailed in the literature on worker cooperatives over the last century (Meister, 1974, 1984; Ben-Ner, 1984; Miyazaki, 1984). Some of the literature on the Mondragon case mentions the possible limitations of these principles (Kasimir, 1996; Cheney, 1999; Errasti et al., 2003; Bakaikoa et al., 2004; Luzarraga et al., 2007). But this degeneration has been most clearly seen in the more current processes of internationalisation of cooperatives belonging to the group, which have not transferred their principles to foreign subsidiaries (Bretos et al., 2019, 2020). Very current work on cooperative degeneration can also be found on other cooperative environments, such as that of Pastier (2024) on a Belgium food cooperative.

1.1.3. Cooperation among cooperatives or Intercooperation

For the development of this doctoral thesis, we focus on one of the mentioned cooperative principles: cooperation among cooperatives, or as they call it in Mondragon, intercooperation. According to this principle, “cooperatives serve their members more effectively and strengthen the cooperative movement by working with local, national, regional and international structures”. This principle was added to the ICA list in 1966 and is among the most recent principles.

Intercooperation is based on joint actions, not necessarily through a hierarchical or market relationship, between two or more cooperatives (Melia & Igual, 2008). These cooperatives can belong to the same or different sectors (Lago & Silva, 2012). They can also collaborate either horizontally, through trade associations or joint work with cooperatives of the same level (Sergaki, 2014; Mendina et al., 2019); as well as vertically, integrating certain activities through formal structures, such as central or higher-grade cooperatives (Boccatonda et al., 2019; Božić et al., 2019). There are different stages of intercooperation, from more informal relational ties for the coordination of information on some activities, to the integration of management and processes (Bialoskorski, 2012).

A noteworthy reflection on intercooperation is that made by Smith (2001) when he stated that cooperatives have a better hope of survival if they coordinate and cooperate with other existing cooperatives in their environment, in their sector or in their supply chain. He added a simile to this idea: "a single rose may not bloom alone: it may need to be part of an ecosystem in which other roses are present, and in which supporting actors and structures

(e.g. bees, soil conditions, rainfall) are present". In this sense, Guzmán Alfonso et al. (2020) make a good contribution by linking intercooperation with the Resource Dependency Theory (Pfeffer & Salancik, 2003), according to which the organisation depends on other organisations to secure its resources and the information needed to maintain its place in the market.

1.2. Rationale for the research

The decision to choose and develop this research topic in the doctoral thesis is based on the following reasons.

1.2.1. Social and institutional concern

In recent decades, socioeconomic inequalities have increased globally due to the Great Crisis of 2008, the various international armed conflicts, or the Covid-19 Crisis (Hudson, 2020). Thus, the social demand for companies that look beyond pure profit maximisation is increasing (Kotler & Lee, 2005; Porter & Kramer, 2011). Given this situation, cooperatives in general and worker cooperatives in particular have gained special institutional attention as a supposed instrument of economic stabilisation (Cornforth & Thomas, 1994; Birchall, 2013; Carini & Carpita, 2014; Román-Cervantes, 2014; García-Louzao, 2021). This could be due to their presumed ability to respond to socioeconomic problems, overcome market failures and alleviate the needs of their members or customers (Costa et al., 2012; Cheney et al., 2014; Storey et al., 2014); and their perceived strategic relevance for sustainable economic development and greater social cohesion at the local level (Puusa et al., 2016; Bretos & Marcuello, 2017; Camargo-Benavides & Ehrenhard, 2021; Hoffman, 2022). Cooperatives are more reluctant to lay off employees and more likely to adjust working hours or wages (Santos-Larrazabal & Basterretxea, 2022). In addition, some authors state that they are more considerate of gender equality and inclusion, which generates higher quality employment (Calderón & Calderón, 2012; Pérotin, 2013; Román-Cervantes, 2014). Cooperatives play an important role in job preservation and job creation in times of crisis. In 2009, in Spain, job destruction in cooperatives was 2.6%, compared to 6.7% in the case of conventional firms (Sanchis Palacio et al., 2015), with this difference reaching 7.5 percentage points in subsequent years (Guzmán Alfonso et al., 2016). Between 2007 and 2011 the number of

cooperatives created in Spain fell by 19.6% and cooperative employment by 10.7%, compared to 40% and 30%, respectively, in conventional enterprises (Sanchis Palacio et al., 2015).

The commitment to a more sustainable, responsible, cohesive and inclusive model of consumption and development (Fusco & Migliaccio, 2018) has brought cooperatives to the forefront as an element for achieving the Sustainable Development Goals (SDGs) of the United Nations (UN) 2030 Agenda (Chaves & Gallego, 2020). During the 47th plenary session of the UN General Assembly, held on 3 November 2023, a resolution was adopted urging the UN to promote cooperatives and raise awareness of their impact on the achievement of the SDGs (ICA, 2023). The UN Secretary-General's 2023 report also recommends focusing support on cooperatives as sustainable and successful firms, strengthening an entrepreneurial ecosystem that enables them to continue to contribute directly to social development. It also recommends adapting existing legislation on access to capital, autonomy, competitiveness, and taxation to encourage the creation and growth of cooperatives (UN, 2023). The significance of these enterprises is also supported by the European Social Economy Action Plan (European Commission, 2021) and by the International Labour Organization (ILO, 2002) that recognises their relevance "as important in improving the living and working conditions of women and men globally as well as making essential infrastructure and services available even in areas neglected by the state and investor-driven enterprises".

1.2.2. Entrepreneurial concern

There is a relatively large body of literature on cooperatives that attributes to intercooperation several seemingly irrefutable advantages. Principles such as intercooperation help define and shape the entrepreneurial culture of cooperatives and can influence their business performance (Kyriakopoulos et al., 2004; Novkovic, 2008). Intercooperation is said to make possible to achieve economies of scale (Guzmán Alfonso et al., 2020), which allows to interact in large economic markets, competing with non-cooperative groups, without losing the ideology and functioning of small cooperatives. Moreover, the joint support superstructure that is generated may facilitate the achievement of collaborative advantages and is important for the creation of cooperative firms (Pérotin, 2006).

In cases such as Mondragon, intercooperative solidarity mechanisms have historically been linked to the competitiveness of cooperatives in good economic times and the mitigation of social damage in times of crisis. Intercooperation within Mondragon cooperatives facilitates risk management mechanisms, such as the establishment of unemployment insurance, which involves transferring worker-members from cooperatives facing crisis to those experiencing labour shortages. Additionally, part of the profits or losses can be collectively restructured through profit pooling or intercooperative funds (Arando & Arenaza 2018). In that context, intercooperation is also said to reduce transactional costs and risks of opportunistic behaviour and knowledge leakage in cases of cooperation with competitors (Basterretxea et al., 2019a). In addition, it could allegedly favour synergies in internationalisation, innovation, marketing and management (Smith, 2001; Novkovic, 2008; Basterretxea et al., 2019a). The services and incentives generated in this network could add value for individual cooperatives, since for decades most of them have shown a clear willingness to remain linked to the group and a strong adherence to its cooperative principles, even when there is the option to leave the group freely (Smith, 2001; Basterretxea, 2011; Basterretxea et al., 2019a).

As a result of the above, a deeper understanding of the intricacies of intercooperation may be of great interest mainly for the cooperatives in our surroundings, given the extensive intercooperation network that is available to them. From the point of view of the general entrepreneurial environment, some of the findings could be extrapolated, but in the specific case of the Basque Country, the survival and prosperity of the cooperatives is of great relevance, given that Mondragon is one of the main employers in the territory.

Moreover, the distinctive attributes of the legal form of worker cooperatives, tax advantages and support measures for their creation could attract the interest of the entrepreneurial environment towards this kind of firms (García et al., 2020).

1.2.3. Academic relevance and flawed approach

It can be said that worker cooperatives are an increasingly hot topic that has gained special academic attention as a supposed instrument of economic stabilisation (Cornforth & Thomas, 1994; Birchall, 2013; Carini & Carpita, 2014; Román-Cervantes, 2014; García-Louzao, 2021) and will continue to grow in the near future. But the real implications of intercooperation for the survival of these enterprises might have been neglected in the

analyses and have always been dealt with in a cross-cutting manner, without a proper body of literature. There has been little empirical research on how worker cooperatives structure and implement the principle of intercooperation in practice and the implications this has.

The social and economic advantages derived from cooperative values and principles seem to form the current paradigm of research on cooperatives, and it is evident that the specialised literature rarely addresses the limitations that intercooperation might have. This literature is sometimes biased, it mostly takes a theoretical stance and mainly uses qualitative case studies or quantitative studies based on not very large samples and made up only of cooperative firms. Added to this, the lack of application of principles such as intercooperation in foreign subsidiaries, the financial problems of Eroski, the bankruptcy of Fagor Electrodomésticos in 2013 or the departure from Mondragon of Irizar and Ampo in 2008 and Orona and Ulma in December 2022 are facts that call into question these attributes of intercooperation which, until now, seemed indisputable. Moreover, the results of Novkovic (2008), Oczkowski et al. (2013) and Kleanthous (2017) suggest that, in general, cooperative members do not uniformly recognise cooperative principles, with intercooperation being considered as one of the least fundamental. All these factors are compounded by the aforementioned theory of the degeneration of cooperative principles (Potter, 1891; Webb & Webb, 1920; Meister, 1974, 1984; Ben-Ner, 1984; Miyazaki, 1984; Bretos et al., 2019, 2020; Pastier, 2024).

1.2.4. Personal motivations

Personal interest in the research topic stems from a disappointment towards more traditional or common forms of ownership and corporate governance. One of the characteristics that in our opinion make cooperatives interesting and worth preserving is the fact that ownership cannot be freely sold or acquired. This gives greater stability to the membership structure and safeguards the interests of the territory where the cooperative operates, against the private interests of third parties outside the community. Although the distribution of profits among cooperative members may in some cases resemble that of a capitalist firm, it is a more equitable way of distributing the wealth generated among the members of the community in which it operates. We believe that a society whose main enterprises are owned by its stakeholders and where important decisions are made by them is a society with a greater potential for sustainable development. In addition, cooperative values and principles,

although not mandatory, could serve as a guide for the initiatives of these firms to be more inclined towards sustainability. As an example, in the case of the Mondragon cooperatives, 10% of the net profits are contributed to different educational, social, and promotional initiatives.

In the case of worker cooperatives, these characteristics stand out even more, as those who daily contribute their labour force to the business are also the main beneficiaries of its results, always maintaining proportionality. We think that in this way, the concept of work is developed in its most genuine possible exponent and the alienation and loss of surplus value are minimised. In addition to this, we believe that the relatively small difference between the wage rates of staff and managers is something that, even if it is a constraint in attracting talent, it favours social equality, without necessarily harming equity and fairness.

All this would be idyllic as long as cooperatives duly comply with the cooperative values and principles laid down by the ICA. For this reason, we consider it of particular personal interest to know whether these standards of behaviour are being complied with, or whether they have been sidelined by the drive for expansion and profit maximisation at all costs. Of all the principles, we have decided to focus on the principle of cooperation among cooperatives or intercooperation because of the suitability of the cases studied; because we find that it is a principle that can combine the need for business development with the need for sustainability; and because we believe that, to date, it has been addressed in the literature with a seemingly narrow focus. We think it is very interesting to delve into its different applications and its advantages and limitations.

1.3. Research questions and objectives

To address the needs identified at both social and organisational levels and the gaps in the academic literature, this doctoral thesis aims to answer the research questions presented below. To this end, an in-depth bibliometric analysis is carried out, identifying different topics that make up the literature on worker cooperatives. These topics are then developed in each of the following chapters, by means of three different cases in which intercooperation is manifested through different relationships between worker cooperatives and other actors belonging to associative movements in the Basque economy. Each chapter has individual

research questions and objectives that will later converge in the chapter of concluding remarks, in order to answer the general research questions of the thesis.

1.3.1. General overview

This work will try to answer the following general research questions:

GRQ1: Does the link between intercooperation and the success historically attributed to Basque worker cooperatives still stand up to scrutiny?

GRQ2: Which are the main motives and outcomes of intercooperation between worker cooperatives and other stakeholders within associationist movements in the Basque economy?

To this end, these are the general objectives to be met:

GO1: To provide new knowledge on the main reasons, results and limitations of intercooperation in order to discuss the link between this principle and the historical success of Basque worker cooperatives.

GO2: To address the various topics that make up the literature on worker cooperatives from different ways of applying intercooperation.

1.3.2. Specific approach

Chapter 2 has the following specific research question and objective:

SRQ1: How do the literature and its main actors deal with worker cooperatives and how has this literature evolved from its beginnings to the present day?

SO1: To understand and present the development, current knowledge structure and future research trends of the body of literature on worker cooperatives and other labour-owned and managed firms.

These are the specific research question and objectives of Chapter 3:

SRQ2: Which are the advantages and limitations of intercooperative labour flexibility and security policies for cooperatives in a crisis situation, both from the perspective of managers and staff?

SO2.1: To identify advantages and limitations of intercooperative labour flexibility and security policies.

SO2.2: To explore how intercooperative labour flexibility and security policies are applied and perceived differently depending on the geographical location of the business unit.

SO2.3: To shed light on the different strategies of resistance and resilience of worker-members to intercooperative labour flexibility and security policies, both from the perspective of management and staff.

Chapter 4 presents the following specific research questions and objectives:

SRQ3.1: Which are the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems?

SRQ3.2: Which are the benefits and limitations for Eroski and the other parties involved in this type of relationship and the conflicts that may arise between them?

SO3.1: To identify the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems.

SO3.2: To identify the benefits and limitations for Eroski and the other parties involved in intercooperation related to a local agrifood system.

SO3.3: To identify the conflicts that may arise between Eroski and the other parties involved in intercooperation related to a local agrifood system and how to solve them.

The specific research question and objectives of Chapter 5 are as follows:

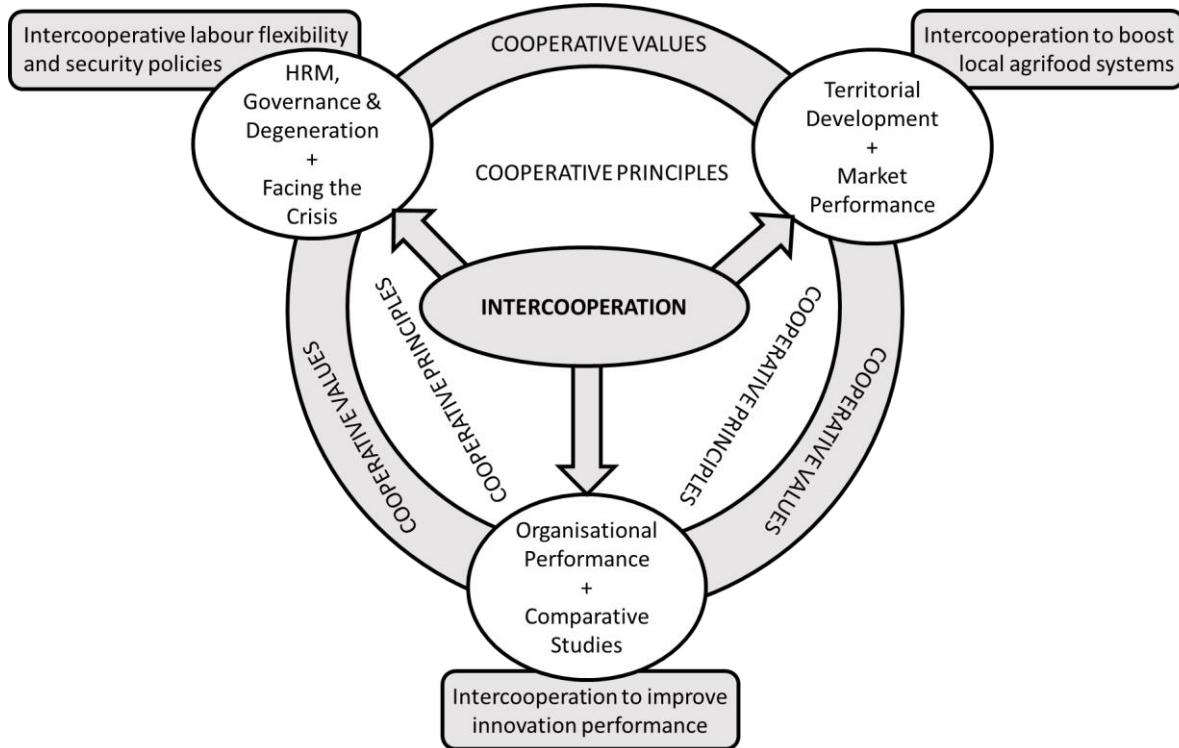
SRQ4: Do cooperatives have advantage over non-cooperatives in achieving superior innovation outcomes through interorganisational cooperation?

SO4.1: To contrast the positive and significative effect of being a cooperative on a firm's innovation performance in products new to the firm and new to the market.

SO4.2: To contrast the positive and significative effect of being a cooperative in achieving superior innovation outcomes through interorganisational cooperation.

Figure 1.1 shows the conceptual model that this doctoral thesis follows to address these questions and objectives.

Figure 1.1. Conceptual model of the doctoral thesis.



Source: Own elaboration.

1.4. Relevance of the study

1.4.1. Relevance for scholars

This doctoral thesis advances diverse academic disciplines and areas of knowledge with the following contributions:

- It undertakes a novel assessment of the productivity of global research on worker cooperatives and other worker-owned and managed firms (Chapter 2).
- It proposes an integrative framework that provides a theoretical basis for empirical research on worker cooperatives and serves to identify future avenues for research in the field (Chapter 2).

- It facilitates researchers' decision-making to collaborate in the most prolific working groups or institutions and offers a venue to strengthen the network of collaborations already established between co-authors, which can lead to larger research projects (Chapter 2).
- It adds to the literature evidence on the link between poor implementation of labour flexibility and security policies and increased labour market precariousness (Chapter 3).
- It adds evidence to the growing body of labour geography by studying how intercooperative labour flexibility and security policies are implemented and perceived differently depending on the geographical location of the business unit (Chapter 3).
- It includes novel insights from a variety of value chain actors and brings a relational, intercooperative and long-term view to the literature on the creation, consolidation and promotion of local agrifood systems (Chapter 4).
- It makes a significant contribution to the academic discourse on entrepreneurial innovation by presenting a robust econometric analysis based on a large sample of both cooperative and investor-owned firms (Chapter 5).

1.4.2. Relevance for practitioners

The work also provides several practical contributions of interest to managers (mainly in cooperatives), institutions and society in general:

- The bibliometric methods used in Chapter 2 are an effective and comprehensive way of presenting certain findings from the literature to mainstream society.
- Some of the findings in Chapter 3 have implications for managers of the growing number of firms (both cooperative and non-cooperative) that seek to adopt labour flexibility and security policies, without harming the social welfare of their workers.
- The findings of Chapter 4 can serve as a lesson for large supermarkets operating in regions with weak agrifood systems that, driven by consumer trends, want to

emphasise their local positioning as a differentiation strategy; for small local suppliers who want to sustainably expand the sale of their products to large supermarkets; and for governments and public institutions seeking to implement public policies for the territorial development of their local agrifood systems.

- Chapter 5 urges firms, whether cooperatives or not, to strengthen their interorganisational cooperation policies in order to improve their innovation performance.

1.5. Methods

This study investigates intercooperation within Basque worker cooperatives, predominantly those in the Mondragon group, across various contexts. These contexts encompass diverse applications of intercooperation within cooperatives operating in different sectors and possessing unique characteristics. Through comprehensive analysis, the study aims to identify common patterns of convergence and divergence across all cases. These patterns are then contrasted to derive theoretical insights (Stake, 2006; Bell et al., 2018; Yin, 2018). This methodology serves to refine or refute existing theories, rather than to construct entirely new explanatory frameworks (Jack & Kholief, 2007). Different methodologies have been used in each of the chapters to achieve the proposed objectives, depending on the type of information and the sources we had in each case. This diversity also contributed to broaden the methodological knowledge of the doctoral student and to advance his development as a researcher.

1.5.1. Methodology of Chapter 2

Given the benefits of systematic reviews as a first step in the context of research projects such as a doctoral thesis (Kraus et al., 2022), in Chapter 2 a bibliometric analysis is used to present an overview of research on worker cooperatives and other labour-owned and managed firms (Donthu et al., 2021). This methodology is used to identify the key elements that structure knowledge in the field, to measure its production and to understand research trends (OECD, 2002). Bibliometric analysis is broadly accepted as a legitimate research approach (Ellegaard & Wallin, 2015). Its quantitative nature makes it suitable for analysing extensive bibliographic data (Ramos-Rodríguez & Ruíz-Navarro, 2004), and for minimising

interpretation biases of qualitative reviews resulting from the authors' experience (Pandey et al., 2022).

The Scopus database was chosen for the analysis because it is considered one of the main databases worldwide (Zhu & Liu, 2020), it adheres to rigorous peer review protocols (Orduña-Malea et al., 2015), and it also accumulates older publications from the main journals that publish on cooperativism and the social economy. It was decided to work with a single database to avoid homogenisation problems, which negatively affect the results (Mariani & Borghi, 2019).

Keywords chosen for the search are based on a previous review of the most relevant literature, on the author's empirical experience and on terms used in similar bibliometric analyses. The definition of the appropriate search query and the subsequent selection of articles were hampered by the fact that, as already addressed by Camargo-Benavides and Ehrenhard (2021), the word "cooperative" and its derivatives lead to a large number of articles unrelated to cooperative firms.

The search was carried out in title, abstract and keywords, limiting it to articles whose publication status was final in 2022, only in journals, in the areas of *Economics*, *Econometrics and Finance* and *Business, Management and Accounting*, and which were written in English or Spanish. Spanish was added because, before filtering by language, of the 1205 results, 773 (64%) were in English and 326 (27%) in Spanish, with a residual presence of other languages. Furthermore, the Mondragon cooperative movement and the relevant cooperative movements in Spain and Latin America make Spanish very relevant in this field. In order to achieve a global understanding by analysing all existing contributions, no lower time limit was imposed. In the end, the search yielded 1093 results.

Subsequently, the initial sample was trimmed by eliminating repeated or failed articles. By reading the title and abstract, articles not related to the general topic of cooperativism or worker management and ownership were also removed from the database, leaving 940 articles. For the bibliometric analysis, we took only the 605 articles directly related to the research topic: worker cooperatives, labour managed firms and cooperatives in general (inclusion criteria). The latter two concepts were chosen, respectively, because all worker cooperatives are labour managed firms, but not the other way around; and because there are

articles that deal with cooperatives in general and their conclusions are also applicable to worker cooperatives. These articles were analysed using the two main procedures typically applied in bibliometric studies (Pilkington & Meredith, 2009; Zupic & Čater, 2015): performance analysis and scientific mapping. The combination of these bibliometric methods leads to better and more robust results in the analysis of a research field (Randhawa et al., 2016), since they are considered complementary (Leung et al., 2017).

The performance analysis identifies the level of productivity, impact, and popularity of the different units of analysis to be taken into account (Aria et al., 2020). This method provides an up-to-date overview of the research field by mapping the works that form its intellectual basis (Alayo et al., 2020); and identifies the roles of highly cited papers and the major changes in the direction of a field (Pilkington & Meredith, 2009). We took as the main indicators the number of publications and citations, the h-index (Hirsch, 2005) and CiteScore, for authors and journals, or the Field-Weighted Citation Impact (FWCI) for authors and papers. The FWCI is the ratio of the paper's or author's citations to the average number of citations received by all similar papers or similar authors (same year of publication, type of publication and discipline) in the year of publication plus the following three years. Each field contributes equally to the metric, which suppresses differences in the citation behaviour of researchers. In our sample there are papers without FWCI because they were published many years ago. For journals, the JIF, JCI or SJR indexes were also used.

On the other hand, we conducted science mapping to spatially depict the structure and dynamics of the scientific field (Zupic & Čater 2015), based on co-authorship and co-occurrence of keywords. Co-author analysis identifies the social network of the research field through the linkages and link-weights between its most prominent authors and the subgroups emerging from the collaborations (Zupic & Čater 2015). Keyword co-occurrence analysis makes it possible to establish the conceptual structure of a scientific field through specific connections between its keywords (López-Fernández et al., 2016), which create semantic or conceptual clusters of topics addressed (Alayo et al., 2020). To generate the network maps and extract the clusters in each type of analysis, the VOSviewer software (Van Eck & Waltman, 2007) was used.

The bibliometric method was complemented by a qualitative analysis of the extracted results (Sugimoto & Pratt, 2008). This analysis was enhanced with additional highly relevant contributions to the literature on worker cooperatives that were not captured by the systematic search but were identified through a reference list scan of articles in the main search.

1.5.2. Methodology of Chapters 3 and 4

Chapters 3 and 4 adopt the same exploratory-explanatory case study methodology, which identifies potential theoretical issues and details a particular phenomenon of great scientific interest (Yin, 2009). This methodology combines quantitative and qualitative evidence (Byrne, 2013).

Regarding the quantitative information, the most relevant external documentary evidence from press releases and different databases was analysed and internal longitudinal documentation from the analysed firms was collected. In the case of Chapter 2, we analysed Lagun Aro (2007-2019) and Mondragon (2008, 2016, 2020) annual reports, Fagor Electrodomésticos' Absenteeism Report of 2005 (Fagor Electrodomésticos, 2006) and the Displaced and Mobile Work Schedule Regulation of Mondragon (1998). Regarding Chapter 3, information was extracted from Eroski's survey results for local SME suppliers collected in 2013, 2017 and 2020 and for customers collected in 2012, 2017 and 2020; the information presented at the meetings of the retailer with Basque suppliers in 2012 and 2018; and the annual reports of the firm between 2013 and 2021; finally, the results of a survey of Basque consumers conducted by HAZI Foundation in 2018 were also obtained.

Some qualitative information was provided by secondary sources, such as internal reports, press interviews and, in the case of Chapter 3, reports where Eroski collected consumers' feedback in 2018 and 2020. But the main qualitative information source came from a fieldwork based on in-depth interviews with a representative and reliable set of participants (40 internal and external stakeholders of Fagor Electrodomésticos during its fall and in the relocation stage in Chapter 2; and 22 members of the Basque-Navarre regional agrifood system in Chapter 3). The sample of interviewees was identified using theoretical (Glaser & Strauss, 2017) and snowball (Patton, 2002) sampling. To increase the richness, validity and reliability of the information collected (Miles et al., 2014), and to avoid biased results based on limited and homogeneous information (Solarino & Aguinis, 2021), covering the various

interests at stake (Glesne, 2006), the participants represented the different points of view to be addressed in each of the studied phenomena.

A semi-structured script was developed based on the study's conceptual framework, which was modified as the fieldwork progressed (Gioia et al., 2013). Semi-structured interviews are particularly effective for intensive and detailed analysis of case studies (Bell et al., 2018). To obtain more information from the interviewees, the interviews were complemented with information drawn from the reviewed documents and from previous interviews. The interviews lasted between 60 and 170 minutes and were recorded and transcribed verbatim. The study's exclusively academic motivation, the diversity and anonymity of the interviewees were guaranteed, thus reducing fear of possible leaks or litigation (Warren, 2002) and avoiding the participants' organisational silence (Morrison & Milliken, 2000) and social desirability (Nederhof, 1985). In the case of chapter 2, we consider possible methodological biases related to the catharsis involved for the interviewee in facing the traumatic experience of the closure of Fagor Electrodomésticos (Heras-Saizarbitoria, 2014). The fieldwork data collection ceased at the point of theoretical saturation, when the marginal contribution of each interview began to diminish (Miles et al., 2014; Strauss & Corbin, 1990).

To maintain theoretical-interpretative consistency, an inductive analytical approach was adopted (Bonache, 1999), appropriate for qualitative content (Glaser & Strauss, 2017). Construct validity was achieved through triangulation (Miles et al., 2014) of evidence drawn from multiple sources, and this evidence was analysed using an iterative process of categorisation, interpretation, discussion and explanation, which provides reliability (Yin, 2009). The qualitative information analysis software NVivo 10 supported this process. Key findings were synthesised, and representative passages and quantitative descriptive figures were included to better illustrate the object of study. A peer outside the project who analysed, discussed and reviewed the draft provides further construct validity and reliability (Gibbert et al., 2008). Key informants who currently or at some point in time belonged to the analysed firms followed the same procedure. Internal validity is guaranteed by the common behavioural patterns that explain the event. External validity was achieved with congruent results, which could be generalised to other studies (Yin, 2009).

1.5.3. Methodology of Chapter 5

Chapter 5 uses a quantitative hypothetico-deductive methodology (Labra, 2013), as we consider it a good approach to finally address the importance of intercooperation. The dataset used is from the Innovation Survey 2021 carried out by the Basque Institute of Statistics (Eustat, 2022). The survey questions are based on the Community Innovation Survey, which follows the terminology of the Oslo Manual (OECD, 2018). The survey focuses on business establishments from different sectors and of different sizes in the Basque Country. The data are for 2021, but certain questions cover 2019-2021. The sample encompasses 718 Manufacturing Industry establishments (CNAE [National Classification of Economic Activities] codes 10 to 33), with the aim of maximising homogeneity. 7.94% of the establishments in the sample belong to cooperative firms. They account for 15.17% of total employment in the sample. This is close to the actual proportion of industrial jobs provided by cooperatives in the Basque Country, which stands at 12.4% (Basque Government, 2021). Therefore, the sample is well sized with respect to the study universe.

The percentage of the establishment's turnover that comes from new products or services is used as a proxy to determine innovation performance (Zeng et al., 2010; Brettel & Cleven, 2011; Temel et al., 2023). This is combined with the degree of novelty of innovations (Van Beers & Zand, 2014), in terms of the percentage of innovations that are new to the firm and the percentage that are also new to the market. This gives rise to two dependent variables, *firm.inno* and *mrkt.inno*, expressed as percentages of the establishment's turnover.

Building on the existing literature, cooperation for innovation is measured by considering interactions with group companies, competitors, customers, suppliers, universities, research centres, consultants, and public administrations. Based on the given configuration of the data, each cooperation category is measured using a binary variable: 1 when the establishment cooperates with that stakeholder to innovate and 0 when it does not.

We include the dummy variable *scoop*, taking the value 1 when the establishment belongs to a cooperative firm and 0 otherwise, to measure the effect of being cooperative on innovation and on the impact of interorganisational cooperation on innovation performance.

As control variables, we take into account the level of the establishment's spending on R&D, both internal and external (*int.rd.to* and *l.ext.rd*) or the receipt of public funding (*pub.aid*). The size of the establishment's parent firm (*l.emp.firm*) is also considered, because larger firms might possess more resources and economies of scale that enhance their innovation capabilities (Vaona & Pianta, 2008). The natural logarithm of the number of employees, commonly utilised in studies of firm innovation performance, is used as a proxy for firm size. We also control for the number of interorganisational cooperation channels on innovation establishment (*coop.chann*).

First, we use the standard Analysis of Variance (ANOVA) to see whether there is any difference between the means of the different groups (cooperatives and non-cooperatives).

Then, given the connections between variables revealed by the relevant economic literature and the empirical studies reviewed, three regression models are established. The differences between the three models lie mainly in the variables included as explanatory. Multiple Linear Regression Models are specified and estimated using the Ordinary Least Squares method with robust standard errors to correct possible heteroscedasticity. Neither heteroscedasticity nor autocorrelation tests are run, since Ordinary Least Squares are consistent estimators, and we use them with robust standard deviation (Wooldridge, 2012, p.431). The models are formulated as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \varepsilon_i \quad i=1, \dots, 718$$

Where:

Y_i is the dependent variable,

X_{ji} are the explanatory and control variables; $j=1, \dots, k$

ε_i is the error term, which is assumed to be normally distributed.

Based on the literature, we propose that the relationship between the explanatory and control variables and the dependent variable may be different depending on whether the firm is a cooperative or not; so we include that moderating effect by adding a moderating variable, *scoop*, which affects the relationship between the dependent variable and the explanatory ones (Hayes, 2022).

1.6. Structure of the doctoral thesis

This doctoral thesis consists of six chapters, which are structured in Figure 1.2. After this introductory chapter, the following one presents a bibliometric analysis that provides an overview of the historical and current literature on worker cooperatives and identifies possible avenues for future research. The following three chapters propose their specific research questions, objectives and hypotheses and contrast them. These chapters share the common thread of intercooperation. Although they jointly pursue the general objectives of the work and answer its general research questions, each chapter is based on independent cases and theoretical foundations and conducts independent empirical analyses. Finally, the sixth chapter adds some concluding remarks. All references used are added in a final section. The remaining chapters are summarised below:

Chapter 2 is entitled *Worker Cooperatives and other Labour-Owned and Managed Firms. A Historical Bibliometric Analysis*. Existing systematic and bibliometric analyses on cooperatives are severely limited and fail to address the specific case of worker cooperatives. Consequently, this chapter aims to start the doctoral thesis with a comprehensive presentation and understanding of the evolution, current knowledge structure, and prospective research trajectories within the corpus of literature concerning worker cooperatives and other labour-owned and managed firms. Bibliometric techniques, including performance analysis (examining authors, universities, countries, journals), co-authorship analysis, and co-occurrence analysis, are used on a dataset encompassing 605 articles published between 1973 and 2022 in Scopus. This is coupled with the visualisation tool VOSviewer. The review of the literature in the field exposes a relative paucity of citations. Furthermore, the identified thematic areas, totalling five, exhibit limited diversity and high interrelation. The concept of intercooperation is identified as a feasible cross-cutting theme for prospective research lines associated with each thematic area. Additionally, the study identifies extant collaborative networks and proposes potential ones, aiming to foster new collaborations that may contribute to alleviating the notably advanced average age of the principal authors in the field. The qualitative analysis of the results encompasses highly pertinent contributions not captured through the systematic search but identified via a reference list scanning of the sampled articles. Moreover, the study finds that a meticulously curated special issue in a prestigious generalist journal has the potential to attain greater impact and exposure than

historically achieved by specialised journals. This phenomenon may incentivise certain authors to conceal the cooperative nature of their work to enhance acceptance in these well-indexed generalist journals.

Once the main thematic areas of the literature have been defined and intercooperation has been identified as a feasible cross-cutting theme, the following chapters of the thesis deal with the addressed three case studies. Chapter 3 is entitled *Intercooperation, Flexicurity and their Impact on Workers. The Case of Fagor Electrodomésticos*. This chapter explores how Mondragon cooperatives have, since 1970s, materialised intercooperation in the form of flexicurity policies (flexible wage and working time, numerical and functional flexibility, training and labour protection), to deal with economic crises; and how Fagor Electrodomésticos did so for the last time in 2013 to alleviate the social consequences of its demise. Through 40 interviews with different stakeholders, it aims to analyse the advantages and limitations of these kind of intercooperation. In contrast with previous research on Mondragon cooperatives, this study has found a strong worker-owner resistance to flexicurity policies, mainly before the firm's bankruptcy. The study has also found the main reasons for worker resistance and for some successful Mondragon cooperatives' reluctance to offer permanent relocations to redundant Fagor Electrodomésticos' members. This research will help cooperatives to maintain and improve their intercooperation-based flexicurity policies and their resilience. In terms of academic literature, it contributes to: flexicurity literature by analysing the application of these policies to managers or the link between their poor implementation and increased labour market precariousness; the study of the resilience of worker-owned organisations from the managerial and worker-owner perspectives; and literature on labour geography, by studying how intercooperative flexicurity policies are applied and perceived differently depending on the geographical location of the business unit. Some findings can be extrapolated to the growing number of firms that aim to implement flexicurity policies without harming their workers' social welfare.

Chapter 4 is entitled *Intercooperation between Cooperative Retailers, Local Food Suppliers and Public Institutions to Boost Regional Agrifood Systems. The Case of Eroski*. This chapter has a similar structure and methodology to the previous one. It analyses the intercooperation between public administration, small agricultural producers and the supermarket cooperative

Eroski in the Basque Country and Navarre to promote a local agrifood system. Through a case study with 22 interviews with different members of the system, certain advantages and limitations of this intercooperation are identified. The retailer emerges as the main agent with the potential to drive the supply of the local agro-livestock sector and promote its professionalisation through the formation of agricultural cooperatives and other associative networks. The relevance of a correct organisational culture alignment between the retailer and its suppliers and the influence of codependence and power imbalances between these two parties are highlighted. The case offers clues for large supermarkets operating in regions with weak agrifood systems that, driven by consumer trends, want to emphasise their local positioning as a differentiation strategy; for small local suppliers who want to sustainably expand the sale of their products to large supermarkets; and for governments and public institutions seeking to implement public policies for the territorial development of their local agrifood systems. It is also a novel and unconventional contribution to the literature on the creation, consolidation and promotion of local agrifood systems because it focuses on the rarely addressed role of the retail sector and presents data and insights provided by them. It includes the views of various actors in the value chain and brings a relational, intercooperative and long-term vision to the literature on local agrifood systems.

After one chapter that follows a bibliometric methodology and two that are based on qualitative case studies, Chapter 5 seeks to culminate the doctoral thesis with a quantitative analysis of an extensive database. It is entitled *Exploring the Role of Intercooperation in Enhancing Innovation Performance. The Basque Case*. Existing literature asserts that there are limitations in the innovation capabilities of cooperatives. This chapter seeks to challenge that assumption and explore whether the intercooperative nature of such firms enhances their cooperation in research with various stakeholders, enabling them to obtain better innovation outcomes. Based on data from 718 manufacturing establishments in the Basque Country, 57 of them cooperatives, regression analyses show that being a cooperative interacts positively and significantly with the impact that cooperation with customers, universities and research centres have on innovation outcomes. Cooperation in research enables cooperatives to obtain competitive advantages in some innovation indicators (percentage of turnover from new-to-the-firm products) and competitive parity in others (percentage of turnover from new-to-the-market products). Moreover, the findings of this chapter highlight that cooperative firms

invest significantly more in external R&D activities and cooperate more to innovate with more diverse stakeholders. In addition to contributing to the body of comparative empirical literature, these findings significantly contribute to the academic discourse on business innovation by presenting a solid econometric analysis based on a large sample of both cooperative and investor-owned firms. Furthermore, this research has practical implications, underlining the importance of intercooperation policies for cooperatives to enhance innovation outcomes and highlighting the advantages of strengthening networks between various institutions to foster innovation performance in the case of all firms.

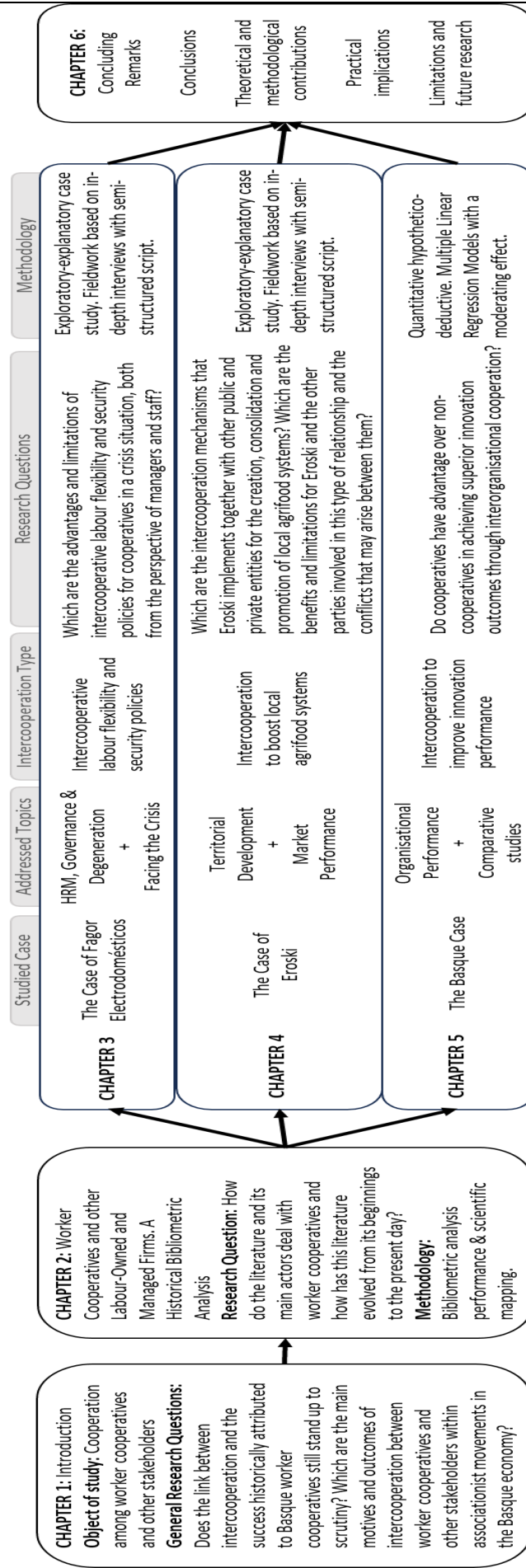
Chapter 6 presents the concluding remarks of this doctoral thesis in line with the general research questions and objectives proposed in this introduction and their realisation throughout the subsequent chapters. It gathers contributions and conclusions to critically discuss them and add some practical implications. In addition, this chapter covers the identified limitations of the thesis and outlines avenues for future research.

1.7. Outcomes of the doctoral thesis

1.7.1. Communications

- A communication based on Chapter 2 was accepted to be presented at the *European Cooperative Alliance Committee on Cooperative Research European Research Conference* held in Dundee, Scotland, in June 2024, under the title: Tracing the Evolution: A Bibliometric Historical Analysis of Worker Cooperatives and Labour-Owned Enterprises.
- A communication based on Chapter 5 was presented at the *IV International Forum on Cooperative Law* held in Donostia, Basque Country, in November 2023, under the title: Assessing the role of intercooperation in enhancing innovation performance.

Figure 1.2. Structure of the doctoral thesis.



Source: Own elaboration.

- A communication based on Chapter 4 was presented at the *International Association for The Economics of Participation (IAFEP) 21st Conference* held in Montpellier, France, in July 2022, under the title: Basque-Navarre Regional Agrifood System: A case of cooperation between Eroski Cooperative Supermarket Chain, Local SME Food Suppliers and Public Institutions.
- A communication based on Chapter 4 was presented at the *8th EMES International Research Conference of Social Enterprise* held in Teruel, Spain, in October 2021, under the title: Supplier development-based intercooperation between food retailers and their small local suppliers. The case of Eroski.
- A communication based on Chapter 3 was presented at the *Reciprocity in Comparison (The Academy of Korean Studies)* conference, in October 2020, under the title: Cooperation among Cooperatives in Times of Crisis via Relocations of Redundant Worker Owners and other Labour Flexibility Measures: Strengths and Weaknesses.
- A communication based on Chapter 3 was presented at the *XVIII edition of the Congreso Internacional de Investigadores en Economía Social y Cooperativa de CIRIEC*, in September 2020, under the title: Validando ventajas e identificando limitaciones de la flexiguridad. Caso Fagor Electrodomésticos.
- A communication based on Chapter 3 was presented at the *Beyster Symposium (Rutgers University)* and the *International Association for the Economics of Participation (IAFEP) 20th Conference*, in June 2020, under the title: Intercooperation, Flexicurity and Their Impact on Workers: The Case of Fagor Electrodomésticos

1.7.2. Publications

An article derived from Chapter 3 is published in *Annals of Public and Cooperative Economics* [JIF 2022: 1.6, Q3 *Economics* (236/380); SJR 2022: 0.542, Q2 *Sociology and Political Science & Economics and Econometrics*; CiteScore 2022: 3.2, Q1 *Sociology and Political Science* (302/1415), Q2 *Economics and Econometrics* (248/705)]. There, it was awarded twice, as one of the most downloaded papers during its first 12 months of publication, and as top cited paper between 1 January 2022 - 31 December 2023 (Figure 1.3).

It can be cited as: Santos-Larrazaabal, J. & Basterretxea, I. (2022). Intercooperation, flexicurity and their impact on workers: The case of Fagor Electrodomésticos. *Annals of Public and Cooperative Economics*, 93(3), 607-635. doi: 10.1111/apce.12329. Some metrics of the publication:

- Core Collection of Web of Science: 7 citations, 71.9th (Q2) percentile in Economics in 2022.
- Scopus: 9 citations, 88th percentile (Q1), FWCI of 2.20.
- Google Scholar: 12 citations.
- Dimensions Field Citation Ratio of 5.1.
- Cited by leading authors in the field of labour managed firms, such as George E. Cheney (University of Colorado), Derek C. Jones (Hamilton College) or Ermanno C. Tortia (University of Trento).

Figure 1.3. Top cited article certificate.



Source: John Wiley & Sons, Inc.

An article derived from Chapter 4 is published in CIRIEC-España, *Revista de Economía Pública, Social y Cooperativa* [JFI 2022: 1.4, ESCI Economics; SJR 2023: 0.33, Q2 Sociology and Political Science, Q3 Economics and Econometrics]. It can be cited as: Santos-Larrazabal, J. & Basterretxea, I. (2023). Close to me. Intercooperation between Cooperative Retailers, Local Food Suppliers and Public Institutions to boost Regional Agrifood Systems. The case of Eroski. CIRIEC-España, *Revista de Economía Pública, Social y Cooperativa*, (109), 65-97. doi: 10.7203/CIRIEC-E.109.26008

An article derived from Chapter 5 is in 2nd round of review in *Annals of Public and Cooperative Economics* [JIF 2022: 1.6, Q3 *Economics* (236/380); SJR 2023: 0.6, Q1 *Sociology and Political Science*, Q2 *Economics and Econometrics*; CiteScoreTracker 2023: 3.8].

CHAPTER 2

Worker Cooperatives and other Labour-Owned and Managed Firms. A Historical Bibliometric Analysis

This chapter was accepted to be presented at the European Cooperative Alliance Committee on Cooperative Research European Research Conference held in Dundee, Scotland, in June 2024, under the title: *Tracing the Evolution: A Bibliometric Historical Analysis of Worker Cooperatives and Labour-Owned Enterprises*.

2.1. Introduction

Cooperatives are societies that bring together natural or legal persons (members) under a structure of democratic control (one member, one vote), by contributing capital for the creation of an enterprise that allows them to act jointly to benefit from the advantages of communality, provides them with services and enables them to receive a return on the profits generated and not reinvested in the firm (Oliver, 1984). Worker cooperatives, in particular, are characterised by the fact that their members are also workers in the firm, who form the cooperative in order for it to provide them with employment. Worker cooperatives represent about 3-4% of the global cooperative sector. There are about 85,000 worker cooperatives in the world, employing approximately 12 million people (Eum, 2017). In Europe there are more than 35,000 firm of this kind (CECOP, 2024).

Cooperatives have gained special academic and institutional attention as an instrument of economic stabilisation (García-Louzao, 2021). The commitment to a more sustainable, responsible, cohesive and inclusive model of consumption and development has brought cooperatives to the forefront as an element for achieving the UN Sustainable Development Goals (Chaves & Gallego, 2020).

This context makes cooperatives and cooperativism an increasingly hot topic that will continue to grow in the near future. However, if we look at the current literature in this area, it is surprising its little relevance compared to other types of organisation (Kalmi, 2007) and how fragmented it is in what is currently considered as mainstream organisational literature (Mazzarol et al., 2014, p. 11). We see that literature reviews are also scarce. From a more qualitative point of view, systematic analyses have been carried out, among others, on cooperatives in general (Camargo-Benavides & Ehrenhard, 2021), focusing on HRM (Voigt & von der Oelsnitz, 2024) or on more specific topics, such as their development (Bretos & Marcuello, 2017), their social capital (Saz-Gil et al., 2021), agricultural cooperatives (Cardemir et al., 2021) or on the organisational and psychological characteristics of democratic firms (Unterrainer et al., 2022). On the other hand, the number of works related to the subject with bibliometric analyses is limited to the following:

- Guerreschi & Díaz-Lopez (2023) carry out a bibliometric analysis on Cooperatives in Circular Economy and Eco-Innovation, mainly focused on keyword co-occurrence.
- Pessoa de Oliveira (2022) conducts a performance, keyword co-occurrence and co-authorship analysis of the literature on cooperatives in general between 2012-2021, using the Scopus database and the VOSviewer tool.
- Duque et al. (2021) do a performance analysis and a fairly complete mapping of the literature on social and solidarity economy between the years 2000 and 2020, using the Web of Science and Scopus databases.
- Macías Ruano et al. (2021) evaluate the performance and co-occurrence of words in the literature on Social Economy until 2019, using Web of Science and Scopus databases and the VOSviewer tool.
- Luo et al. (2020) analyse the performance and co-citation of the literature on agricultural cooperatives until 2019, using the Scopus database.
- Paz-Nunes et al. (2020) analyse the performance and co-citation of the Cooperative Management Model literature between 2009 and 2018, using the Web of Science database and the VOSviewer tool.
- Jones (2018) carries out an analysis of the performance of the literature on participation and employee ownership up to 2017, using Google Scholar and Web of Science databases.
- Fernandes & Ferreira (2017) analyse the performance and co-citation of the literature on Cooperation and Coopetition in SME Networks up to 2015, using the Web of Science database.

The identification of relevant works made in some of these articles could be more rigorous and in-depth. Besides, keywords used for the search are in some cases not comprehensive or concrete and too generic or holistic. Moreover, not all of them focus specifically on cooperative firms, and none of them focus specifically on worker cooperatives. Although worker cooperatives are not a new phenomenon, their potential makes them more than

worthy to be rediscovered by a comprehensive and rigorous bibliometric analysis. Therefore, the following research question is posed:

SRQ1: How do the literature and its main actors deal with worker cooperatives and how has this literature evolved from its beginnings to the present day?

In order to answer this question, the main objective of this chapter is the following:

SO1: To understand and present the development, current knowledge structure and future research trends of the body of literature on worker cooperatives and other labour-owned and managed firms.

To achieve this objective, bibliometric and visualisation tools and techniques are applied, providing a historical assessment up to 2022 of 605 articles published in the Scopus database in the areas of business and economics. In the process, it identifies, analyses and discusses (1) the contributions made and their impact, (2) the different collaboration networks between authors in the field and (3) the different themes in the body of literature. The analysis is enriched with highly relevant literature referenced in the articles but not captured by the keyword search.

This is the first study to present a bibliometric analysis on worker cooperatives and other labour-owned and managed firms. This study helps to promote new collaborations or strengthen the network of already established collaborations between co-authors (Kraus et al., 2022), provides a theoretical basis for empirical research (Lim et al., 2022) and proposes an integrative framework to identify future avenues of research (Mukherjee et al., 2022).

The remainder of the chapter is structured as follows. The next section presents the methodology followed. Then the results obtained are shown and discussed. It ends with a section of conclusions, with limitations and future lines of research.

2.2. Methodology

In this chapter, bibliometric analysis is used to present an overview of research on worker cooperatives and other labour-owned and managed firms (Donthu et al., 2021). This methodology is used to identify the key elements that structure knowledge in the field, to measure its production and to understand research trends (OECD, 2002). Bibliometric

analysis is broadly accepted as a legitimate research approach (Ellegaard & Wallin, 2015). Its quantitative nature makes it suitable for analysing extensive bibliographic data (Ramos-Rodríguez & Ruíz-Navarro, 2004), and for minimising interpretation biases of qualitative reviews resulting from the authors' experience (Pandey et al., 2022).

The Scopus database was chosen for the analysis because it is considered one of the main databases worldwide (Zhu & Liu, 2020), it adheres to rigorous peer review protocols (Orduña-Malea et al., 2015), and it also accumulates older publications from the main journals that publish on cooperativism and the social economy. It was decided to work with a single database to avoid homogenisation problems, which negatively affect the results (Mariani & Borghi, 2019). The following query was used for the search:

```
"cooperative compan*" OR "co-operative compan*" OR "cooperative firm*" OR "co-operative firm*" OR "cooperative enterprise*" OR "co-operative enterprise*" OR "worker cooperative*" OR "worker co-operative*" OR "producer cooperative*" OR "producer co-operative*" OR "labour managed firm*" OR "labour managed firm*" OR mondragon OR cooperativismo OR cooperative OR cooperativa*
```

These keywords are based on a previous review of the most relevant literature, on the author's empirical experience and on terms used in similar bibliometric analyses. The definition of the appropriate search prompt and the subsequent selection of articles were hampered by the fact that, as already addressed by Camargo-Benavides and Ehrenhard (2021), the word "cooperative" and its derivatives lead to a large number of articles unrelated to cooperative firms.

The search was conducted in July 2023. We searched on title, abstract and keywords, limiting the search to articles whose publication status was final in 2022, only in journals, in the areas of *Economics, Econometrics and Finance* and *Business, Management and Accounting*, and which were written in English or Spanish. Spanish was added because, before filtering by language, of the 1205 results, 773 (64%) were in English and 326 (27%) in Spanish, with a residual presence of the others. Furthermore, the Mondragon cooperative movement and the relevant cooperative movements in Spain and Latin America make Spanish very relevant in this field. In order to achieve a global understanding by analysing all existing contributions, no lower time limit was imposed. In the end, the search yielded 1093 results.

Subsequently, the initial sample was trimmed by eliminating repeated or failed articles. By reading the title and abstract, articles not related to the general topic of cooperativism or worker management and ownership were also removed from the database, leaving 940 articles. For the bibliometric analysis, we took only the 605 articles directly related to the research topic: worker cooperatives, labour managed firms and cooperatives in general (inclusion criteria). The latter two concepts were chosen, respectively, because all worker cooperatives are labour managed firms, but not the other way around; and because there are articles that deal with cooperatives in general and their conclusions are also applicable to worker cooperatives. These articles were analysed using the two main procedures typically applied in bibliometric studies (Pilkington & Meredith, 2009; Zupic & Čater, 2015): performance analysis and scientific mapping. The combination of these bibliometric methods leads to better and more robust results in the analysis of a research field (Randhawa et al., 2016), since they are considered complementary (Leung et al., 2017).

The performance analysis identifies the level of productivity, impact and popularity of the different units of analysis to be taken into account (Aria et al., 2020). This method provides an up-to-date overview of the research field by mapping the works that form its intellectual basis (Alayo et al., 2020); and identifies the roles of highly cited papers and the major changes in the direction of a field (Pilkington & Meredith, 2009).

We took as the main indicators the number of publications and citations, the h-index (Hirsch, 2005) and CiteScore, for authors and journals, or the Field-Weighted Citation Impact (FWCI) for authors and papers. The FWCI is the ratio of the paper's or author's citations to the average number of citations received by all similar papers or similar authors (same year of publication, type of publication and discipline) in the year of publication plus the following three years. Each field contributes equally to the metric, which suppresses differences in the citation behaviour of researchers. In our sample there are papers without FWCI because they were published many years ago. For journals, the JIF, JCI or SJR indexes were also used.

On the other hand, we conducted science mapping to spatially depict the structure and dynamics of the scientific field (Zupic & Čater 2015), based on co-authorship and co-occurrence of keywords. Co-author analysis identifies the social network of the research field through the linkages and link-weights between its most prominent authors and the subgroups

emerging from the collaborations (Zupic & Čater 2015). Keyword co-occurrence analysis makes it possible to establish the conceptual structure of a scientific field through specific connections between its keywords (López-Fernández et al., 2016), which create semantic or conceptual clusters of topics addressed (Alayo et al., 2020). To generate the network maps and extract the clusters in each type of analysis, the *VOSviewer* software (Van Eck & Waltman, 2007) was used.

The bibliometric method was complemented by a qualitative analysis of the extracted results (Sugimoto & Pratt, 2008). This analysis was enhanced with additional highly relevant contributions to the literature on worker cooperatives that were not captured by the systematic search but were identified through a reference list scan of articles in the main search.

2.3. Results and Discussion

2.3.1. Overview of the sample and its performance

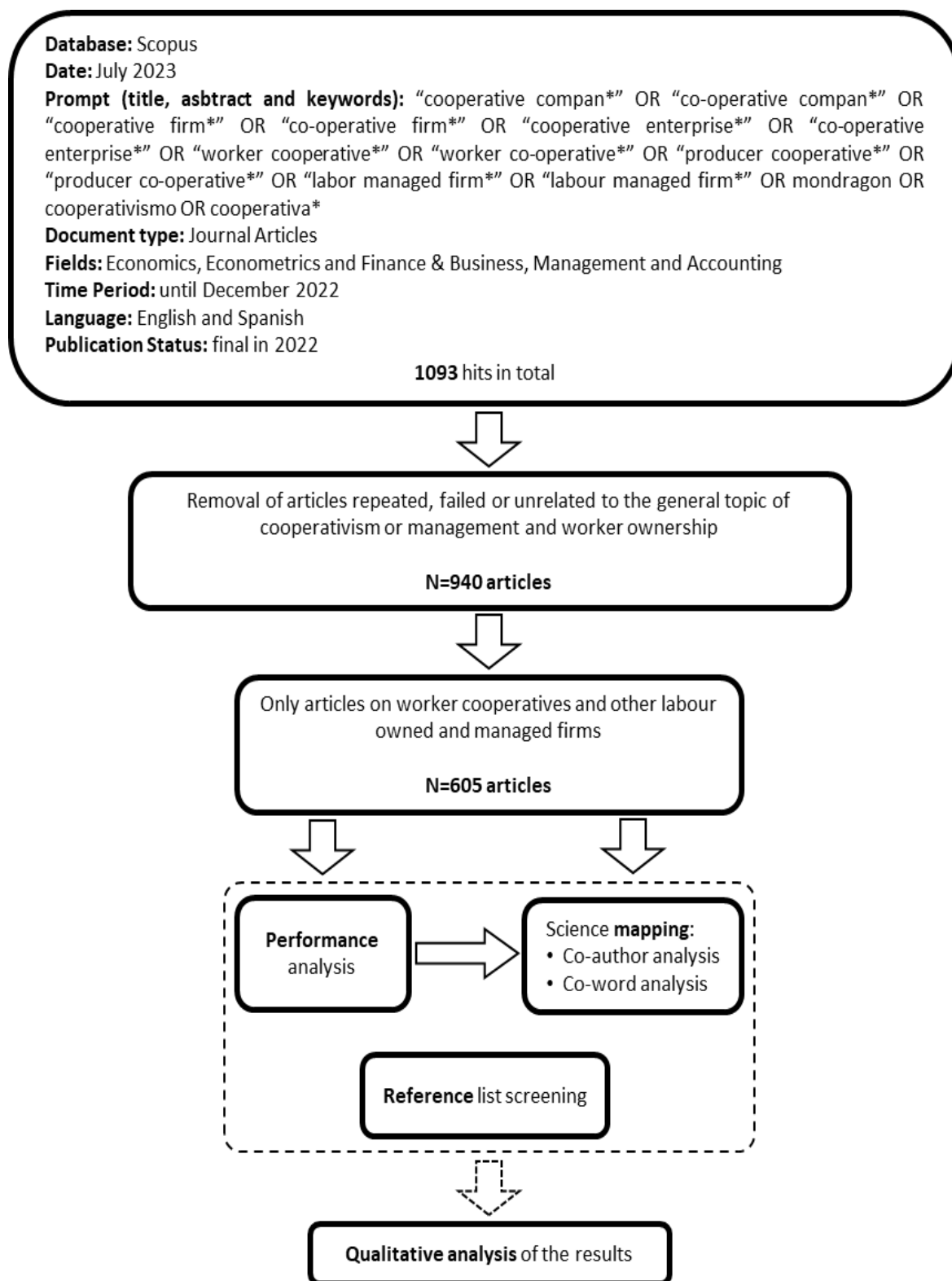
In this section, a general analysis of the performance of the selected sample of articles is carried out, both from the perspective of the articles themselves and from that of the journals in which they have been published. Table 2.1 shows the main data of the sample.

Table 2.1. Summary of data used.

Documents	605
Authors	729
Affiliations	396
Countries	54
Citations	6926
References	23378
Journals	186

Source: Own elaboration.

Figure 2.1. Flowchart of the work process.



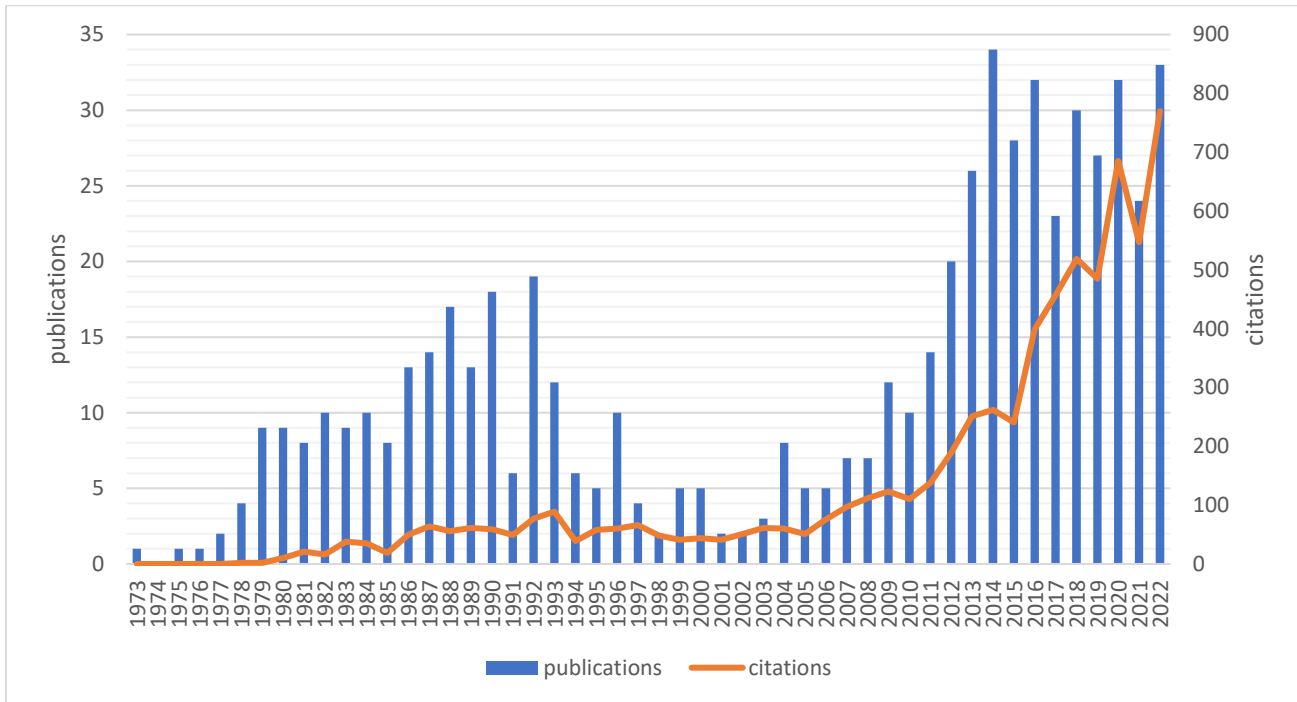
Source: Own elaboration.

2.3.1.1. Papers

The 605 selected papers were published between 1973 and 2022. As shown in Figure 2.2, it could be interpreted that there have been three distinct periods throughout this time span. The first went from 1973 to 1992 and it looks like a first, timid period of growth for this literature, reaching its maximum number of annual publications (19) in 1992; the next period went from 1993 to 2010, and it shows a period of stagnation and even decline in this literature, with no more than 12 publications per year.; the last period started in 2011 and has extended to the present as a second period of growth, this time more powerful, maintaining since 2013 more than 23 publications per year. It is very likely that the lower number of journal articles published during the first two periods was due to the higher relevance of books at that time. In terms of citations, the first period did not get many citations, and at no time did it exceed 77 citations per year. This may be due to the fact that the literature on the subject was previously more difficult to access and therefore more difficult to cite. In the second period the citations received by this literature suffered a valley trend, reaching a minimum of 39 citations per year, with some more citations at the beginning and closing with a slight positive trend that would continue in the third period. With the beginning of the third period, around 2011, the positive trend in the number of annual citations continues and becomes more and more accentuated, which has not stopped to date and shows no signs of stopping. The rapid growth of publications and citations in the past decade indicates a relatively recent blossoming in research interest in the field. Approximately, 48% of the papers in our review appeared in the last decade, and 69% of the citations were made during that time span.

The emergence of economic theory on labour managed firms dates back to the 1960s. Its initial growth until the 1980s was based on mainly theoretical work (Dow, 2018). At that time, most empirical works were published in academic books (see e.g. Ellerman (1982), Thomas & Logan (1982), Whyte & Whyte (1988) about Mondragon). This growth may have been due to the re-emergence of the relevance of post-Soviet economies, social economy, self-management and industrial relations during this time (McIntyre, 2018). In fact, the first article published within the chosen sample is Wemelsfelder (1973), which was published in *De Economist* and discusses problems of financing labour managed firms in the case of Yugoslavia.

Figure 2.2. Publication and citation pattern evolution yearly.



Source: Own elaboration.

During the 1990s there was a decline in the relevance of this literature. This may have been due to the fact that the political ideals expressed in grassroots and trade union movements were not sufficient to confront the individualistic incentives of the policies of deregulation and support for private initiative implemented during the 1980s by Thatcherism in the United Kingdom (UK) and Reaganism in the United States (USA). This led to the depoliticisation (Costa-Vieira & Foster, 2022) and decline of collectivist work formulas, such as cooperativism, and a loss of academic and political relevance of labour relations. Moreover, during this decade, globalisation and the technological revolution led to increased competition that favoured more flexible structures in the private sector, and in the face of which cooperative firms faced challenges in terms of scale and efficiency.

Literature in the area began to re-emerge in the mid-2000s, now focused on conventional capitalist markets. This was due to the popularisation of worker cooperatives in Western countries, driven by criticisms of the traditional capitalist model and a shift in cultural and economic perceptions towards more equitable, sustainable and participatory models that go beyond the simple logic of the market. Furthermore, at the academic and institutional level, cooperatives have gained special attention as an instrument of economic stabilisation

(García-Louzao, 2021). This could be due to their strategic relevance for sustainable economic development and social cohesion at the local level (Hoffman, 2022) and their counter-cyclical behaviour, which makes them a defensive tool in the face of crises (Cornforth & Thomas, 1994; Carini & Carpita, 2014). In addition, the success of some exemplary cooperatives, such as those belonging to Mondragon, has shown that this business model can be profitable and competitive.

Table 2.2 displays the top 20 most cited articles in the last 10 years with their most relevant information. Over a 10-year period, these articles have received 22.48% of all citations received by the articles in the sample. Spain (5), the UK (3) and the USA (3) are the main countries of affiliation of the first authors of these works, but the representation is very varied. As for the journals, *Organization* and *Journal of Comparative Economics* are the ones that appear most often in this top, 5 and 3 times, respectively. As for the FWCI, we can see that not all the articles in the top have this indicator, but using the ones we have, it gives an average FWCI of 2.95. This suggests that, on average, these articles have received approximately three times more citations than what would be expected within their respective area. The most cited article in the last 10 years is that of Bruque and Moyano (2007) and it also has the second highest FWCI in the top. The Spanish authors published this article in the journal *Technovation*, which, through a qualitative study, identified the factors underlying the adoption of ICTs in family and cooperative SMEs.

Table 2.2. Top 20 most cited articles on worker cooperatives and other labour-owned and managed firms in the last 10 years.

#	Paper	Citations (last 10 years)	First Author's Current Affiliation	Journal	FWCI (2023)
1	Bruque & Moyano (2007)	154	University of Jaén, Spain	Technovation	5.85
2	Novkovic (2008)	134	Saint Mary's University, Canada	Journal of Socio-Economics	1.49
3	Cheney et al. (2014)	123	University of Colorado, United States	Organization	6.44
4	Nilsson (2001)	120	Swedish University of Agricultural Sciences, Sweden	Scandinavian Journal of Management	0.51

5	Williamson (1987)	85	Yale University, United States	Journal of Economic Behavior and Organization	-
6	Iturrioz et al. (2015)	81	University of Deusto, Spain	European Management Journal	3.08
7	Pérotin (2006)	79	University of Leeds, United Kingdom	Journal of Comparative Economics	1.56
8	Kyriakopoulos et al. (2004)	76	University of Maastricht, Netherlands	Agribusiness	0.8
9	Burdin & Dean (2009)	74	Instituto de Economía, Uruguay	Journal of Comparative Economics	0.85
10	Heras-Saizarbitoria (2014)	73	University of the Basque Country UPV/EHU, Spain	Organization	3.95
11	Cornforth (1995)	69	The Open University, United Kingdom	Economic and Industrial Democracy	-
12	Flecha & Ngai (2014)	66	University of Barcelona, Spain	Organization	3.53
13	Storey et al. (2014)	66	The Open University, United Kingdom	Organization	3.53
14	Vitaliano (1983)	65	Virginia Polytechnic Institute and State University, United States	American Journal of Agricultural Economics	-
15	Leca et al. (2014)	55	ESSEC Business School, France	Organization	4.57
16	Sabatini et al. (2014)	52	Sapienza University of Rome, Italy	Small Business Economics	5.3
17	Ben-Ner (1984)	49	University of Haifa, Israel	Journal of Comparative Economics	-
18	Puusa et al. (2016)	48	University of Eastern Finland, Finland	Journal of Co-operative Organization and Management	3.4
19	Errasti et al. (2003)	44	University of the Basque Country UPV/EHU, Spain	Annals of Public and Cooperative Economics	0.9
20	Fakhfakh et al. (2012)	44	Paris-II University, France	Industrial and Labor Relations Review	1.49

Source: Own elaboration.

Table 2.3 displays the top 20 most cited articles published on the last 10 years with their most relevant information. These articles have received 12.88% of all citations received by the articles in the sample. In this case, there is less diversity in terms of the countries of affiliation of the main authors, and although Italy (4) or the USA (3) also have some prominence, Spain is by far the most repeated country (9). This may be due to the greater weight of Spain and Italy in the most current literature. In terms of journals, *Organization* continues to lead (7) and the rest of the weight is shared between *Annals of Public and Cooperative Economics*, *Journal of Co-operative Organization and Management* and *Small Business Economics*, with two appearances each. The average FWCI of the top is 3.01. This indicates that on average these articles have been cited about three times more than expected based on their field. The most cited article with the highest FWCI is Cheney et al. (2014). This is an article that serves as an introduction to a special issue of the journal *Organization* on worker-owned and governed cooperatives. In their review of the 5 articles that make up the special issue, the authors identify the various challenges, achievements and promises in worker cooperative governance and ownership.

Table 2.3. Top 20 most cited articles on worker cooperatives and other labour-owned and managed firms published on the last 10 years.

#	Paper	Citations	First Author's Current Affiliation	Journal	FWCI (2023)
1	Cheney et al. (2014)	123	University of Colorado, United States	Organization	6.44
2	Iturrioz et al. (2015)	81	University of Deusto, Spain	European Management Journal	3.08
3	Heras-Saizarbitoria (2014)	73	University of the Basque Country UPV/EHU, Spain	Organization	3.95
4	Flecha & Ngai (2014)	66	University of Barcelona, Spain	Organization	3.53
5	Storey et al. (2014)	66	The Open University, United Kingdom	Organization	3.53
6	Leca et al. (2014)	55	ESSEC Business School, France	Organization	4.57
7	Sabatini et al. (2014)	52	Sapienza University of Rome, Italy	Small Business Economics	5.3
8	Puusa et al. (2016)	48	University of Eastern Finland, Finland	Journal of Co-operative	3.4

				Organization and Management	
9	Jaumier (2017)	36	Grenoble Ecole de Management, France	Organization	3.14
10	Gupta (2014)	31	Yale University, United States	Journal of Co-operative Organization and Management	0.64
11	Bretos & Errasti (2017)	28	University of the Basque Country UPV/EHU, Spain	Organization	2.2
12	Delbono & Reggiani (2013)	28	University of Bologna, Italy	Annals of Public and Cooperative Economics	1.26
13	Bretos et al. (2018a)	27	University of Zaragoza, Spain	Human Resource Management Journal	2.53
14	Errasti et al. (2017)	27	University of the Basque Country UPV/EHU, Spain	Review of Radical Political Economics	4.04
15	Sacchetti & Tortia (2016)	26	University of Trento, Italy	Annals of Public and Cooperative Economics	2.64
16	Errasti (2015)	26	University of the Basque Country UPV/EHU, Spain	Economic and Industrial Democracy	2.08
17	Díaz-Foncea & Marcuello (2015)	26	University of Zaragoza, Spain	Small Business Economics	2.55
18	Bernacchio & Couch (2015)	25	California State University, United States	Business Ethics	1.3
19	Basterretxea & Storey (2018)	24	University of the Basque Country UPV/EHU, Spain	British Journal of Industrial Relations	1.87
20	Sacchetti (2015)	24	University of Trento, Italy	Journal of Business Ethics	2.05

Source: Own elaboration.

It is noteworthy that there are 8 articles (Cheney et al., 2014; Flecha & Ngai, 2014; Heras-Saizarbitoria, 2014; Leca et al., 2014; Sabatini et al., 2014; Storey et al., 2014; Iturrioz et al., 2015; Puusa et al., 2016) that appear in both tops, which means that they are the most current articles among the recently most cited, and therefore have greater relevance in the sample. 5

of these 8 articles are the ones included in the aforementioned special issue of *Organization* in 2014.

2.3.1.2. Journals

As for the journals in which these papers appear, as seen on Table 2.4, the five journals with more contributions on the field are *REVESCO. Revista de Estudios Cooperativos* (81 papers), *Journal of Comparative Economics* (69 papers), *Annals of Public and Comparative Economics* (51 papers), *CIRIEC-España. Revista de Economía Pública Social y Cooperativa* (37 papers) and *Economic and Industrial Democracy* (31 papers).

Table 2.4. Top 20 journals with more contributions on worker cooperatives and other labour-owned and managed firms.

#	Title	Contributions	Publisher	Country	Language	H-index	JIF	JCI	SJR 2022	CiteScore	Gold OA
1	REVESCO. Revista de Estudios Cooperativos	81	Universidad Complutense de Madrid	Spain	Spanish	13	1,1	0,22	0,353	2	86,41%
2	Journal of Comparative Economics	69	Elsevier	United States	English	94	2,7	0,91	1,199	3,9	8,00%
3	Annals of Public and Cooperative Economics	51	Wiley	England	Multi-Language	42	1,6	0,49	0,542	3,2	18,12%
4	CIRIEC-España Revista de Economía Pública, Social y Cooperativa	37	Ciriec	Spain	Multi-Language	13	1,4	0,36	0,477	2,5	94,06%
5	Economic and Industrial Democracy	31	Sage	England	English	45	1,5	1,05	0,903	3,8	25,19%
6	Advances in the Economic Analysis of Participatory and Labor-Managed Firms	13	Emerald	United Kingdom	English	13	NA	NA	0,105 (2021)	NA	NA
7	Review of Radical Political Economics	12	Sage	United States	English	36	1,3	0,38	0,677	2,3	1,16%
8	Journal of Co-operative Organization and Management	11	Elsevier	Netherlands	English	17	2,1	0,47	0,631	3,4	12,28%
9	Organization	9	Sage	England	English	110	3	0,74	1,96	6,8	23,27%

10	Economics Letters	8	Elsevier	Switzerland	English	116	2	0,57	0,679	2,6	11,28%
11	Journal of Economic Behavior and Organization	8	Elsevier	Netherlands	English	129	2,2	0,68	1,184	3	15,74%
12	Small Business Economics	7	Springer	Netherlands	English	157	6,4	1,79	2,732	12,8	37,93%
13	Oxford Economic Papers	6	Oxford University Press	England	English	75	1,2	0,39	0,615	2	13,79%
14	British Journal of Industrial Relations	6	Wiley	England	English	79	2,6	0,98	1,433	4,1	15,10%
15	Bulletin of Economic Research	6	Wiley	England	English	33	0,8	0,27	0,319	1,3	15,53%
16	Managerial and Decision Economics	5	Wiley	England	English	57	2,2	0,53	0,419	2,3	8,33%
17	Human Relations	5	Sage	England	English	152	5,7	2,11	3,508	10,8	28,93%
18	Local Economy	5	Sage	United Kingdom	English	43	1,6	0,49	0,419	2,8	33,62%
19	Revista Venezolana de Gerencia	5	Universidad del Zulia	Venezuela	Spanish	13	0,074	NA	0,256	1,3	NA
20	Economic Systems	4	Elsevier	Netherlands	English	49	3,1	0,9	0,697	3,6	6,13%

Source: Own elaboration.

The total number of citations received by each journal indicates the impact of each journal in the research domain. The five most cited journals (Table 2.5) are *Journal of Comparative Economics* (1097 citations), *Organization* (489 citations), *Annals of Public and Cooperative Economics* (484 citations), *Economic and Industrial Democracy* (479 citations) and *REVESCO. Revista de Estudios Cooperativos* (397 citations).

Table 2.5. Top 20 most cited journals on worker cooperatives and other labour-owned and managed firms.

#	Title	Citations	Citations/contribution	Publisher	Country	Language	H-index	JIF	JCI	SJR 2022	CiteScore	Gold OA
1	Journal of Comparative Economics	1097	15,90	Elsevier	United States	English	94	2,7	0,91	1,199	3,9	8,00%
2	Organization	489	54,33	Sage	England	English	110	3	0,74	1,96	6,8	23,27%
3	Annals of Public and Cooperative Economics	484	9,49	Wiley	England	Multi-Language	42	1,6	0,49	0,542	3,2	18,12%

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4	Economic and Industrial Democracy	479	15,45	Sage	England	English	45	1,5	1,05	0,903	3,8	25,19%
5	REVESCO Revista de Estudios Cooperativos	397	4,90	Universidad Complutense de Madrid	Spain	Spanish	13	1,1	0,22	0,353	2	86,41%
6	Journal of Economic Behavior and Organization	247	30,88	Elsevier	Netherlands	English	129	2,2	0,68	1,184	3	15,74%
7	Human Relations	210	42,00	Sage	England	English	152	5,7	2,11	3,508	10,8	28,93%
8	Review of Radical Political Economics	201	16,75	Sage	United States	English	36	1,3	0,38	0,677	2,3	1,16%
9	Technovation	199	199,00	Elsevier	Netherlands	English	150	12,5	2,11	2,41	12,3	21,98%
10	Journal of Socio-Economics	193	64,33	Elsevier	United States	English	72	1,286	NA	0,721	NA	NA
11	American Journal of Agricultural Economics	175	58,33	Wiley	United States	English	126	4,2	1,59	2,075	7,8	18,46%
12	Scandinavian Journal of Management	154	77,00	Elsevier	England	English	65	2	0,59	1,18	4,6	30,00%
13	British Journal of Industrial Relations	151	25,17	Wiley	England	English	79	2,6	0,98	1,433	4,1	15,10%
14	Small Business Economics	149	21,29	Springer	Netherlands	English	157	6,4	1,79	2,732	12,8	37,93%
15	Journal of Co-operative Organization and Management	140	12,73	Elsevier	Netherlands	English	17	2,1	0,47	0,631	3,4	12,28%
16	CIRIEC-Espana Revista de Economia Publica, Social y Cooperativa	129	3,49	Ciriec	Spain	Multi-Language	13	1,4	0,36	0,477	2,5	94,06%
17	Agribusiness	93	93,00	Wiley	United States	English	49	3,2	0,85	0,767	4,8	21,39%
18	ILR Review	81	27,00	Sage	United States	English	88	2,8	1,35	3,37	6,2	5,00%
19	European Management Journal	81	81,00	Elsevier	England	English	117	7,5	1,46	1,625	10,9	13,27%
20	Oxford Economic Papers	74	12,33	Oxford University Press	England	English	75	1,2	0,39	0,615	2	13,79%

Source: Own elaboration.

We see that *Annals of Public and Cooperative Economics*, *CIRIEC-España. Revista de Economía Pública Social y Cooperativa* (hereinafter *CIRIEC*), *Economic and Industrial Democracy*, *Journal of Comparative Economics*, *Journal of Co-operative Organization and Management*, *Journal of Economic Behavior and Organization*, *Organization*, *REVESCO. Revista de Estudios Cooperativos* (hereinafter *REVESCO*) and *Review of Radical Political Economics* are in both tops and have the highest number of contributions and citations received. This leads us to consider them as the most relevant journals in the area.

Analysing Figure 2.3 and looking at the contexts of each of these journals, two groups can be distinguished. The first is made up of journals with a long history and great success which, sporadically or during certain periods, have focused on worker cooperatives, without this being the bulk of their content, but which have not published in this area for years:

- *Economic and Industrial Democracy* was founded in 1980 and started publishing in the area in 1982, but with a rather low contribution rate that has led it to publish only 3 papers in the area in the last 10 years.
- *The Journal of Comparative Economics* started publishing in the area in 1977, the year it was founded, and reached its peak of annual contributions in 1992, but then started contributing much less and in 2009 was its last publication in this area. This can be seen when it goes from being relevant in Table 2.2 to disappearing from Table 2.3.
- *Journal of Economic Behavior and Organization* emerged in 1980, its first publication in the field was in 1987 and the last in 2012.
- *Organization* was founded in 1994 and between 2014 and 2020 it published nine papers in this area. The aforementioned special issue on worker cooperatives introduced by Cheney et al. (2014) and featuring relevant authors may have served to place *Organization* among the most cited journals in the field, and since then more authors may have been attracted to publishing on worker cooperatives in this journal.

- *Review of Radical Political Economics* was founded in 1969 and its first contribution in the field appearing in Scopus is in 1981, since then it has published very sporadically and in 2017 it made its last contribution.

The second group is made up of the 4 main journals on cooperatives indexed in Scopus:

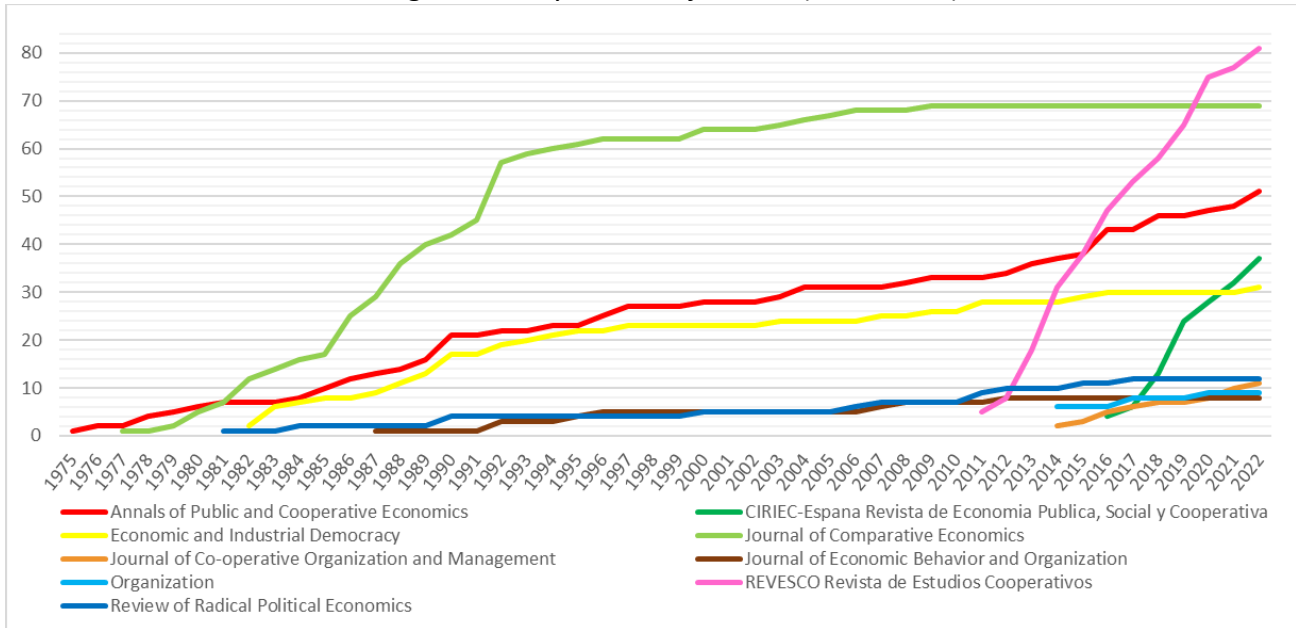
- *Annals of Public and Cooperative Economics* is the oldest, founded in 1908, and the first publications in Scopus in this area date from 1975, and although it has not accumulated as many publications on the subject as others, it has maintained a very constant trajectory.
- *CIRIEC* was created in 1987, but its first contribution in the area registered by Scopus was in 2016. Even so, its strong growth has placed it in fourth place among the journals with the most contributions in the area and it is currently among the most cited.
- *Journal of Co-operative Organization and Management* was founded in 2013, being the latest. So far, although it has potential, it has not published much in the area.
- *REVESCO* was founded in 1977, but its first contribution in the area registered by Scopus was in 2011. Even so, its great growth has led it to become in a few years the journal with the most contributions in Scopus in the area and the most cited in recent years (Figure 2.3).

Part of the growth in contributions in the third period of the literature, identified in the previous section, can be attributed to the fact that the journals *CIRIEC* and *REVESCO* were introduced into the Scopus database. It is worth noting that these two journals publish mostly in Spanish, which is unusual and is in line with the relevance of Spanish authors and universities that is manifest throughout the work.

Figure 2.4 shows that the four journals listed in the second group are positioned as the most cited in the area recently, together with *Organization*, and that this trend is increasing. This prevalence may be due to the fact that they are the only ones in the selection devoted entirely to the social economy and cooperativism. It could be concluded that these four are currently the most relevant journals on worker cooperatives and other labour-owned and managed

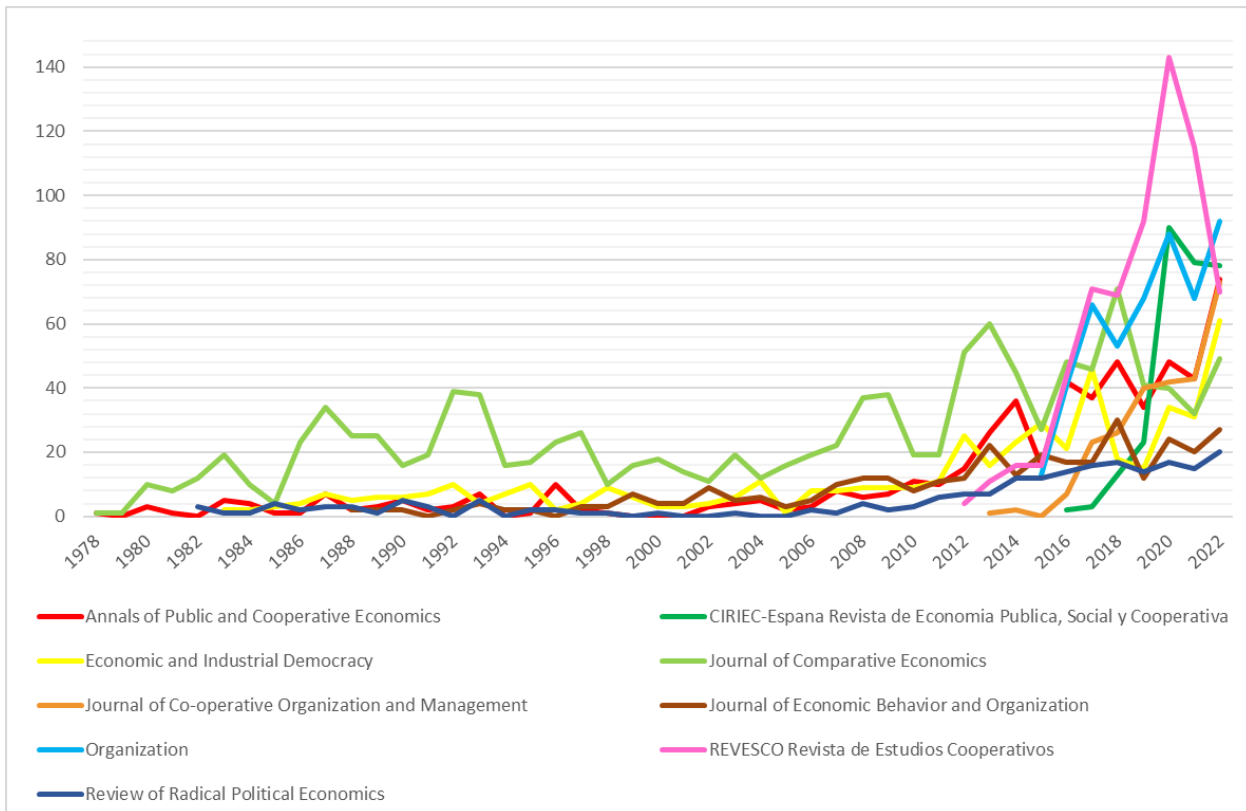
firms, with *Annals of Public and Cooperative Economics* having the highest impact in terms of quality indicators (H-index: 42; JIF: 1.6; JCI: 0.49; SJR: 0.542; CiteScore: 3.2). On the other hand, it does not reach the approximately 90% of Open Access of *CIRIEC* or *REVESCO* and remains at 18%.

Figure 2.3. Cumulative contributions on worker cooperatives and other labour-owned and managed firms by selected journals (1975-2022).



Source: Own elaboration.

Figure 2.4. Yearly citations on worker cooperatives and other labour-owned and managed firms received by selected journals (1978-2022).



Source: Own elaboration.

2.3.2. Authors, Affiliation and Collaboration Networks

This section begins with a performance analysis of the literature focusing on the authors, the universities they belong to and the countries in which each of these universities are located. In this way, the aim is to gain a preliminary understanding of the main authors, in order to identify them more easily in the co-authorship mapping analysis and to support the cluster structure obtained at the end of the section.

2.3.2.1. Authors' Performance

The five authors with more contributions on the field (Table 2.6) are Anjel Mari Errasti (14 papers), Derek C. Jones (11 papers), Ermanno C. Tortia (11 papers), Ignacio Bretos (10 papers) and Kazuhiro Ohnishi (10 papers).

Table 2.6. Top 20 authors with more contributions on worker cooperatives and other labour-owned and managed firms.

#	Authors	Contributions	Current Affiliations	H-index	FWCI	%Documents in top 25% journals by CiteScore	%Documents in top 25% most cited documents worldwide	%Documents co-authored with researchers in other countries
1	Errasti, Anjel Mari	14	University of the Basque Country, Spain	10	1,41	60	50	-
2	Jones, Derek C.	11	Hamilton College, United States	21	0,52	100	50	60
3	Tortia, Ermanno C.	11	University of Trento, Italy	15	1,32	65	44,8	45,5
4	Bretos, Ignacio	10	University of Zaragoza, Spain	12	1,55	64,3	52,4	4,8
5	Ohnishi, Kazuhiro	10	Institute for Basic Economic Science, Japan	5	0,07	100	-	-
6	Basterretxea, Imanol	9	University of the Basque Country, Spain	13	1,38	72,2	64,7	31,6
7	Cornforth, Chris	8	The Open University Business School, United Kingdom	21	2,37	100	58,3	53,3

8	Stewart, Geoff	8	Shanghai University of Finance and Economics, China	8	0,79	-	-	100
9	Ireland, Norman J.	8	University of Warwick, United Kingdom	11	-	-	-	-
10	Dow, Gregory K.	7	Simon Fraser University, Canada	14	0,87	100	80	-
11	Marcuello, Carmen	7	University of Zaragoza, Spain	17	1,06	52,6	50	17,9
12	Ellerman, David P.	7	Institute for Economic Democracy, Slovenia	16	0,49	38,5	33,3	-
13	Thomas, Alan R.	7	The Open University, United Kingdom	8	0,26	-	-	42,9
14	Gago, Mónica	6	Mondragon Unibertsitatea, Spain	4	0,6	50	66,7	42,9
15	Heras-Saizarbitoria, Iñaki	5	University of the Basque Country, Spain	44	2,3	82,1	74,3	67,1
16	Arando, Saioa	5	Mondragon Unibertsitatea, Spain	4	0,42	-	100	75
17	Delbono, Flavio	5	Alma Mater Studiorum Università di Bologna, Italy	8	0,47	45,5	44,4	11,8
18	Navarra, Cecilia	5	European Parliamentary Research Service, Belgium	5	0,87	-	100	71,4
19	Haruna, Shoji	5	Okayama University, Japan	9	0,95	50	50	20
20	Kahana, Nava	5	Bar-Ilan University, Israel	8	0,67	100	-	100

Source: Own elaboration.

The five most cited authors in the field (Table 2.7) are Jerker Nilsson (282 citations), Anjel Mari Errasti (263 citations), Derek C. Jones (229 citations), Sebastián Bruque (199 citations) and José Moyano (199 citations).

Table 2.7. Top 20 most cited authors on worker cooperatives and other labour-owned and managed firms.

#	Author	Citations	Citations/ contribution	Current Affiliations	H-index	FWCI	%Documents in top 25% journals by CiteScore	%Documents in top 25% most cited documents worldwide	%Documents co-authored with researchers in other countries
1	Nilsson, Jerker	282	94,00	Sveriges lantbruksuniversitet, Sweden	14	0,76	55,6	40	60,9
2	Errasti, Anjel Mari	263	18,79	University of the Basque Country, Spain	10	1,41	60	50	-
3	Jones, Derek C.	229	20,82	Hamilton College, United States	21	0,52	100	50	60
4	Bruque, Sebastián	199	199,00	University of Jaén, Spain	14	1,78	92,3	69,2	14,3
5	Moyano, José	199	199,00	University of Jaén, Spain	26	2,42	84,1	71,7	23,9
6	Basterretxea, Imanol	194	21,56	University of the Basque Country, Spain	13	1,38	72,2	64,7	31,6
7	Heras- Saizarbitoria, Iñaki	170	34,00	University of the Basque Country, Spain	44	2,3	82,1	74,3	67,1
8	Bretos, Ignacio	161	16,10	University of Zaragoza, Spain	12	1,55	64,3	52,4	4,8
9	Cornforth, Chris	157	19,63	The Open University Business School, United Kingdom	21	2,37	100	58,3	53,3
10	Novkovic, Sonja	151	50,33	Saint Mary's University, Canada	7	0,97	50	100	53,8
11	Pérotin, Virginie	150	50,00	University of Leeds, United Kingdom	12	0,39	33,3	25	33,3
12	Peredo, Ana María	137	68,50	École de Gestion Telfer, Canada	17	2,84	86,7	50	50
13	Williamson, Oliver E.	136	136,00	University of California, United States	36	0,97	100	100	-
14	Svejnar, Jan	132	33,00	Stephen M. Ross School of Business, United States	28	0,68	75	50	77,8
15	Rhodes, Susan R.	130	130,00	Syracuse University, United States	9	-	-	-	-
16	Steers, Richard M.	130	130,00	University of Oregon, United States	23	1,97	100	100	55,6
17	Tortia, Ermanno C.	128	11,64	University of Trento, Italy	15	1,32	65	44,8	45,5
18	Stewart, Geoff	125	15,63	Shanghai University of Finance and Economics, China	8	0,79	-	-	100
19	Cheney, George E.	124	124,00	University of Colorado, United States	25	2,99	100	66,7	55,6
20	Nazareno, Elias	124	124,00	Universidade Federal de Goiás, Brazil	2	1,14	66,7	50	70

Source: Own elaboration.

We see that Anjel Mari Errasti, Derek C. Jones, Imanol Basterretxea, Iñaki Heras-Saizarbitoria, Ignacio Bretos, Chris Cornforth, Ermanno C. Tortia and Geoff Stewart are in both tops. This leads to the intuition that they may be the most relevant authors in the area, as they show a balance between contributions made and citations received. Of these 8 most outstanding authors, 4 are Spanish and, of these, 3 are Basque. This may be due to the influence of Mondragon in the Basque business structure. These 8 authors are all men. The still limited role of women in this field is reflected in the fact that of the 32 authors appearing in both top 20 (contributions and citations) only 9 are women: Arando, Gago, Kahana, Marcuello, Navarra, Novkovic, Peredo, Perótin and Rhodes.

The authors with the most citations per article are Sebastián Bruque and José Moyano, who accumulate 199 citations in a single article of which they are co-authors. They also hold the 4th and 5th positions in the top 20 most cited authors. The article in question is that of Bruque and Moyano (2007) and is also the most cited of the entire sample.

2.3.2.2. Affiliations

The total number of citations received by each affiliation and country indicates the impact of each in the research domain. Table 2.8 shows that the University of the Basque Country, The Open University, Yale University, Hamilton College, University of Zaragoza, University of Deusto, London School of Economics and Political Science, Mondragon University, University of Trento and University of Bologna are among the universities with the most contributions in the field and among the most cited. This is in line with the list of main authors in the area: Basterretxea, Errasti and Heras-Saizarbitoria belong to the University of the Basque Country; Bretos and Marcuello belong to the University of Zaragoza; Cornforth and Thomas to The Open University; Jones to Hamilton College; Tortia to the University of Trento; and Arando to Mondragon University. Yale University, London School of Economics and Political Science, University of Bologna and University of Deusto achieve their position through a greater number of less relevant authors or through their proximity to Hamilton College, The Open University, University of Trento and University of the Basque Country or Mondragon University, respectively.

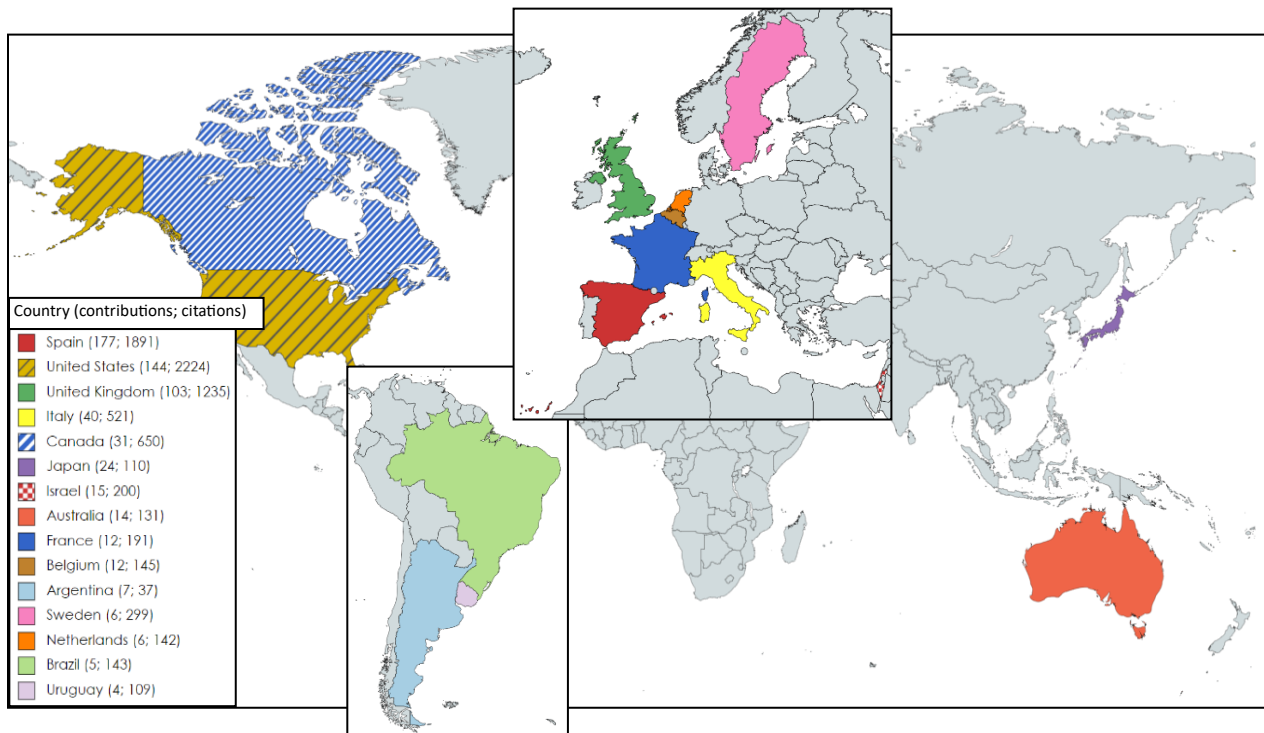
Table 2.8. Top 20 universities with more contributions and citations on worker cooperatives and other labour-owned and managed firms.

Affiliations with more contributions				Most cited affiliations				
#	Name	Contributions	Country	#	Name	Citations	Citations/ contribution	Country
1	University of the Basque Country	35	Spain	1	University of the Basque Country	574	16,40	Spain
2	The Open Univeristy	21	United Kingdom	2	The Open Univeristy	351	16,71	United Kingdom
3	Mondragon University	17	Spain	3	Swedish University of Agricultural Sciences	282	94,00	Sweden
4	University of Deusto	16	Spain	4	Yale University	245	49,00	United States
5	University of Zaragoza	13	Spain	5	Hamilton College	233	19,42	United States
6	University of Valencia	13	Spain	6	University of Jaén	216	72,00	Spain
7	Hamilton College	12	United States	7	University of Zaragoza	153	11,77	Spain
8	University of Trento	12	Italy	8	University of Deusto	152	9,50	Spain
9	University of Warwick	9	United Kingdom	9	Saint Mary's University	151	50,33	Canada
10	University of Bologna	8	Italy	10	London School of Economics and Political Science	150	25,00	United Kingdom
11	University of Southampton	8	United Kingdom	11	University of Victoria	140	46,67	Canada
12	University of California	8	United States	12	University of Haifa	139	27,80	Israel
13	University of Naples Federico II	7	Italy	13	Autonomous University of Barcelona	139	34,75	Spain
14	Bar-Ilan University	7	Israel	14	University of Utah	138	69,00	United States
15	London School of Economics and Political Science	6	United Kingdom	15	Syracuse University	133	66,50	United States
16	Simon Fraser University	6	Canada	16	Mondragon University	131	7,71	Spain
17	University of Liège	6	Belgium	17	University of Pittsburgh	130	43,33	United States
18	University of Cádiz	6	Spain	18	University of Oregon	130	130,00	United States
19	Institute for Basic Economic Science	6	Japan	19	University of Trento	129	10,75	Italy
20	Yale University	5	United States	20	University of Bologna	125	15,63	Italy

Source: Own elaboration.

Spain, USA, UK, Italy and Canada are the countries with the highest number of contributions and citations received (Figure 2.5). The first 4 countries in this list coincide with the results of the performance analysis, as this is where the main authors and universities belong. We see that the literature on worker cooperatives and other labour-owned and managed firms is most important in the global north.

Figure 2.5. Map of the 15 main countries producing on worker cooperatives and other labour-owned and managed firms.



Source: Own elaboration.

The relevance of these countries and their universities may be due to the existence of diverse cooperative ecosystems.

The social economy is increasingly present in the Spanish business structure and cooperatives are the most common social economy model, comprising a large part of the Spanish economy. According to COCETA (2023), the organisation representing worker cooperatives in Spain, in 2022 there were 17,792 worker cooperatives in Spain, 81% of the cooperative sector, with 315,748 direct member jobs. The Basque Country has higher ratios (Barea & Monzón, 2011) due to the presence of Mondragon, one of the largest cooperative groups in the world (for more details, see literature in section 2.3.3.6.).

Cooperative culture in the UK dates back more than a century. The British cooperative federation, Co-operatives UK, was founded in 1870. This was followed in 1895 by the International Co-operative Alliance in London. The London Cooperative Society, founded in 1920, became the largest cooperative of its kind in the world in 1963, and played an important role in the national cooperative movement. There is literature from the 1980s and 1990s about the worker cooperative movement in the UK (Estrin & Pérotin, 1987; Cornforth, 1995). More recently, the case of the John Lewis Partnership and its virtues, thanks to which it has successfully survived since the 1930s, has gained prominence in the literature (Storey et al., 2014; Paraque & Willmott, 2016).

Cooperative enterprise networks in the Italian economy have flourished over the last 30 years in various sectors (Menzani & Zamagni, 2010; Battilani & Zamagni, 2012). In the north of Italy is the Emilia-Romagna region, one of the most important cooperative districts in the world (Caselli et al., 2022), where the University of Bologna is located. Northern Italy is also home to Milan, the birthplace of Legacoop, one of the most important cooperative network in Europe (Smith, 2001; Navarra, 2011). Also in the north of the country is the European Research Institute on Cooperative and Social Enterprises (Euricse), founded in 2008 at the initiative of the University of Trento.

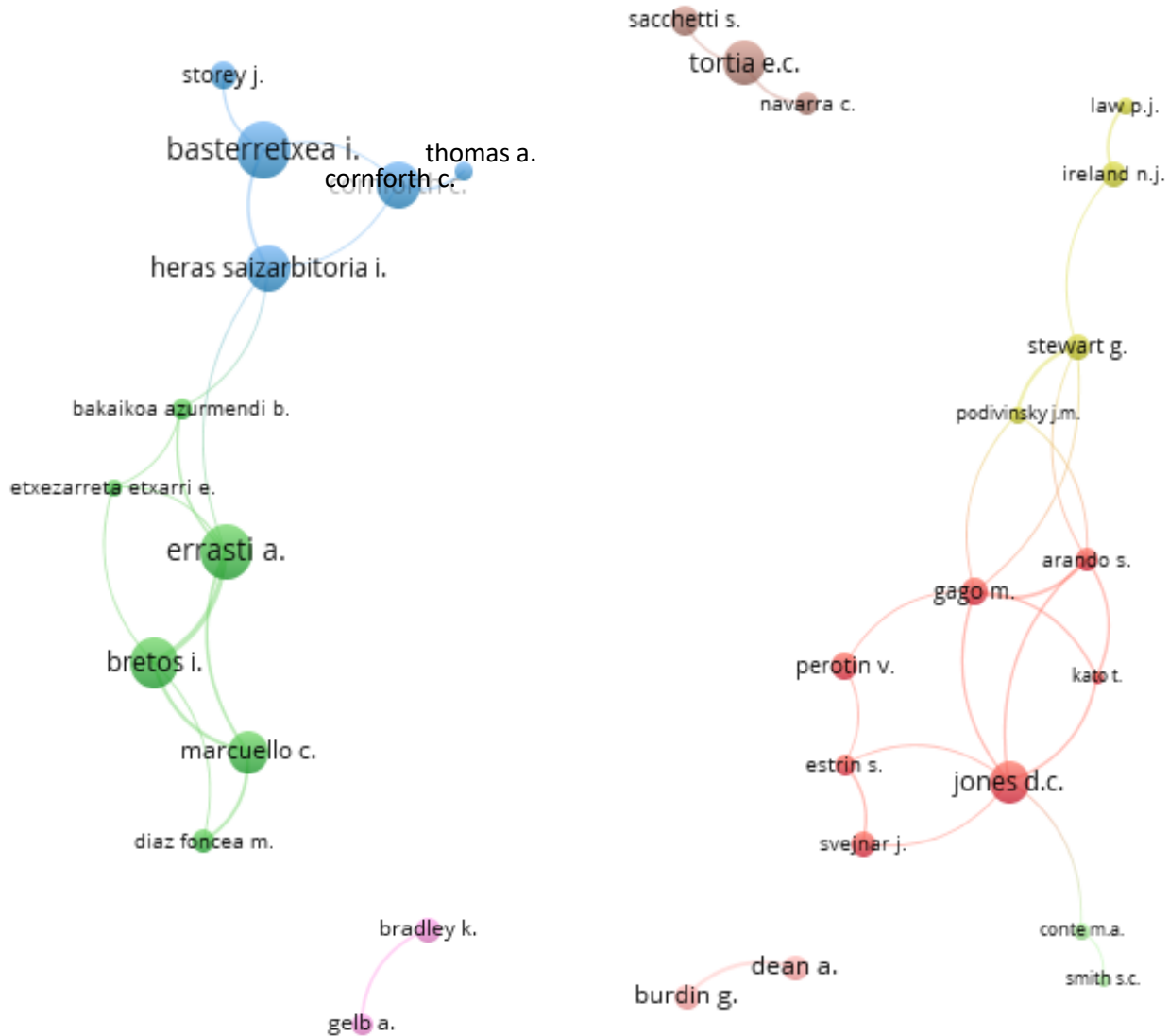
In the case of Canada, there was an increase in literature focusing on worker cooperative initiatives in the country in the early 1990s (Staber, 1989, 1993; Brown & Quarter, 1994), laying the foundations for interest in this area in the country. There is now a resurgence of interest, focused on the ecosystem formed by the University of Victoria and Saint Mary's University, with leading researchers such as Sonja Novkovic. Dow and Peredo are also affiliated with Canadian centres, Simon Fraser and Ecole de Gestion Telfer, respectively. The relevance of the USA can be attributed to single very productive researchers such as Derek C. Jones (Hamilton College).

2.3.2.3. Co-authorship analysis and mapping

A co-authorship analysis is carried out with authors as the unit of analysis. To appear on the map, authors must have a minimum of 2 contributions and 20 citations. Of the 729 authors,

85 pass the threshold. Those with no links are eliminated. We observe the different clusters generated in the map (Figure 2.6).

Figure 2.6. Co-authorship clustering on worker cooperatives and other labour-owned and managed firms sorted by the normalised number of citations.



Source: Own elaboration with VOSviewer.

Clusters formed by more than two authors are taken and 5 main clusters are identified (Table 2.9) which also integrate 16 authors belonging to the top 20 authors with the most contributions and most cited. The authors belonging to these 5 clusters have contributed 92

of the 605 articles in the sample, which is 15.21%. The articles produced by the authors that make up the clusters as a whole accumulate a total of 1608 citations, which is 23.22% of the total number of citations received by the articles in the sample. This should serve to support the idea that the main co-authorship clusters in the field have been identified and that they represent well the different trends in the literature in the area. We see that, compared to other areas, they are small and endogamous networks. We also see that the University of the Basque Country has a great weight in these networks, being the axis of clusters 2 and 3, which have also collaborated with each other.

Table 2.9. Co-authorship clustering, affiliation, contributions and impact.

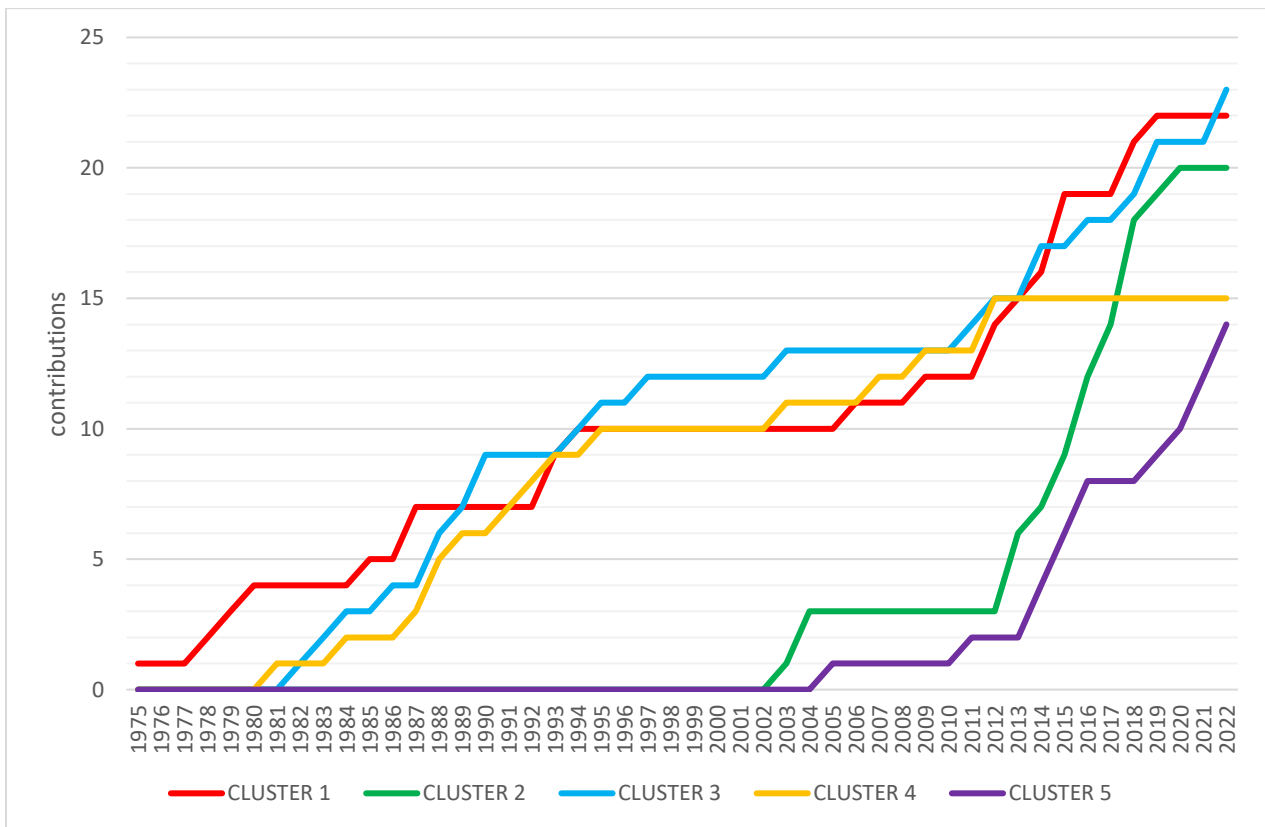
Authors	Current Affiliation	Contributions	Citations	Average Publication Year
Cluster 1		22	481	2000.77
Arando, Saioa	Mondragon Unibertsitatea, Spain	5	78	2013.6
Estrin, Saul	London School of Economics, United Kingdom	3	106	1989
Gago, Mónica	Mondragon Unibertsitatea, Spain	6	89	2015
Jones, Derek C.	Hamilton College, United States	11	229	1994
Kato, Takao	Colgate University, United States	2	22	2014.5
Pérotin, Virginie	University of Leeds, United Kingdom	3	150	2001.67
Svejnar, Jan	Stephen M. Ross School of Business, United States	4	132	1997.25
Cluster 2		20	328	2014.35
Bakaikoa, Baleren	University of the Basque Country (UPV/EHU), Spain	4	91	2009
Bretos, Ignacio	University of Zaragoza, Spain	10	161	2017.7
Díaz-Foncea, Millan	University of Zaragoza, Spain	3	48	2015.67
Errasti, Anjel Mari	University of the Basque Country (UPV/EHU), Spain	14	263	2014.14
Etxezarreta, Enekoitz	University of the Basque Country (UPV/EHU), Spain	2	24	2014.5
Marcuello, Carmen	University of Zaragoza, Spain	7	110	2016.71
Cluster 3		23	488	2001.57
Basterretxea, Imanol	University of the Basque Country (UPV/EHU), Spain	9	194	2017
Cornforth, Chris	The Open University, United Kingdom	8	157	1992.12
Heras-Saizarbitoria, Iñaki	University of the Basque Country (UPV/EHU), Spain	5	170	2014.8
Storey, John	The Open University, United Kingdom	2	91	2016
Thomas, Alan R.	The Open University, United Kingdom	7	34	1990.57
Cluster 4		15	202	1995.40
Ireland, Norman J.	University of Warwick, United Kingdom	8	86	1990.5
Law P.J.	University of Warwick, United Kingdom	3	30	1986
Podivinsky, Jan M.	University of Southampton, United Kingdom	4	62	2010
Stewart, Geoff	Shanghai University of Finance and Economics, China	8	125	2000.25

Cluster 5		14	179	2016.50
Navarra, Cecilia	European Parliamentary Research Service, Belgium	5	54	2015
Sacchetti, Silvia	University of Trento, Italy	3	62	2017
Tortia, Ermanno C.	University of Trento, Italy	11	128	2017.18

Source: Own elaboration.

Figure 2.7 shows the evolution of the contributions made by the set of authors that make up each co-authorship cluster.

Figure 2.7. Contributions on worker cooperatives and other labour-owned and managed firms accumulated by the set of authors of each cluster (1975-2022).



Source: Own elaboration.

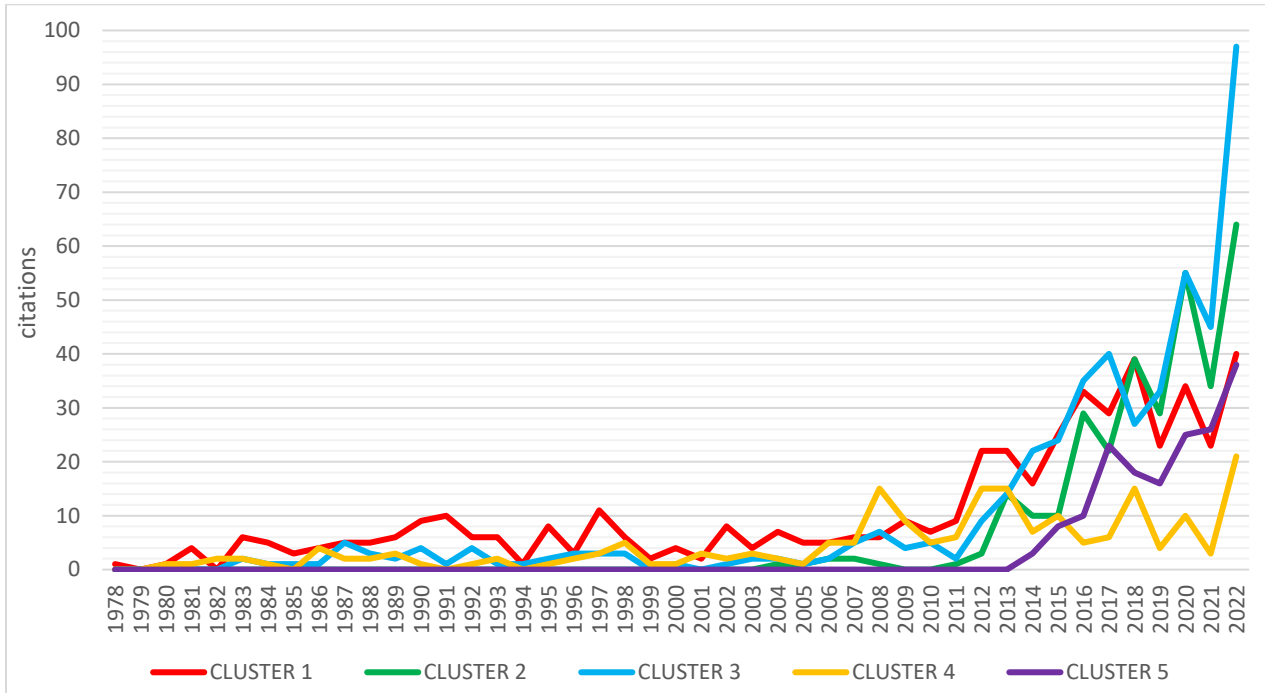
Figure 2.8 shows the citations received by the set of authors that make up each co-authorship cluster.

Cluster 1 is quite varied in terms of affiliations, combining authors from Mondragon University with others from various institutions in both the UK and the USA. The theme of this cluster is mainly the analysis of participation, governance, productivity, labour, survival and performance of worker-owned and managed firms. This cluster of authors has received

the second highest number of citations in the area, although since 2016 this trend has stagnated. It is the second oldest cluster on average and is divided into two periods, roughly related to the two growth periods (the first and the third) of the general trend of literature in the analysed field. Half of its contributions are more than 20 years old and have been made by Jones, who is the most representative author of the cluster. These contributions focused on industrialised western producer cooperatives, mainly from the USA, UK and Poland (Jones, 1979, 1975, 1985; Estrin et al., 1987). The most novel are contributions involving Kato, Gago and Arando made in the last decade and focused on the Mondragon case (Arando et al., 2014, 2015; Arando & Arenaza, 2018; Arregi-Uzuriaga et al., 2018; Belategi et al., 2019). Jones' latest contributions analyse worker ownership more globally (Jones, 2018). Here we perceive a clear generational handover, since Jones was born in 1946 and is currently an Emeritus Professor. More than half of the authors in the cluster have over 50% of their articles in the top 25% most cited documents worldwide and in the top 25% journals by CiteScore. In contrast, the average FWCI of the cluster is strikingly low, well below 1 for all authors. On average, approximately 50% of the publications by authors within the cluster entail collaborative efforts with authors hailing from various countries. This underscores the international and collaborative nature of their scholarly contributions. When talking about this group, it is worth mentioning Smith, who, although only tangentially related to the cluster, is a relevant author who has collaborated with Jones and has a very significant body of work for the literature (Smith, 2001).

Cluster 2 is composed only of authors from the University of the Basque Country and the University of Zaragoza. This cluster is relatively modern, with most of the contributions made in the last decade. Its subject matter is quite marked in most of the papers of the authors that make up the cluster. It deals with managing and governance in Mondragon's international subsidiaries, and cooperative degeneration-regeneration processes. It emerged timidly in the early 2000s, during the second period of the literature, and then began to grow strongly around 2013, a date related to the bankruptcy of Fagor Electrodomésticos, which may have driven the need to understand the problems of cooperative degeneration in Mondragon. The citations received also began a positive trend at that time, and have continued to do so ever since. The most representative in terms of contributions and citations is Errasti (Errasti et al.,

Figure 2.8. Yearly citations on worker cooperatives and other labour-owned and managed firms received by authors of each cluster (1978-2022).



Source: Own elaboration

2003; Bakaikoa et al., 2004). Until 2015 Errasti and Marcuello could be considered the two hubs of the cluster, although they had never collaborated in the area, because Marcuello's subject matter diverged from that of the cluster in general, being very relevant in areas such as social entrepreneurship and social initiative cooperatives (Marcuello & Nachar, 2013; Díaz-Foncea & Marcuello, 2015). From then on, Bretos began to participate in practically all of the cluster's articles to date (Errasti et al., 2016), serving as a link between Errasti and Marcuello. In fact, the three of them co-sign the last three contributions of the cluster (Bretos et al., 2018a, 2019, 2020). More than half of the authors within this cluster have over 50% of their articles featured among the top 25% most cited documents globally and in the top 25% of journals based on CiteScore rankings.

Cluster 3 is made up solely of authors from the University of the Basque Country and The Open University. It is the cluster with the most contributions and the highest number of citations received in the area, in total and per year. Its first recorded contributions in the area were in the 1980s, together with the identified first period of the literature studied, and its trend is similar to that of this literature. It has a first stage prior to 2000 in which authors Alan

Thomas and Chris Cornforth worked, among other topics, on the success (Cornforth, 1983; Thomas, 1988), financing (Jefferis & Thomas, 1986; Thomas, 1990) or development (Cornforth, 1984) of UK worker cooperatives and collaborated, writing on the growth and survival (Thomas & Cornforth, 1989) and structures and trends (Cornforth & Thomas, 1994) of these enterprises. After this stage, other authors took over and studies focused on Mondragon. The topics change to training (Basterretxea & Albizu, 2011), management (Heras-Saizarbitoria & Basterretxea, 2016), governance (Basterretxea et al., 2022), HRM (Basterretxea & Storey, 2018; Basterretxea et al., 2019a, 2019b) and innovation capabilities (Basterretxea & Martínez, 2012). Cooperative values and their degeneration are also discussed (Heras-Saizarbitoria, 2014; Storey et al., 2014), as previously done by Cornforth (1995). Between these two stages a generational shift can be identified, since, for instance, Cornforth is already an Emeritus Professor. Basterretxea appears as a link between these two stages and, although his performance rates are the highest in this analysis, we know that authors such as Cornforth or Heras-Saizarbitoria have higher figures in other fields outside this study. Through Heras-Saizarbitoria's collaboration with Bakaikoa and Errasti, this cluster is linked to cluster 2 (Errasti et al., 2003). More than half of the authors in the cluster have over 50% of their articles positioned within the top 25% most cited documents worldwide and in the top 25% of journals according to CiteScore. This cluster has the highest average H index and the highest average FWCI of all, thanks to Heras-Saizarbitoria's 44 and 2.3 respectively. Cornforth's FWCI of 2.37 is also remarkable. On average, about half of the cluster authors' publications have been with authors from other countries. Looking at the existing records on Percent of documents with both academic and corporate affiliations, only cluster 3 stands out due to Basterretxea's 21%.

Three other more current works by Cornforth (Cornforth, 2004; Spear et al., 2009, 2014), in which he collaborates with Spear on the governance of cooperatives, a subject in which Cornforth is an expert, have been identified as noteworthy. Roger Spear is an author with affiliation at The Open University, very relevant in social enterprise and social entrepreneurship and its governance. He has also collaborated with Thomas (Spear & Thomas, 1997), and could form part of Cluster 3. Furthermore, this cluster is closely related, through Storey, to the literature on the case of the John Lewis Partnership cooperative in the UK. This literature includes the aforementioned work by Storey et al. (2014) and those of

Cathcart (2014), Paranque and Willmott (2016), Storey and Salaman (2017) and Shipper and Hoffman (2020).

Cluster 4 is mainly composed of UK authors, although its most representative author, Stewart (Podivinsky & Stewart, 2007), is affiliated to the Shanghai University of Finance and Economics, China. Ireland was also an important author in the first period of the literature in the area (Ireland & Law, 1981). Its subject matter encompasses labour managed firms, their entry into markets and comparisons with other types of firms, using theoretical models. This cluster emerged in the 1980s with the first period and thereafter maintained a trend similar to the general one, but for a decade now the cluster's authors have not published on worker cooperatives and other labour-owned and managed firms. Although their annual citations started to pick up a little in 2007, their trend has remained stable and modest since then. More recently, through Stewart and Podivinsky's collaboration with Gago and Arando, this cluster has been linked to cluster 1 (Arando et al., 2012). This type of collaboration could constitute a kind of generational turnover for such an aged cluster, considering that, for example, Ireland was born in 1945.

Cluster 5 is isolated from the others and has a somewhat lower performance in the specific field of worker cooperatives and other labour-owned and managed firms, but is worth mentioning, as its most representative author is Tortia. It focuses mainly on the University of Trento. On average, this is the most current cluster. Its first contribution in the identified area was in 2005, within the second period, and since then it has been quite productive and has accumulated a remarkable number of citations. The cluster's themes are diverse: capital accumulation, profit reinvestment, social trust, entrepreneurial moral hazard, wage rigidity, governance, resilience during economic crises and employment stabilisation (Navarra & Tortia, 2014; Sabatini et al., 2014; Sacchetti & Tortia, 2016; Albanese et al., 2019; Tortia, 2022). On average, about half of the publications by authors within the cluster involve collaboration with authors from different countries. It is worth highlighting Carlo Borzaga, who is an author from the University of Trento who often collaborates with Tortia and Sacchetti and who could be included in this cluster, although his topics are more focused on social cooperatives, social enterprises, nonprofit sector or public welfare systems. In our sample he only appears as author of one paper together with Tortia (Borzaga et al., 2022).

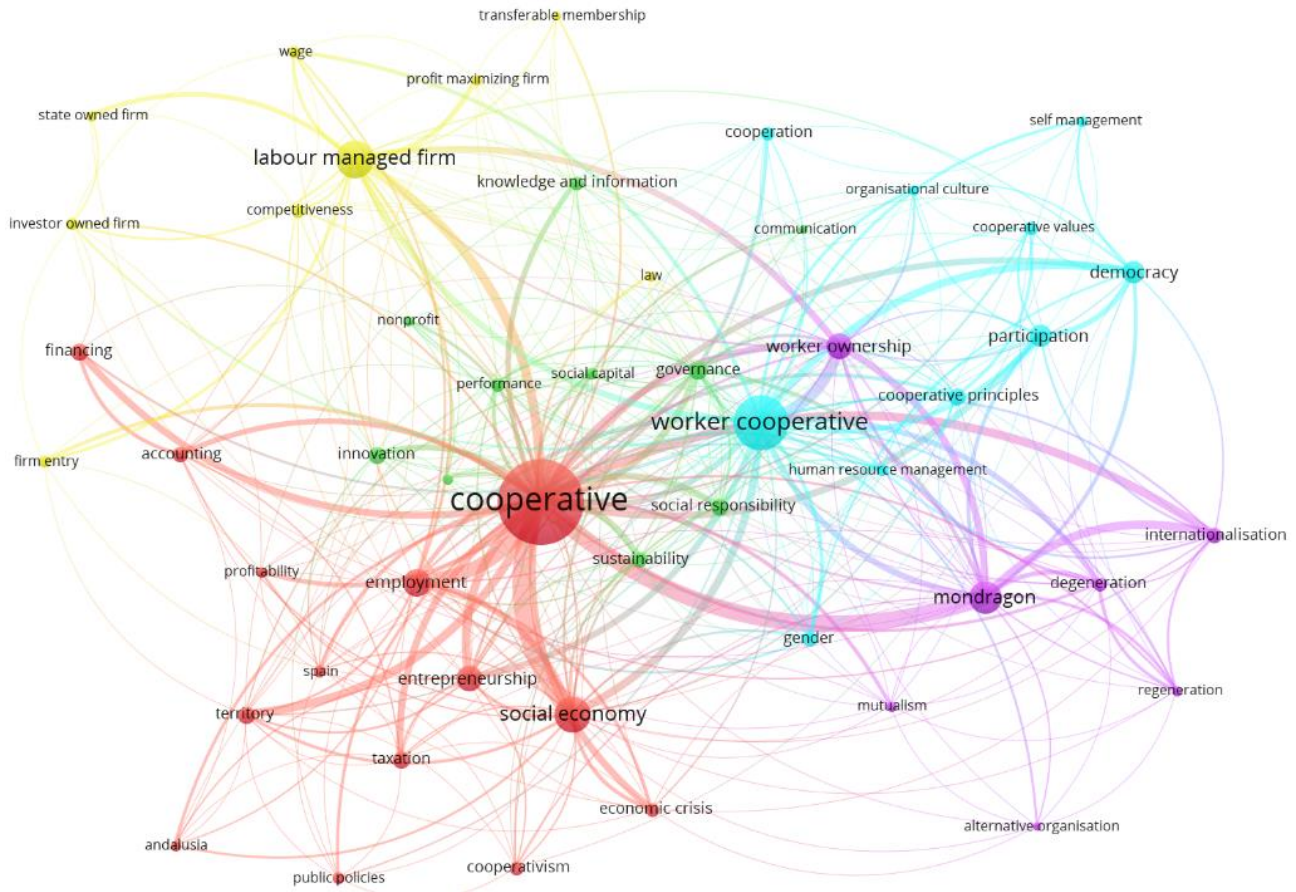
Although he is currently still publishing, Borzaga was born in 1948 and is now President Emeritus of Euricse, so we could identify an imminent generational handover. It could be considered that Silvia Sacchetti is also underrepresented, because she too is more focused on social cooperatives and similar topics. Social cooperatives are a popular figure in Italy and serve to integrate disadvantaged people into the labour market.

Burdin and Dean are two Uruguayan authors worth mentioning, who show a strong link in the mapping, but seem to have been underrepresented. They analyse the governance and management of worker cooperatives (e.g. Burdin & Dean, 2009; Burdin, 2014; Dean, 2019; Alves et al., 2022). For their part, Bradley and Gelb are two historical authors of great relevance in the past, due to their collaborations studying the Mondragon case (e.g. Bradley & Gelb, 1981, 1987).

2.3.3. Thematic structure of knowledge

To try to identify the main themes that structure the literature in the area, the keyword co-occurrence analysis was applied. After lexical standardisation and establishing a threshold of at least 5 as a minimum co-occurrence frequency (Chai & Xiao, 2012), 50 keywords shown in Figure 2.9 are left.

Figure 2.9. Co-occurrence map of words.



Source: Own elaboration with VOSviewer.

The preliminary identification of words and relationships in Figure 2.9 is complemented by a qualitative analysis to identify more precisely the thematic structure and to assign one or more themes to each of the 605 articles in the sample.

Table 2.10 depicts how our identified 5 key themes in the area are framed and categorised to provide an integrated overview of the research field, showing their main metrics and related journals.

Table 2.10. Information on the themes identified in the sample.

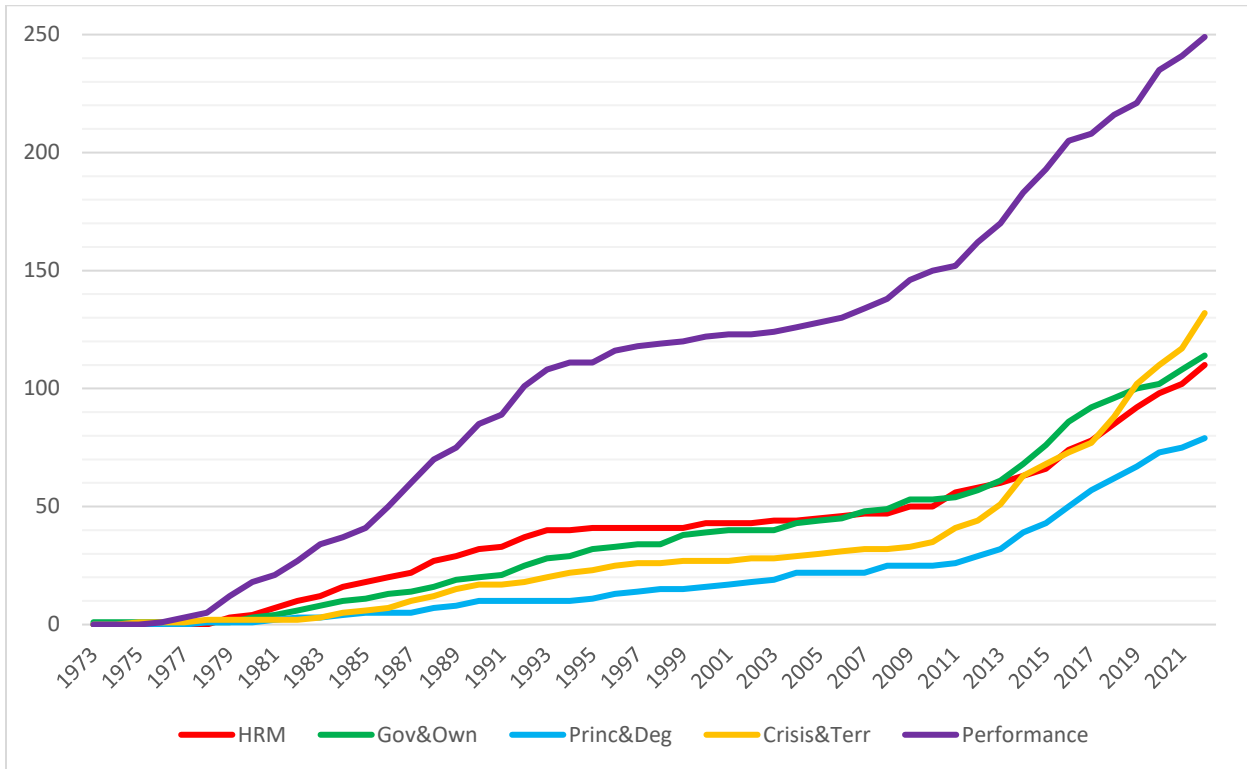
Theme	Contribution Count	Citation Count	Average Publication Year	Main Journals
Human Resource Management	110	1101	2004.83	Journal of Comparative Economics (15), Economic and Industrial Democracy (14), REVESCO (13), Annals of Public and Cooperative Economics (7)

Governance and Ownership	114	1313	2006.22	Economic and Industrial Democracy (11), REVESCO (11), Annals of Public and Cooperative Economics (8), Journal of Comparative Economics (8)
Cooperative Principles and Degeneration Theory	79	1487	2009.99	REVESCO (13), Annals of Public and Cooperative Economics (12), Journal of Co-operative Organization and Management (7), CIRIEC (4), Economic and Industrial Democracy (4), Organization (4)
Facing the Crisis and Territorial Development	132	1130	2010.96	REVESCO (30), CIRIEC (23), Annals of Public and Cooperative Economics (11), Economic and Industrial Democracy (8)
Organisational and Market Performance	249	2770	2001.27	Journal of Comparative Economics (48), REVESCO (28), Annals of Public and Cooperative Economics (20), CIRIEC (11)

Source: Own elaboration.

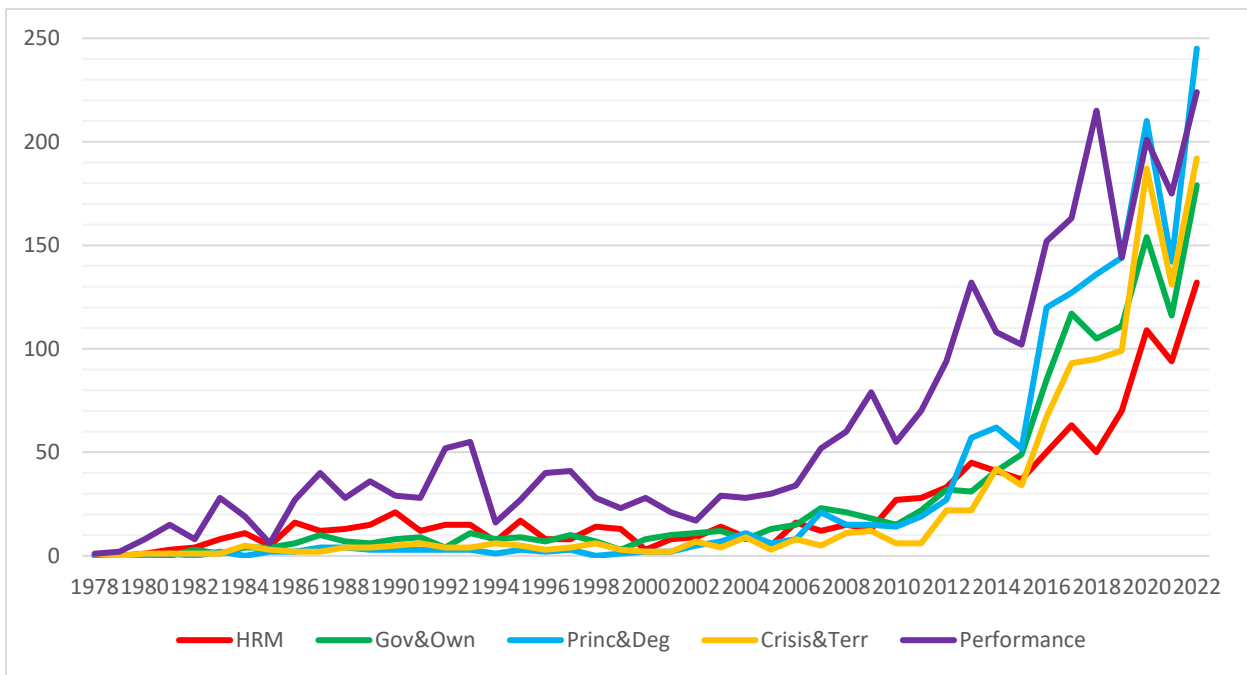
Figure 2.10 and Figure 2.11 show, respectively, the evolution of both the number of publications of papers related to each theme and the annual citations received by these papers. In general, it can be seen that the trend in the number of publications for all topics follows the general trend in the literature on worker cooperatives and other labour-owned and managed firms. In terms of the level of citations, all publications have experienced a rise in popularity over the years.

Figure 2.10. Cumulative annual publication of articles related to each theme (1973-2022).



Source: Own elaboration.

Figure 2.11. Annual evolution of citations received by the set of articles related to each subject (1978-2022).



Source: Own elaboration.

2.3.3.1. Human Resource Management

This theme deals with the HRM dimension. It addresses vocational training and training in cooperative values (Meek & Woodworth, 1990), attraction and retention of talent (Basterretxea & Albizu, 2011), absenteeism and turnover or employee commitment, motivation and satisfaction (Bradley & Gelb, 1981; Rhodes & Steers, 1981; Sabatini et al., 2014; Basterretxea & Storey, 2018; Basterretxea et al., 2019b). Also relevant is the variation in labour conditions and policies in the international subsidiaries of cooperatives (Burdin & Dean, 2009; Kasmir, 2016; Bretos et al., 2019), a theme closely related to degeneration theory and with a strong emphasis on Mondragon cooperatives. The increased protection of cooperative employment through greater wage and numerical flexibility and its consequences has also become relevant (Navarra & Tortia, 2014; Albanese et al., 2019; Santos-Larrazabal & Basterretxea, 2022; Tortia, 2022). We can see that the growth of the literature on this subject was somewhat greater relatively to the others during the first period of the literature in the area, and was somewhat lower in the third period. In terms of impact, it was somewhat higher during the first period, but, since about 2014, although the trend remains positive, it does not achieve the same impact as the other topics and is now the topic with the lowest impact. Regarding this topic, we consider interesting to mention the existence of literature (e.g. Garmendia et al., 2021) linked to worker cooperatives, but which at no point mentions the cooperative nature of the study units or the study environment, making it impossible to identify it in an automated way. Tortia, Navarra and Basterretxea are the authors with the greatest prominence in the subject. This could potentially lead to future collaboration between authors from Cluster 3 and Cluster 5. Looking to the future, and bearing in mind the challenges ahead in terms of employment stability, it is necessary to make progress on how worker cooperatives could mitigate the possible negative consequences of their labour flexibility measures, with the aim of remaining an attractive option for their current and potential members.

2.3.3.2. Governance and Ownership

This theme addresses the effects of ownership relations on the governance of cooperatives (Reich & Devine, 1981). These effects can be positive, increasing workers' co-responsibility towards the firm (Gupta, 2014). In addition, the alignment of managerial and worker interests

(Alves et al., 2022), the equality derived from participatory bureaucracy (Meyers, 2022) and control and incentive mechanisms (Turnbull, 1995) favour positive worker attitudes and facilitate governance (Rincon-Roldan & Lopez-Cabrales, 2022). But reverse hierarchisation can also lead to authority problems (Jaumier, 2017), increase free riding and reduce worker satisfaction and commitment (Basterretxea et al., 2019b) or impair the speed and quality of decision-making (Basterretxea et al., 2022). One part of this theme, closely related to degeneration theory, specifically analyses how growth has affected the democratic control of cooperatives, by developing greater specialisation and new management structures (Cornforth, 1995) or by attributing greater power to management or creating capitalist subsidiaries in which workers are excluded from ownership (Bretos et al., 2018a). Errasti, Bretos, Tortia, Ellerman and Dow are the authors who have contributed most on this topic. This could potentially lead to future collaboration between authors from Cluster 2 and Cluster 5. In addition, an emerging core of literature on governance in cooperatives (some of them worker cooperatives) is identified in Belgium, led by Frédéric Dufays (Dufays et al., 2020) of the Katholieke Universiteit Leuven and the University of Liège. The positive effects that the special status of worker-members has on their attitude towards the governance of the firm have been and are widely analysed in the literature; but the aspect of this attitude in adverse conditions, such as those that the global economy has been experiencing for more than a decade, still needs to be studied in greater depth.

2.3.3.3. Cooperative Principles and Degeneration Theory

This theme deals with the dual nature of this type of firms (Puusa et al., 2016); the cooperative principles and values (Waring et al., 2022); their advantages in terms of transaction costs (Nilsson, 1996), internalisation, social innovation, ethical practices, development (Novkovic, 2008) and sustainability (Rincon-Roldan & Lopez-Cabrales, 2022); and their disadvantages in terms of speed and quality of decision-making (Basterretxea et al., 2022) or ability to internationalise (Bretos et al., 2018b). It also discusses how the processes of degeneration of cooperativism can affect these principles. This degeneration may derive from internationalisation (Errasti et al., 2003; Flecha & Ngai, 2014; Bretos et al., 2018a, 2019) the individualisation and superficial participation in the workplace of worker-members (Heras-Saizarbitoria, 2014), the recruitment of salaried workers (Ben-Ner, 1984; Dean, 2019) or new

management structures and increased specialisation of work (Cornforth, 1995). Regeneration measures to counteract this are also discussed (Estrin & Jones, 1992; Cornforth, 1995; Storey et al., 2014; Bretos et al., 2020). It is a theme very much centred on the paradigmatic case of Mondragon. Although the articles in our sample related to this topic are on average among the most current, cooperative degeneration is a historical topic that has been deeply addressed in academic literature since the late 19th century (Potter, 1891; Webb & Webb, 1920; Meister, 1974, 1984; Ben-Ner, 1984; Miyazaki, 1984). Due to Mondragon's internationalisation processes, among other things, since about 2012 papers on this subject have gained relevance, until it is currently positioned as the one that receives the most citations and the one with the greatest potential. It is closely related to the topics of HRM and Governance and Ownership. Basterretxea, Heras-Saizarbitoria and Errasti, Bretos and Marcuello are the most recurrent authors on this topic. This could potentially lead to future collaboration between authors from Cluster 2 and Cluster 3. Bearing in mind their close relationship with the two previous topics and their potential impact in the future, it could be important to make progress on this issue by analysing, on the one hand, how worker cooperatives can take advantage of the benefits of cooperative principles, such as intercooperation, to overcome certain pitfalls that may arise in terms of HRM; and, on the other hand, how the degeneration of cooperativism may affect the characteristic governance of these enterprises.

2.3.3.4. Facing the Crisis and Territorial Development

This theme addresses how cooperatives promote economic, social and environmental sustainability (Díaz-Sarachaga & Ariza-Montes, 2022). Cooperatives are an attractive business model in the face of crisis, as they are counter-cyclical (Staber, 1993; Pérotin, 2006; Storey et al., 2014). Having higher equity allows them to prioritise employment over profits and, in addition, they prefer to adjust wages to employment (Díaz-Foncea & Marcuello, 2010; Delbono & Reggiani, 2013; Pérotin, 2013; Borzaga et al., 2022; Caselli et al., 2022). In the Spanish context, it has been widely studied how cooperatives help territorial development by fostering female employment, supporting sustainability in depressed areas and preventing rural depopulation due to their capacity to create attachment to the territory (Esteban-Salvador et al., 2018; Cancelo et al., 2022). This link between cooperatives and their local environment has been studied in other contexts as well (Bianchi & Vieta, 2020).

Effective public policies that favour the cooperative model are therefore necessary (Catala & Chaves, 2022). There is also literature showing how the crisis negatively affects cooperatives (Staber, 1989; Sala Rios et al., 2018). Finally, it is worth highlighting one aspect of this theme that combines territorial development and the crisis, the transformation of capitalist firms into cooperatives by their workers to prevent their closure or after receiving them from their owner, something that has been extensively analysed in the Argentinean context (Bryer, 2011; Vieta, 2019; Kasparian & Rebón, 2020). This is the most current topic. In terms of publications, it is approximately at the level of the other topics, but in 2013 it increased a little and is currently the second most developed topic and among the most cited. It therefore seems interesting to explore in greater depth the ways in which worker cooperatives in different contexts have a positive impact on the socio-economic development of their environment, for example, through collaboration with different actors in their environment.

2.3.3.5. Organisational and Market Performance

This theme addresses the competitiveness and presence of cooperatives in different types of markets (Agirre et al., 2014) and their organisational performance: productivity (Estrin et al., 1987), technology (Bruque & Moyano, 2007), innovation (Iturrioz et al., 2015; Basterretxea et al., 2019a), accounting (Meira et al., 2022), financing (Atienza-Montero & Rodriguez-Pacheco, 2018), taxation (Carmona-López et al., 2022), efficiency (Berti & Pitelis, 2022). This is also done through comparisons between different cooperatives (Wren, 2020) or cooperatives and capitalist (Burdin & Dean, 2009) or public enterprises. There was a strong focus on the competitiveness of labour managed firms in Yugoslav socialism, where the market was based on a system of worker-managed firms (Wemelsfelder, 1973; Prasnikar et al., 1994; Keren, 2014) and eventually shifted to the analysis of cooperative firms in capitalist markets. This subject is also characterised by the methodologies used. Compared to the heavy empirical burden, both quantitative and qualitative, of the other themes, this one is dominated by theoretical models of productivity, prices or profits (Muzondo, 1979), macroeconomic and microeconomic analysis or game theory (Ohnishi, 2022). This is the oldest subject area. Its growth in the first period was much higher than the other subjects, but in the third period it is similar. This theme needs to be analysed taking into account that it may be somewhat overrepresented, as it encompasses a very large number of sub-themes. As expected, this

makes it the one with the highest number of publications, and the number of citations received is always higher than the other themes. Even so, its trend is similar, and has even slowed down since 2018. This comparative aspect of the literature remains relevant and necessary in future research, given the dichotomy between capitalist firms and worker cooperatives and the desire to know which model is preferable in each situation.

2.3.3.6. The Case of Mondragon

In the literature analysed, the Mondragon group plays a major role. So much so that it could be considered as an individual theme. In addition to the works already mentioned, there is a very relevant and extensive body of literature covering the five topics already identified, but from the perspective of this cooperative group. The following are some examples of works that must be mentioned in any analysis of worker cooperatives and other labour-owned and managed firms: Ellerman (1982), Thomas & Logan (1982), Whyte & Whyte (1988), Kasmir (1996), Cheney (1999), Clamp & Alhamis (2010).

2.4. Conclusions

To date there has been no assessment of worldwide research productivity associated with the field of worker cooperatives and other labour-owned and managed firms. We use bibliometric tools, such as analysis of most prolific and cited authors, universities, countries and journals and the mapping of the different collaboration networks between authors in the field and the different themes in the body of literature, to present a summary of development, current knowledge structure and future research trends on the research in the field.

We identify that the trend of the literature on worker cooperatives and labour-owned and managed firms can be divided into three periods. The first period spans from 1973 to 1992, marked by the emergence of this literature in academic journals and its gradual growth. This period likely corresponds to the emergence of economic theory regarding labour managed firms during the 1960s. Until the 1980s, most empirical works were still published in academic books (Ellerman, 1982; Thomas & Logan, 1982; Whyte & Whyte, 1988), while theoretical works dominated journals (Dow, 2018). The growth of this literature might be attributed to the resurgence of post-Soviet economies, social economy, self-management, and industrial relations during this time (McIntyre, 2018). Notably, the first article within the

selected sample addresses financing issues of labour managed firms in Yugoslavia (Wemelsfelder, 1973). The second period, between 1993 and 2010, witnessed stagnation or even decline in this literature. This decline could be attributed to the political ideals expressed in grassroots and labour movements not being sufficient to counter the individualistic incentives of deregulation policies and support for private initiative. This happened particularly during the 1980s under Thatcherism in the UK and Reaganomics in the USA. This led to depoliticization (Costa-Vieira & Foster, 2022) and decline of collectivist work formulas, such as cooperativism, along with a loss of academic and political relevance of labour relations. Moreover, globalisation and technological revolution during this decade favoured more flexible structures in the private sector, posing challenges in scale and efficiency for cooperative firms. The latest period, starting in 2011 and continuing to the present, represents a resurgence, characterised by a more robust growth. The rapid increase in publications and citations in the last decade indicates a relatively recent flourishing of interest in research in this field. Approximately 48% of the reviewed articles appeared in the last decade, with 69% of the citations made during that time frame. This growth could be attributed to the popularisation of worker cooperatives in Western countries with conventional capitalist markets, driven by criticisms of the traditional capitalist model and a shift in cultural and economic perceptions towards more equitable, sustainable, and participatory models beyond market logic. Furthermore, cooperatives have gained special attention academically and institutionally as instruments for economic stabilisation (García-Louzao, 2021), strategic relevance for sustainable economic development, and local social cohesion (Hoffman, 2022). Their countercyclical behaviour makes them a defensive tool against crises (Cornforth & Thomas, 1994; Carini & Carpita, 2014). Additionally, the success of exemplary cooperatives, such as those within Mondragon, has demonstrated that this business model can be profitable and competitive.

We consider this chapter particularly valuable as it contributes in three ways. First, it enriches the ongoing debate in the literature and proposes an integrative framework that provides a theoretical baseline for empirical research (Lim et al., 2022) and serves to identify future research avenues to advance knowledge and further develop the field (Mukherjee et al., 2022). In the process, we find that despite being a field that has been developed for years by academic journals in business and economics, compared to other fields, it does not have a

large number of contributions, and these do not have a large number of citations. Moreover, we consider that the thematic areas covered are not very diverse and are very interrelated, sometimes being used in an instrumental way to address other organisational fields.

Remarkably, we identify how a unique well curated special issue, with relevant authors involved, published in a prestigious generalist journal, as in the case of *Organization*, can provide the journal with a higher impact than historically achieved by other journals specialised in the area. Thus, there is some evidence to suggest that the exposure that well-positioned generalist journals can give to studies on worker cooperatives can increase the impact of the literature in the area. But this may also involve the selective behaviour of some authors, who may prefer to conceal the cooperative nature of their work in order to gain greater acceptance in those well-indexed generalist journals.

Second, since how researchers build their collaborative network is more important than what publications they produce and whether they are cited (Ebadi & Schiffauerova, 2015), this research facilitates academics' decision-making about collaborating in the most prolific working groups or institutions or reinforcing the network of collaborations already established between co-authors. This can serve as a starting point for larger research projects (Kraus et al., 2022). In the same way that worker cooperatives benefit from collaboration with other cooperatives, we consider it necessary, as well as poetic, for authors in the field to collaborate with each other to achieve the growth and increased internationalisation of the identified clusters, thereby advancing knowledge. Potential future collaborations are identified among authors of clusters 2, 3, and 5, as they write on a wide range of common topics such as HRM, governance, or degeneration.

Clear collaboration networks have been identified, yet these clusters are alarmingly aged. In many cases, we observe a generational shift, as many of the precursor authors of the clusters are already emeritus, born before 1950. However, even the youngest individuals within the clusters surpass an average age of 50. Therefore, a second generational handover appears to be necessary, although the analysis does not clearly identify it at this stage.

Third, the use of bibliometric methods allows to make our findings available to society in general (Ellegaard & Wallin, 2015), but without forgetting the need for a realistic and

moderate use of bibliometric mapping, which serves only to understand the body of literature, and which is duly accompanied by qualitative analysis and assessment.

In spite of the contributions by this study to the relevant field, some limitations should be acknowledged. This research has methodological limitations due to the manual selection of publications and the subjectivity of map interpretation methods (Ramos-Rodríguez & Ruíz-Navarro, 2004). Although the review protocol uses a recognised database such as Scopus, despite our back and forward search, we could not provide an exhaustive account of everything written on worker cooperatives and other labour-owned and managed firms, by omitting relevant research published out of our time span, in other languages apart from English and Spanish, on book chapters, recorded in other databases or related to other research areas apart from business and economics, such as cooperative law or industrial relations, where there is extensive literature on such entities. Furthermore, the very lack of standardisation of some of the data provided in the database has hindered certain processes of analysis. In addition, the fact that much of the analysis is based on the number and accumulation of citations creates a bias that is detrimental to younger authors and newer articles, which may have potential. Attempts have been made to smooth this out by using variables such as citations/year or qualitative methods (Yan et al., 2010) or by adding to the discussion most current under-cited papers. It is worth mentioning that, as expected, certain authors may appear under-represented with respect to their overall production, which may be in other areas of study. Furthermore, as for the analysis of journals, the number of citations received is biased because there are journals that were created even 30 years before being indexed in Scopus.

Due to the growing socio-political interest received by worker cooperatives in recent years, literature has considerable potential to further expand. Looking at the articles published in recent years, we find some major topics that are currently being investigated in each of the themes and identify avenues for future research trends where researchers can put efforts. Among many other possibilities, the cooperative principle of intercooperation or cooperation among cooperatives can be an appropriate approach to develop each of these trends, by providing worker cooperatives with tools for governance and HRM outside degeneration, for territorial development hand in hand with its stakeholders, or even to collaborate for the

improvement of organisational performance. For this very reason, the forthcoming chapters expound upon these facets through the lens of intercooperation.

CHAPTER 3

Intercooperation, Flexicurity and their Impact on Workers. The Case of Fagor Electrodomésticos

This chapter was presented at:

- Reciprocity in Comparison (The Academy of Korean Studies) conference, in October 2020, under the title: Cooperation among Cooperatives in Times of Crisis via Relocations of Redundant Worker Owners and other Labour Flexibility Measures: Strengths and Weaknesses.
- XVIII edition of the Congreso Internacional de Investigadores en Economía Social y Cooperativa de CIRIEC, in September 2020, under the title: *Validando ventajas e identificando limitaciones de la flexiguridad. Caso Fagor Electrodomésticos*.
- Beyster Symposium (Rutgers University) and the International Association for the Economics of Participation (IAFEP) 20th Conference, in June 2020, under the title: *Intercooperation, Flexicurity and Their Impact on Workers: The Case of Fagor Electrodomésticos*

An article derived from this chapter is published in *Annals of Public and Cooperative Economics* [JIF 2022: 1.6, Q3 *Economics* (236/380); SJR 2022: 0.542, Q2 *Sociology and Political Science & Economics and Econometrics*; CiteScore 2022: 3.2, Q1 *Sociology and Political Science* (302/1415), Q2 *Economics and Econometrics* (248/705)]. There, it was awarded twice, as one of the most downloaded papers during its first 12 months of publication, and as top cited paper between 1 January 2022 - 31 December 2023 (Figure 1.3). Some metrics of the publication:

- Core Collection of Web of Science: 7 citations, 71.9th percentile (Q2) in Economics in 2022.
- Scopus: 9 citations, 88th percentile (Q1), FWCI of 2.20.
- Google Scholar: 12 citations.
- Dimensions Field Citation Ratio of 5.1.
- Cited by leading authors in the field of labour managed firms, such as George E. Cheney (University of Colorado), Derek C. Jones (Hamilton College) or Ermanno C. Tortia (University of Trento).

It can be cited as: Santos-Larrazabal, J. & Basterretxea, I. (2022). Intercooperation, flexicurity and their impact on workers: The case of Fagor Electrodomésticos. *Annals of Public and Cooperative Economics*, 93(3), 607-635. doi: 10.1111/apce.12329



3.1. Introduction

The bankruptcy of Fagor Electrodomésticos (FED throughout this chapter) in 2013 and the responses that Mondragon Corporation has given to its redundant worker-members have been a critical test of stress and validity of flexicurity policies. These policies are based on the trade-off between employment security for its members and several forms of labour flexibility (Wilthagen & Tros, 2004). Mondragon's worker-owners have traditionally voted to reduce their own wages, have approved the adjustment of their working hours or schedules to meet their firms' needs, and have shown high levels of functional flexibility (e.g., Logan, 1988; Cheney, 1999; Bakaikoa et al., 2004). Functional flexibility in Mondragon cooperatives implies not only transferring employees to different activities and tasks within each firm but also relocating worker-owners of cooperatives in crisis to those in need of a workforce (Basterretxea & Albizu, 2010).

The literature tends to represent these flexicurity policies as a source of competitive advantage and an element that has allowed Mondragon's cooperatives to adapt to market fluctuations and manage crises relatively successfully (Bradley & Gelb, 1987; Logan, 1988; Whyte & Whyte, 1988; Albizu & Basterretxea, 1998; Ormaechea, 1998; Smith, 2001; Clamp, 2003; Basterretxea & Albizu, 2010; Elortza et al., 2012; Landeta et al., 2016; Errasti et al., 2017; Arando & Arenaza, 2018). Although these studies have enrichingly and faithfully analysed the Mondragon policies, they do not seem to have delved into the negative effects of wage reduction, working time flexibility and functional flexibility on worker-owners' wellbeing and satisfaction. Excluding a few which have referred to Mondragon worker-owners' refusal to relocate to cooperatives far from their homes in the 1980s (e.g., Cheney, 1999; Clamp, 2003), previous studies have neither analysed any possible worker-owner resistance to those measures nor the possible resistance of successful cooperatives to help and relocate worker-owners of unsuccessful ones. An often-idyllic situation has conversely been presented, in which cooperatives 'can relocate [their] members rapidly and with a low level of friction among different activities and tasks' (Albizu & Basterretxea, 1998).

Previous research on flexicurity measures in Mondragon has mainly considered managers' opinions, overlooking important distortions, such as their social desirability bias (Heras-

Saizarbitoria, 2014). Many previous researchers have also presumed that there is an equivalence between Mondragon Corporation's formal flexicurity policy and its day-to-day internalisation in its cooperatives. While Mondragon defines and fosters flexicurity policies, the corporation has insufficient power to impose them on its 98 cooperatives. The way these policies are thus implemented in each cooperative differs significantly, usually after lengthy negotiations between the corporation and its cooperatives. This decoupling of practices from formally adopted policies, which has been broadly analysed from a neo-institutionalist perspective in Heras-Saizarbitoria's (2014) research, can also occur because of worker resistance. The present research will add light to conflicts cooperatives face when applying flexicurity policies, their causes and manifestations.

Recent research points to wage reductions and relocations as factors that could partially explain poor responses in satisfaction surveys and increasing levels of absenteeism in some big Mondragon cooperatives (Basterretxea & Storey, 2018; Basterretxea et al., 2019b), thus a nuanced analysis of Mondragon flexicurity strategy is required.

The adoption of flexicurity policies as a strategy by the European Union and the increase in studies addressing it (Bender & Theodossiou, 2018; Bredgaard & Madsen, 2018; Bekker & Mailand, 2019) reflect the fact that these policies are becoming more common in a greater number of firms. Some studies also stress that how flexicurity policies are implemented in certain countries, particularly in Southern Europe, leads to increased labour market precariousness (Alonso Domínguez, 2012; Fernández-Rodríguez et al., 2012; Gialis et al., 2014; Gialis & Taylor, 2016). This study aims to benefit the firms interested in implementing flexicurity, whether they are cooperatives or not, so that its implementation is cost-effective and has minimal social impact.

Given these gaps, the research question we pose in this chapter is:

SRQ2: Which are the advantages and limitations of intercooperative labour flexibility and security policies for cooperatives in a crisis situation, both from the perspective of managers and staff?

The objectives pursued in answering this question are as follows:

SO2.1: To identify advantages and limitations of intercooperative labour flexibility and security policies.

SO2.2: To explore how intercooperative labour flexibility and security policies are applied and perceived differently depending on the geographical location of the business unit.

SO2.3: To shed light on the different strategies of resistance and resilience of worker-members to intercooperative labour flexibility and security policies, both from the perspective of management and staff.

Thus, this chapter aims to contribute to the literature in three ways. First, it aims to contribute to the growing flexicurity literature by analysing the case of a firm and a corporation that have adopted flexicurity policies for more than four decades – even before the term flexicurity was invented. Second, it contributes to the study of the resilience of worker-owned organisations and considers both the managerial and worker-owner perspectives in specific circumstances arising from FED’s crisis and bankruptcy. Third, this study contributes to field of labour geography that explores how labour can shape labour markets, either proactively or through its reaction to the growing precariousness and flexibilisation of work.

This chapter’s main objective is to analyse the lights and shadows of flexicurity policies, based on the case of FED. The aims are (1) to contrast the validity of academic studies that attribute competitive advantages to flexicurity and (2) to analyse its limitations in social matters, shedding light on different agents’ resistance to flexicurity and their strategies to avoid it.

The chapter is organised as follows. The next section offers a brief profile of the case-studied organisation and a review of the literature related to understanding flexicurity policies in Mondragon cooperatives. This is followed by an outline of the research methods and then a summary of the fieldwork results. The final section is devoted to discussion and conclusions.

3.2. Case study context

In 1956 five former students from a technical college in Mondragon created FED to produce heating devices and subsequently other home appliances. Three decades of internal growth made FED Mondragon’s biggest industrial cooperative and Spanish leader in the white goods industry. In 1989 it began a process of external acquisitions with the takeover of Spanish and

European competitors. The biggest acquisitions were those of the Polish firm Wrozamet in 1999 and the French competitor Brandt in 2005 – a company as big as FED itself. In 2006 these acquisitions made FED Europe's fifth largest firm in the white goods sector, employing a total workforce of 10,543. The opportunity to become cooperative members was not given to the workers of its 10 production plants based in six foreign countries.

FED financed its growth strategy through borrowing; and despite the growth of its main markets in the 1996-2007 period, it operated with razor thin margins. When the demand for home appliances in its main markets collapsed in 2008, the company entered a sharp decline that ended in bankruptcy proceedings in November 2013. For a deeper historical review and a broader understanding of the reasons that generated FED's demise, see, e.g., Molina (2012), Errasti et al. (2016), Arando & Arenaza (2018) and Basterretxea et al. (2019b, 2022).

FED was part of the Mondragon Group – this group is comprised of close to 264 firms, 81 of which are cooperatives and have 70,000 workers and a total revenue of 10,000 million euro (Mondragon, 2024). Power, authority and ownership in Mondragon are decentralised in a federal or inverted pyramid organisational structure (Basterretxea et al., 2022). This inverted pyramid structure of autonomous cooperatives that cooperate voluntarily has an impact on how flexicurity policies are implemented.

Mondragon created Lagun Aro in 1958, which is a social welfare system for cooperative worker-owners. The 26,759 Mondragon cooperative worker-owners are registered in the Spanish National Social Security System as self-employed workers, which means they do not pay social security contributions for unemployment insurance, nor do they receive social security unemployment benefits if they lose their jobs. In order to cope with the unemployment risk, Mondragon cooperatives pay fees into Lagun Aro. These fees are then used to pay unemployment benefits, to provide training to redundant worker-owners, to pay early retirement benefits to worker-members over 55 who are difficult to relocate due to poor training, and to reward and encourage cooperatives to relocate workers of over-staffed cooperatives.

3.2.1. Literature on flexicurity and flexicurity measures in Mondragon cooperatives

The main idea behind flexicurity is that labour flexibility and employment security should be mutually supportive and maintain a number of trade-offs, which involve individual workers, groups of workers or entire workforces, business sectors or national governance systems (Wilthagen & Tros, 2004; Bredgaard et al., 2005; Gialis et al., 2014).

This research follows the three flexicurity dimensions framed in Madsen's (2004) Golden Triangle. To delimit the concept of flexible contractual arrangements of flexicurity (first dimension), this study relies on Casey et al.'s (1999) fourfold definition, which states that labour flexibility can be dimensioned in numerical, functional, financial and temporal terms. Regarding security, the flexicurity approach advocates a modern social security system and unemployment benefits that guarantee income (second dimension); and active labour market policies (third dimension), such as lifelong learning strategies, that ensure employability and reduce unemployment periods by facilitating the redistribution of unemployed workers (Alonso Domínguez, 2012).

After appearing unintentionally in Denmark as a set of social commitments between labour market actors and the political system, flexicurity was implemented into German law in 1999 to benefit the most disadvantaged sectors. In 2000 it was incorporated into the European Employment Strategy, within the Lisbon Agenda for growth and jobs (Wilthagen & Tros, 2004). Since 2008 many governments, guided by the European Commission's (2008) 'mission for flexicurity', have adopted flexicurity policies (Gialis et al., 2014; Gialis & Taylor, 2016).

Southern European countries do not meet the institutional, political, socio-productive and welfare conditions of the countries where flexicurity originated. Thus, their implementation of flexicurity policies breaks the proportionality principle between flexibility and security (Fernández-Rodríguez et al., 2012; Gialis et al., 2014; López et al., 2014; Gialis & Taylor, 2016). In these countries flexibility has overwhelmed the concept of security (Alonso Domínguez, 2012), and they are now interchangeable terms (Fernández-Rodríguez et al., 2012).

Among the negative impacts of flexicurity in Southern European countries, researchers consider that it increases temporariness (Alonso Domínguez, 2012), leads to the individualisation of labour protection and increases inequality (Harvey, 2006; Keune & Jepsen, 2007; López et al., 2014; Gialis & Taylor, 2016).

The different flexicurity dimensions have been used by Mondragon cooperatives in different crises. This study presents them individually with their theoretical advantages and limitations.

3.2.1.1. Numerical Flexibility

Mondragon is permitted to have up to 25% of wage labourers in its 98 cooperatives. These firms have grown internationally since the early 1990s without offering employee ownership to employees in subsidiaries (see Mendizabal et al., 2005; Errasti, 2015). Therefore, only 26,759 of the 81,837 Mondragon employees in 2018 were worker-owners. The remaining 67.3% were wage labourers with no ownership rights.

When the 2008 crisis occurred, Mondragon cooperatives initially reduced the number of employees in subsidiaries, selling some subsidiaries and firing – or not renewing the contracts of – many temporary workers in the parent cooperatives (Errasti et al., 2016). Sometimes even successful cooperatives fire or do not renew temporary worker contracts in order to relocate redundant worker-members of other Mondragon cooperatives (Smith, 2001). Annual reports of Mondragon and its social welfare protection system Lagun Aro offer data on the role of external numerical flexibility for the 2007-2015 crisis period. Mondragon reached its employment peak in 2007 with 103,731 employees (Mondragon, 2008) and between 2007 and 2015 this number was reduced by almost 30% to a total of 74,335 employees (Mondragon, 2016). In the same period the number of worker-owners was reduced much less, by 8.1% (Lagun Aro, 2008, 2016), mainly by not replacing retired older members.

With the exception of Kasmir (2016), most of the Mondragon literature overlooks the role of external numerical flexibility (e.g., Albizu & Basterretxea, 1998; Arando & Arenaza, 2018). When presenting other kinds of labour flexibility – such as functional flexibility, relocations or working time flexibility – researchers also overlook that these types of labour flexibility often involve making many non-members redundant.

3.2.1.2. Functional Flexibility and Relocations

Functional labour flexibility is a firm's capacity to employ multi-skilled workers that can fill different positions when needed (Albizu & Basterretxea, 1998). The statutory right to work in Mondragon cooperatives is exercised by considering that a member's main right is the right to employment, while adjusting it to a member's professional competence becomes a subsidiary right (Basterretxea & Albizu, 2010). As a result, each cooperative may internally apply functional mobility of its members in emergency situations or for technological or economic reasons (Albizu & Basterretxea, 1998).

A common solution among cooperatives in the same geographical area or division is the geographical mobility of members from overstaffed cooperatives to others in need of staff, through temporary relocations. Only when the unemployment situation of a cooperative with an excess workforce is irreversible, does Mondragon favour turning temporary relocations into permanent ones (Basterretxea & Albizu, 2010). Functional flexibility and relocations are profusely applied even in times of economic prosperity, thus balancing cooperatives' different staff needs (Smith, 2001; Errasti, 2015; Errasti et al., 2017).

Broader research on functional flexibility and relocations (Martin et al., 2000; Mendenhall et al., 2002; Mignonac, 2002; Sikora et al., 2004; van Dam, 2005) highlights that those processes can generate negative attitudinal responses in employees. The uncertainty particularly created by relocations is highly stressful and creates anxiety (Riemer, 2000) because they can lead to unwanted job changes, a need for retraining, being a greater distance from home or to a change in work environment and roles (Matthiesen, 2005). On the other hand, functional flexibility is often linked to higher satisfaction, mainly when it is combined with job training and job enrichment (Origo & Pagani, 2008). Nevertheless, the literature also considers that functional flexibility can cause emotional burnout, especially in situations of high demand for work or inadequate information (Goudswaard, 2003).

3.2.1.3. Financial or Wage Flexibility

In Mondragon the wage policy is subordinate to employment creation and business profitability. In times of crisis, cooperative firms frequently reduce their members' wages by 10%, 20% or even 30% in critical cases (Basterretxea & Albizu, 2010). In the crises of the

1970s, 80s and 90s, this wage flexibility offered a competitive advantage against its Spanish non-cooperative competitors, see, e.g., Bradley & Gelb (1987) or Logan (1988).

Most studies cited on Mondragon's employment policy tend to remark on the positive effects of wage flexibility on competitiveness (e.g., Elortza et al., 2012; Landeta et al., 2016), largely overlooking the possible negative effects on members' attitudes and behaviours. They also stress that worker-members are the ones that vote in their cooperative's general assembly to reduce their salaries, something that is considered as a clear sign of commitment (Logan, 1988; Cheney, 1999). Salary reductions in cooperatives are easier, researchers argue, since the employer-employee agency relationship is eliminated, therefore avoiding the risk of the principal's opportunism and allowing an internalisation process of workers' objectives into the objective function of a firm (Navarra & Tortia, 2014). The cited scholarly literature focused on Mondragon tends to overlook that the decision and discussion processes of cooperatives voting to reduce their members' salaries are often painful and conflictual (Basterretxea et al., 2022). Some recent studies point to wage flexibility as a factor to explain lower satisfaction and higher sick absence rates among worker-owners than among employees without ownership in some large Mondragon cooperatives such as Eroski (Basterretxea & Storey, 2018) and FED (Basterretxea et al., 2019b).

3.2.1.4. Temporal Flexibility

Flexibilisation of work schedules is a generalised measure adopted by Mondragon cooperatives when their activity decreases in times of crisis (Basterretxea & Albizu, 2010). According to the Displaced and Mobile Work Schedule Regulation (Mondragon, 1998), the cooperative manager – after informing the Social Council (SC) and the workers, and with the approval of the Governing Council (GC) – may reduce working hours or the number of working days per week for its members. In the case of FED, non-worked hours could be accumulated for a maximum of one year. There was an obligation to make up the hours if there was an increase in activity in the following year, with a maximum of 10 working hours per day. If after that time those hours were not made up, Lagun Aro assumed them as unemployment hours. Together with external numerical flexibility, this is cooperatives' first resort strategy in a demand crisis (Basterretxea & Albizu, 2010).

Some Mondragon cooperatives, instead of reducing working hours in times of crisis, opt to increase worker-owners' working hours without increasing their salary (solidary overtime), thus reducing the need for temporary workers. For example, the retailer Eroski approved to increase working hours of its almost 9,000 worker-owners by 10% in 2009 (Basterretxea & Storey, 2018).

While researchers on Mondragon seem to overlook the possible negative effects of working time flexibility, the following broader literature considers them. When voluntary, working time flexibility helps job satisfaction and mental health (Gregory & Milner, 2009). However, this flexibility guided by market needs (Hildebrandt, 2006), together with the risks associated with overtime, disruption of family and social life (Golden, 2015), and intensification of work (Gregory & Milner, 2009) and stress, leads to a negative work-life balance (White et al., 2003). Nevertheless, the Displaced and Mobile Work Schedule Regulation (Mondragon, 1998), to which this study's authors had access, highlights the advantages that this model provides, not only in times of crisis, but also in coping with peaks in demand or seasonal demands, such as those in the fridges unit.

As can be seen, labour flexibility measures can lead to employee disruption due to a firm's perceived breach of contract (Rousseau, 1995). This may reduce their commitment (Black & Lynch, 2004); increase their turnover, absenteeism and performance problems (Basterretxea et al., 2019b); or provoke a defeatist attitude toward work and a greater desire to leave their job (van Dam, 2003). Moreover, the disappearance of work routines due to labour flexibility leads to psychological, physical and social disruption (Brett et al., 1992).

As Origo and Pagani (2008) underline, the impact of different forms of flexible work arrangement on job satisfaction heavily depends on whether they are freely chosen by a worker or whether they are imposed by employers or by contextual factors. As in many other cooperatives (see, e.g., Smith (2001) about La Lega, or Ugarte et al. (2009) about Irizar), flexible work arrangements in Mondragon are decided by worker-members; however, these arrangements are mainly influenced by adverse economic conditions. Mixed effects on partners' attitudes and behaviours are thus expected to be found.

3.2.1.5. Social Security System and Unemployment Benefits

Firms can achieve flexibility without detrimental effects on workers' satisfaction if policies aimed at favouring the use of flexible contracts are coupled with policies aimed at enhancing employment stability (Origo & Pagani, 2009).

Offering employment security to employees increases their commitment, satisfaction, wellbeing and health (Tsui et al., 1997); leads to a better acceptance of relocations and functional flexibility (Ostroff & Clark, 2001); and to an improvement in both their work performance and (indirectly) to firm productivity (Freeman, 1978). Unemployment benefits are among the measures to increase workers' perceived job security (Green, 2009). Providing workers with a long-term employment perspective increases their willingness to invest their time and effort in a firm (Hashimoto, 1981).

Since the creation of Lagun Aro, cooperative worker-owners have achieved very high levels of employment security in exchange for their acceptance of labour flexibility. Several researches confirm that employment security is the single most important satisfaction factor for Mondragon cooperatives' partners (Heras-Saizarbitoria, 2014).

3.2.1.6. Active Labour Market Policies and Lifelong Learning

Functional flexibility required in each cooperative and the relocations among cooperatives both demand a high level of multi-skilled capability from members (Landeta et al., 2016). These members are forced to switch to new tasks as well as to new companies and, sometimes, even to a new business sector; so adaptation is easier when members have gone through solid generic training (Basterretxea & Albizu, 2010). Of the relocations that occurred in the 1980s and early 1990s, mainly workers who had obtained at least second cycle qualifications from vocational training schools were able to become permanently relocated; therefore, Mondragon promoted extensive vocational training programmes to facilitate relocations of members with primary education (Basterretxea & Albizu, 2010; Landeta et al., 2016).

In the case of FED, functional flexibility and relocations have been implemented without adequate training support, as can be seen from the fact that a large portion of FED's workforce had no vocational training (Basterretxea et al., 2019b). This raises the question of

whether it can be called functional flexibility, or whether it should be considered a poor version of it; this question is further discussed in the discussion and conclusions section.

3.3. Methodology

Due to the subject's complexity, this chapter has adopted an exploratory qualitative methodology (Glesne, 2006), like that of the contemporary case study. The study's nature is holistic, instrumental, exploratory and explanatory.

The quantitative information was extracted from a large amount of longitudinal, internal and public data, close to FED's closing period. The most relevant public information was analysed, coming from journalistic and academic articles as well as Lagun Aro (2007-2019) and Mondragon (2008, 2016, 2020) annual reports. Internal corporate FED and Mondragon management reports and regulations were also compiled, for example, the *Absenteeism Report of 2005* (Fagor Electrodomésticos, 2006) or the *Displaced and Mobile Work Schedule Regulation* (Mondragon, 1998).

The qualitative data was obtained from field work based on 40 in-depth interviews with a representative and reliable pool of FED internal and external stakeholders during its fall and in the relocation stage. Theoretical, purposive and snowball sampling (Patton, 2002), in addition to the recommendation of or allusion to the interviewees, were used to define the sample. Unlike other research that has focused solely on a manager's opinion, these interviews included contributions from 20 former senior FED managers (3 GC representatives and 2 SC members); 13 worker-owners (4 leading SC representatives and 6 members of platforms of those affected by FED's closure); a senior union official who supported non-owner workers through the collapse; 3 senior managers from Mondragon headquarters; 4 senior Basque Government officials responsible for industrial policy; and a researcher from Mondragon University. This increases the richness and reliability of the information collected (Miles et al., 2014), covering the various interests at stake (Glesne, 2006).

A semi-structured script was developed based on the conceptual framework studied, and it was modified as the field work progressed (Denzin & Lincoln, 2008). To obtain more feedback from the interviewees, key quantitative data and input from previous interviewees

were presented to them. The interviews lasted between 90 and 170 minutes and were recorded and transcribed verbatim. The study's uniquely academic motivation, the diversity among the interviewees and their anonymity were guaranteed, thus avoiding the participants' organisational silence (Morrison & Milliken, 2000) and social desirability (Nederhof, 1985). Possible methodological biases related to the catharsis involved for the interviewee to deal with a traumatic experience were considered (Heras-Saizarbitoria, 2014). The data collection from the fieldwork ceased at the theoretical saturation point, when the marginal contribution of each interview began to decrease (Miles et al., 2014).

The diversity of information sources guarantees the factors' validity and led to contextualisation and interpretation of the case through abductive reasoning, with an interactive compromise between empirical material and theory (Sinkovics & Alfoldi, 2012). The information was triangulated and analysed as suggested in the literature (Miles et al., 2014), through an iterative process of categorisation, interpretation, discussion and explanation (Glesne, 2006). An inductive analytical approach was used with great potential for qualitative content analysis of the collected data (Glaser & Strauss, 2017). Key findings were synthesised and representative passages and quantitative descriptive figures were included to better illustrate the object of study. Internal validity is ensured by shared patterns explaining the event. As recommended in the literature (Gibbert et al., 2008), in order to increase the reliability of the study's analysis of the interviews, one peer (who was not a co-author) independently analysed the interview transcripts and discussed and reviewed the draft chapter. With the same purpose in mind, a draft review was also made by a key informant in April 2020.

3.4. Results

In the following sections the advantages and limitations that flexicurity has had in dealing with the management of the surplus of FED partners are addressed. The results are divided into the pre (2005-2013) and post (2014-2019) FED closing stages.

3.4.1. Flexicurity before FED closure

3.4.1.1. Numerical Flexibility

External numerical flexibility differed according to the different categories of workers employed by FED.

FED reached its worker-owners peak in 2004 with 3,520 members. Between 2004 and 2013 this number was reduced by almost 50% to a total of 1,895 members (Basterretxea et al., 2019b). This reduction was achieved mainly through not replacing retired members and promoting early retirement. Since 2010 the early retirement age decreased from 61 to 58. Many interviewees consider early retirement as a precarious measure. Lagun Aro offers 80% of the salary to those members affected by early retirement. Given that salaries were cut by 20% in the years leading up to the firm's closure, members who were affected by early retirement are receiving 64% of the salary they earned before the crisis began.

There was no union representation of temporary workers in the parent cooperative and given that the majority of them wanted to become members, they were usually docile and quite uncritical when demanding their rights as workers (Amado-Borthayre, 2009). Therefore, not renewing their contracts in Basque factories was less conflictual than in nearby large unionised investor-owned firms.

The peak of employees without ownership rights (7,150) was reached in 2006 after the acquisition of the French competitor Brandt. In 2012 only 3,606 remained, most of them in French and Polish subsidiaries. Other FED production plants around the world in 2013 are shown in Figure 3.1. For more information on FED's organisation chart, see Basterretxea et al. (2022).

Interviewees highlight that FED's plans to cut jobs at the French subsidiary Brandt were difficult to implement. Brandt's union culture and French labour legislation were unanimously cited as factors that slowed projected adjustment plans and made them much more expensive. Conflicts, work stoppages and strikes across Brandt facilities happened whenever jobs were at stake (Errasti et al., 2016; Kasmir, 2018). Despite union opposition, close to 2,300 job losses happened in Fagor-Brandt in the 2006-2013 period, via layoff proceedings, non-renewal of temporary contracts, natural and early retirements, agreed

Figure 3.1. FED's production plants in 2013.



FED had a 30% equity participation in another production plant in Shanghai (China).

Source: Own elaboration with data gathered from interviews.

withdrawals, dismissals and the transfer of production plants to other firms (Errasti et al., 2016).

French unions sought solidarity with FED's SC members to prevent layoffs and to create integrated trans-spatial strategies of resistance, as unions often do in different sectors (see Gialis & Herod, 2014). They soon found that solidarity was impossible. The special labour agency of FED members, given their dual condition of workers and owners, impeded collaboration.

French unions called me to a meeting in which they proposed to have a relationship with us. I was honest and told them we couldn't have a conventional union relationship because I was a partner. I took part in the decision to buy Brandt. So the relationship that I was going to have with the French union was that of a (owner)

member. I told them: 'I can't share information with you because I have a conflict of interest, and I'm going to defend the Mondragon jobs. And if at any given time a Brandt factory has to be closed, however hard it is, it will be closed before a Mondragon one'. [SC Member]

When FED implemented an adjustment plan in its Polish subsidiary in 2008, efforts of the Polish union Sierpen 80 to develop trans-spatial solidarity actions were also rejected by FED's worker-owners, who sought to defend jobs in Mondragon (see also Errasti et al., 2016; Kasmir, 2018).

3.4.1.2. Functional Flexibility via Relocation

Even before the 2008 crisis, some FED business units were running at a loss (Basterretxea et al., 2022). In 2005 losses of the business unit producing fridges reached 14.5 million euro; the washing machines unit lost 6.4 million and the dishwashing machines unit 4.2 million (Fagor Electrodomésticos, 2006). A FED manager and SC and GC member reports that heavy losses in the fridges unit forced the company to reduce this unit's staff from 903 workers in December 2005 to 375 in June 2008. These redundant members were relocated to other units and other nearby Mondragon cooperatives. The interviewees in this study highlight that those early relocations and other measures to try to make the fridges unit profitable again were decided by a committee of 70 fridges unit worker-owners. This democratic decision making, and the fact that most relocations of the 2006-2008 period took place in other cooperatives of the same Mondragon town, diminished worker resistance to relocations. Instead, the massive relocations of the 2010-2013 period were slower than planned because of the working member resistance to them. Several interviewees, from managers to SC members, agree that this strong resistance was because many members experienced relocations 'as a drama'. There were four main reasons for this: (1) a culture with a high sense of belonging to each business unit; (2) fear of uncertainty and routine change. Fear was greater when worker-owners were relocated to very different tasks in distant cooperatives that asked for longer commuting time and worsened their work-life balance;

People were alarmed, they said: 'Damn it! My life is going to fall apart! I make fridges. I know what I do. I know how to do it. And now what are they going to do with me? [...] Are they going to relocate me to another cooperative and to a different job? [...] How am I going to do that? Will they respect my schedule? I have young children!' or

'I'm 55 years old and now I have to learn other new jobs? What's going to happen to me?' That's what I sensed, that was the fear, the restlessness. People didn't internalise that 'I have to go where the work is' almost until the end. [...] From the SC we also put up barriers to relocations. They were our last option. [SC Member]

(3) the fact that, according to the interviewees, most FED worker-owners never thought the firm could go bankrupt and assumed Mondragon Corporation would never allow its most important industrial cooperative to fail. This false sense of security reinforced individual and collective resistance to relocations; and (4) the fact that when many supervisors had to decide who was to be relocated, they maintained their team's best performers and relocated those worker-members with worse performances. Thus, being named for relocation created a negative stigma.

This kind of attitude was the natural way for members to protect themselves from the ploys of the management to declare relocatable the one they did not like. [FED Manager and SC and GC Member]

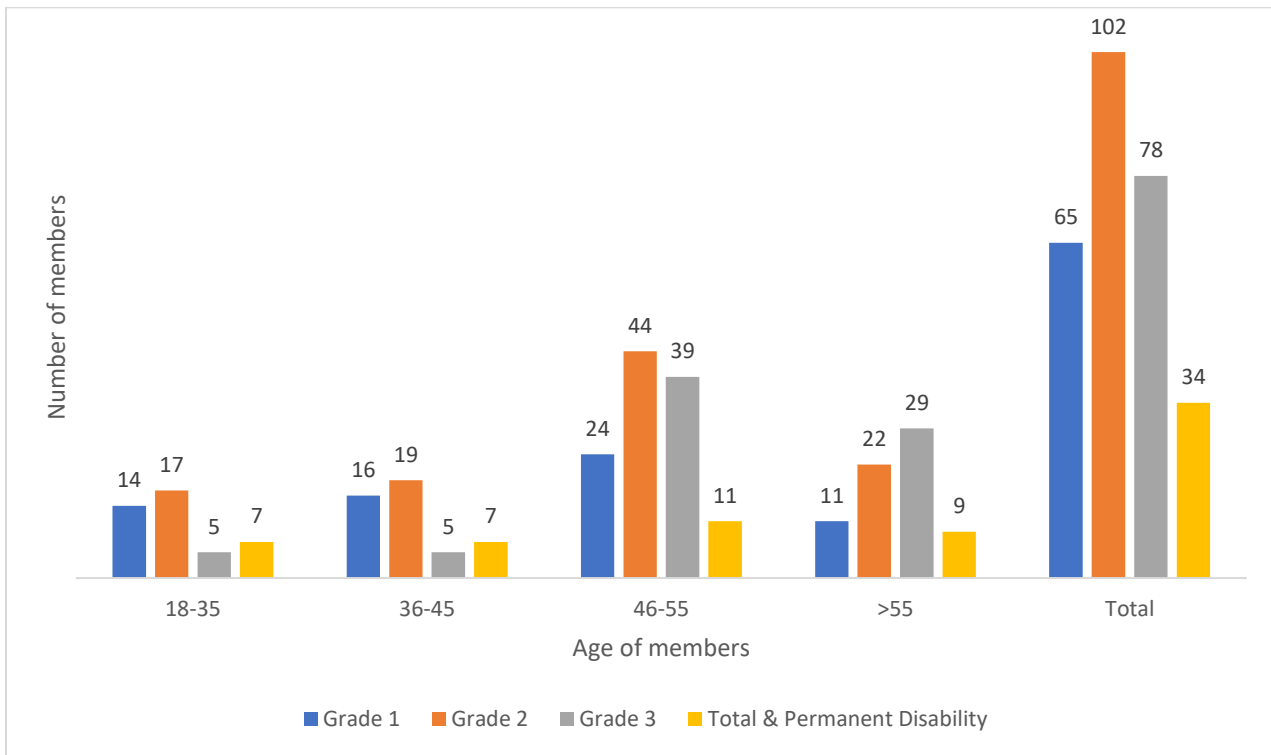
Besides active resistance to relocations through worker-owners' representatives in the SC, multiple individual acts of resilience (Katz, 2004) slowed down the relocation process.

Some members avoided being relocated to other cooperatives on the grounds of a work disability. In 2005, 279 FED members (8.1% of the total) had a work disability (Figure 3.2). According to plant managers and HR managers, this made relocations difficult. The percentage of members with any kind of disability almost doubled to 15.6% in 2013. According to the interviewees, those percentages were much higher among blue-collar worker-owners.

FED's internal medical service was responsible for evaluating worker-members' disabilities and for providing internal medical documents acknowledging a disability that prevented them from performing certain jobs. These documents were used internally and were unofficially known as *papeles médicos*; they are often mentioned in the interviews.

The high levels of worker-owners with a disability are partially explained by the FED recruitment policy social goals that explicitly promoted the integration of disabled candidates. There is nevertheless an almost unanimous opinion among the interviewees about the hidden fraud behind the use of *papeles médicos* as a barrier against functional flexibility,

Figure 3.2. FED partners with disabilities by age group in 2005.



Source: Own elaboration with data from Fagor Electrodomésticos (2006).

relocations and flexible schedules. Interviewees also criticise that the internal medical service granted these disability recognitions too easily.

When everything started to fall, they asked for *papeles médicos*. [...] ‘Am I going to be relocated? I’ll say I’ve got tendinitis; I’ll go to the factory doctor; he’ll sign me a *papel médico*, and I will elude relocation. How are they going to relocate me where there’s a vacancy if I’m not going to be able to work? [...] They will assign me some simple tasks and then another member will be candidate for relocation’. What culture is being generated, especially at the workshop level? Well, the next candidate says: ‘Me too!’, ‘The last one is a rotten egg!’. [SC Member]

Interviewees also describe a culture of relocation denial that forced the HR department to relocate partners from more profitable lines:

When trying to relocate partners from deficit lines, you reached a point where you had got to the bottom of the matter. You had already removed [from the list of relocations], those who could retire, those over 55 and those who had taken the reduction in working hours who could not be relocated by regulation. So you had to relocate partners from other lines or chains that were profitable. [FED Manager]

The percentages of members with *papeles médicos* were higher among the direct workforce and in some specific business units. A FED manager and SC and GC member reports that during the first relocations, between 2005 and 2006, 35% of the direct workforce in the fridges unit had *papeles médicos*. These members could not be easily relocated to other tasks and business units, let alone other cooperatives.

According to a SC member, the number of members with *papeles médicos* became such that a section known internally as *Txagorritxu* (the name of a large hospital near Mondragon) was set up with non-relocatable members who carried out simple tasks at a loss.

When FED was closed, more than 250 partners had some kind of disability to work, what we called here *papel médico*. So sometimes we just made up positions for that kind of person. There were loss-making simple assembling and disassembling sections for these people, and those sections got larger and larger. [FED Manager and SC and GC Member]

As previously analysed by Basterretxea et al. (2019b) absenteeism rates increased significantly in the last two decades of FED's history, from 4% until mid-1990s to 8.8% in 2010. Sick absence increased significantly in 2009 and 2010 when the firm was implementing massive relocations. According to some interviewees, sick absence was also a way for many members to avoid relocations.

Another barrier some members used to avoid being relocated to other cooperatives was to adhere to FED's *Law on the Reconciliation of Family Life and Work*. When the application of this regulation caused changes in relocation candidates' working hours that the receiving cooperatives could not deal with, candidates remained in their home cooperative.

Many partners chose to reduce their workday when they started seeing storm clouds ahead. When there were rumours of people being made redundant, many said: 'No, I'm taking care of my children. I'm only going to work four hours and that will exempt me from relocation'. [SC Member]

Some interviewees stress that relocation policies were also offered to managers. Firing or demoting underperforming managers or those who repeatedly made poor investment decisions was very difficult because they were cooperative members. Many rank and file interviewees criticise that even these managers, with the most responsibility for FED's

failure, were the first to be relocated to other cooperatives and even promoted to higher positions in Mondragon, where their performance often remains low.

3.4.1.3. Financial or Wage Flexibility

FED members agreed to stop receiving interest and extraordinary payments and to reduce their salaries progressively. As Basterretxea et al. (2019b, 2022) highlight, the debates on salary cuts in annual general assemblies were highly conflictual and often members voted against reducing their wages or voted in favour of reducing them by steady margins. Nevertheless, salaries were reduced year by year until reaching a 20% salary decrease in May 2013.

There was a kind of unwritten social pact which said: 'I accept salary cuts as an effort, but here there is no lack of work, here nobody gets the sack [...] and nowadays that's a privilege that nobody has'. [SC Member]

In a sign of high intercooperation and solidarity, cooperative members of another 110 Mondragon cooperatives voted in May 2013 to reduce their salaries in order to award a 70-million-euro loan to FED. Consequently, most of these cooperatives' worker-members reduced their salaries by 1%, while the Fagor Group cooperatives' reduction was by 6.48%.

Wage flexibility usually affects worker-members at parent cooperatives and does not apply to wage labourers in subsidiaries. That was not the case in FED's Polish subsidiary, Wrozamet, where a reduction of wages was agreed in 2008. Wage cuts were negotiated with the union Solidarity but generated strong opposition from Sierpen 80, strikes, conflict and labour unrest (Errasti et al., 2016).

3.4.1.4. Temporal Flexibility

It is noticeable that the use of flexible calendars became the flexicurity tool that received most support from FED members and the SC between 2007 and 2013. According to the regulations in force, Lagun Aro covered 80% of the salary corresponding to the hours not worked and not subsequently made up (Bradley & Gelb, 1987). In the 1970s, 80s and 90s crises, flexible schedules had been a source of competitive advantage for cooperatives because members recovered the hours not worked in the months and years after the crisis, see, e.g., Whyte & Whyte (1988) or Clamp (2003). That was not the case this time; the

prolongation and deepening of the crisis from 2007 until the disappearance of the company in 2013 meant that the hours not worked (but paid) could not be recovered in following years. Some interviewees point out that some business unit partners, such as those of Fagor Mueble, owed more than 1,000 hours of work per capita. Working time flexibility should be used to alleviate transitory difficulties, not to perpetuate a firm's structural problems, interviewees argue.

We voted to reduce our working hours, close the factories two weeks in Easter instead of one, 45 days in summer instead of one month, or even not to work on Fridays for a whole year. Those non-worked hours were paid even if we were often unable to make them up. These working time flexibility measures are fine as a solution for short crises like the ones in the past. But for one as long as this it is a mistake because you are just postponing a decision you have to make, because otherwise these measures will lead to closure and vitiate people. [SC Member]

3.4.2. Situation of flexicurity after the closure of FED

In October 2013, the 5,600 workers that remained at FED fell into three categories: 1,895 worker-members and 200 temporary workers on short-term contracts in Spain, and 3,500 workers in international subsidiaries.

The different agents (former FED members, host cooperatives, Mondragon Corporation and Lagun Aro) took different positions and measures to protect FED's 1,895 unemployed members. In contrast, the jobs and incomes of temporary workers and subsidiary employees were unprotected. Foreign subsidiaries were closed or were bought by competitors (Cevital bought Brandt and Bosch-Siemens bought Wrozamet) only to reopen with severely reduced workforces (see also Kasmir, 2016; Errasti et al., 2016).

3.4.2.1. Mondragon's Protection of Former Members

Mondragon prioritised the management of partners' positions and designed an immediate action plan.

Social security system and unemployment benefits of Lagun Aro

Fees to cover unemployment in Mondragon cooperatives have been historically lower than the fees conventional Spanish firms contribute to the National Social Security, providing a

long-term competitive advantage via lower social costs over capitalist firms (Whyte & Whyte, 1988; Ormaechea, 1998; Basterretxea & Albizu, 2010). Before the crisis, in the 2000-2007 period, the Mondragon cooperatives' unemployment insurance fee remained at an average of 1%, far below the 7.05% unemployment insurance fee for workers affiliated to the Spanish National Social Security System (Basterretxea & Albizu, 2010). As Table 3.1 shows, this competitive advantage has narrowed since the 2008 financial crisis, and, particularly, since FED's bankruptcy in 2013.

Table 3.1. Unemployment payments and benefits in Mondragon (in thousands of euro).

Year	% Fees	Fees	Interests	Benefits	Annual balance	Accumulated balance
2007	1.00%	6,635	1,690	3,226	5,099	68,067
2008	1.00%	7,023	1,869	7,448	1,444	69,511
2009	1.00%	6,992	1,261	23,209	- 14,956	54,555
2010	2.00%	11,909	167	18,043	- 5,967	48,588
2011	2.00%	13,812	86	21,492	- 7,594	40,994
2012	2.00%	13,742	1,193	19,006	- 4,071	36,923
2013	3.00%	18,712	1,559	30,438	- 10,167	26,756
2014	6.50%	43,831	325	43,502	654	27,410
2015	6.50%	43,687	134	32,528	11,293	38,703
2016	6.50%	43,783	469	25,666	18,586	57,289
2017	6.00%	41,640	1,659	23,150	20,149	77,438
2018	5.50%	23,415	- 1,150	22,265	-	77,438
2019	5.50%	38,350	2,770	21,870	19,250	96,688

Source: Own elaboration with data from Lagun Aro *Annual Reports* (2007-2019).

In the previous crises of the 1980s and 1990s, relocations and flexible calendars were prioritised, and early retirement was the last resort due to its economic impact (Bradley & Gelb, 1987; Landeta et al., 2016). That was not the case in the 2008-2015 crisis. Due to the

Taylorist production systems at FED, training requirements for basic blue-collar positions were scarce and hundreds of FED worker-members did not have a vocational training qualification (Basterretxea et al., 2019b). A result of this has been that relocations to other cooperatives have been difficult, especially the relocation of older members. Thus, as Table 3.2 shows, early retirement is the biggest cost of Lagun Aro's employment policy between 2007 and 2019. The second most costly measure is that of unemployment benefits and benefits for those members affected by flexible schedules who were unable to make up hours not worked. In opposition to previous crises, voluntary redundancy of members has been promoted with more than 13 million euro.

Table 3.2. Expenditure in Mondragon flexicurity and employment policy benefits 2007-2019 (in thousands of euro).

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
Unemployment & flexible schedule benefits	201	3,236	10,745	1,021	4,882	2,887	11,280	15,415	5,023	3,448	1,892	2,024	2,573	64,627
Temporary relocations	299	376	2,191	2,778	1,423	1,464	2,229	7,160	6,597	5,076	4,756	5,347	5,188	44,884
Permanent relocations	609	109	297	607	3,919	3,150	5,695	6,065	1,433	3,639	4,805	5,174	5,486	40,988
Early retirement	1,985	3,263	9,015	10,520	10,881	10,682	10,261	14,594	14,662	12,472	11,126	9,057	6,850	125,368
Severance pay	132	464	961	3,117	437	823	973	169	4,605	855	439	608	1,758	15,341
Vocational retraining plan	-	-	-	-	-	-	97	97	198	177	133	56	10	768

Source: Own elaboration with data from Lagun Aro Annual Reports (2007-2019).

In addition to relocating members in other cooperatives, 350 former FED members were hired in 2014 by a Spanish competitor, CNA-Cata, that continued to produce white goods products in some of FED's former factories and to use the Fagor brand (Arando & Arenaza,

2018). CNA-Cata failed to make this relaunch profitable and most relocated worker-members re-joined Mondragon in 2017 and 2018.

Arando and Arenaza (2018) used data on the number of former FED members affected by different flexicurity measures to highlight the adequacy of these policies in providing solutions for redundant former FED members. Through information gathered from several interviews, we see how, by early 2021, flexicurity had provided a response to 1070 former members in terms of relocations, and to 881 former members in terms of retirement, early retirement, voluntary redundancies or unpaid sabbatical leaves.

To make relocations possible, Mondragon created an employment office and an instrumental cooperative, called Udalaiz. The employment office was represented by members of the Mondragon HR department, the FED personnel department and a Lagun Aro representative. Its tasks were to (Arando & Arenaza, 2018):

- Classify unemployed partners based on their attitudes and skills.
- Analyse the supply and demand for employment in the cooperatives and look for jobs that match these partner profiles.
- Create jobs in other cooperatives and new value-added activities, such as the after-sales service cooperative Sareteknika in October 2014, which employed 21 former FED members.
- Encourage the relocation of members with social, functional or training problems through retraining programmes and the subsidy of their salary costs subject to their consolidation.

The instrumental cooperative Udalaiz was established at the end of 2014; it welcomed former FED members as its own members, allowing them to receive their payroll and the aid from Lagun Aro. In addition, it manages relocations by administering the curricula vitae and histories of the members and assigns them to the cooperatives that require workers (Arando & Arenaza, 2018).

Perception of former FED partners toward the protection of Mondragon and the consolidation of intercooperation

Thanks to flexicurity measures, only 56 former FED members remained unemployed in early 2021. Far from being critical of some aspects of the flexicurity measures in general, and relocations in particular, most interviewees highlight that those measures are much better than unemployment:

I've lived through a company closure and haven't been unemployed at all. I haven't missed a single month. [...] I've been able to feed my family. [...] I have not gone through 700 interviews. [...] Before the closure of FED I went to the personnel department and asked if they needed people in another cooperative of Mondragon. They said: 'Of course, give me your CV'. [...] They interviewed me at the other cooperative and I went in the first time. That's a strength. [SC Member]

The interviewees also highlight that high levels of intercooperation among Mondragon cooperatives have helped to mitigate the social cost of FED's bankruptcy.

Some interviewed managers consider the flexicurity policies and their results as a complete success story, which is in line with previous researchers such as Arando and Arenaza (2018). Nevertheless, many interviewed rank and file worker-owners, their representatives in the SC and also several middle line managers are much more critical. They highlight that by early 2021, more than seven years after FED's demise, about 40% of the mentioned relocations were still of temporary basis.

There is a lot of demagoguery about this in Mondragon, they say: 'We have provided a solution for 2,000 workers.' But many solutions have been early retirements, voluntary leaves. [...] The number of definitive relocations is not that great. It is not enough to be proud of or to say in a press conference or an interview that 'the Mondragon cooperative system is strong and powerful because it has managed to relocate all those who have left FED'. [SC Member]

In addition, a SC member criticises cases where, if a former member – due to the delay in their relocation – finds work outside the Mondragon Corporation, Udalaiz notes it as a new success story.

The interviewees point out the existence of worse working conditions in the host cooperatives for those temporarily relocated members, who feel as if they are working for a temporary employment agency:

Being the Temp Agency of Mondragon is not a solution. Maybe it's a better solution than staying home unemployed, but you can't say it's a solution. [FED Manager and GC Member]

There is a great feeling of unhappiness among temporary relocated former FED members. The Mondragon cooperatives that temporarily relocate them think: 'I don't have the obligation to consolidate you in my staff. I have you as a temporary employee and if tomorrow the workload goes down, the day after that you ain't coming', as in any Temp Agency. [...] Inertia leads to giving the worst jobs to relocated partners. [SC Member]

Many former FED members are relocated for several months to one cooperative, then are unemployed for several months, and afterwards are relocated to the same or an alternative cooperative. Interviewed relocated members fear that many members will consume the maximum two-year unemployment benefit that Lagun Aro provides.

If you are relocated temporarily for six months and you are unemployed for another three months, it is like *Chinese water torture*, little by little, one day you have wasted the two years. [SC Member]

Some of the interviewees have been temporarily relocated for up to six years in the same cooperative. They argue that relocated members suffer underpaid inequity, often they do not receive salary increases linked to performance evaluations and also suffer inequities when it comes to sick absence and overtime pay.

Some permanent solutions, such as pre-retirement and early retirement, are also criticised by interviewees, given that they suppose a sharp reduction of income.

3.4.2.2. End of Former Partners' Resistance to Relocations

The interviewees consider that after FED's fall, there was a change in the scale of values of many members who had previously resisted relocation. Likewise, Lagun Aro began to sanction, with a three-month cut in salary, any former partner who refused to be relocated.

Interviewed managers point out that many members who had used their *papeles médicos* and their supposed disability to avoid relocation, voluntarily asked to have their *papeles médicos* removed. Udalaitz also commissioned an external medical team to analyse all partners who had a recognised disability at the closure of FED to see which ones had a real limitation that prevented them from being relocated.

When FED was closed, we had more than 250 members who could not work, and one of the first decisions we made was to have an external medical check-up. [...] After that medical examination, the number of members who really had some kind of disability went from 250 to 51. [...] This is a fact that tells a lot of things. [FED Manager and SC and GC Member]

80% of the members who claimed to have a disability have experienced a *miraculous cure*, and I'm very happy that now they have another approach to life! People who for many years said they couldn't do many jobs, now do any job, any shift. [FED Manager]

3.4.2.3. Barriers of other Cooperatives to Relocation after FED's Fall

Senior managers and SC members expose a resistance to the consolidation of temporary relocated members into permanent ones by some host cooperatives. The main reasons for this are summarised below.

Fear of loss of staff flexibility

Many interviewees underline that staff flexibility is an important argument of other cooperatives which are not willing to consolidate temporarily relocated FED members into their workforce:

Uncertainty is the main issue. Many Mondragon cooperatives have workload problems. The fall of FED helped them to understand that they have to be very careful when increasing staff and there is such a psychosis [...] So for them it's worth having a temp worker instead of a consolidated member. [SC Member]

Dismissal of temporary employees

According to managers and SC members, Mondragon's request to the cooperatives to give unemployed former FED members the vacancies covered by temporary employees and candidates for membership has generated some situations of rejection in the receiving cooperatives.

Imagine that your son is 20 years old and has studied mechanics. He can't find work in the area, so you think: 'He may get hired in the cooperative because there's a place for him [...]'. And then you are told: 'Your son's gonna stay out of the cooperative because we're gonna host a relocated FED member'. Then you say: 'Relocated members suck'. This is very easy to perceive. I've been relocated for almost seven years now, and I still have to hear these things. [SC Member]

Some successful cooperatives demand to cover only half of their eventual positions with FED relocated members and to keep the other half free for their eventual workers. A manager in one of these cooperatives justifies this:

In many host Mondragon cooperatives, relocations have not created jobs, but have changed their nature. [...] Relocations are our commitment to Mondragon. [...] But we also have a commitment to the region where our cooperative is located, where there are unemployed people. That has to make the difference. [Mondragon Manager]

Negative attitude of former FED partners

FED suffered high absenteeism levels for a long time and a complacent culture made shirking easier for many members (Basterretxea et al., 2019b). The poor perception that many members of other Mondragon cooperatives had about FED's culture has made relocations more difficult. A manager of a cooperative relocating many former FED worker-owners illustrates it:

We have had our very, very big doubts and suspicions about the people coming from FED. We've met some very good people and some very bad people. We have expelled 11 relocated people from FED because they were not meeting minimum commitments. Some cases have been very representative of the 'FED Model', like a member faking sickness absence. [...] They would do that at FED anyway, but not here. [Mondragon Manager]

From the other perspective, former FED SC members have spoken about their perception of being rejected in other cooperatives where they have been relocated to:

We have just closed down a company, and on top of that we have asked the whole Mondragon Corporation for money, we have indebted other cooperatives, [...] everything in vain, finally closing down FED. We were in meetings [with members of other cooperatives] and people said: 'These fucking FED members, they have closed one company and now they are coming here to close another one. [...] Fucking relocated people, why don't they go home? [...] And, besides, they come here now to

take our jobs? [...] We don't want suckers here'. [...] So you have a stigma on your back for being relocated and not being like them. [SC Member]

Interviewed former middle-line technicians and managers have found it easier to get a permanent relocation in other cooperatives. They nevertheless share the idea that many former FED members, mainly in blue-collar positions, have not been well received in many cooperatives. Some managers criticise that other Mondragon cooperatives are blaming former FED members and their attitudes as an excuse to not relocate them.

Low educational profile of former FED partners

Given its Taylorist production chains, FED employed many low skilled worker-members (see Basterretxea et al., 2019b). Low education requirements made it easy to relocate other cooperatives' worker-owners in the 1980s and 1990s crises:

In the 1990s [...] hundreds of relocated people arrived at FED from other Mondragon cooperatives on buses, [...] people whose training was not evaluated. The last and largest relocation station was FED because it had assembly lines, and in the chains any trainee is able to work with a little help and skill. [Mondragon Senior Manager]

The same low training requirements, which made FED a good company to relocate other overstaffed cooperative members to in the past, became an impediment to relocation when FED was the overstaffed company. According to interviewed FED managers, six years after the fall of FED, approximately half of the former members who were still temporarily relocated had no vocational training and many had no compulsory secondary education. This undermines the foundations of functional flexibility and prevents members from aspiring to permanent relocation in many Mondragon cooperatives.

Many former FED worker-members have been reluctant to take part in vocational training courses. This reluctance has been perceived even by interviewed Basque Government officials, who offered vocational training programmes to FED members when the company went bankrupt:

We met with FED's SC and [...] what surprised me most was that [...] when we mentioned the importance that training has for the success of the relocations, people were reluctant. Although they can be relocated to a job and there may be a plan to improve their training, it seems like they don't want it. [...] Even though it is beneficial to both them and the cooperative. [...] In addition, we saw that there were people

with very low qualifications, and a strong relocation effort was needed, together with institutions such as Lanbide (Basque Employment Service). There was a big problem with this. [Senior Government Official]

Mondragon's response

Mondragon and Lagun Aro do not have executive authority to impose relocations, thus relocation policy depends on the goodwill of the cooperatives that have vacancies (Arando & Arenaza, 2018). As Table 3.2 shows, besides relying on goodwill, Lagun Aro gives important economic incentives in order to increase permanent relocations.

According to interviewees, Lagun Aro pays 82,000 euro to its cooperatives for each temporary relocated member who is older than 50 and who is offered a permanent relocation; the aid amount is 66,000 euro if the member is younger than 50. This is all under the condition that, if the activity of the receiving cooperative does not sustain the employment of its members, the first to leave may be the last to be relocated, at no additional cost. Even so, the already mentioned fear of the loss of flexibility in the workforce leads many host cooperatives to reject the agreement.

In 2013 Mondragon and Udalaiz, with funding from the Basque Government and Lagun Aro and through agreements with their training centres, also provided vocational retraining for 340 former FED members with permanent relocation difficulties because of low or inadequate qualifications (TU Lankide, 2015). Arando and Arenaza (2018) expose that this plan was preceded by one to obtain the compulsory secondary education diploma. The objective was that these former partners could obtain an official degree in mechanics or mechatronics – studying four hours, from Monday to Thursday during a three-year period – in order to achieve permanent relocations. Lagun Aro facilitated the leave of absence with a single payment protection. In addition, the training hours had an impact on unemployment benefit and 50% of these hours were returned once the training was completed. During the 2014-2015 academic year, only 52 of the aforementioned 340 former FED members agreed to enrol in the first course of the educational programme. In the 2016-2017 academic year, only 35% of these 340 members took the training, among which 41 were already in the third course (Arando & Arenaza, 2018).

However, according to interviewees, these measures should have been taken before FED's closure. Other cooperatives in the Fagor Group took interim HRM measures as early as the 1980s.

When their training plans are something they establish when there is no other solution, they don't work. [...] It had to be done long before FED was in trouble, when the problem started to show. [...] Now, if they propose a training plan to me from Udalaiz, in my receiving cooperative they will say: [...] 'You are not my partner, [...] I don't give a damn if you study or not, fend for yourself to study, do it in your free time. Now, do I have to give you free time? No, not at all'. Udalaiz proposes that you stop working and start studying, but you lose your job. They help you; they make things easier for you, but it is still a risk to start studying. [SC Member]

3.5. Discussion and Conclusions

This chapter adds evidence, at a corporate analysis level, to the studies that link poor implementation of flexicurity policies and increased labour market precariousness (Alonso Domínguez, 2012; Fernández-Rodríguez et al., 2012; Gialis et al., 2014; Gialis & Taylor, 2016). In fact, some flexicurity policies applied to face FED's crisis – temporary relocations seven years after the firm's closure, long-term wage cuts, or functional flexibility and relocations of workers without proper multi-skill training – could be labelled as *flexiprecarity* (López et al., 2014).

FED's case also shows that the negative effects of flexicurity policies on satisfaction and commitment increase when these measures are driven by contextual factors, consistent with previous research (Origo & Pagani, 2008).

As in the past, Mondragon's flexicurity mechanisms have helped to lessen the employment crisis effects generated by FED's collapse. Nevertheless, the findings of this research suggest that the competitive advantages flexicurity gave to Mondragon cooperatives have been significantly reduced since the 2008 financial crisis.

The long-term competitive advantage via lower social costs (Whyte & Whyte, 1988; Ormaechea, 1998; Basterretxea & Albizu, 2010) has been diminished. The fees that Mondragon cooperatives pay to finance unemployment coverage have grown significantly and are, nowadays, close to the fees non-cooperative competitors pay to the social security system. The types of benefits have also changed. Almost three quarters of the benefits paid

in the 2008-2015 period have been devoted to goals that do not offer greater labour flexibility: unemployment benefits, early retirement and severance pay for voluntary redundancies.

In the 2008 financial crisis and in the pre- and post-failure of FED, relocations have been more difficult because the crisis affected many cooperatives in different industries at the same time. Furthermore, a large part of FED's workforce was difficult to relocate. Many older redundant members with low vocational training certifications were offered early retirement. Flexible schedules did not offer the same competitive advantage of the past either. In fact, a great part of the unemployment benefits paid in the 2007-2018 period was paid to cooperative members affected by flexible schedules who were unable to recover non-worked hours. Flexible schedules work well and give competitive advantages in short crises, when hours not worked can be easily made up in following months. In a long crisis, such as the one that affected FED from 2007 to its demise in 2013, flexible schedules act as a way to delay harder decisions and perpetuate a firm's structural problems.

Conventional Spanish firms' labour flexibility, which has increased since the 2012 Spanish labour market reform (López et al., 2014), also explains why flexicurity policies are less important sources of competitive advantage for Mondragon than in former crises.

These findings also add evidence to the growing body of labour geography, by studying how workers can play important active roles in shaping the way labour markets function and in refusing worse employment conditions. This is accomplished by analysing the role of FED's three-tier spatially segmented workforce – worker-members in the Basque country, temporary workers in the Basque region and in Spain, and wage labourers in international subsidiaries.

Drawing on Katz's (2004) disaggregation of agency into acts of resistance, reworking and resilience, FED's wage labourers in international subsidiaries resisted external numerical flexibility measures through trade union collective action, work stoppages and strikes. The French and Polish unions' efforts to escalate conflict and develop French-Spanish or Polish-Spanish solidarity actions against austerity and downsizing measures failed. The study findings show that developing trans-spatial solidarity actions between traditional unions and workers' representatives in cooperatives is unfeasible given the special labour agency of worker-members.

In contrast with previous research on Mondragon flexicurity policies, this research shows that, in the specific case of FED and the context related to its fall, there is a strong resistance to relocations and functional flexibility. There were many reasons why former FED members resisted functional flexibility and relocations before the company's demise: strong sense of belonging to the business unit they had been working for historically, fear of uncertainty and change of routines, false sense of security and the need to avoid the stigma of being relocated.

The response of worker-members to austerity measures differed significantly from that of wage labourers in foreign subsidiaries, since they were the ones who voted in favour of labour flexibility measures in the general assembly and cooperative regulation forbids strikes over workplace grievances. Active agency resistance actions took place in the various general assemblies where austerity measures decisions were made. The SC also actively opposed and slowed down some flexicurity measures, mainly relocations. This study also offers evidence of strong passive agency of worker-owners. The collected quantitative data and interviewees' opinions suggest that FED worker-members used individualistic 'scrappy acts of resilience' (Katz, 2004) to avoid being relocated to other cooperatives, such as pretended medical disabilities, sick absence and reduced leave schedules.

The opposition to relocations raises the question whether the nature of cooperatives neutralises the moral risk of labour relations (Navarra & Tortia, 2014). Given cooperative members' dual condition of workers and owners, Mondragon's official discourse often transmits that their workplaces are free from labour-capital and management-labour conflicts. Some researchers echo this official discourse, even arguing that Mondragon eliminates the basic agency dilemma, since principals are agents and agents are principals (Mathews, 2003). In sharp contrast with this idyllic view, these findings add evidence to other studies that highlight the risk of conflict and 'free-riding' (Basterretxea & Storey, 2018; Basterretxea, et al., 2019; Bonin et al., 1993; Klein, 1987; McCarthy et al., 2010; Pendleton & Robinson, 2010). Future research in this field would be necessary to clarify the true perception of members without management responsibilities toward their relationship with managers and with the cooperative itself.

Moreover, although this study focuses on flexicurity policies applied mainly to rank and file workers, as previous researches did, it also makes a relevant contribution to the literature on

FED's failure by mentioning the application of these policies to managers, something not previously addressed. Even low performing managers, who were the most responsible for FED's failure, were given priority to be relocated to other cooperatives and even promoted to higher positions in Mondragon. This employment security for cooperative managers raises questions about its efficacy in dealing with crises as well as ethical questions, which open up a new fruitful path of future research.

These research findings also highlight another factor largely overlooked by previous Mondragon literature: host cooperatives' barriers to permanently relocate other cooperatives' redundant members. Despite economic incentives to convert temporary relocated members into permanent ones, more than 400 former FED members are still temporarily relocated more than seven years after the firm's demise. There are several reasons for not offering permanent relocations: (1) fear of a loss of staff flexibility; (2) refusal to fill posts belonging to temporary employees of the receiving cooperative with relocated FED workers; (3) perception of poor work ethics among some former FED members; and (4) the low educational profile of many former FED members.

A lack of preventive training by FED led to a negligent application of functional flexibility, which requires workers capable of occupying many positions (Albizu & Basterretxea, 1998; Landeta et al., 2016). As recommended by Fernández-Rodríguez et al. (2012), a more preventive focus is proposed for future crises. Each cooperative firm must have its own process to systematically identify worker groups at risk of de-professionalisation. Some Mondragon cooperatives ask for vocational training qualifications for all candidates willing to become worker-owners. These training requirements facilitate potential future relocations and future retraining programmes. In the case of FED, the vocational retraining programmes began in 2014, once the firm had disappeared and almost ten years after the first massive FED relocations took place at the fridges unit. In the early phases of future crises, vocational retraining programmes should be promoted.

Wage flexibility is also considered by interviewees as a proper measure of cooperatives to face short time crises. When used for many years, as in FED, it generates many negative attitudinal and behavioural outcomes as already found in previous studies (Basterretxea & Storey, 2018; Basterretxea et al., 2019b). The competitive advantage of cooperatives through

wage flexibility has decreased in relative terms. After the 2008 financial crisis, legislative changes in Spain have also increased wage flexibility of other non-cooperative firms.

It has been found that former FED members positively perceive the job security provided by Mondragon. Nevertheless, they feel they have become part of Mondragon's temporary employment agency. Although the partners' concern about their employability has disappeared, the poor conditions related to relocations that the interviewees have exposed seem to be a concern of the same calibre.

Some of this study's findings also have implications for managers of non-cooperative firms adopting flexicurity policies. Unfortunately, the Covid-19 crisis implied that some of these policies had to be applied on a large scale in the whole economy. Flexible schedules were imposed by force in most Spanish firms during the coronavirus lockdowns. All workers in non-essential jobs were paid recoverable leave from 30th March 2020 until 9th April 2020. Those workers had to gradually make up the hours not worked during this period, in a way that was agreed with their employer. Similar lockdowns in other European, American and Asian countries also forced the adoption of working time flexibility. Following the lessons of FED's case, flexible working time will help to alleviate transitory difficulties in firms operating in industries with fast V-shaped recovery. Firms with large L-shaped crises probably will not make up not worked hours. Similarly, wage flexibility can also be a good short-term policy for firms with rapid recoveries, while it can generate long-term negative attitudinal and behavioural responses in firms with a long-term crisis.

Some conclusions drawn from this chapter should be considered within the specific case of FED's culture circa its fall; it was never intended for them to be extrapolated to the rest of the Mondragon cooperatives. While Taylorist production systems and low education requirements to become blue-collar worker-members in FED have made functional flexibility and relocations difficult, it is necessary to underline that most Mondragon industrial cooperatives have been adopting much more flexible forms of working, such as mini-factories, with higher educational and multi-skill requirements. Many other firms will also have to adapt their products to new market demands, and as in the case of Mondragon cooperatives, those with already high functional flexibility and a multi-skilled workforce will find it much easier.

CHAPTER 4

Intercooperation between Cooperative Retailers, Local Food Suppliers and Public Institutions to Boost Regional Agrifood Systems. The Case of Eroski

This chapter was presented at:

- International Association for The Economics of Participation (IAFEP) 21st Conference held in Montpellier, France, in July 2022, under the title: *Basque-Navarre Regional Agrifood System: A case of cooperation between Eroski Cooperative Supermarket Chain, Local SME Food Suppliers and Public Institutions.*
- 8th EMES International Research Conference of Social Enterprise held in Teruel, Spain, in October 2021, under the title: *Supplier development-based intercooperation between food retailers and their small local suppliers. The case of Eroski.*

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4.1. Introduction

The liberalisation of the European agrifood market and the progressive disintegration of the protectionism of the Common Agricultural Policy (European Commission, 2012) add complexity and uncertainty to transactions between farmers and retailers (Ciliberti et al., 2020). This confronts smallholder farmers with constant crisis, permanent decline and marginalisation (Anderson & McLachlan, 2012). In addition, most of these smallholder farmers lack the necessary logistical infrastructure, expertise, capital and access to credit (Jensen, 2010).

In this context, cooperatives have gained special academic and institutional attention as strategic organisations for sustainable economic development and greater social cohesion at the local level (Bretos & Marcuello, 2017; Ciliberti et al., 2020). Local agrifood systems also play a relevant role in territorial development plans and academic literature (Sanz-Cañada & Muchnik, 2016). This is due to their numerous socioeconomic and environmental benefits (Kolodinsky et al., 2020).

Furthermore, consumers show increasing interest in local products (Fernández-Ferrín et al., 2020) and are willing to pay premium prices for them because of their organoleptic characteristics and their perceived socioeconomic and environmental benefits (Telligman et al., 2017). Faced with this situation, the retail sector has internalised that it must compete in collaboration with its supply chain members (Tanskanen et al., 2017) because a fruitful relationship with small local suppliers legitimises retailers in their environment and allows them to gain consumer support (Kim et al., 2014).

This chapter studies the case of the Basque-Navarre regional agrifood system. In this territory there is intercooperation between retailers, in this case represented by the Eroski cooperative supermarket chain; a series of local SME suppliers, acting individually and associatively; and the governmental entities which belong to the two regions that form the system. The cooperative nature of Eroski, combined with the characteristics of these suppliers and the rich institutional context (linked to quality brands) of the area where its activity occurs, provide a context of great academic interest to study a topic that combines cooperativism and local agrifood systems.

Most of the prolific local food literature focuses on consumers' profiles, their political identity, their perceptions and purchase motivations and their willingness to pay (Malone & Norwood, 2020). The most recent studies on local agrifood systems analyse their: influence on health (Brunori & Galli, 2016); territorial anchoring (Muchnik & Sainte Marie, 2010); socioeconomic and environmental aspects (Foresight, 2011); participants' food culture (O'Kane, 2016); members' ability to valorise food identity and territorial specificity, through geographical and organisational proximity (Torre & Beuret, 2012). They also analyse the nutritional quality of foods and their affordability, accessibility and acceptability (Waterlander et al., 2018); creation of new transformative institutions (Giraldo & McCune, 2019); valorisation of their resources (Fournier & Muchnik 2012); and proximity effects on the development of relational networks among members (Sanz-Cañada & Muchnik, 2016). Studies on cooperativism barely related to local agrifood systems focus only on farmer cooperatives, leaving aside cooperatives on the distribution side, see e.g. Filippi (2014), Giagnocavo et al. (2014) or Ciliberti et al. (2020). The reviewed literature does not discuss how to achieve transformational change in the system through different planning tools (Buchan et al., 2015) and through three-tier intercooperation between food producers, retailers and public bodies.

Given these gaps, this study aims to contribute to the literature on the creation, consolidation and promotion of local agrifood systems and their socioeconomic impacts, focusing on the role of large supermarket chains in the supply-side. To this end, the research is based on the following research questions:

SRQ3.1: Which are the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems?

SRQ3.2: Which are the benefits and limitations for Eroski and the other parties involved in this type of relationship and the conflicts that may arise between them?

To answer these questions, the current chapter sets out the following objectives:

SO3.1: To identify the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems.

SO3.2: To identify the benefits and limitations for Eroski and the other parties involved in intercooperation related to a local agrifood system.

SO3.3: To identify the conflicts that may arise between Eroski and the other parties involved in intercooperation related to a local agrifood system and how to solve them.

These objectives are met through the study of the case of Eroski cooperative in a territory where retailers, small producers and public institutions intercooperate with the common goal of developing the territory's agro-livestock sector. The study presents valuable data and insights provided by different agents. It also provides a relational view of the phenomenon, through findings on alignment of organisational cultures or dependence and power among members. Finally, given that the Eroski retailer is a worker-consumer hybrid cooperative, this study contributes to the study of the different approaches to intercooperation among the local agrifood system members; it analyses whether the retailer-local producers intercooperation favours the development of agricultural cooperatives and other group marketing structures.

The second section provides a review of the most relevant issues in the literature on local agrifood systems, which is followed by a brief contextualisation of the case. The fourth and fifth sections, respectively, provide a description of the research methods and a summary of the fieldwork's most relevant results. The last section is devoted to discussion and conclusions.

4.2. Case study context

This section presents the different notions and realities to be considered in order to contextualise the case analysed in the chapter.

4.2.1. Local Agrifood Systems

A local agrifood system is a concentration of agrifood farms and industries, marketing, auxiliary and service companies, sectoral and public institutions, natural resources, activities,

know-how and food behaviours that are connected by a specific geographic area and by their characteristics and modes of operation. The actors involved cooperate to develop, produce and market products, relying on local and regional resources (Muchnik & Sainte Marie, 2010; Torres-Salcido & Muchnik, 2012).

Local agrifood systems are based on regionalised, short, value-based supply chains; but the boundary between their marketing channels and more conventional channels is blurred because farmers often participate simultaneously in both (López-García et al., 2019). Moreover, they include both direct marketing arrangements, in which farmers sell their products directly to consumers (Andreatta & Wickliffe, 2002), and indirect arrangements, which are supply chains with a very limited number of intermediaries, such as distributors or producer cooperatives (Low & Vogel, 2011).

Local agrifood systems benefit their territories' socioeconomic growth (McFadden, 2015), maintain a commitment to territorial and cooperative-based agricultural structures (Boucher 2012) and boost cooperative competition (Chiffolleau & Touzard, 2014). These systems foster social (McFadden, 2015; Kasimis & Papadopoulos, 2017) and intellectual (Schmit et al., 2017) capital and knowledge sharing (Brasier et al., 2007) along the supply chain.

Local agrifood systems strengthen farmers' bargaining power, improve the prices they receive for their products, provide them with more transparent information and make them less sensitive to market risks (Richard et al., 2014; Kasimis & Papadopoulos, 2017). They provide development opportunities for small farms through networking forums and educational programmes about production techniques, marketing and business planning (Aubert, 2013). This support is closely linked to the supplier development concept (Sucky & Durst, 2013). The socioeconomic and environmental benefits of local agrifood systems also benefit more conventional networks within the same territory (Lamine et al., 2012).

Local agrifood systems are an institutional tool used by administrative bodies to plan and implement public policy programmes for territorial development (Torres-Salcido & Muchnik, 2012), and there are many positive examples of this (Giacomini & Mancini, 2015). In turn, the institutional and political environment of local agrifood systems is essential for their success (Prové et al., 2019). Through laws such as the Common Agricultural Policy (European Commission, 2012), the European Union has regulated the supply of agrifood

products; it has encouraged producers to organise themselves and also to enhance both their sense of belonging to an area and their willingness to act in the common interest of their members. The opinion of the Committee of the Regions (2011/C 104/01) on Local Food Systems also states that its members should consider these systems' development objectives in their rural development strategy.

Mostly in the local food systems of southern Europe, where gastronomy is more rooted in both territory and cultural identity, production is usually endorsed by geographical indications and traditional specialities seals (protected designation of origin (PDO), protected geographical indication, traditional specialities guaranteed). These seals legally link products to specific territorial attributes and their traditional practices and guarantee other attributes such as fair labour, sustainable production methods or ethical aspects such as animal welfare (Grunert et al., 2014).

This type of supply chain labelling strengthens the economic cooperation processes between actors belonging to a given territory, which are organised through long-term contractual relationships that do not affect their autonomy. This leads to a collective comparative advantage from which they benefit individually. Chain governance is entrusted to a cross-sectoral organisation, association or consortium of producers, which must promote and protect the chains' collective interests, mediate between its members, plan production, report on members' behaviour and market trends, promote trade associations and establish barriers to entry (Perrier-Cornet & Sylvander, 2000). Smaller producers often find it discouraging to participate in local agrifood systems' indirect marketing and consequently develop collective actions to act directly with the recognition of these labels (Giacomini & Mancini, 2015). In the case of farmer cooperatives, these certificates also help them to meet standards and to better position their products, improving their competitiveness and the imbalance of bargaining power vis-à-vis distribution (Giagnocavo et al., 2014; Ciliberti et al., 2020).

4.2.2. Basque-Navarre Regional Agrifood System

When discussing food production and marketing, the term local is an ambiguous, subjective and difficult concept to delimit (McFadden, 2015). From a physical proximity viewpoint, local is understood as anything produced within a given geographical or political boundary (Printezis et al., 2019). The relational aspect of local refers to economic, social or symbolic

connections (Bazzani & Canavari, 2017) or to organisational proximity, knowledge or places of action between actors in a system (Torre & Gilly, 2000). This is in line with Filippi's (2014) definition of territory as a physical and relational spatial construct that arises from the intentional coordination of stakeholders. Meanwhile, Eroski's approach to the local concept is based on the political configuration of the Spanish state into autonomous communities. Due to their similarities, this study uses the terms local and regional interchangeably (McFadden, 2015).

There are several reasons why the Basque-Navarre territory's regional agrifood system (Figure 4.1) was chosen for study. These regions fit the definition of local agrifood system, as they share borders, landscape, society, culture, symbolism, gastronomic tradition, economic ties and agricultural SME network characteristics. They are among the most representative regions for Eroski in the food business, together having more stores than any other region (360 stores in 2020). They also have the highest number of Eroski's small local producers as a whole, 20.2% of all the small local producers Eroski worked with in 2021 (Figure 4.2). Moreover, it is the origin place of Eroski, and it would have been very complex to study in depth the cooperative's activity in each of the Spanish regions where it operates.

Basque Country has a surface area of 7,234 km² and a population in 2021 of 2,177,654 inhabitants, which gives it a high population density of 301.03 inhabitants per km². The population density of Navarre in 2021 was lower, at 63.21 inhabitants per km², with a surface area of 10,391 km² and a population of 656,836 inhabitants. Due to its irregular orography, climate and high population density in certain areas, as the interviewed public administration representatives pointed out, this territory is deficient in foodstuffs such as meat (<30% self-sufficiency in Basque Country) or fruit and vegetables (<2% self-sufficiency in Basque Country), which makes it necessary to articulate policies from Basque and Navarre governments to stimulate the agrifood sector.

In the Basque-Navarre regional agrifood system, Basque Country and Navarre's regional governments articulate their agrifood development policies respectively through the HAZI Foundation and the public firm Institute for Agrifood Technology and Infrastructure of Navarra (INTIA). Their objective is the knowledge transfer in economic matters, technological innovation and management in the agrifood sector. The aim is to improve this

sector's viability, competitiveness and sustainability and to maintain a living rural and coastal landscape, respecting the environment and food quality, and always in line with European policies. These institutions also work together with PDO regulatory councils and other quality seals which certify, control and promote their products; they manage their regions' main quality brands, Eusko Label and Reyno Gourmet, respectively.

Figure 4.1. Territory hosting the Basque-Navarre Regional Agrifood System.

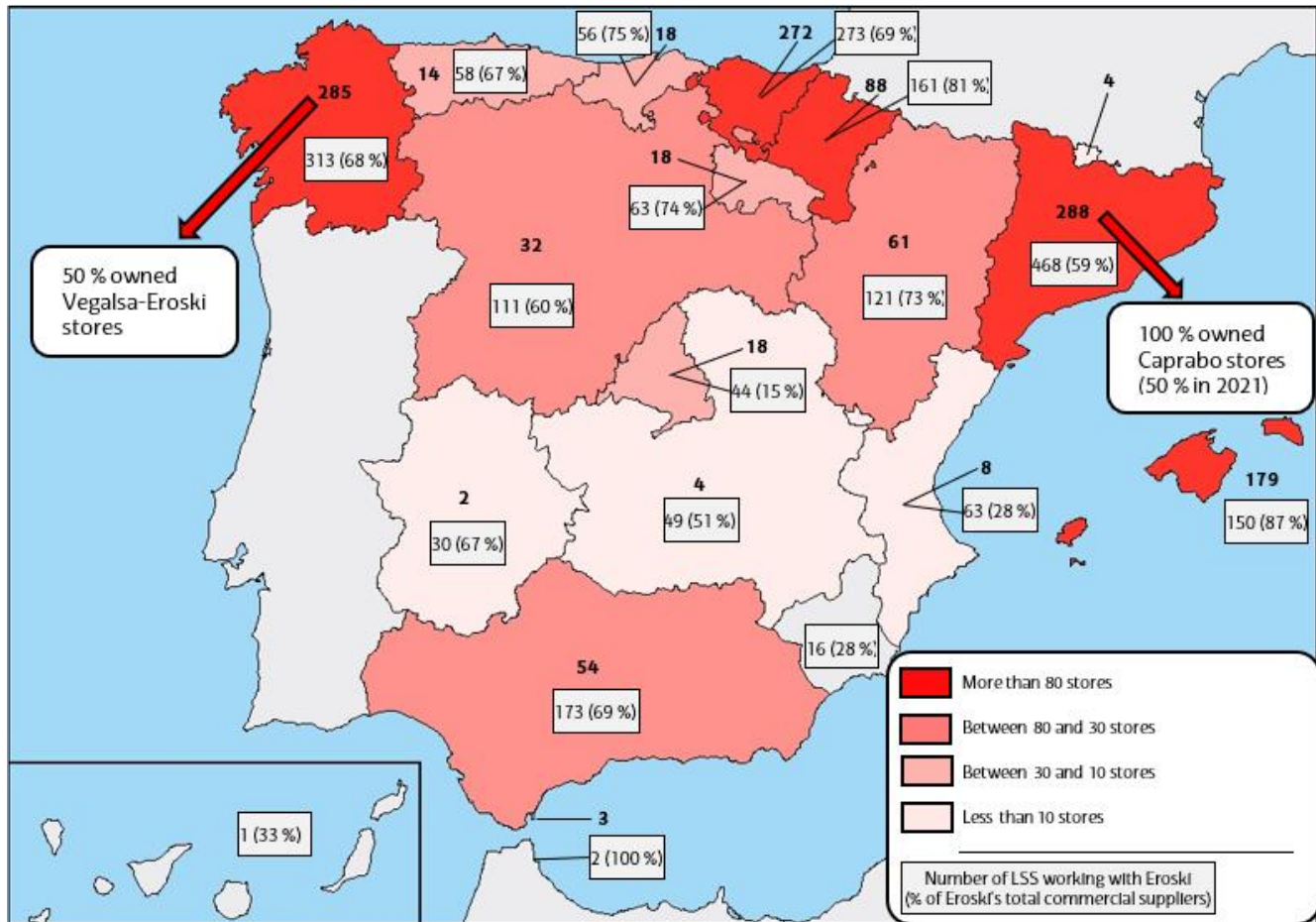


Source: Own elaboration.

4.2.3. Historical Intercooperation between Eroski and its Local SME Suppliers

In 1969 the Eroski S. Coop. retail chain was founded through the integration of ten small consumer cooperatives in Basque Country, northern Spain, which is also where the Eroski headquarters are located. It is a consumer cooperative with special bylaws that grant consumer- and worker-members equal representation in its governing bodies (Storey et al., 2014). Eroski is a member cooperative of the Mondragon Corporation and intercooperation has marked its history. In addition to its various alliances with other retail cooperatives, Eroski has always established strong cooperative links with its small local suppliers.

Figure 4.2. Distribution of the 1,348 Eroski's owned and franchised physical stores dedicated to the food business (2020) & Eroski's 2,152 local SME suppliers (2021).



Source: Own elaboration with data extracted from Eroski (2021, 2022).

In 1989 Eroski launched a strategy of growth and expansion into other regions of Spain to maintain and increase its market presence and to confront the competition. This positioned it among Spain's top 10 distribution companies. This strategy was based, among other things, on intercooperation with small local suppliers in each environment.

From 1997 onwards, Eroski's strong growth in various regions of Spain went hand in hand with a greater standardisation of its offer at state level (Hernando, 2013), thus reducing the discretion of supermarket heads to buy directly from small local agricultural producers. Eroski grew throughout most of the regions of Spain until its peak in 2007 when the global financial crisis struck.

From 2008 onwards, the downward trend in its results and the need to reduce debt forced Eroski to change its strategy to one of resistance and organisational and financial

restructuring. There were closures and sales of its stores throughout Spain as well as a large reduction in its workforce. The consumption orientation toward local stores and the struggle to gain a foothold in an increasingly competitive, globalised market with new and powerful competitors led Eroski to work on increasing the differentiation and attractiveness of its offer. It consequently strengthened its cooperative nature and linked it to local production with the new strategic model *Contigo*. In 2010 the cooperative's former CEO, who had close ties to the agricultural cooperative movement, took over the Eroski Group presidency. In 2012 Eroski established its SME Commitments, which guide its relationship with local SME suppliers (LSS for the remainder of this chapter) and its commitment to locally produced food. Since 2018 this commitment to local has been embedded in its 10 Commitments to Health and Sustainability. With all this, Eroski currently defines itself as a company that is indigenous to the regions where it operates, distributing wealth and contributing to its social, cultural and economic development.

In 2021 Eroski collaborated with 2,152 small local and regional producers all over Spain, 59.8% of its commercial agrifood suppliers. In Basque Country and Navarre it had 273 and 161 small local producers, respectively (Figure 4.2). In 2020 it made purchases from small agrifood producers throughout Spain for more than 2,000 million euro, of which 382 million euro went to producers in Basque Country (Eroski, 2021). In total it marketed 21,574 local references in 2021, about 2,000 of which are in Basque Country. The Eroski Group is the largest company in Mondragon with revenues of 5,116 million euro, 1,390 owned and franchised physical stores dedicated to the food business (Eroski, 2022), and 29,806 workers, 8,954 of whom are cooperative members (Eroski, 2021). It is the fifth largest retailer in the Spanish market, with a market share of 4.2% (Kantar, 2022). Eroski has a consolidated presence in northern Spain (its main operating territory), with a market share of 15%; and it is the second largest food distributor there. It is the main operator in Basque Country, with a market share of over 30%.

4.3. Methodology

This is a unique exploratory-explanatory case study, which identifies potential theoretical issues and details a particular phenomenon of great scientific interest (Yin, 2009). This methodology combines quantitative and qualitative evidence (Byrne, 2013).

Regarding the quantitative information, the most relevant external documentary evidence from press releases and different databases was analysed and internal Eroski documentation was collected, such as the survey results for LSS collected in 2013, 2017 and 2020 and for customers collected in 2012, 2017 and 2020; the information presented at the meetings with Basque suppliers in 2012 and 2018; the annual reports between 2013 and 2021; and the data that is available on Eroski's website. The results of a survey of Basque consumers conducted by HAZI Foundation in 2018 were also obtained.

Some qualitative information was provided by secondary sources, such as internal reports, press interviews and reports where Eroski collected consumers' feedback in 2018 and 2020. The main qualitative information source came from a fieldwork based on 22 in-depth interviews with a representative and reliable set of participants in the regional agrifood system. The sample of interviewees was identified using theoretical (Glaser & Strauss, 2017) and snowball (Patton, 2002) sampling. The criterion for choosing interviewed LSS was based on their being suppliers that met the definition of SME in accordance with current European Union legislation (Annex I of Commission Regulation (EU) No. 651/2014 of June 17, 2014) and that served Eroski products that met the established definition of local. To increase the richness, validity and reliability of the information collected (Miles et al., 2014), and to avoid biased results based on limited and homogeneous information (Solarino & Aguinis, 2021), these interviews included contributions from: managers of 14 LSS that work with Eroski and belong to strategic sectors of the regional agrifood system (Table 3.1), two of whom were former Eroski partner-workers; a HAZI Foundation representative, who was a former senior manager of an Eroski LSS; two INTIA representatives; a representative of a PDO regulatory councils that encompasses 48 LSS; and 4 Eroski senior managers, one of whom was directly involved in the local product.

A semi-structured script was developed based on the study's conceptual framework, which was modified as the fieldwork progressed (Gioia et al., 2013). Semi-structured interviews are particularly effective for intensive and detailed analysis of case studies (Bell et al., 2018). To obtain more information from the interviewees, the interviews were complemented with information drawn from the reviewed literature and from previous interviews. The interviews were conducted between October 2020 and July 2022, lasted between 60 and 120 minutes

and were recorded and transcribed verbatim. The approval of the Ethics Committee of the University of the Basque Country guaranteed the exclusively academic motivation of the study and the diversity and anonymity of the interviewees, thus reducing fear of possible leaks or litigation (Warren, 2002). The fieldwork data collection ceased at the point of theoretical saturation, when the marginal contribution of each interview began to diminish (Strauss & Corbin, 1990; Miles et al., 2014).

Table 4.1. Eroski's LSS who participated in the interviews.

Interviewee	Legal	Billing % with	SME	Region
LSS 1	PuLC	15%	Small	Basque
LSS 2	Coop	35%	Small	Basque
LSS 3	Coop	77%	Medium	Basque
LSS 4	Coop	65%	Small	Basque
LSS 5	Coop	27%	Medium	Basque
LSS 6	SAT	21%	Small	Navarre
LSS 7	Coop	55%	Medium	Basque
LSS 8	PrLC	66%	Small	Basque
LSS 9	PrLC	10%	Small	Basque
LSS 10	PrLC	10%	Medium	Navarre
LSS 11	PrLC	-	Small	Basque
LSS 12	PuLC	20%	Small	Navarre
LSS 13	Coop	2%	Micro	Navarre
LSS 14	PrLC	20%	Small	Basque

Coop = Cooperative, PrLC = Private limited company, PuLC = Public limited company, SAT = Sociedad agraria de transformación (Agricultural processing company)

Source: Own elaboration.

To maintain theoretical-interpretative consistency, an inductive analytical approach was adopted (Bonache, 1999), appropriate for qualitative content (Glaser & Strauss, 2017). Construct validity was achieved through triangulation (Miles et al., 2014) of evidence drawn from multiple sources, and this evidence was analysed using an iterative process of categorisation, interpretation, discussion and explanation, which provides reliability (Yin, 2009). The qualitative information analysis software NVivo 10 supported this process. A peer outside the project who analysed, discussed and reviewed the draft provides further construct validity and reliability (Gibbert et al., 2008). Key informants representing Eroski, with whom there is a confidentiality agreement, followed the same procedure. Internal validity is

guaranteed by the common behavioural patterns that explain the event. External validity was achieved with congruent results, which could be generalised to other studies (Yin, 2009).

4.4. Results

The following includes the main perceptions and findings extracted from the interviews and the analysed material on the main advantages and limitations of the three-tier intercooperation between Eroski, its LSS and different governmental institutions, for developing the local agrifood system.

4.4.1. Three-tier Intercooperation Initiatives

The orographic characteristics of the Basque and Navarre territories make it impossible for the primary sector agrifood businesses to have economies of scale that provide them with a competitive advantage related to efficiency and/or competitive prices. The alternative for the sector to make its farms profitable is to differentiate itself by promoting their quality and story and to position its product in a high value and price segment among consumers. This is the reason for the increased development of geographical indications and traditional specialities seals and the commitment to a bucolic story in Basque Country and Navarre.

Faced with this situation, at the beginning of the 2010s, the Basque Government reached agreements of intent, without economic content, with supermarket chains operating in the region. These agreements seek to boost demand in order to indirectly stimulate production, thus avoiding direct subsidies to LSS.

Thanks to the various customer loyalty tools and information garnered from them, retailers know their consumers' habits. In 2021 more than 6 million people used Eroski's consumer membership card; the knowledge derived from this data is one of a retailer's most valuable assets. Knowing the market trends for each product and having a large market share enables a retailer to organise production efficiently and gives it the potential to be the main driving force in the primary sector in its operating regions. This great driving force allows the retailer to incentivise, through demand, LSS' supply. In the case of Eroski, its commitment is of great importance to producers and suppliers for the development of group marketing structures, cooperatives or private limited companies in Basque Country and Navarre. In the case of Eroski and due to its outstanding capacity as a driving force, the Basque Government has

achieved a more intense dynamic of collaboration and promotion of local producers, with monitoring and decision-making processes. By means of the aforementioned agreements of intent, Eroski and the Basque Government's Department of Agriculture both agree on the main areas and categories to be promoted in the region's primary sector.

Eroski's ability to pull through demand is greater than the government's ability to pull through subsidies. [PDO regulatory council representative]

Approximately since 2012, the year its SME Commitments were established, Eroski has collaborated with the regional governments of the places where it operates to serve as a vehicle for its policies to boost the local primary sector. In 2018 Eroski had 1,540 long-term professionalisation agreements with various local agrifood SMEs and sectoral associations, through a two-level policy: (1) the local regional, which entails working with dominant suppliers in highly atomised sectors, not only for them to grow but for the sector to grow through the valorisation of their products, the defence of their interests or the collaborative, sustainable and diversified development of certifications, private labels and new formats and ranges; (2) the closer local or micro, which requires working with other smaller suppliers that join this growth in their sector and provide Eroski with the necessary local product differentiation.

We want to increase production in the categories with the greatest potential in each region. Working in collaborative projects is the maximum expression of generating wealth in the environment. There are us, the producers, the sectoral associations and the administrations, and all together we combine interests and share information. [Eroski manager]

The following initiatives and those included in Table 2 stand out in the analysed documentation and in the interviewees' testimonies.

4.4.1.1. Collaboration during the Covid-19 lockdown

During the hardest period of the pandemic in Spain, between March and June 2020, Eroski collaborated in different initiatives with other cooperatives, with the main agricultural unions and sectoral associations and with the governments of each region where it operates. Together they helped small producers, whose usual sales channel were hotels, restaurants, cafés and

Table 4.2. Other Eroski initiatives in collaboration with public entities in Basque Country and Navarre.

Collaborators	Since	Goal
HAZI Foundation (Department of Economic Development and Infrastructures of the Basque Government)	2021	Creation of the <i>Basque Wine</i> brand for market differentiation of wines from Basque Country with PDO seal.
Enkarterrialde Rural Development Association (HAZI Foundation)	2020	Collaboration agreement for the promotion, innovation, development and enhancement of local agrifood products in the region.
Basque Ecodesign Centre (private Basque companies from various sectors and the Basque Government) and small local milk and egg suppliers	2020	Publication of environmental declarations for private label products that help producers understand and minimise their environmental impact.
Farmers' Association of Araba (UAGA)	2019	Agreement for innovation, development, diversification and promotion of agricultural products from the Basque province of Araba, within the framework of health and sustainability.
AZTI (scientific and technological centre) and small local suppliers. Financed by the European Regional Development Fund (ERDF) and iHobe (Basque Government).	2019	Collaboration in the design of a system for calculating and transparently communicating the environmental footprint of the agrifood sector in Basque Country, moving toward a more sustainable production and distribution model.
Federation of Rabbit Farmers of Euskal Herria	2017	Collaboration agreement to enhance, promote and market certified rabbit meat and support producers with a higher remuneration.
Basque Government	2014	Adhesion to <i>Nirea Akordia</i> , an agreement to promote food from the primary sector of Basque Country.
Department of Economic Development and Competitiveness of the Basque Government	2013	Collaboration agreement to promote job creation and the growth, sustainability and diversity of local producers.
Department of Rural Development, Environment and Local Administration of the Government of Navarre, INTIA-Reyno Gourmet	2013	Agreement for the promotion of agrifood products from Navarre with quality and origin certification and the development of suppliers from the region.

Source: Own elaboration based on analysed documentation and interviewees' testimonies.

collectives, to market their produce. As an act of solidarity, other larger suppliers channelled this surplus production to serve it through their logistical distribution to Eroski. Eroski was able to assimilate this surplus due to the peak in demand resulting from higher household consumption. This resulted, for example, in the sale of 300,000 kg of potatoes and 15,000 certified lambs, and in an increase in its supply of wines and vegetables.

4.4.1.2. Collaboration with the cider sector

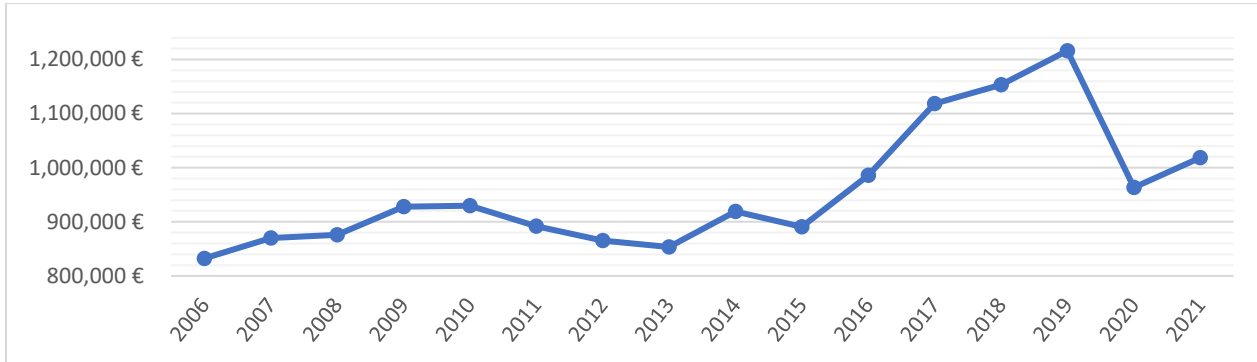
In 2021 Eroski had 2,500 products with certification of origin and quality, both private label and manufacturer. Eroski collaborates with the regulatory council of Basque cider PDO (Euskal Sagardoa) to enhance the value of cider and improve the until recently loss-making position of this product, by improving its price, image, quality, awareness and in-store classification. Around 2016, the cooperative and the PDO regulatory council started a 15-year strategic plan with the Basque Government to ensure that all cider production in the sector in the region would carry the PDO seal. By 2021, 25% of production was already registered as part of the PDO, with the forecast of 60% by 2026 and, finally, 100% by 2031. Eroski markets natural cider from 22 of the 48 wineries that are members of the PDO and in 2019 purchased more than one million litres of bottled natural cider from Basque Country.

Within this initiative, each year Eroski chooses, through a tasting with consumers, a winery to produce its premium private label cider, which encourages wineries to implement quality certifications, such as International Featured Standards. Eroski also collaborates with the PDO regulatory council in the development of new formats adapted to consumer needs and has promoted an innovation project between five wineries, marketing a new product exclusively in 70 stores. These initiatives usually come from the cider sector and Eroski usually carries them out in the form of a pilot project with certain wineries. If they are successful, the PDO regulatory council provides the others with all the necessary information to incorporate them into their activity.

Figure 4.3 shows how the historically stable trend of the average operating income of the sector members working with Eroski has, since 2016, started to grow to approximately 37% in four years (2015-2019). It is worth noting how the effects of Covid-19 are reflected in the

2020 turnover, but this does not go down to pre-2016 figures. In 2021, a recovery trend is perceived.

Figure 4.3. Average operating income of 10 of the 22 wineries with the Basque cider PDO seal that are working with Eroski (2006-2021).



Source: Own elaboration with data extracted from Sistema de Análisis de Balances Ibéricos (SABI, 2022).

4.4.1.3. Collaboration with the horticultural sector

Knowing the data on the consumption of each vegetable, in each place and season allows retailers and producers to jointly organise their production to maximise efficiency. In March 2020 Eroski allocated more than 3.3 million euro to an annual agreement for the marketing of vegetables with certification of origin and quality from 63 Basque producers, increasing its purchases of these products by 25%. In 2017 it set up a working table together with decentralised LSS, which sold their produce in specific Eroski stores, to jointly plan their production and achieve a well-balanced product range. In this way, the aim was to ensure that all the local producers supplying a centre belong to its immediate surroundings. The greater guarantees and sales of this initiative attracted more producers. Between 2018 and 2020 the cooperative led a project to improve horticultural farms' productivity in Basque Country through sustainable and collaborative diversification of new crops. Several horticultural cooperatives and the Basque Institute for Agricultural Research and Development participated in this initiative, which was co-financed by the Basque Government and the European Agricultural Fund for Rural Development. It should be noted that, by 2021, Eroski had been working with approximately 24 vegetable suppliers in Basque Country for an average of 13 years.

4.4.1.4. Collaboration with the dairy sector

Between 2017 and 2019 Eroski increased its sales of locally sourced dairy products by 36.17%. This could be due to various initiatives for the valorisation of these products. Since 2014 it has collaborated with artisanal cheese producers with the Idiazabal PDO seal, adding their cheeses to its premium private label range. In 2016 the cooperative entered into an agreement with an association that brings together more than 30 small livestock farms in Basque Country (Sociedad Agraria de Transformación Valle de Karrantza) to market its milk in the region under the Eroski private label and with the seal of PLS (Sustainable Dairy Product), promoted by the Spanish Ministry of Agriculture, Food and Environment. Under this agreement Eroski undertook to pay the producers a higher-than-market price. This policy was later transferred to other regions where the cooperative operates. During 2021 Eroski collaborated with HAZI Foundation for the recovery of six varieties of certified traditional Basque cheeses. In addition to this it set up a plan to allow small artisanal producers to market their cheeses in stores in their local area. In 2021 Eroski worked with approximately 60 producers from Basque Country and Navarre and marketed 189 references of locally produced cheeses, 99 of which have PDO seal. It has worked with its approximately 26 producers in Basque Country for an average of 10 years.

4.4.1.5. Collaboration with the meat sector

Since 2017 Eroski has collaborated with HAZI Foundation and a meat cooperative to boost the promotion and marketing of origin-certified beef. In 2019 Eroski used its premium private label, km0, to market this meat. Sales of meat with certification of origin in Basque Country between 2017 and 2019 have increased a 57.61% and interviewees consider that these two measures of Eroski have made an important contribution to such sales increase.

4.4.2. Professionalisation, Structuring and Development of LSS

There is a large number of LSS of very limited size in all sectors, which have insufficient commercial knowledge and which are incapable of matching the professionalism of their services to retail to those of large suppliers. The professionalisation of LSS when establishing contact, negotiating and selling creates synergies; it streamlines and improves processes and is key to their development and to improving retailers' perception of them. Although this

professionalisation must rely mainly on the internal initiative of producers and the various sectoral associations, it must be supported by the joint initiative of retailers and institutions.

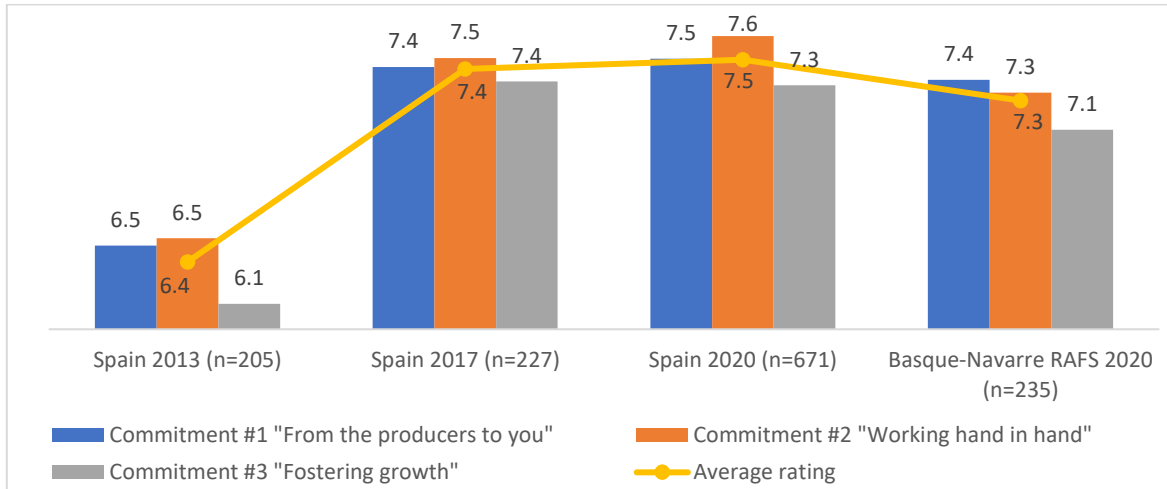
Many know how to make quality products but not how to sell them. With retail, if you are not professional, you are lost. [PDO regulatory council representative]

Producers that act in an associative manner, such as cooperatives, members of PDO seals or manufacturers that group together small producers, increase their professionalism and offer buyers greater homogeneity, structure, quality, volume and logistical and financial capacity. The relationship with these groups is preferable for retailers and institutions because it increases their initiatives' social impact radius. In fact, some of the cooperatives participating in the study were created with the aim of bringing together their offer to Eroski.

Working with many and small [suppliers] is the way to create a network and contribute to the development of the sector. [...] But we also try to promote the relationship with cooperatives or sectoral organisations that provide structure and make it easier to reach a very atomised primary sector, such as the one in Basque Country. [Eroski manager]

Through its initiatives, framed in the three SME Commitments, Eroski claims to (1) promote and enhance the value of food produced by small suppliers in their environment through a differential commercial policy; (2) maintain a direct, sustainable and long-term relationship and a bilateral flow of information with these suppliers; and (3) collaborate on plans for small suppliers' professionalisation and sustainable business growth and for the collaborative development of local agrifoods, all with invoicing and procurement adapted to LSS' needs. Figure 4.4 and the interviewees' testimonies reflect an improvement in the perception of LSS toward these initiatives, which are perceived as development opportunities.

Figure 4.4. Main results, expressed as a score from 0 to 10, of the SME supplier surveys based on SME Commitments (2013, 2017, 2020).



Telephone survey (CATI system); Score out of 10; Regions in Total Spanish sample: Aragón, Balearic Islands, Cantabria, Galicia, La Rioja, Navarre and Basque Country (Catalonia only in 2020); Total Spain 2020 sample: participation 73.3%, sampling error $\pm 2.3\%$ ($p = q = 50\%$), confidence level 95.5%; Basque Country 2020 sample: participation 67.3%, sampling error 4.92%; Navarre 2020 sample: participation 82.2%, sampling error 6.5%.

Source: Own elaboration based on the results of the SME supplier surveys provided by Eroski.

4.4.3. Lack of Organisational Culture Alignment

During the interviews held with the different LSS, it was noticeable that there was a clear dissatisfaction among them regarding some common retail practices. According to HAZI Foundation and the PDO regulatory council, this is due to a dissonance with the duality of Eroski's local strategy, which combines cooperative values with purely commercial approaches. From this dissonance arises a lack of alignment between the organisational cultures of LSS and retailers, which prevents the former from internalising the benefits of the aforementioned initiatives. There is also a need for retailers to adapt their requirements to their smaller suppliers' shortcomings and limitations.

The nature of retail is to operate in an oligopolistic, ultra-competitive market with an unbalanced value chain. [...] Margins, campaigns, offers or continuous promotion are all retailish, the language of retail. If suppliers don't understand how large-scale distribution works and start selling through this channel, they will be indignant, they will always be angry. They will think that the retailer's decisions are against them,

without understanding that the retailer doesn't want to screw them, what they want is more market share. [HAZI Foundation]

The aforementioned professionalisation of the more local primary sector would favour the alignment of organisational cultures and avoid frustrations and misunderstandings. Therefore, the importance of training and consultancy initiatives for LSS and retailers by governmental institutions is highlighted.

Basque Government's HAZI foundation supports some LSS by hiring a consultancy service to train, guide and support them in commercial matters, in the needs of retailers, in how to offer them their product and how to work to promote it. The consultancy support provided to the wineries associated with the Basque cider PDO seal is a success case and a benchmark. On the other hand, this training is also usually applied in Eroski to workers at different levels and it is complemented with visits to the suppliers' facilities. The aim is to alleviate the lack of specialisation of these workers. In addition to this, HAZI organises different forums for dialogue between the parties.

In other cases, some suppliers working on an associative basis have pooled their economic capacity to hire members with specialised knowledge of the organisational culture of retailing, sometimes former workers and managers of the retail sector.

4.4.4. Dependence of LSS on Retail

Eroski's large market share makes it by far the largest retailer in Basque Country and Navarre, and one of the largest in northern Spain. The largest agricultural and livestock cooperatives in the Spanish market have a turnover of one-sixth of Eroski's total turnover. Situations like this create an imbalance in the value chain, which the HAZI Foundation representative described as stratospheric.

Eroski is like an elephant asking an ant for a dance. If they start dancing, fine, but if the elephant steps on the ant, even unintentionally, there is no more ant. Sometimes Eroski does unintentional things that can destroy a small supplier, but it can also make big decisions that boost a product range or a sector. [HAZI Foundation]

Given their great bargaining power, retailers systematically avoid signing long-term commitment documents with their suppliers beyond those related to commercial conditions. This limits the growth of LSS who, lacking financial guarantees, are reluctant to invest in

new projects to meet the other party's demand due to a low perception of commitment. Added to this is the fact that, like other retailers in other contexts, Eroski represents, for the interviewed LSS, on average more than 30% of their turnover, in some cases exceeding 50%. For this reason, some LSS, that for years have improved their quality and achieved product certification hand in hand with Eroski, now need to market their products in other supermarket chains to diversify their customer portfolio and reduce dependency. This creates tensions in the relationship.

In some cases, this traction capacity of the retailer becomes an excessive dependence of the LSS. As a result, LSS try to maintain diversified customer portfolios and in some cases Eroski suffers a bout of jealousy. [HAZI Foundation]

Another way for LSS to reduce this dependency on retail is to keep up to date in terms of certifications of origin and quality; this will make it difficult for retailers, who differentiate themselves by the certification of the products they sell, to replace LSS in the short-term. Associative production is the third way to balance the power between the parties.

There is a mutual dependency; we have no alternative. My closest substitute would not be able to offer our service from one day to the next, nor all the Basque product certificates I have. If, in an exceptional case, Eroski stopped buying my noncertified brand, I could raise the price of my certified one. We are bound to understand each other and give in. [LSS 8]

4.4.5. Differential Positioning of Retail

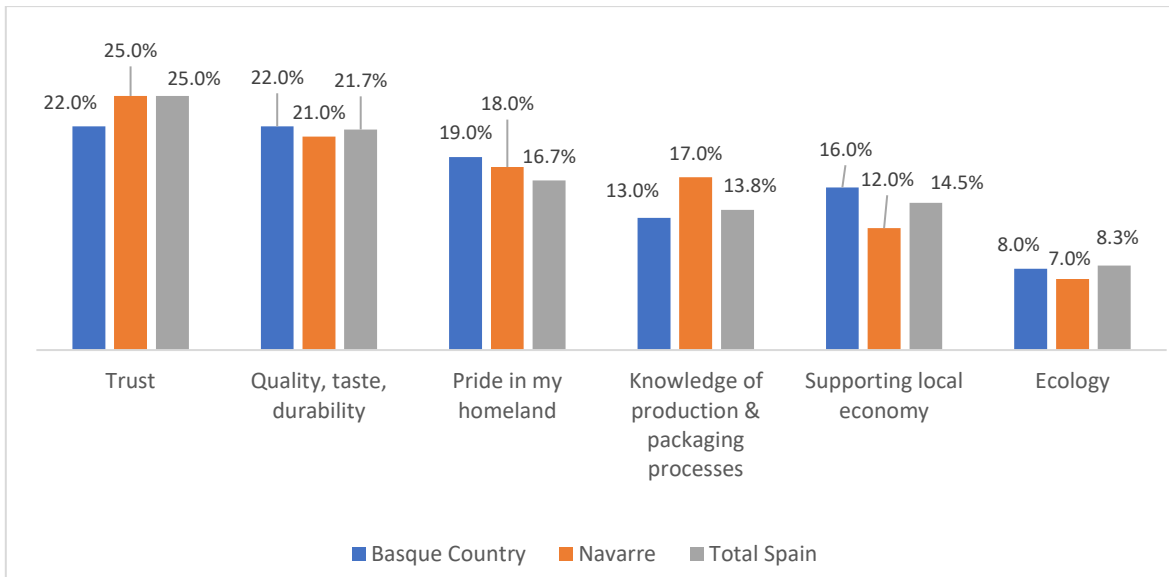
Regional sustainability attitudes are stronger between the population of the Basque-Navarre regional agrifood system than in other Spanish regions, due its historical, economic, political and cultural context and the historical role of peasants and Mondragon cooperative movement (Heiberg, 1989).

Moreover, consumer trends place local products in the spotlight as they are endowed with more beneficial associations. The results of the consumer studies carried out by Eroski since 2012 show that, although it is perceived as more expensive, consumers value local produce very positively and choose it because they link it mainly with concepts such as trust, quality, pride in their land, health, economic support for local producers and environmental sustainability (Figure 4.5). Consumers aspire to a totally local shopping basket, and the average basket is made up of 50% local produce.

A research conducted by the Basque Government’s HAZI Foundation (2018) with a much broader sample base of 1,806 Basque consumers also place local products as a key purchase factor. According to this study, 87% of participants prefer to buy products made in their region, municipality or immediate surroundings. Consumers also link local products with other factors that highly impact on purchase decision such as quality, flavour or natural production and low environmental impact. According to the research, Basque consumers are ready to pay a higher price for local products (as extreme examples, 48% of consumers were ready to pay double for local eggs, and 71% would pay double for local tomatoes with the Eusko Label brand). Among consumers able to cite supermarket chains selling local products under their own private labels, 81% cite Eroski, while private labels of other competitors, especially those that focus their leadership on low prices are not linked to local producers (3% Mercadona, 1% Lidl).

According to a satisfaction survey carried out by the Spanish Consumers and Users Organisation (OCU, 2019), the rise of regional chains is due to the fact that, although price remains the main factor, belonging to the environment, freshness and quality are among the most important factors for consumers when choosing a supermarket.

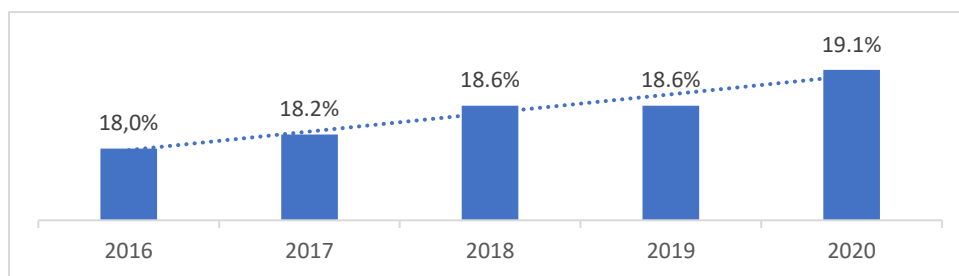
Figure 4.5. Reasons why consumers choose local produce.



Source: Own elaboration based on an ad hoc quantitative survey conducted by Eroski in June 2020. Base: 250 cases.

The aggregate market share of Spanish regional supermarkets increased between 2016 and 2020 by 1.1 points to 19.1% (Figure 4.6), with a peak of 26.2% during March and April 2020. This placed them jointly as the second largest distributor in the country, which is characteristic of the Spanish distribution market compared to the rest of Europe. This growth, especially during the pandemic, was boosted by the image of physical and emotional proximity of these regional distributors and by their strong positioning in local and fresh products (Tobar, 2021).

Figure 4.6. Market share of regional supermarkets (2016-2020).



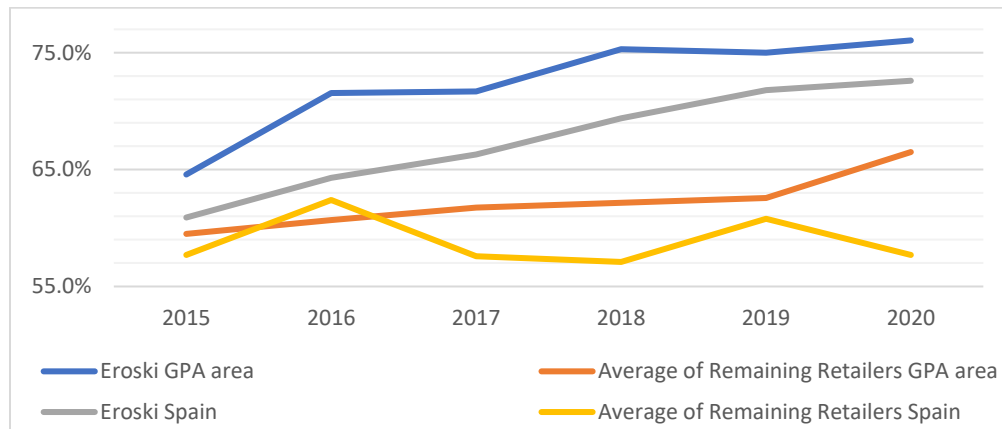
Source: Own elaboration based on Kantar data (Tobar, 2021).

In the surveys carried out by Eroski over the last few years, the value that consumers attach to organisations that promote the development and visibility of local produce can be seen. Large supermarkets are not associated with local products because they are perceived as depersonalised, due to their staff's lack of product knowledge and treatment of customers. For a brand to be perceived as local, it must adapt to the environment, adopt its traditions and promote its socioeconomic and ecological well-being; it must be close to the consumer, give them prominence and get to know them.

A 2017 survey of more than 14,596 Eroski customer members shows that they highlighted the prominence of local products within the cooperative's commercial model and recognised it as part of their identity. A 2018 survey highlights that the consumers were attracted by Eroski's support for producers in the primary sector and its role in channelling the work of institutions to generate wealth and maintain employment. Finally, a 2020 survey of 1,835 consumers shows that Eroski had a higher local positioning than its competitors, and this was even greater in its area of greatest presence and activity (GPA) (Figure 4.7).

This scenario makes Eroski's local positioning a beneficial differential strategy that allowed it to keep its market share at 4.8% between 2019 and 2020, even during the toughest period of the pandemic when other powerful operators suffered sharp declines in their market share of more than 1% (Kantar, 2021). The trend in Eroski's sales of local products in Basque Country is also increasing year on year, with growth of 14.5% in the first half of 2020.

Figure 4.7. Consumer perception of the variety of local food that brands supply and its boost to the local economy.



Eroski GPA area sample (Basque Country, Navarre, La Rioja, Cantabria) = 895; Spanish sample = 1,835; CATI interview with an average duration of 17-18 min; Sampling error = $\pm 2.1\%$; Confidence level = 95%; $p = q = 50\%$; Adaptation of usual questionnaire in perception tracking, with funnel block; 35 positioning attributes and socio-demographic block.

Source: Own elaboration based on data provided by Eroski.

4.4.6. Increased Costs and Management Complexity for Retail

Although Eroski claims to be working on the relationship with its LSS by adopting new approaches that enable greater mutual profitability and value chain optimisation, it should be pointed out that this positioning entails a higher cost for the cooperative. This is because working with a large number of suppliers in a sector as fragmented as the primary sector requires greater management complexity, a greater need for personnel to maintain a close relationship with the LSS and a loss of efficiency. This higher cost can translate into a commercially unattractive increase in the selling price to the consumer. Even so, Eroski points out that this is how they differentiate themselves vis-à-vis consumers.

The differential relationship we have with a small supplier is not the same as with a large one. [...] We do not sit down with a small village cheesemaker in the same way

as with a large manufacturer; we do not have the same objectives and we are committed to helping the supplier, accompanying them and making them grow. [...] In the main regions where we operate, we have a department with specific people who work on this area and adapt the commercial dynamics to the relationship with the small supplier. [...] Not concentrating purchases in one supplier and relying on many small local producers is the most inefficient thing in the world, and operations such as pooling purchasing or logistics are infinitely more complicated. [...] It is more expensive, but it is the basis of our differentiation. [Eroski manager]

4.5. Discussion and conclusions

This study is a contribution to the literature on the creation, consolidation and promotion of local agrifood systems because it focuses on the role of large supermarket chains in the supply-side, something that previous research has scarcely addressed. Data and perceptions provided by the retail sector are presented, which permit a novel and unconventional analysis, given the difficulty of accessing them on a regular basis.

The chapter deepens the knowledge of the so-called three-tier intercooperation between Eroski, the public administrations and local agrifood producers, which has been key to promoting the local agrifood system in the Basque and Navarre regions. This three-tier intercooperation also helps the growth, professionalisation and consolidation of territorially based agricultural structures, particularly agricultural cooperatives. The study analyses various successful initiatives to valorise, promote and market local products. These initiatives have led to achievements for small local producers that all the interviewed agents agree would have been impossible to achieve with traditional two-way cooperation between public administrations and LSS. These alleged advantages include a sustained and significant growth in the LSS' sales, less sensitivity to market fluctuations and an improvement in their professionalism (in terms of product homogeneity, quality and safety or logistical and financial capacity).

Thanks to its extensive knowledge of consumer trends and its oligopolistic power, retail has an ability to drive supply by increasing demand. It is therefore important for local agrifood system governments to reach agreements with retailers to indirectly stimulate production, a method that has been judged by our interviewees to be more effective than direct subsidies. In this regard, it is important to mention the two-tier traction technique, which consists of

achieving sectoral growth together with the dominant LSS and then helping to grow the more micro LSS that join this sectoral growth.

Regarding to the analysed supermarket chain, the Eroski cooperative, the promotion of the local agricultural system is a practical application of the intercooperation and social transformation cooperative principles, but it also responds to their strategy of differentiation from their competitors with a greater supply of local produce in the different Spanish regions where it operates. In this way, Eroski succeeds in being able to work through and around the contradiction between cooperative social values and the drive for profit pursued by business (Filippi, 2014).

Commitment to local products and the development of local agrifood systems entails additional retail costs, but it also brings benefits. In the case of Eroski, there is evidence that its consumers value very positively the firm's commitment to local products and that they link it to various elements that strengthen the firm's differentiation (quality, pride in its land, health, economic support for local producers and environmental sustainability). The improvement of LSS economies of scale may lead to a lowering of the prices of local products and the access to them by a broader base of consumers. Nevertheless, a focus on healthier and higher quality local products without harming the sustainability of LSS means higher costs for Eroski than for competitors focused on cost leadership. Coordination costs with different local producers in the regions of Spain where Eroski operates also increase costs and reduce scale economies. Thus, Eroski's policy comes at the risk of losing consumers that rank price first. According to HAZI (2018), 35% of consumers make their purchase decisions based primarily on price. Given recent inflation crisis, actual percentage of consumers whose main purchase decision is based on price has probably increased and other retailers with a greater focus on costs may attract consumers that would like to buy local products but can not pay their price. Besides, those lower income consumers would be the least benefited from public spending on fostering LSS, as it happens with public policies that encourage consumption of healthier but more costly food (Waterlander et al., 2018).

This chapter identifies a problem of cultural alignment between the parties and presents a series of key lessons for public administrations, LSS and retailers that want to promote local agrifood systems through intercooperation. We recommend to endeavour to align the

members' organisational cultures. Some testimonies from the LSS illustrate their lack of knowledge of the retail culture and their difficulty in internalising the different commercial management tools that retailers use with large producers and try to replicate with smaller ones. The need for retail to listen to and understand the demands and processes of its LSS also emerges. This lack of cultural alignment is especially highlighted by public administration representatives who mediate between retailers and LSS and provide the latter with consultants who have experience in large-scale retailing. This denotes a greater capacity to perceive this situation from a third-party position. Both retailers and LSS should develop initiatives to align their organisational cultures, with the support of the different public institutions and producers' associations. One measure that facilitates this alignment and fluid communication is for LSS to recruit managers with previous retail experience and vice versa. In fact, the Eroski Group President for the last decade has a past linked to the agricultural cooperative movement and two of the interviewed LSS managers previously held positions of responsibility in Eroski.

It also finds that intercooperation between retailers and LSS for the creation of local agrifood systems is not risk-free. The LSS studied in the case study have been growing for an average of 20 years through intercooperation with Eroski, in some cases for more than 35 years. Although these close and long-standing relationships may indicate commitment and trust between the parties, they involve high levels of dependency on the LSS' part, which in some cases concentrates more than 50% of their turnover in Eroski. The LSS' logical desire to diversify risks and sell part of their production to other supermarket chains may clash with the logical misgivings of the retailer, which has for decades collaborated in the LSS' growth, professionalisation and consolidation. Some interviewees, both from LSS and the public administration, propose solutions to these conflicts, such as the establishment of a more strategic approach to the retailer-LSS relationship, with meetings focused on joint discussions about growth objectives or even the signing of long-term supply contracts. In addition to this, LSS are encouraged to obtain distinctive quality certifications that increase their inherent low power position, their attractiveness to other retailers and their buyer's switching cost. In addition, certification can be a way for suppliers to learn about buyers' expectations and requirements (Sucky & Durst, 2013) and thus contribute to the alignment of organisational cultures.

Finally, we find that retailers prefer to cooperate with LSS who work in a partnership, as a cooperative or under quality brands. Although this may imply a decrease in their bargaining power, it allows a retailer to extend their initiatives to cover more LSS, thus achieving greater local agrifood system development. These producers partnering to intercooperate with the retailers share know-how and resources to make greater investments and create joint activities; they reinforce their predisposition to work with higher quality standards and achieve greater professionalisation and alignment of organisational cultures with retailers.

Eroski's strategy in its relationship with the LSS in the Basque-Navarre regional agrifood system is the same, in an adapted form, as that used in the rest of Spain's territories. The findings drawn from this experience are from a specific case of study and should not be generalised to other distribution chain relationships in other socioeconomic, political, or territorial context. However, they can serve as a lesson for large retailers, operating in regions with weak agrifood systems who, driven by consumer trends, want to give prominence to their local positioning as a differentiation strategy; for LSS who want to expand their product sales to large supermarkets in a sustainable way; and for governments and public institutions that seek to implement public policies for the territorial development of their local agrifood systems.

In addition to the supply-side approach, this study includes views from various value chain stakeholders and brings a relational, intercooperative and long-term view to the approaches in the literature on local agrifood systems. This research addresses, in an exploratory and qualitative approach, the relationship between supermarket chains and other actors, such as small local producers or territorial governments. On this basis, future research could expand this literature with new research that provides an econometric dimension to the role of these relationships in the growth and consolidation of local agrifood systems. The kinds of power relations between LSS, retailers and consumers should also be deeper considered in further research. The socioeconomic consequences of these policies to support local agrifood systems for the general population and their influence according to the income level of individuals could also be explored in greater depth.

CHAPTER 5

Exploring the Role of Intercooperation in Enhancing Innovation Performance. The Basque Case

With Ana Fernández Sainz

This chapter was presented at the IV International Forum on Cooperative Law held in Donostia, Basque Country, in November 2023, under the title: *Assessing the role of intercooperation in enhancing innovation performance.*

An article derived from this chapter is in 2nd round of review in *Annals of Public and Cooperative Economics* [JIF 2022: 1.6, Q3 *Economics* (236/380); SJR 2023: 0.6, Q1 *Sociology and Political Science*, Q2 *Economics and Econometrics*; CiteScoreTracker 2023: 3.8].

5.1. Introduction

Firms increasingly resort to informal collaboration and strategic alliances in innovation activities, to transcend their individual innovation constraints and address the growing need for innovative product development (Belderbos et al., 2004; Bouncken et al., 2015). This idea has been studied from the perspective of open innovation (Laursen & Salter, 2006) and also from a perspective closer to the analysis of how different types of knowledge originate in cooperation (Devece et al., 2019) and then lead to innovation (De Faria et al., 2010; Bouncken et al., 2015).

Literature on cooperative firms and innovation is scant, often theoretical or exploratory, and has minimal empirical backing. Some scholars credit cooperative values and principles for innovation advantages (Bruque & Moyano, 2007; Águila & Padilla, 2010; Basterretxea & Martínez, 2012; Clemente-López et al., 2014). But the more prevalent view in the literature points to limitations in governance and financing that negatively affect their innovation capabilities (e.g. Dow, 2003; Novkovic, 2007; Borzaga & Tortia, 2017; Bretos & Marcuello, 2017).

Cooperative firms are integral to the global production network, employing more than 280 million people worldwide (ICA, 2024c). There are more than 1,150 cooperatives that generate turnover in excess of 100 million dollars (John & Ross, 2022), including multinational entities (Bretos et al., 2019). The Basque Country, the focal point for our study, has higher ratios due to the presence of Mondragon, one of the largest cooperative groups in the world (see, e.g., Thomas & Logan, 1982; Bradley & Gelb, 1985; Kasmir, 1996; Bakaikoa & Albizu, 2011; Arando & Arenaza, 2018). The group is the result of the intercooperation of 81 independent cooperatives made up of more than 70,000 people and including 12 R&D centres and a corporate university (Mondragon, 2024).

Cooperative firms adopt strategies aligned with the principles of the ICA. One of those principles is cooperation among cooperatives or intercooperation. This means that cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures. However, there is minimal research into how the principle of intercooperation shapes

interorganisational cooperation in innovation activities and what impact it has on innovation performance. The scant prior research mostly assumes a theoretical stance (Novkovic, 2007) and employs qualitative case studies (Smith, 2001; Gallego & Chaves, 2015; Iturrioz et al., 2015; Gallego & Chaves, 2016; Basterretxea et al., 2019a), or quantitative studies based on samples of cooperative firms (Rodríguez & Guzmán Alfonso, 2013). These suggest that intercooperation fosters innovation. Only two previous studies are based, like our own research, on large samples of cooperative and non-cooperative firms. They show divergent findings, identifying competitive parity in innovation (Basterretxea & Martínez, 2012) or even competitive disadvantages in various innovation indicators (Clemente-López et al., 2014).

Given the paucity of comparative empirical literature, this study seeks to contribute to the field by answering the following research question:

SRQ4: Do cooperatives have advantage over non-cooperatives in achieving superior innovation outcomes through interorganisational cooperation?

Thus, the objectives of the research are:

SO4.1: To contrast the positive and significative effect of being a cooperative on a firm's innovation performance in products new to the firm and new to the market.

SO4.2: To contrast the positive and significative effect of being a cooperative in achieving superior innovation outcomes through interorganisational cooperation.

Through a regression analysis on a sample of 718 industrial establishments in the Basque Country, 57 of them belonging to cooperative firms, this study finds that cooperative nature interacts significantly and positively with cooperation with customers, universities, and research centres, enhancing innovation in goods and services new to the firm.

The rest of the chapter is structured as follows: Section 5.2 presents the conceptual background on interorganisational cooperation in innovation and the implications for cooperative firms, and sets out our hypotheses. Section 5.3 introduces the data collection, sampling, and econometric treatment (Analysis of Variance and Ordinary Least Squares Multiple Linear Regression) and defines the different variables. Section 5.4 shows the main

descriptive statistics and regression results. Section 5.5 discusses the results and ends with some concluding remarks.

5.2. Conceptual background and hypotheses

5.2.1. Interorganisational cooperation in innovation and its impact on innovation performance

Interorganisational cooperation in innovation and R&D, whether in the form of informal collaboration or formal strategic alliance, can lead to the acquisition of additional external resources and knowledge (Laursen & Salter, 2006). Applying these inputs positively impacts innovation performance and new product development (Belderbos et al., 2004; Nieto & Santamaría, 2007; Ferreira et al., 2021).

The impact of cooperation in innovation on the degree of novelty of innovations depends on the type of partner (Belderbos et al., 2004; Nieto & Santamaría, 2007; Zeng et al., 2010; Anzola-Roman et al., 2018). Diversity in cooperation relationships is linked to innovation both positively (Laursen & Salter, 2006; Nieto & Santamaría, 2007; Ketata et al., 2015) and negatively (Gkypali et al., 2017).

As shown below in Table 5.1, prominent types of interorganisational cooperation for innovation include collaboration with consultants, customers, suppliers, competitors, universities, research centres, fellow group firms and public administrations.

5.2.2. The effect of being a cooperative on the relation between cooperation and innovation performance

Cooperatives are firms owned by their members, who participate with equal voting rights in the governance and management of the firm (Jones & Kalmi, 2012; Borzaga & Tortia, 2017) and benefit directly from their activities (Birchall, 2011). Bruque and Moyano (2007) show that the special status of cooperative worker-members heightens their involvement in innovation activities and that the longevity of cooperative firms may mediate that relationship. In addition, the strategic behaviour of cooperatives, based on the cooperative principles of the ICA, may also benefit innovation (Águila & Padilla, 2010). The few quantitative analyses available that use large samples of cooperatives and investor-owned

firms offer less optimistic, more mixed results. Using a survey of managers of 861 Basque industrial firms, Basterretxea and Martínez (2012) find that the innovation capabilities of cooperatives are similar to those of other firms. Clemente-López et al. (2014) report cooperatives outperforming other firms in generating patents but underperforming in various innovation metrics within the industrial sector.

Most researchers highlight that cooperative firms face several constraints upon innovation and are therefore found more frequently in low-innovation and labour-intensive industries (Dow, 2003; Novkovic, 2007). Factors that generate obstacles to innovation in cooperatives include the following:

- Limited access to finance (Dow, 2003; Novkovic, 2007; Maietta & Sena, 2010). This arises from worker-members' disinclination to finance long-term investments with internal funds when they do not have individual, transferable ownership rights over the firm's assets (Maietta & Sena 2010). Additionally, financial markets are reluctant to finance cooperatives due to a dearth of information about such firms. They prefer to invest in firms where they can exert control rights in exchange for bearing financial risks (Piketty, 2020).
- Greater risk aversion among worker-members (Dow, 2003; Melgarejo et al., 2010; Chevalier, 2011), as they invest much or all of their wealth and human capital in the same firm. This lack of diversification leads them to prefer projects with a lower probability of failure (Dow, 2003), which are inherently less innovative.
- Little ability to attract talent due to the lack of autonomy and continuous supervision of worker-members (Bretos & Marcuello, 2017) and equitable salaries (Jossa, 2009).
- Strategic rigidity in technology-related decision-making due to democratic processes (Borgen, 2004).
- Small size, which limits economies of scale and access to investments (Borzaga & Tortia, 2017; Novkovic, 2007).

In contrast with the negative predictions of much of the literature on cooperatives and innovation, some researchers highlight that cooperatives can gain robust intercooperation

capabilities through membership of integration structures, as exemplified by Basque cooperatives, particularly Mondragon (Basterretxea & Martínez, 2012). The principle of cooperation among cooperatives enhances strong ties and diversified networking among heterogeneous stakeholders. This fosters innovation capabilities (Smith, 2001; Novkovic, 2007), creation and dissemination of innovations (Gallego & Chaves, 2015) and internal regulation of tensions in cooperative innovation processes (Gallego & Chaves, 2016).

In a multiple case study on worker cooperatives belonging to Mondragon, Basterretxea et al. (2019a) find that cooperative principles and network membership incentivise cooperation among competitors to achieve better R&D outcomes. Using a qualitative comparative study also based on Mondragon, Gallego and Chaves (2016) suggest that network membership strengthens cooperatives' links with universities, technology centres and other group members, enabling them to act as conduits for public policies on technological innovation and to coordinate research initiatives. Smith (2001) uses a systematic comparison and finds similar dynamics among cooperatives in Northern Italy (LegaCoop). In a qualitative case study, Iturrioz et al. (2015) analyse how intercooperation and networking enable cooperatives to improve the outcomes of their cooperation on innovation by reducing the cost and risk of such processes and ensuring equity (Rodríguez & Guzmán Alfonso, 2013).

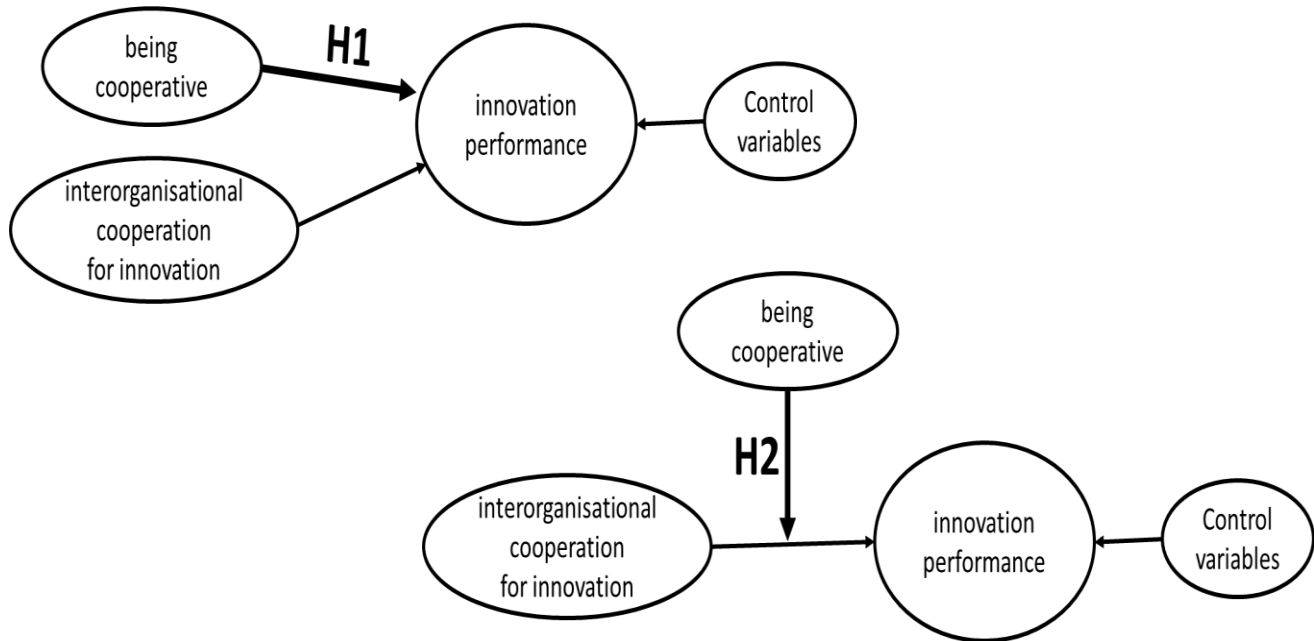
Given this literature background, which suggests that intercooperation could empower cooperatives as proactive agents in the generation of innovation networks (Gallego & Chaves, 2016), our study analyses whether this capability extends to the outcomes of cooperation on innovation with other stakeholders, whether they are cooperatives or not. Thus, the following hypotheses are proposed:

H1a: being a cooperative has a positive and significant effect on a firm's innovation performance in products new to the firm.

H1b: being a cooperative has a positive and significant effect on a firm's innovation performance in products new to the market.

H2: being a cooperative firm has a positive and significant effect on the impact of cooperation with different stakeholders on the firm's innovation performance.

Figure 5.1. Graphic showing the proposed theoretical-conceptual models.



Source: Own elaboration.

5.3. Research design

5.3.1. Data collection and sampling

The dataset used in this study comes from the *Survey on Innovation 2021* (Eustat, 2022), carried out by the Basque Institute of Statistics (Eustat). The survey questions are based on the *Community Innovation Survey*, which follows the terminology of the *Oslo Manual* (OECD, 2018). The survey focuses on business establishments from different sectors and of different sizes in the Basque Country. The data are for 2021, but certain questions cover 2019-2021.

The sample encompasses 718 Manufacturing Industry establishments (CNAE [National Classification of Economic Activities] codes 10 to 33), with the aim of maximising homogeneity. 7.94% of the establishments in the sample belong to cooperative firms. They account for 15.17% of total employment in the sample. This is close to the actual proportion of industrial jobs provided by cooperatives in the Basque Country, which stands at 12.4% (Basque Government, 2021). Therefore, the sample is well sized with respect to the study universe.

5.3.2. Measuring of variables

The percentage of the establishment's turnover that comes from new products or services is used as a proxy to determine innovation performance (Zeng et al., 2010; Brettel & Cleven, 2011; Temel et al., 2023). This is combined with the degree of novelty of innovations (Van Beers & Zand, 2014), in terms of the percentage of innovations that are new to the firm and the percentage that are also new to the market. This gives rise to two dependent variables, *firm.inno* and *mrkt.inno*, expressed as percentages of the establishment's turnover.

Building on the existing literature (Table 5.1), cooperation for innovation is measured by considering interactions with group companies, competitors, customers, suppliers, universities, research centres, consultants, and public administrations. Based on the given configuration of the data, each cooperation category is measured using a binary variable: 1 when the establishment cooperates with that stakeholder to innovate and 0 when it does not. Table 5.1 gives the names of each of these independent variables.

Table 5.1. Name and definition of explanatory variables on the types of interorganisational cooperation on innovation according to stakeholder, and literature where mentioned.

Variable	Cooperating stakeholder	Source
group	Firms in the same group	De Faria et al. (2010), Seo et al. (2017), Moura et al. (2020), Choi & Choi (2021).
compet	Competitors	Belderbos et al. (2004), Nieto & Santamaría (2007), De Faria et al. (2010), Zeng et al. (2010), Brettel & Cleven (2011), De Marchi (2012), Laursen & Salter (2014), Seo et al. (2017), Jugend et al. (2018), Choi & Choi (2021).
custom	Customers	Belderbos et al. (2004), Nieto & Santamaría (2007), De Faria et al. (2010), Zeng et al. (2010), Brettel & Cleven (2011), De Marchi (2012), Laursen & Salter (2014), Seo et al. (2017), Jugend et al. (2018), Moura et al. (2020), Choi & Choi (2021).
suppl	Suppliers	Belderbos et al. (2004), Nieto & Santamaría (2007), De Faria et al. (2010), Zeng et al. (2010), Brettel & Cleven (2011), De Marchi (2012), Laursen & Salter (2014), Seo et al. (2017), Jugend et al. (2018), Moura et al. (2020), Choi & Choi (2021).
univ	Universities	Belderbos et al. (2004), De Faria et al. (2010), Zeng et al. (2010), Brettel & Cleven (2011), De Marchi (2012), Laursen &

		Salter (2014), Seo et al. (2017), Jugend et al. (2018), Choi & Choi (2021).
res.cen	Research Centres	Belderbos et al. (2004), Nieto & Santamaría (2007), De Faria et al. (2010), Zeng et al. (2010), De Marchi (2012), Laursen & Salter (2014), Seo et al. (2017), Jugend et al. (2018), Choi & Choi (2021).
consult	Consultants	Belderbos et al. (2004), De Faria et al. (2010), Brettel & Cleven (2011), De Marchi (2012), Laursen & Salter (2014), Jugend et al. (2018), Moura et al. (2020).
pub.adm	Public Administration	Zeng et al. (2010), Laursen & Salter (2014), Jugend et al. (2018).

Source: Own elaboration.

We include the dummy variable *scoop*, taking the value 1 when the establishment belongs to a cooperative firm and 0 otherwise, to measure the effect of being cooperative on innovation and on the impact of interorganisational cooperation on innovation performance.

As control variables (Table 5.2), we take into account the level of the establishment's spending on R&D, both internal and external (*int.rd.to* and *l.ext.rd*) or the receipt of public funding (*pub.aid*). The size of the establishment's parent firm (*l.emp.firm*) is also considered, because larger firms might possess more resources and economies of scale that enhance their innovation capabilities (Vaona & Pianta, 2008). The natural logarithm of the number of employees, commonly utilised in studies of firm innovation performance, is used as a proxy for firm size. We also control for the number of interorganisational cooperation channels on innovation establishment (*coop.chann*).

Table 5.2. Name and definition of control variables, and literature where mentioned.

Variable	Measurement	Source
<i>l.emp.firm</i>	Firm size. Continuous variable measured as the natural logarithm of the number of employees of the firm to which the establishment belongs.	Belderbos et al. (2004), Brettel & Cleven (2011), Laursen & Salter (2014), Van Beers & Zand (2014), Seo et al. (2017), Zhang et al. (2019), Choi & Choi (2021), Temel et al. (2023).

pub.aid	Dummy variable with value 1 if the establishment receives public support and 0 otherwise.	De Marchi (2012), Choi & Choi (2021).
int.rd.to	Continuous variable measured as internal R&D expenditure as a proportion of turnover at the establishment.	Nieto & Santamaría (2007), Seo et al. (2017), Zhang et al. (2019), Choi & Choi (2021).
l.ext.rd	Continuous variable measured as the natural logarithm of external R&D expenditure at the establishment.	Nieto & Santamaría (2007), Seo et al. (2017), Zhang et al. (2019), Choi & Choi (2021).
coop.chann	Number of cooperation channels. Counter adding 1 for each type of interorganisational cooperation in which the establishment is involved, out of a total of 8.	Laursen & Salter (2006), Nieto & Santamaría (2007), Ketata et al. (2015), Gkypali et al. (2017), Kobarg et al. (2019), Temel et al. (2023).

Source: Own elaboration.

5.3.3. Econometric methodology

Given the connections between variables revealed by the relevant economic literature and the empirical studies reviewed, three regression models are established to test the hypotheses stated in this study (Figure 5.1). The differences between the three models lie mainly in the variables included as explanatory.

First, we use the standard Analysis of Variance (ANOVA) to see whether there is any difference between the means of the different groups (cooperatives and non-cooperatives).

Then Multiple Linear Regression Models are specified and estimated using the Ordinary Least Squares (OLS) method with robust standard errors to correct possible heteroscedasticity. Neither heteroscedasticity nor autocorrelation tests are run, since OLS are consistent estimators, and we use OLS with robust standard deviation. As Wooldridge (2012, p.431) points out: “In recent years, it has become more popular to estimate models by OLS but to correct the standard errors for fairly arbitrary forms of serial correlation and/or heteroskedasticity”. Under serial correlation and/or heteroscedasticity OLS will be inefficient, but if the explanatory variables are not strictly exogenous GLS is not even

consistent, let alone efficient. Moreover, if the errors are assumed to follow a wrong distribution, it may be better to compute standard errors for the OLS estimates which are robust to more general forms of serial correlation and/or heteroscedasticity.

The models are formulated as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_k X_{ki} + \varepsilon_i \quad i=1, \dots, 718$$

Where:

Y_i is the dependent variable: New-to-the-firm innovation performance (*firm.inno*).

X_{ji} are the explanatory and control variables; $j=1, \dots, k$

ε_i is the error term, which is assumed to be normally distributed.

Based on the literature, we propose that the relationship between the explanatory and control variables and the dependent variable may be different depending on whether the firm is a cooperative or not; so we include that moderating effect by adding a moderating variable, *scoop*, which affects the relationship between the dependent variable and the explanatory ones (Hayes, 2022).

5.4. Results

5.4.1. Descriptive statistics

Table 5.3 presents the main descriptive statistics of the variables analysed and the degree of interaction between them. The main statistics are also shown separately for the establishments which belong to a cooperative and those which do not.

Regarding disparities in innovation between cooperatives and non-cooperatives, the ANOVA test reveals that external R&D expenditure is significantly greater among cooperatives, while internal R&D expenditure is equivalent in both groups. The number of types of stakeholder with whom firms cooperate to innovate is also significantly higher in the case of cooperatives: at 3.3 it is four times greater than the figure for non-cooperatives (0.77). The proportion of cooperatives receiving public aid (84%) is twice as high as the figure for non-cooperatives (40%). Additionally, the means of the binary cooperation variables are strikingly higher for cooperatives. The percentage of cooperatives cooperating with

universities for innovation is seven times greater than that of non-cooperatives (51% vs. 7%). The percentage of cooperatives that cooperate with R&D centres (61% versus 13%) and customers (44% versus 9%) is five times higher, and the percentage that cooperate with group companies (42% versus 10%), suppliers (51% versus 13%), consultants (58% versus 16%) and public administrations (18% versus 5%) is about four times higher.

The means across the whole sample for the percentage of establishment turnover attributed to innovations new to the firm (*firm.inno*) or new to the market (*mrkt.inno*) are 7.78% and 3.35% respectively. For non-cooperative firms, which make up a significant proportion of the sample, these figures remain consistent (6.43% and 3.13% respectively). In contrast, cooperatives show substantial increases in both percentages (23.47% and 5.81% respectively), with the figure being particularly striking for innovations new to the firm (*firm.inno*). A comparison of these averages between cooperative and non-cooperative firms could indicate that innovation has a considerably greater impact on the turnover of cooperatives.

The ANOVA test supports that being a cooperative (*scoop*) is statistically significant for the percentage of establishment turnover due to innovations new to the firm (*firm.inno*) but not for that due to innovations new to the market (*mrkt.inno*). Therefore, in our regression models we analyse the influence of being a cooperative only on innovation new to the firm (*firm.inno*).

The ANOVA test shows that cooperation for innovation with competitors (*compet*) and with public administrations (*pub.adm*) are two statistically non-significant variables for innovation performance (*firm.inno* and *mrkt.inno*). Therefore, these two variables are not included in the regression models.

Furthermore, the ANOVA test shows that, as in the case of innovation new to the firm (*firm.inno*), cooperation with group companies, customers, suppliers, universities, research centres and consultants is significantly positive for innovation performance new to the market (*mrkt.inno*).

Given the constraints often attributed to cooperatives in the relevant literature, Table 5.4 shows the main statistics and tests the correlations of three variables referring to the difficulty

Table 5.3. Main statistics and correlations.

	all sample (n=718)			cooperatives (n=57)			non-cooperatives (n=661)			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	mean (sd)	min/ max	coop=0	mean (sd)	min/ max	coop=1	mean (sd)	min/ max	coop=0																
(1) firm.inno	7.780 (21.700)	0.00 100.00	23.474 (33.227)	0.00 100.00	3.474 (19.819)	0.00 100.00	0.2363*** (19.819)	0.2805*** (19.819)	0.2294*** (19.819)	0.3208*** (19.819)	0.2129*** (19.819)	0.1777*** (19.819)	0.0381 (19.819)	0.2075*** (19.819)	0.1253*** (19.819)	0.2242*** (19.819)	0.2303*** (19.819)	0.2303*** (19.819)	0.0381 (19.819)	0.2075*** (19.819)	0.1253*** (19.819)	0.2242*** (19.819)	0.2303*** (19.819)	0.1459*** (19.819)	0.0094 (19.819)
(2) mrkt.inno	3.350 (12.500)	0.00 100.00	5.807 (11.357)	0.00 50.00	3.133 (12.631)	0.00 100.00	0.0906* (12.631)	0.0518 (12.631)	0.1541*** (12.631)	0.2397*** (12.631)	0.0576 (12.631)	0.1465*** (12.631)	0.0506 (12.631)	0.0939** (12.631)	0.1314*** (12.631)	0.0871** (12.631)	0.1055*** (12.631)	0.1055*** (12.631)	0.0939** (12.631)	0.1314*** (12.631)	0.0871** (12.631)	0.1055*** (12.631)	0.1436*** (12.631)	0.0258 (12.631)	
(3) l.emp.firm	3.720 (1.720)	6.91 6.91	5.194 (1.669)	1.10 6.91	3.591 (1.666)	0.00 6.91	1 (1.666)	-0.0450 (1.666)	0.3621*** (1.666)	0.5141*** (1.666)	0.5073*** (1.666)	0.2520*** (1.666)	0.3994*** (1.666)	0.1565*** (1.666)	0.3413*** (1.666)	0.3740*** (1.666)	0.3357*** (1.666)	0.3357*** (1.666)	0.1565*** (1.666)	0.3413*** (1.666)	0.3740*** (1.666)	0.3357*** (1.666)	0.4056*** (1.666)	0.3162*** (1.666)	
(4) int.rd.to	0.017 (0.106)	0.00 2.54	0.021 (0.053)	0.00 0.38	0.016 (0.109)	0.00 2.54	1 (0.109)	0.0671 (0.109)	0.2044*** (0.109)	0.1686*** (0.109)	0.0127 (0.109)	0.0236 (0.109)	0.2007*** (0.109)	0.1771*** (0.109)	0.1421*** (0.109)	0.1621*** (0.109)	0.1539*** (0.109)	0.1539*** (0.109)	0.1771*** (0.109)	0.1421*** (0.109)	0.1621*** (0.109)	0.1539*** (0.109)	0.1353*** (0.109)	0.1682*** (0.109)	
(5) l.ext.rd	1.890 (4.470)	0.00 15.60	6.298 (6.575)	0.00 15.61	1.513 (4.031)	0.00 15.61	1 (4.031)	0.5450*** (4.031)	0.4063*** (4.031)	0.2894*** (4.031)	0.4864*** (4.031)	0.1905*** (4.031)	0.3628*** (4.031)	0.3628*** (4.031)	0.4361*** (4.031)	0.3956*** (4.031)	0.4988*** (4.031)	0.4988*** (4.031)	0.3628*** (4.031)	0.4361*** (4.031)	0.3956*** (4.031)	0.4988*** (4.031)	0.3536*** (4.031)	0.0731* (4.031)	
(6) coop.chann	0.967 (1.720)	0.00 8.00	3.298 (2.195)	0.00 7.00	0.766 (1.521)	0.00 8.00	1 (1.521)	0.5926*** (1.521)	0.6716*** (1.521)	0.3972*** (1.521)	0.6716*** (1.521)	0.4253*** (1.521)	0.6856*** (1.521)	0.6856*** (1.521)	0.7721*** (1.521)	0.7389*** (1.521)	0.6951*** (1.521)	0.6951*** (1.521)	0.6856*** (1.521)	0.7721*** (1.521)	0.7389*** (1.521)	0.6951*** (1.521)	0.7989*** (1.521)	0.4938*** (1.521)	
(7) pub.aid	0.433 (0.496)	0.00 1.00	0.842 (0.368)	0.00 1.00	0.398 (0.489)	0.00 1.00	1 (0.489)	0.3827*** (0.489)	0.1986*** (0.489)	0.3827*** (0.489)	0.2424*** (0.489)	0.1986*** (0.489)	0.3989*** (0.489)	0.3989*** (0.489)	0.4143*** (0.489)	0.3903*** (0.489)	0.4951*** (0.489)	0.4951*** (0.489)	0.3989*** (0.489)	0.4143*** (0.489)	0.3903*** (0.489)	0.4951*** (0.489)	0.5178*** (0.489)	0.2851*** (0.489)	
(8) scoop	0.079 (0.271)	0.00 1.00	0.421 (0.498)	0.00 1.00	0.104 (0.306)	0.00 1.00	1 (0.306)	0.2550*** (0.306)	0.0408 (0.306)	0.2550*** (0.306)	1 (0.306)	0.2550*** (0.306)	0.0408 (0.306)	0.2855*** (0.306)	0.2855*** (0.306)	0.3776*** (0.306)	0.3473*** (0.306)	0.3473*** (0.306)	0.2855*** (0.306)	0.2855*** (0.306)	0.3776*** (0.306)	0.3473*** (0.306)	0.2864*** (0.306)	0.1463*** (0.306)	
(9) group	0.130 (0.336)	0.00 1.00	0.421 (0.498)	0.00 1.00	0.104 (0.306)	0.00 1.00	1 (0.306)	0.2550*** (0.306)	0.0408 (0.306)	0.2550*** (0.306)	1 (0.306)	0.2550*** (0.306)	0.0408 (0.306)	0.2855*** (0.306)	0.2855*** (0.306)	0.3776*** (0.306)	0.3473*** (0.306)	0.3473*** (0.306)	0.2855*** (0.306)	0.2855*** (0.306)	0.3776*** (0.306)	0.3473*** (0.306)	0.2864*** (0.306)	0.1463*** (0.306)	
(10) compet	0.029 (0.169)	0.00 1.00	0.053 (0.225)	0.00 1.00	0.027 (0.163)	0.00 1.00	1 (0.163)	0.2395*** (0.163)	0.2899*** (0.163)	0.2395*** (0.163)	1 (0.163)	0.2395*** (0.163)	0.2899*** (0.163)	0.2899*** (0.163)	0.2316*** (0.163)	0.2076*** (0.163)	0.2076*** (0.163)	0.2076*** (0.163)	0.2899*** (0.163)	0.2899*** (0.163)	0.2316*** (0.163)	0.2076*** (0.163)	0.3124*** (0.163)	0.0976*** (0.163)	
(11) custom	0.121 (0.327)	0.00 1.00	0.439 (0.501)	0.00 1.00	0.094 (0.292)	0.00 1.00	1 (0.292)	0.094 (0.292)	0.094 (0.292)	0.094 (0.292)	1 (0.292)	0.094 (0.292)	0.094 (0.292)	0.4285*** (0.292)	0.4285*** (0.292)	0.4876*** (0.292)	0.3320*** (0.292)	0.3320*** (0.292)	0.4285*** (0.292)	0.4285*** (0.292)	0.4876*** (0.292)	0.3320*** (0.292)	0.4230*** (0.292)	0.4530*** (0.292)	
(12) suppl	0.156 (0.363)	0.00 1.00	0.509 (0.504)	0.00 1.00	0.126 (0.332)	0.00 1.00	1 (0.332)	0.126 (0.332)	0.126 (0.332)	0.126 (0.332)	1 (0.332)	0.126 (0.332)	0.126 (0.332)	0.4050*** (0.332)	0.4050*** (0.332)	0.4801*** (0.332)	0.6151*** (0.332)	0.6151*** (0.332)	0.4050*** (0.332)	0.4050*** (0.332)	0.4801*** (0.332)	0.6151*** (0.332)	0.2200*** (0.332)		
(13) univ	0.109 (0.311)	0.00 1.00	0.509 (0.504)	0.00 1.00	0.074 (0.262)	0.00 1.00	1 (0.262)	0.074 (0.262)	0.074 (0.262)	0.074 (0.262)	1 (0.262)	0.074 (0.262)	0.074 (0.262)	0.4379*** (0.262)	0.4379*** (0.262)	0.5199*** (0.262)	0.5199*** (0.262)	0.5199*** (0.262)	0.4379*** (0.262)	0.4379*** (0.262)	0.5199*** (0.262)	0.4279*** (0.262)			
(14) rescen	0.170 (0.376)	0.00 1.00	0.614 (0.491)	0.00 1.00	0.132 (0.338)	0.00 1.00	1 (0.338)	0.132 (0.338)	0.132 (0.338)	0.132 (0.338)	1 (0.338)	0.132 (0.338)	0.132 (0.338)	0.4823*** (0.338)	0.4823*** (0.338)	0.1559*** (0.338)	0.1559*** (0.338)	0.1559*** (0.338)	0.4823*** (0.338)	0.4823*** (0.338)	0.1559*** (0.338)	0.1559*** (0.338)			
(15) consult	0.194 (0.395)	0.00 1.00	0.579 (0.498)	0.00 1.00	0.160 (0.367)	0.00 1.00	1 (0.367)	0.160 (0.367)	0.160 (0.367)	0.160 (0.367)	1 (0.367)	0.160 (0.367)	0.160 (0.367)	0.3735*** (0.367)	0.3735*** (0.367)	1 (0.367)	1 (0.367)	1 (0.367)	0.3735*** (0.367)	0.3735*** (0.367)	1 (0.367)	1 (0.367)	0.3735*** (0.367)		

(1€ p-value significance codes: '***' 0.01 '**' 0.05 '*' 0.1; Pearson correlation for continuous variables; Spearman correlation for discrete variables; Square root of R-squared & ANOVA test between continuous and discrete variables

Source: Own elaboration.

of cooperatives in obtaining internal financing (C41), in obtaining external financing (C42) and in attracting and retaining talent (C45). As expected, cooperatives claim to have significantly greater limitations to innovate due to these aspects. But it is also seen that these constraints are positively and significantly related to the variables referring to innovation performance (*firm.inno*, *mrkt.inno*). When introduced into the regression model, these variables provided inconsistent results, therefore it was decided to exclude them from the regression models.

Table 5.4. Main statistics and correlations of variables on limitations to innovation.

constraint type	all sample (n=718)		cooperatives (n=57)		non-cooperatives (n=661)		scoop	firm.inno	mrkt.inno	scoop=1		scoop=0	
	mean (sd)	min/max	mean (sd)	min/max	mean (sd)	min/max				firm.inno	mrkt.inno	firm.inno	mrkt.inno
C41	1.241	0.00	1.877	0.00	1.186	0.00	0.1591 ***	0.2257 ***	0.0987 ***	0.3609 ***	-0.0908	0.1868 ***	0.0948 **
	1.142	3.00	1.196	3.00	1.121	3.00							
C42	1.033	0.00	1.596	0.00	0.9849	0.00	0.1453 ***	0.1753 ***	0.0536	0.3285 **	-0.0552	0.1379 ***	0.0439
	1.086	3.00	1.178	3.00	1.064	3.00							
C45	1.17	0.00	1.421	0.00	1.148	0.00	0.0759 **	0.1484 ***	-0.0227	0.2034	-0.0056	0.1285 ***	-0.0367
	1.028	3.00	0.981	3.00	1.029	3.00							

Source: Own elaboration.

5.4.2. Regression results

Taking into account the connections between variables revealed by the relevant economic literature and by the empirical studies reviewed, three regression models are established to test the hypotheses formulated in this study (See Table 5.5 with the coefficients, the standard errors and their significance).

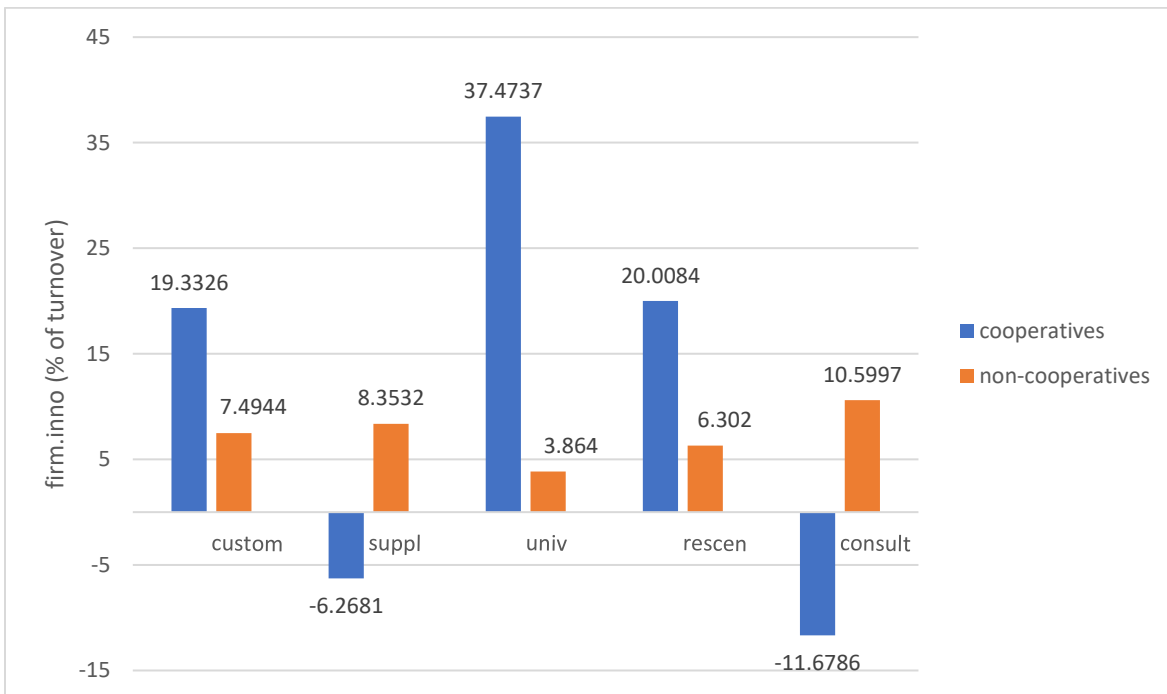
Model 1 includes the control variables and the explanatory variables, with the *scoop* variable initially being one of the latter. The effect of these variables is, as expected, positive and significant in all cases, except for the number of cooperative channels to innovate (*coop.chann*), for which it is negative.

Being a cooperative (*scoop*) significantly influences innovation performance (*firm.inno*), increasing the proportion of turnover due to innovations new to the firm by 8.49 percentage points on average. But our proposal is that this influence may not be direct, but rather moderates the influence of some explanatory variables. Therefore, we propose Model 2,

where we interact the effects of each of the explanatory variables related to cooperation for innovation (*group, custom, suppl, univ, rescen, consult*) with the *scoop* variable.

An analysis of the results of Model 2 (Figure 5.2) reveals that cooperative firms obtain a significantly higher percentage of turnover from innovations new to the firm than non-cooperative firms, when they cooperate to innovate with customers (11.84 percentage points more), universities (33.61 percentage points more) and research centres (13.71 percentage points more), ceteris paribus. In contrast, this effect of cooperation is significant but negative in the case of cooperation for innovation with suppliers (14.62 percentage points less) and consultants (22.28 percentage points less), ceteris paribus.

Figure 5.2. Effect of interorganisational cooperation on the percentage of turnover due to innovation new to the firm, according to Model 2.



Source: Own elaboration.

Figure 5.3 shows the empirical model with the relationships of interest for the study as extracted from Model 2 resulting from the regression analysis.

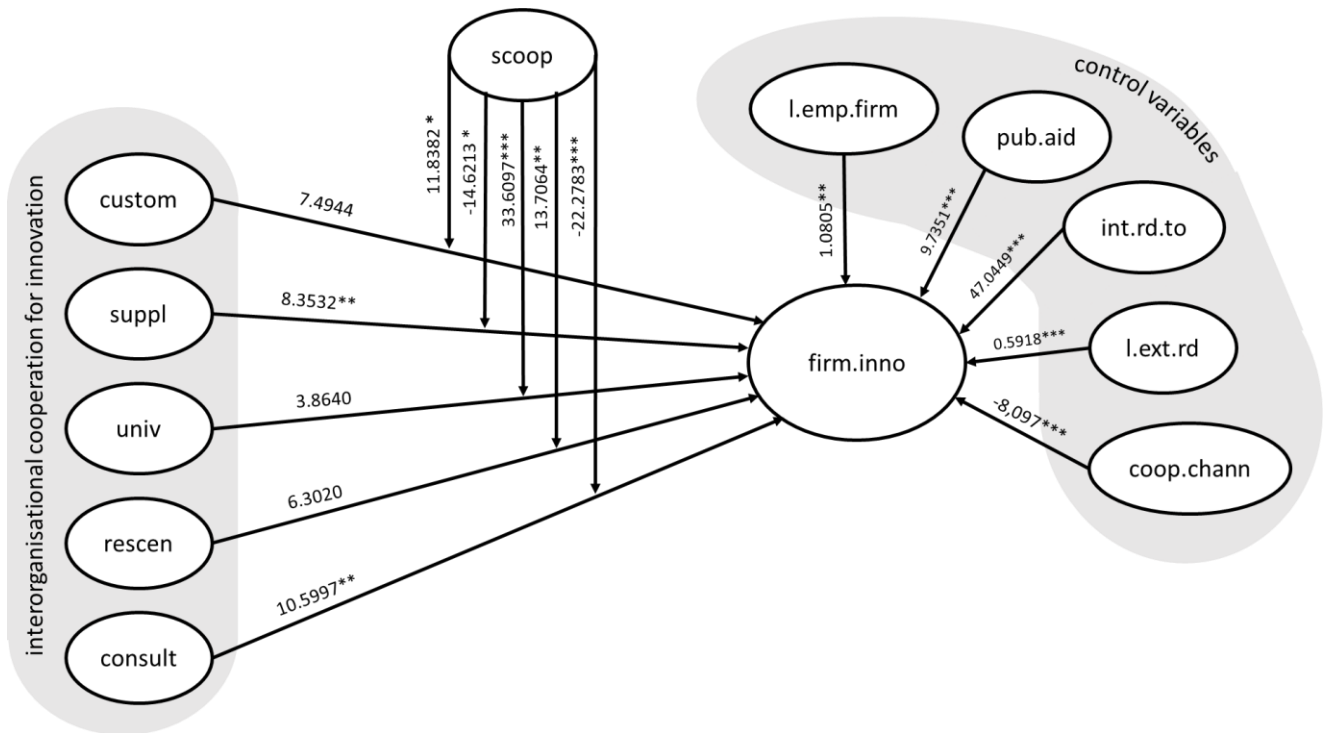
Table 5.5. OLS estimates (Robust Standard Deviations). Dependent variable: New-to-the-firm innovation performance (*firm.inno*).

Variable	Model 1	Model 2	Model 3
const	-2.1008 (1.8297)	-1.6257 (1.7738)	-1.6558 (1.7786)
l.emp.firm	1.1847 ** (0.5322)	1.0805 ** (0.5160)	1.0807 ** (0.5163)
pub.aid	9.2690 *** (1.9619)	9.7351 *** (1.8986)	9.7070 *** (1.9028)
int.rd.to	47.4859 *** (7.2568)	47.0449 *** (7.0407)	46.9981 *** (7.0476)
l.ext.rd	0.6717 *** (0.2072)	0.5918 *** (0.2029)	0.5924 *** (0.2031)
coop.chann	-13.7072 *** (3.0648)	-8.0970 *** (3.0972)	-8.0913 *** (3.0994)
scoop	8.4958 *** (3.0050)		1.2860 (4.8585)
group	14.3583 *** (4.0598)	2.9343 (4.4716)	2.9410 (4.4746)
custom	18.6444 *** (4.7319)	7.4944 (5.0708)	7.5099 (5.0745)
suppl	7.7132 * (4.2346)	8.3532 ** (4.1748)	8.3511 ** (4.1776)
univ	19.4996 *** (4.8826)	3.8640 (5.2854)	3.8568 (5.2889)
rescen	13.6866 *** (3.8961)	6.3020 (4.0485)	6.3219 (4.0519)
consult	11.4446 ** (4.4869)	10.5997 ** (4.4835)	10.6211 ** (4.4873)
group.scoop		4.3401 (8.1540)	4.3467 (8.1595)
custom.scoop		11.8382 * (6.7462)	11.6328 * (6.7952)
suppl.scoop		-14.6213 * (8.2338)	-14.8224 * (8.2742)
univ.scoop		33.6097 *** (8.1432)	33.3190 *** (8.2223)
rescen.scoop		13.7064 ** (5.6636)	13.0489 ** (6.1878)
consult.scoop		-22.2783 *** (8.1252)	-22.6418 *** (8.2458)
Sample size	718	718	718
R-squared	0.2169	0.2761	0.2762
Adjusted R-squared	0.2036	0.2585	0.2575

p-value significance codes: '***' 0.01 '**' 0.05 '*' 0.1

Source: Own elaboration.

Figure 5.3. Impact of interorganisational cooperation on innovation new to the firm, influenced by being a cooperative.



p-value significance codes: '****' 0.01 '**' 0.05 '*' 0.1

Source: Own elaboration.

Table 5.5 shows the estimation of Model 3. The significant positive effect of being a cooperative (*scoop*) on innovation performance (*firm.inno*) disappears when the moderated variables are included, which suggests that the effect of *scoop* is not direct but only moderating.

It should be noted that the lack of significance of the variable for cooperation with firms of the same group (*group.scoop*) in the final model might be due to potential multicollinearity issues among the moderated variables, as shown in Table 5.6.

Table 5.6. Spearman's rank correlation matrix for the interacted variables.

	(1)	(2)	(3)	(4)	(5)	(6)
(1) group.scoop	1	0.6832 ***	0.5916 ***	0.8277 ***	0.6416 ***	0.5512 ***
(2) custom.scoop		1	0.6171 ***	0.7328 ***	0.5921 ***	0.6114 ***
(3) suppl.scoop			1	0.6407 ***	0.6106 ***	0.8671 ***
(4) univ.scoop				1	0.6435 ***	0.6644 ***
(5) rescen.scoop					1	0.6916 ***
(6) consult.scoop						1

p-value significance codes: '****' 0.01 '**' 0.05 '*' 0.1

Source: Own elaboration.

5.5. Discussion and conclusions

This research significantly contributes to the academic discourse on business innovation by presenting a solid econometric analysis based on a large sample of both cooperative and investor-owned firms, thus advancing understanding in the field.

The analysis conducted underscores several key findings. Cooperative firms show superior innovation performance, particularly as regards the percentage of turnover attributed to innovations new to the firm (*firm.inno*). This supports our H1a and highlights the competitive advantages of cooperatives in this area. In contrast, for innovations new to the market (*mrkt.inno*) no statistically significant distinction is found between cooperatives and non-cooperatives, so H1b is rejected. Nevertheless, this finding underscores that they maintain competitive parity in new-to-the-market innovations, despite the constraints often attributed to cooperatives in the relevant literature. Given the relevance of these limitations in literature, we sought to add three more variables to the control variables, referring to the difficulty of cooperatives in obtaining internal financing (C41), in obtaining external financing (C42) and in attracting and retaining talent (C45). As expected, cooperatives claim to have significantly greater limitations to innovate due to these aspects (Table 5.4). But it is also seen that these constraints are positively and significantly related to the variables referring to innovation performance (*firm.inno*, *mrkt.inno*). Although this may seem illogical, it could be justified by the fact that the answers to the variables C41, C42 and C45 are subjective, and the participants may have had a bias whereby those who have the best innovation performance are more critical of themselves and attribute to themselves greater limitations to innovate. Because of this, when introduced into the regression model, these variables provided results that were difficult to justify, and it was decided to exclude them. It can also be seen that these limitations seem to affect in a positive way more usually in the case of new-to-the-firm innovations and innovation carried out by non-cooperative firms.

Furthermore, cooperative firms tend to invest considerably more in external R&D, but there are no substantial differences in internal R&D. Interorganisational cooperation for innovation with universities, customers, suppliers, R&D centres, consultants, group companies and public administrations is also found to be four to seven times more prevalent among cooperatives. Cooperatives cooperate to innovate with three times more different types of stakeholder than non-cooperatives, and they are twice as likely to

receive public aid that could be directed towards innovation endeavours. These distinctions could stem from the larger size of cooperatives within the sample.

Regardless of the type of firm, neither cooperation with competitors (*compet*) nor cooperation with the public administrations (*pub.adm*) are significant explanatory factors in innovation performance. This may be because these types of cooperation are residual, as reflected in the low means of the relevant variables. However, Model 1 illustrates that other interorganisational cooperation channels (group companies, customers, suppliers, universities, research centres, consultants) significantly and positively impact innovation performance. This highlights the positive influence of interorganisational cooperation on innovation. Furthermore, the same types of interorganisational cooperation positively affect both new-to-the-firm and new-to-the-market innovations. This may reduce the influence of cooperating partner type on the degree of novelty of the innovations achieved (Belderbos et al., 2004; Nieto & Santamaría, 2007; Zeng et al., 2010; Anzola-Roman et al., 2018).

Turning attention to how being a cooperative influences the effect of interorganisational cooperation on the percentage of turnover due to products new to the firm (Model 2), we find that cooperatives achieve significantly better innovation outcomes than non-cooperatives when they cooperate to innovate with customers, universities and research centres, *ceteris paribus*. These affirmative findings may be due to the cooperative principle of intercooperation and the subsequent networking, which enables cooperatives proactively to foster innovation networks (Smith, 2001; Novkovic, 2007; Rodríguez & Guzmán Alfonso, 2013; Gallego & Chaves, 2015; Iturrioz et al., 2015; Gallego & Chaves, 2016; Basterretxea et al., 2019a). Cooperation with universities in particular benefits innovation outcomes at cooperatives far more than at investor-owned firms. This may be due to the presence of Mondragon Unibertsitatea, Mondragon's corporate university. Even large cooperatives that have recently left the Mondragon group (Orona, Ulma, Ampo, Irizar) continue to finance and collaborate with Mondragon Unibertsitatea, which is consistent with this finding. Greater collaboration with R&D centres, higher external R&D expenditure and better innovation outcomes coming from that collaboration can also be explained by the presence of 12 corporate R&D centres of the Mondragon cooperative group.

Conversely, cooperation for innovation with suppliers and consultants has a significant but negative impact in the case of cooperatives, *ceteris paribus*. In the case of cooperation

with consultants, this may be because consultancies, in most cases, stand apart from the cooperative model and "speak another language", potentially resulting in synergies being not just smaller but negative. Further exploration of these negative results in comprehensive future studies would be valuable.

These findings, along with those of Model 3, mean that H2 is partially upheld, suggesting that the effect of being a cooperative on innovation performance is moderating rather than direct. This significant moderating effect, however, is positive only for specific types of cooperation.

It should be noted that the lack of significance of the variable for cooperation with firms of the same group (*group.scoop*) in the final model might be due to potential multicollinearity issues among variables (Table 5.6). Our study is limited to establishments in the Basque Country, so most of the participating cooperatives can be expected to be part of Mondragon. Mondragon's large intercooperative network may blur distinctions between stakeholders in the perception of participants, heightening the correlation between certain variables. These research outcomes are also likely to come more from the collaboration with corporate institutions that Mondragon has developed for this purpose (the corporate university and corporate R&D centres) than from direct collaboration between cooperatives operating in different industries. It is also worth mentioning that the significant negative effect of the number of interorganisational cooperation channels for innovation (the *coop.chann* control variable) suggests that greater diversity in cooperative relationships could be detrimental to innovation (Gkypali et al., 2017).

These findings have implications that extend beyond academia and have practical importance. Given the linkage proposed between interorganisational cooperation and enhanced innovation outcomes, cooperatives are urged to strengthen their intercooperation policies. Our research focuses on cooperatives cooperating with other agents for innovation, but our findings with the whole sample of 718 industrial establishments add evidence to broader research on innovation and suggests that not only cooperatives but also investor-owned firms benefit from interorganisational cooperation with different stakeholders to improve innovation outcomes.

One of the limitations of the study lies in the characteristics of the Basque industrial cooperative network (Basterretxea & Martínez, 2012; Iturrioz et al., 2015). Average

employee numbers at cooperatives in the Basque Country are up to three times higher than in the rest of Europe, and in the case of industrial cooperatives the difference can be much greater. A large proportion of Basque cooperatives belong to Mondragon, which gives them a framework of intercooperation not easily found elsewhere (Smith, 2001; Bakaikoa & Albizu, 2011; Iturrioz et al., 2015; Arando & Arenaza, 2018). This makes it easier for their members to obtain external financing through corporate investment funds, which is often challenging for other cooperatives, and reduces the risk aversion typical of cooperative members (Dow, 2003; Borgen, 2004; Novkovic, 2007; Jossa, 2009; Maietta & Sena, 2010; Melgarejo et al., 2010; Chevalier, 2011; Borzaga & Tortia, 2017; Bretos & Marcuello, 2017; Piketty, 2020). In addition, the historical tradition of intercooperation within the context of Mondragon means that there may be more experience in cooperating with stakeholders, potentially resulting in superior innovation outcomes for the cooperatives studied here than for others worldwide. Indeed, the better or even results of cooperatives, even if the limitations usually mentioned in the literature are identified and supported in Table 5.4, may be due to the special condition of these cooperatives, since their tax system encourages internal financing, their corporate bank facilitates external financing, and the constraints for attracting talent may be reduced by the rooted cooperative culture of their social context (Basterretxea & Martínez, 2012). These advantages of belonging to Mondragon could extend to other Basque industrial cooperatives not part of the group due to geographical concentration (Basterretxea & Martínez, 2012; Iturrioz et al., 2015). These unique conditions might restrict the applicability of the findings to other cooperative environments. The survey from which the data were extracted is based on the *Community Innovation Survey*, so the analysis could be repeated in other socioeconomic contexts for the purposes of comparison.

Another limitation of this study is the fact that, even with a large sample for analysis, the data were collected by external sources (Eustat) and not specifically for this study. This has limited us in modelling the research. In addition, to maintain the anonymity of the establishments surveyed, Eustat imposed upper limits on the values of variables that could reveal the identity of establishments in the case of a few of the observations. In any case, this way of obtaining the data favours veracity and quality and enables us to work with a large sample size. The pre-established nature of the database also hampers the inclusion of variables such as the knowledge levels of cooperating parties and the number of products/services in each establishment's portfolio, a point which economic theory

stresses as important when analysing relationships such as this one. Future data collection and research could address these gaps by incorporating additional variables of interest or control variables.

CHAPTER 6

Concluding Remarks

6.1. Introduction

This chapter summarises the conclusions drawn from each of the research studies presented in previous chapters. In this way, it aims to respond both to the objectives proposed for each of the chapters, as well as to the general objectives of the doctoral thesis. Subsequently, its main contributions, both academic and practical, are presented. The chapter closes with a section on the limitations of the research, which serves as a boundary for proposing a series of future research avenues.

6.2. Conclusions

Table 6.1 shows the relationship between the specific and general objectives of this doctoral thesis and the conclusions in response to each of them.

Table 6.1. Relationship between objectives and conclusions of the doctoral thesis.

Objective	Conclusion
SO1: To understand and present the development, current knowledge structure and future research trends of the body of literature on worker cooperatives and other labour-owned and managed firms.	1. Three periods are identified in the literature on worker cooperatives and other labour-owned and managed firms.
	2. Prestigious generalist journals can increase the impact of studies on cooperatives, but authors may hide their cooperative nature to gain acceptance.
	3. The collaboration of authors in worker cooperatives is crucial for the advancement of knowledge and the creation of international networks.
	4. The clusters of authors show ageing trends, and although some have experienced a generational turnover, a second shift is needed as yet unidentified.
	5. Topics in worker cooperative literature are very interrelated and lack diversity despite academic journal development.
SO2.1: To identify advantages and limitations of intercooperative labour flexibility and security policies.	6. Intercooperative labour flexibility and security policies mitigated social issues related to Fagor Electrodomesticos' bankruptcy.
	7. The competitive advantages of intercooperative labour flexibility and security policies have been significantly reduced for cooperatives, given the more flexible labour legislation for conventional firms and the increasingly long crises.
	8. When flexicurity policies are implemented as a response to the crisis, rather than in a preventive way accompanied by training, they have a negative effect on workers.
SO2.2: To explore how intercooperative labour flexibility and security policies are applied and perceived differently depending on the geographical location of the business unit.	9. Salaried workers in foreign subsidiaries protest against labour flexibility through direct actions and seek solidarity from the worker-members, which is not forthcoming, given their special status.
SO2.3: To shed light on the different strategies of resistance and	10. Worker-members use individualistic acts of resilience to resist relocations and functional flexibility.

resilience of worker-members to intercooperative labour flexibility and security policies, both from the perspective of management and staff.	11. Worker-members of successful cooperatives oppose the permanent relocation of members from other less successful cooperatives.
SO3.1: To identify the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems.	12. Retailers can stimulate sectoral growth by increasing demand or by working with dominant producers for then backing the more micro ones.
SO3.2: To identify the benefits and limitations for Eroski and the other parties involved in intercooperation related to a local agrifood system.	13. Three-tier intercooperation between Eroski, public administrations and local agrifood producers is key to boosting the local agrifood system, through growth, professionalisation and structuring of producers.
	14. The commitment to local products and the development of local agrifood systems entails additional transaction costs and a loss of economies of scale for the retail sector; but it also brings benefits in terms of differentiation towards the consumer.
	15. Eroski prefers to cooperate with producers working under association, to broaden the impact of its initiatives to develop the local agrifood system. Working under partnership is also beneficial for producers.
SO3.3: To identify the conflicts that may arise between Eroski and the other parties involved in intercooperation related to a local agrifood system and how to solve them.	16. There are problems of cultural alignment between large retailers and local producers, which could be solved with the support of public institutions and producer associations, or by hiring managers with previous experience on the other side.
	17. The high levels of dependence of local producers on Eroski lead them to diversify risks by serving other retailers, which generates mistrust in Eroski, which has historically contributed to their development.
SO4.1: To contrast the positive and significant effect of being a cooperative on a firm's innovation performance in products new to the firm and new to the market.	18. Cooperatives show superior performance in terms of innovations new to the firm and competitive parity in terms of innovations new to the market.
	19. Although cooperatives claim to have major limitations to innovate, these are related to a superior performance in terms of innovations.
SO4.2: To contrast the positive and significant effect of being a cooperative in achieving superior innovation outcomes through interorganisational cooperation.	20. Cooperatives achieve significantly better innovation results in products new to the firm than non-cooperatives when they cooperate to innovate with customers, universities and research centres.
	21. Interorganisational cooperation for innovation is more active among cooperatives than among non-cooperatives, in terms of frequency and variety.
	22. The type of cooperation partner may not influence the degree of novelty of the innovations achieved, and greater diversity in cooperative relationships may be detrimental to innovation.
GO1: To provide new knowledge on the main reasons, results and limitations of intercooperation in order to discuss the link between this principle and the historical success of Basque worker cooperatives.	23. Although intercooperation has historically enabled cooperatives to balance their social values with the need to make profits, the volatility of today's market means that this principle no longer represents an advantage over capitalist firms, but rather a way of keeping up with them.

<p>GO2: To address the various topics that make up the literature on worker cooperatives from different ways of applying intercooperation.</p>	<p>24. Intercooperation can be classified according to the topics it addresses and the status of the intercooperative partners.</p>
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Source: Own elaboration.

The conclusions of this doctoral thesis are developed in more detail below.

SO1: To understand and present the development, current knowledge structure and future research trends of the body of literature on worker cooperatives and other labour-owned and managed firms.

Conclusion 1: Three periods are identified in the literature on worker cooperatives and other labour-owned and managed firms.

The bibliometric review conducted in Chapter 2 identifies three periods in the trend of the literature analysed on worker cooperatives and labour-owned and managed firms:

The first period, spanning from 1973 to 1992, marks the appearance of this literature in academic journals and its initial modest growth. This period likely corresponds to the emergence of economic theory regarding labour managed firms during the 1960s. Until the 1980s, most empirical works were still published in academic books (Ellerman, 1982; Thomas & Logan, 1982; Whyte & Whyte, 1988), with journals primarily featuring theoretical works (Dow, 2018). The growth of this literature might be attributed to the resurgence of post-Soviet economies, social economy, self-management, and industrial relations during this time (McIntyre, 2018). Notably, the first article within the selected sample addresses financing issues of labour managed firms in Yugoslavia (Wemelsfelder, 1973).

The second period, between 1993 and 2010, experienced stagnation or even a decline in this literature. This decline could be attributed to the political ideals expressed in grassroots and labour movements not being sufficient to counter the individualistic incentives of deregulation policies and support for private initiative. This happened particularly during the 1980s under Thatcherism in the UK and Reaganomics in the USA. This led to depoliticization (Costa-Vieira & Foster, 2022) and decline of collectivist work formulas, such as cooperativism, along with a loss of academic and political relevance of labour relations. Moreover, globalisation and technological revolution during this decade favoured more flexible structures in the private sector, posing challenges in scale and efficiency for cooperative firms.

The last period began in 2011 and has extended to the present as a second period of growth, this time more robust. The rapid growth of publications and citations in the last decade indicates a relatively recent flourishing of interest in research in this field. Approximately 48% of the articles reviewed in Chapter 2 appeared in the last decade, with 69% of the citations made during that time frame. This growth could be attributed to the popularisation of worker cooperatives in Western countries with conventional capitalist markets, driven by criticisms of the traditional capitalist model and a shift in cultural and economic perceptions towards more equitable, sustainable, and participatory models beyond market logic. Furthermore, cooperatives have gained special attention academically and institutionally as instruments for economic stabilisation (García-Louzao, 2021), strategic relevance for sustainable economic development, and local social cohesion (Hoffman, 2022). Their countercyclical behaviour makes them a defensive tool against crises (Cornforth & Thomas, 1994; Carini & Carpita, 2014). Additionally, the success of exemplary cooperatives, such as those within Mondragon, has demonstrated that this business model can be profitable and competitive.

Conclusion 2: Prestigious generalist journals can increase the impact of studies on cooperatives, but authors may hide their cooperative nature to gain acceptance.

A single well-curated special issue, with relevant authors involved, published in a prestigious generalist journal, can give the journal a higher impact than historically achieved by other journals specialised in the area of worker cooperatives. This heightened impact stems not only from the intrinsic quality of the content but also from the broader reach and visibility afforded by the generalist journal's established reputation and wide readership base. By featuring worker cooperative studies in such a prominent venue, these publications effectively elevate the importance and relevance of the topic within the scholarly community and beyond, thereby contributing to its broader recognition and influence in academic discourse and policymaking circles alike.

However, amidst the benefits of heightened exposure, it is essential to acknowledge the potential for unintended consequences. The selective behaviour of some authors, driven by the pursuit of greater acceptance and visibility in high-impact generalist journals, might lead them to conceal the cooperative nature of their research. This strategic manoeuvring to conform to editorial preferences could inadvertently dilute the distinctive features and contributions of cooperative studies. It is incumbent upon both authors and journal editors to ensure that worker cooperative studies retain their unique identity while

benefiting from the broader visibility and impact facilitated by generalist journal publications.

Conclusion 3: The collaboration of authors in worker cooperatives is crucial for the advancement of knowledge and the creation of international networks.

Just as worker cooperatives derive mutual benefit from collaborative endeavours with their counterparts, we emphasise the necessity, imbued with a sense of poetic resonance, for authors within the field to engage in collaborative initiatives aimed at fostering growth and enhancing the internationalisation of the identified author clusters. Such collaborative endeavours serve as a potent catalyst for the continual advancement of knowledge. Moreover, the potential for the formation of future collaborative networks is clearly identifiable among authors from diverse clusters whose scholarly contributions span a wide spectrum of common thematic interests and scholarly pursuits. This promises fruitful avenues for further exploration and joint scholarly undertakings.

Conclusion 4: The clusters of authors show ageing trends, and although some have experienced a generational turnover, a second shift is needed as yet unidentified.

While the aging of the author clusters is indeed a cause for concern, it is intriguing to note that there are observable instances of a generational shift occurring within them. This shift becomes apparent when considering that many of the pioneering authors who laid the groundwork for these clusters have since transitioned into emeritus status, having been born prior to 1950. However, it is noteworthy that even the youngest members within these clusters surpass an average age of 50 years, underscoring the urgent need for a second generational turnover to ensure the continued vitality and relevance of these scholarly communities. Despite the recognition of this need, it is important to recognise that current analysis has not yet conclusively identified the beginning of this second transition phase.

Conclusion 5: Topics in worker cooperative literature are very interrelated and lack diversity despite academic journal development.

We identify the following topics in literature about worker cooperatives and other labour-owned and managed firms: HRM, governance, degeneration theory, coping with crisis, territorial development, market performance, organisational performance, and comparative studies.

When compared to other academic disciplines, it is evident that the thematic landscape of the worker cooperative literature shows a pronounced level of interconnectedness coupled with a somewhat limited diversity. This underlines a generalised trend that persists despite the extensive maturation of the field over the years through academic journals in business and economics.

SO2.1: To identify advantages and limitations of intercooperative labour flexibility and security policies.

Conclusion 6: Intercooperative labour flexibility and security policies mitigated social issues related to Fagor Electrodomésticos' bankruptcy.

As in past crises, Mondragon's flexicurity mechanisms emerged once again as instrumental in softening the blow of the employment crisis triggered by the collapse of Fagor Electrodomésticos. Notably, former employees of Fagor Electrodomésticos have indicated a positive reception towards Mondragon's job security measures, with their anxieties surrounding employability diminishing. However, a feeling prevails among them as if they had been assimilated into the temporary employment agency of Mondragon.

Conclusion 7: The competitive advantages of intercooperative labour flexibility and security policies have been significantly reduced for cooperatives, given the more flexible labour legislation for conventional firms and the increasingly long crises.

During the closure of Fagor Electrodomésticos, flexicurity policies were less important sources of competitive advantage for Mondragon than in previous crises. This could be because the competitive advantages that flexicurity conferred to Mondragon cooperatives have been significantly reduced since the 2008 financial crisis. On the other hand, the labour flexibility of conventional Spanish firms has increased significantly since the Spanish labour market reform of 2012 (López et al., 2014).

In the 2008 financial crisis and in the period before and after the bankruptcy of Fagor Electrodomésticos, relocations have been more difficult because the crisis affected many cooperatives in different sectors at the same time. In addition, a large part of the Fagor Electrodomésticos workforce was difficult to relocate given their limited training. Many older redundant members with little professional training had to be offered early retirement.

Nor did flexible working hours offer the same competitive advantage as in the past. In fact, a large part of the unemployment benefits paid in the period 2007-2018 were paid to cooperative members affected by flexible schedules who were unable to make up for the hours not worked. Flexible schedules work well and gives competitive advantages in short crises, when the hours not worked can be easily made up in the following months. In a long crisis, such as the one that affected Fagor Electrodomésticos from 2007 until its demise in 2013, flexible schedules act as a way of delaying more difficult decisions and perpetuating a firm's structural problems.

For its part, wage flexibility is an appropriate measure to deal with short-term crises, but when used over many years, as in Fagor Electrodomésticos, it generates many negative attitudinal and behavioural outcomes, as has been found in previous studies (Basterretxea & Storey, 2018; Basterretxea et al., 2019b).

Moreover, the advantage of the lower social costs of worker cooperatives (Whyte & Whyte, 1988; Ormaechea, 1998; Basterretxea & Albizu, 2010) has diminished. The contributions that the Mondragon cooperatives pay to finance unemployment coverage have grown significantly and are now close to the contributions that non-cooperative competitors pay to the social security system. The types of benefits have also changed. Almost three quarters of the benefits paid in the period 2008-2015 were devoted to objectives that do not offer greater employment flexibility: unemployment benefits, early retirement and voluntary dismissal compensation.

Conclusion 8: When flexicurity policies are implemented as a response to the crisis, rather than in a preventive way accompanied by training, they have a negative effect on workers.

It is shown that the negative effects of flexicurity policies on satisfaction and commitment increase when these measures are taken in response to contextual factors, such as the crisis, which is in line with previous research (Origo & Pagani, 2008).

The lack of preventive training by Fagor Electrodomésticos led to a negligent application of functional flexibility, which requires workers capable of performing many jobs (Albizu & Basterretxea, 1998; Landeta et al., 2016). In this case, the retraining programmes started in 2014, after the firm had disappeared and almost ten years after the first massive relocations in the fridges unit.

Other flexicurity policies that were taken in response to the Fagor Electrodomésticos crisis - temporary relocations seven years after the closure of the firm, long-term wage cuts, or functional flexibility and relocations of workers without proper multi-skilled training - could be considered as *flexiprecarity* (López et al., 2014).

SO2.2: To explore how intercooperative labour flexibility and security policies are applied and perceived differently depending on the geographical location of the business unit.

Conclusion 9: Salaried workers in foreign subsidiaries protest against labour flexibility through direct actions and seek solidarity from the worker-members, which is not forthcoming, given their special status.

Fagor Electrodomésticos' salaried workers in the international subsidiaries resisted the numerical flexibility measures (relocations, redundancies) through collective union actions, stoppages and strikes. The efforts of the French and Polish trade unions to intensify the conflict and to develop Franco-Spanish or Polish-Spanish solidarity actions against austerity measures and downsizing failed. The results of the study show that the development of trans-spatial solidarity actions between traditional trade unions and workers' representatives in cooperatives is unfeasible given the special status of the worker-members.

The response of the worker-members to the austerity measures differed significantly from that of the salaried workers in the foreign subsidiaries, as they were the ones who voted in favour of the labour flexibility measures at the general assembly. Moreover, the cooperative's bylaws prohibit strikes over workplace grievances.

SO2.3: To shed light on the different strategies of resistance and resilience of worker-members to intercooperative labour flexibility and security policies, both from the perspective of management and staff.

Conclusion 10: Worker-members use individualistic acts of resilience to resist relocations and functional flexibility.

In the specific case of Fagor Electrodomésticos and the context related to its collapse, there is a strong resistance to relocations and functional flexibility. The reasons why the former members of the cooperative resisted functional flexibility and relocations before

the disappearance of the firm were multiple: strong sense of belonging to the business unit in which they had historically worked, fear of uncertainty and change of routines, false sense of security and the need to avoid the stigma of being relocated.

In the different general assemblies where decisions on austerity measures were taken, there were active resistance actions by worker-members at different levels, which managed to stop some flexicurity measures, mainly relocations.

Beyond these active actions, strong passive actions by worker-members to avoid relocation were identified. The quantitative data collected, and the opinions of the interviewees suggest that Fagor Electrodomésticos workers resorted to individualistic "acts of resistance" (Katz, 2004) to avoid being transferred to other cooperatives, such as feigning limiting medical incapacities, sick leave or family balance in order to reduce working hours.

Conclusion 11: Worker-members of successful cooperatives oppose the permanent relocation of members from other less successful cooperatives.

Despite economic incentives of Mondragon to convert temporarily relocated members into permanent ones, more than 400 former Fagor Electrodomésticos members were still temporarily relocated more than seven years after the disappearance of the company. There are several reasons for not offering permanent relocations: (1) the fear of a loss of staff flexibility; (2) the refusal to fill temporary employee positions in the host cooperative with relocated Fagor Electrodomésticos workers; (3) the perception of a poor work ethic among some former members of the cooperative studied; and (4) the low educational profile of many of these former cooperative members.

SO3.1: To identify the intercooperation mechanisms that Eroski implements together with other public and private entities for the creation, consolidation and promotion of local agrifood systems.

Conclusion 12: Retailers can stimulate sectoral growth by increasing demand or by working with dominant producers for then backing the more micro ones.

Three-tier intercooperation between Eroski, public administrations and local agrifood producers has been key to boosting the local agrifood system in the Basque and Navarre regions. Due to its extensive knowledge of consumption trends and its oligopolistic power, the retail sector has the ability to boost supply by increasing demand. It is therefore

important for local agrifood system governments to reach agreements with retailers to indirectly stimulate production, which can be more effective than direct subsidies. In this regard, it is important to mention the two-tier traction technique, which consists of achieving sectoral growth together with the dominant local producer and then helping to grow the more micro local producers who join this sectoral growth.

SO3.2: To identify the benefits and limitations for Eroski and the other parties involved in intercooperation related to a local agrifood system.

Conclusion 13: Three-tier intercooperation between Eroski, public administrations and local agrifood producers is key to boosting the local agrifood system, through growth, professionalisation and structuring of producers.

Three-tier intercooperation between Eroski, public administrations and local agrifood producers helps the growth, professionalisation and consolidation of territorially-based agricultural structures, especially agricultural cooperatives. The various successful initiatives for the valorisation, promotion and marketing of local products carried out in this context have brought advantages for small local producers that would be impossible to achieve with the traditional two-way cooperation between public administrations and producers. These advantages include a sustained and significant growth in the sales of these producers, a reduced sensitivity to market fluctuations and an improvement in their professionalism (in terms of homogeneity, product quality and safety, or logistical and financial capacity).

Conclusion 14: The commitment to local products and the development of local agrifood systems entails additional transaction costs and a loss of economies of scale for the retail sector; but it also brings benefits in terms of differentiation towards the consumer.

The promotion of the local agricultural system is in line with Eroski's strategy of differentiating itself from its competitors by offering a wider range of local products in the different Spanish regions where it operates. There is evidence that Basque consumers and more specifically Eroski consumers value the retailer's commitment to local products very positively and link it to various elements that reinforce the firm's differentiation (quality, pride in its land, health, economic support for local producers and environmental sustainability). Improving the economies of scale of small local producers can lead to lower prices for local products and access to them for a wider consumer base. In this way,

Eroski manages to be able to work through and around the contradiction between cooperative social values and the profit motive pursued by business (Filippi, 2014).

However, focusing on healthier and higher quality local products without undermining the sustainability of small local producers entails higher costs for Eroski than for competitors focused on cost leadership. The costs of coordinating with the different local producers in the regions of Spain where Eroski operates also increase costs and reduce economies of scale. Therefore, Eroski's policy carries the risk of losing price-conscious consumers. According to HAZI (2018), 35% of consumers make their purchasing decisions primarily based on price. Given the recent inflation crisis, the actual percentage of consumers whose main purchase decision is based on price is likely to have increased and other retailers with a greater focus on costs could attract consumers who would like to buy local products but cannot afford the price. Moreover, these lower-income consumers would be the least likely to benefit from public spending aimed at encouraging local producers, as is the case with public policies that incentivise the consumption of healthier but more expensive foods (Waterlander et al., 2018).

Conclusión 15: Eroski prefers to cooperate with producers working under association, to broaden the impact of its initiatives to develop the local agrifood system. Working under partnership is also beneficial for producers.

Retailers such as Eroski prefer to cooperate with small local producers working in association, as a cooperative or under quality brands. Although this may imply a decrease in their bargaining power, it allows the retailer to expand its initiatives to cover more of these producers, thus achieving greater development of the local agrifood system. These producers who partner to intercooperate with retailers share knowledge and resources to make greater investments and create joint activities; reinforce their willingness to work with higher quality standards; gain greater market power; and achieve greater professionalisation and alignment of organisational cultures with retailers.

SO3.3: To identify the conflicts that may arise between Eroski and the other parties involved in intercooperation related to a local agrifood system and how to solve them.

Conclusion 16: There are problems of cultural alignment between large retailers and local producers, which could be solved with the support of public institutions and producer associations, or by hiring managers with previous experience on the other side.

A problem of cultural alignment between small local producers and Eroski has been identified. There is a lack of knowledge of retail culture among small local producers and a difficulty in internalising the different commercial management tools that retailers use with large producers and try to replicate with smaller ones. Moreover, retailers need to listen to and understand the demands and processes of their small local suppliers. This cultural misalignment is particularly highlighted by public administration representatives who mediate between retailers and small producers and make available to the latter consultants with experience in large-scale distribution. This denotes a greater ability to perceive this situation from a third-party position. Another approach to try to converge business cultures is to hire people in management positions who have previously held relevant positions in a company on the other side.

Conclusion 17: The high levels of dependence of local producers on Eroski lead them to diversify risks by serving other retailers, which generates mistrust in Eroski, which has historically contributed to their development.

The local producers studied have been growing for an average of 20 years thanks to intercooperation with Eroski, and in some cases for more than 35 years. Although these close and long-lasting relationships may indicate commitment and trust between the parties, they imply high levels of dependence on the part of the producer, who in some cases concentrate more than 50% of their turnover on Eroski. The desire of these producers to diversify risks and sell part of their production to other supermarket chains may clash with the misgivings of the retail sector, which for decades has collaborated in their growth, professionalisation and consolidation.

SO4.1: To contrast the positive and significant effect of being a cooperative on a firm's innovation performance in products new to the firm and new to the market.

Conclusion 18: Cooperatives show superior performance in terms of innovations new to the firm and competitive parity in terms of innovations new to the market.

Cooperative firms perform better in innovation when it comes to the percentage of turnover attributed to new-to-firm innovations. In contrast, for new-to-market innovations no statistically significant differences are found between cooperatives and non-cooperatives. This finding underlines that they maintain competitive parity in new-to-market innovations, despite the limitations often attributed to cooperatives in the relevant literature.

Moreover, cooperatives tend to invest considerably more in external R&D, but there are no substantial differences in internal R&D; and they are twice as likely to receive public subsidies that could be used for innovation initiatives.

Conclusion 19: Although cooperatives claim to have major limitations to innovate, these are related to a superior performance in terms of innovations.

Cooperatives claim to have significantly higher constraints to innovate due to aspects such as obtaining internal and external financing or attracting and retaining talent. But these constraints are positively and significantly related to innovation performance variables. Although this may seem illogical, it could be justified by the fact that their level of constraint is measured by subjective perceptions, and participants may have had a bias whereby those with better innovation performance are more critical of themselves and attribute greater limitations to themselves to innovate.

It is also observed that these constraints seem to affect positively more commonly in the case of new-to-the-firm innovations and innovations carried out by non-cooperative firms.

SO4.2: To contrast the positive and significant effect of being a cooperative in achieving superior innovation outcomes through interorganisational cooperation.

Conclusion 20: Cooperatives achieve significantly better innovation results in products new to the firm than non-cooperatives when they cooperate to innovate with customers, universities and research centres.

Being a cooperative has a moderating effect on the impact of interorganisational cooperation on new-to-the-firm innovation performance. This effect is significant and positive only in certain relationships. These affirmative results may be due to the cooperative principle of intercooperation and consequent networking, which allows cooperatives to proactively foster innovation networks (Smith, 2001; Novkovic, 2007; Rodríguez & Guzmán Alfonso, 2013; Gallego & Chaves, 2015; Iturrioz et al., 2015; Gallego & Chaves, 2016; Basterretxea et al., 2019a).

Basque cooperatives achieve significantly better innovation performance in new-to-firm products than non-cooperatives when they cooperate to innovate with customers, universities and research centres, *ceteris paribus*. Cooperation with universities, in particular, benefits innovation performance in cooperatives much more than in investor-owned firms. This may be due to the presence of Mondragon Unibertsitatea, Mondragon's corporate university. Even the large cooperatives that recently left the Mondragon group (Orona, Ulma, Ampo, Irizar) showed interest in maintaining their relationship with Mondragon Unibertsitatea, which is consistent with this finding.

On the contrary, cooperation for the same type of innovation with suppliers and consultants has a significant but negative impact in the case of cooperatives, *ceteris paribus*. In the case of cooperation with consultants, this may be due to the fact that consultancies, in most cases, distance themselves from the cooperative model and "speak another language", which may result in synergies that are not only smaller, but also negative.

Conclusion 21: Interorganisational cooperation for innovation is more active among cooperatives than among non-cooperatives, in terms of frequency and variety.

Cooperatives cooperate to innovate with three times more different types of stakeholders than non-cooperatives. Interorganisational cooperation for innovation with universities, customers, suppliers, R&D centres, consultants, group companies and public

administrations is four to seven times more frequent among cooperatives. It should be noted that, in our sample, the greater collaboration with R&D centres, and the better innovation results derived from this collaboration, can also be explained by the presence of 12 corporate R&D centres in the Mondragon cooperative group.

Conclusion 22: The type of cooperation partner may not influence the degree of novelty of the innovations achieved, and greater diversity in cooperative relationships may be detrimental to innovation.

Looking beyond cooperatives, regardless of the type of firm, interorganisational cooperation with group companies, customers, suppliers, universities, research centres and consultants has a significant and positive influence on innovation performance, regardless of if it is new-to-firm or new-to-market. This may reduce the influence of the type of cooperating partner on the degree of novelty of the innovations achieved (Belderbos et al., 2004; Nieto & Santamaria, 2007; Zeng et al., 2010; Anzola-Roman et al., 2018).

We also identify a significant negative effect of the variety of cooperating partners on innovation, suggesting that greater diversity in cooperative relationships could be detrimental to innovation (Gkypali et al., 2017).

GO1: To provide new knowledge on the main reasons, results and limitations of intercooperation in order to discuss the link between this principle and the historical success of Basque worker cooperatives.

Conclusion 23: Although intercooperation has historically enabled cooperatives to balance their social values with the need to make profits, the volatility of today's market means that this principle no longer represents an advantage over capitalist firms, but rather a way of keeping up with them.

The geographical concentration of the studied cooperatives and their sectoral diversity facilitate the application of the principle of intercooperation. This principle assumes a relevant role in providing these worker cooperatives with tools for the governance and management of human resources beyond economic crisis and cooperative degeneration; for territorial agrifood sector development in conjunction with their stakeholders; or even for collaborating in improving organisational innovation performance.

As long as it is carried out in a preventive and well-managed approach, intercooperation can address within the enterprise both organisational or operational issues, as well as more social ones. This gives cooperatives the ability to distinguish themselves as economic entities capable of overcoming the contradiction between their social values and their need for profit.

Although cooperative values such as intercooperation are, in the current socioeconomic context, highly necessary, they are also vulnerable and easily corruptible in the long term. While literature has historically highlighted the positive sides of intercooperation, we find that, in general, intercooperation is identified as having its limitations and may no longer be the great strategic competitive advantage that it was once said to be. It may be that the pitfalls and crises of the previous century were smaller or less international in nature and were therefore more easily solved through intercooperation, but the growing precariousness and competitiveness of the market mean that these policies no longer represent an advantage over capitalist firms, but rather a way of keeping up with them.

Human factor clashes with certain intercooperation measures. This can be observed in the resistance of Fagor Electrodomésticos workers, in the lack of alignment of organisational cultures between Eroski and its small local suppliers, or in the reluctance of these suppliers to accept certain measures. Therefore, another factor to consider when properly implementing intercooperation is to take into account the interests of the different intercooperating parties.

The exit from the Mondragon group of Irizar and Ampo in 2008 may be another consequence of the shortcomings of intercooperation following the socioeconomic paradigm shift brought about by the 2008 crisis. In December 2022, Orona and Ulma also left the group. Apparently, the capacity that an intercooperation network such as that provided by Mondragon grants to pool resources and create synergies that would be unattainable individually was not sufficient to retain these cooperatives, which were the most successful of the whole group. It can be deduced from this that the most successful cooperatives no longer extract from intercooperation the advantages they expect to receive in return for their contribution. These defector cooperatives requested to maintain a certain degree of relationship with Mondragon, established on an annual basis, under the term *cooperativa convenida*. Under this figure, the cooperatives would have ceased their participation in the mechanisms of intercooperation and solidarity and would have lost their right to speak and vote within the group; but they would have remained linked

through financial contributions to other members of the group, such as Mondragon Unibertsitatea. In the end, Mondragon decided not to allow this to happen, arguing that it would go against the very conception of the group and would require an unprecedented revision. However, from this last request of the defector cooperatives, we can interpret that maintaining their intercooperative network with some members of Mondragon as the corporate university seems to be a main point of interest for them. This fits in with the proven relevance of cooperation with universities and research centres for the innovation performance of cooperatives.

GO2: To address the various topics that make up the literature on worker cooperatives from different ways of applying intercooperation.

Conclusion 24: Intercooperation can be classified according to the topics it addresses and the status of the intercooperative partners.

Among many other possibilities, we identify the cooperative principle of intercooperation or cooperation among cooperatives as a suitable cross-cutting approach to develop each of the themes identified in the literature. Each of the studied cases makes an effort to delve into the different ways in which different Basque cooperatives, mostly belonging to Mondragon, have progressively developed the cooperative principle of intercooperation over decades. Thus, three different ways of putting this cooperative principle into practice have been identified in an attempt to address each topic in the literature: labour flexibility and security policies between different worker cooperatives to mitigate the social effects of different crises (addressing HRM, governance, degeneration theory and crisis); cooperation among large retail firms, public administrations and local agrifood producers to develop the agrifood sector of the territory and gain competitive differentiation (addressing territorial development and market performance); and interorganisational cooperation to boost innovation performance in cooperatives (addressing organisational performance and comparative studies).

In addition to the different ways of classifying intercooperation identified in the literature, this study adds what could be considered a new classification according to the status of the intercooperative partner. It could be called internal intercooperation when Fagor Electrodomésticos intercooperates with other cooperatives in the group to carry out flexicurity measures, Eroski intercooperates with small agrifood suppliers belonging to

the group, or in the case of intercooperation for innovation between different cooperatives in the group. So-called external intercooperation could occur when Eroski intercooperates with producer cooperatives that do not belong to Mondragon, or in the case of cooperatives that intercooperate to innovate with other cooperatives that do not belong to the group. We have also identified a type of hybrid intercooperation, in which one of the parties is a cooperative and the other is another type of associative collective other than the cooperative, a traditional capitalist firm, or even a governmental entity. This last type of intercooperation can be identified in the case of Eroski cooperating with non-cooperative suppliers or with different government bodies, or in the case of interorganisational cooperation for innovation between cooperatives and non-cooperative entities.

6.3. Theoretical and methodological contributions

This doctoral thesis begins with an unprecedented historical assessment of global research productivity in worker cooperatives and other worker-owned and managed firms, which enriches the ongoing debate in the literature. To address the limitations and biases of bibliometric tools, the research is enriched with a qualitative analysis based on authors' experience and a scan of database references. An integrative framework is proposed that provides a theoretical basis for empirical research (Lim et al., 2022) and serves to identify future research avenues (Mukherjee et al., 2022). It also makes it easier for scholars to make decisions about collaborating in the most prolific working groups or institutions or to reinforce the already established network of collaborations between co-authors. This can serve as a starting point for larger research projects (Kraus et al., 2022).

Throughout its chapters, this doctoral thesis makes several novel and relevant contributions to the academic literature on cooperative firms in general and worker cooperatives in particular, delving deeper into the phenomenon of intercooperation. In doing so, it crosses other academic fields, such as flexicurity and precariousness, the geography of work, local agrifood systems and firm innovation. The research on these topics has been approached from the diverse perspectives of the different actors involved in each of the intercooperation initiatives, which enriches the contributions made. In addition, the diversity of methodologies used throughout the chapters, such as bibliometric analysis, qualitative case studies based on interviews or linear regression models, also contributes to enriching literature.

6.4. Practical implications

The methods used and the approach taken in each of the chapters of this doctoral thesis make the conclusions drawn realistic, as well as enriching and accessible to society as a whole.

The conclusions drawn from chapters 3, 4 and 5 have practical implications, which merely underline the idea that cooperative firms should strengthen their intercooperation policies. Giving a general approach to practical implications delineated in individual chapters, we determine that the identified intercooperative structures and practices should be assimilated not only by the rest of cooperatives belonging to this ecosystem, but also by other non-cooperative agents, such as capitalist firms or public administration bodies, wishing to benefit from their competitive advantages. These practical implications are supported by the access this work had to top-level managers and former managers and to quantitative data verified by public administration bodies.

Firms, cooperative or not, which aim to implement interorganisational cooperation measures such as those identified in the doctoral thesis, should do so through a preventive approach. In the case of intercooperative labour flexibility and security, the availability of a multiskilled workforce will be facilitated by the appropriate provision of continuous training. Furthermore, it should be borne in mind that working time flexibility or wage flexibility measures should only be used to alleviate temporary difficulties. For the successful implementation of intercooperation for the development of regional agrifood systems, the various parties will have to make an effort to unify their organisational cultures. In this sense, it is proposed to recruit managers who have previously worked in the other party, to form preliminary partnerships that unite the smaller participants, to hire consultants with experience in this type of relationship, or to formally establish a more strategic approach to the relationship. Throughout the cases studied in the doctoral thesis, we see that the best preventive approach to correctly apply intercooperation and extract the best operational and social results from it is to have an ecosystem of cooperatives in place beforehand, such as Mondragon. Therefore, both private initiative and public bodies are urged to try to replicate this type of ecosystem. Moreover, having the support of well-established companies whose values are willing to boost the territory where they operate both socially and economically is an advantage that public institutions should weigh up, and which will indirectly benefit the private sector as well.

Another reason why the intercooperation measures analysed may be of interest to firms is that intercooperation has also proven to be a way for participants to improve their market position; to achieve greater professionalisation and quality standards; and to share knowledge and resources for greater investment and joint activities in multiple areas, such as HRM, marketing or innovation.

6.5. Limitations and future research

In addition to the specific limitations and prospective avenues for further research delineated in individual chapters, this doctoral thesis encompasses overarching limitations that concurrently elucidate prospects for future research. It is necessary to acknowledge that the intercooperation strategies under scrutiny may not universally apply to all cooperative firms. A large proportion of Basque cooperatives belong to Mondragon, which provides them with a framework and tradition of intercooperation that is not easy to find elsewhere (Smith, 2001; Bakaikoa & Albizu, 2011; Iturrioz et al., 2015; Arando & Arenaza, 2018). These advantages of belonging to Mondragon could be extended to other Basque industrial cooperatives not part of the group due to geographical concentration (Basterretxea & Martínez, 2012; Iturrioz et al., 2015). These unique conditions might limit the applicability of the findings to other cooperative environments. Entities operating within an underdeveloped cooperative ecosystem, characterised by inadequately sized cooperatives, within societies where cooperative values lack deep roots, or those marked by excessive concentration of cooperatives in few sectors, are prone to encounter challenges in implementing and deriving benefits from the principle of intercooperation. Furthermore, the establishment of an intercooperative structure, coupled with the requisite levels of mutual trust and commitment as delineated in this thesis, needs protracted efforts. In this regard, it is recommended to replicate these studies in different geopolitical or socioeconomic contexts or to explore alternative forms of intercooperation.

In addition, following the lead of the successful cooperatives that decided to leave Mondragon, the motivations, and future boundaries of these cooperatives and those that might leave the group in the future are also an interesting avenue that could be addressed from the perspective of intercooperation in future research. In this regard, future research should also clarify whether membership in an intercooperative group benefits smaller or

larger members more and could propose ways to balance the contributions of the different parties.

The lack of convergence that sometimes takes place between intercooperative policies and the individual interests of the organisations involved in intercooperation and the people who form them is also something to be investigated in the future.

Methodological limitations permeate various chapters of this doctoral thesis. Inevitably, the subjective decisions inherent in each step of the bibliometric analysis harbour the potential for author bias. Consequently, future research is encouraged to replicate and reinterpret the analysis, employing alternative scientific mapping methodologies. In cases where a more qualitative methodology is used, there are inherent risks, as the interviewees, the main sources of information, are susceptible to bias. To mitigate this, future research could incorporate an econometric dimension, leveraging the foundations laid by qualitative case studies. Additionally, the econometric analyses conducted in the last part of the doctoral thesis may benefit from the integration of theoretically relevant variables that were unavailable in the present study, or the application of alternative conceptual models and techniques, encompassing both econometric and qualitative methodologies.

Each chapter is a product of independent fieldwork and gradually obtained access to information sources. Consequently, certain topics initially planned for inclusion were omitted due to insufficient empirical data, despite possessing a comprehensive theoretical and contextual framework. Notable instances include a dedicated chapter on the European retail alliance Agecore, illustrating the external intercooperative endeavors of the Eroski cooperative with other European cooperative-based retailers to enhance their market power vis-à-vis large suppliers. Another case involves the utilisation of the Eustat database for analysing how the intercooperative nature influences decisions and outcomes in eco-innovation. Both cases are highly topical and of interest in the literature on cooperative firms and would therefore be very interesting future lines of research derived from this work.

Regardless, future endeavours should conceive a more open and interconnected cooperative movement, closely aligned with other territorial and social economy collectives. This collaborative approach aims to construct, through specific proposals, a society that is more equitable, democratic, and self-managed.

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