

Article

Cooperative Entrepreneurship Model for Sustainable Development

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Abstract: The main objective of this research is to contribute to the economic literature on cooperative entrepreneurship as a model for sustainable development, taking into account the special alignment of the cooperative principles (ICA) with the UN Sustainable Development Goals (SDGs). It offers new empirical evidence from Spain, based on Stakeholder Theory, about the differences between cooperatives (Coops) and Capitalist Firms (CFs) in relation to the distribution of economic value between the different stakeholders. For this purpose, panel data was analysed using the Correlated Random Effects approach. The results reveal that cooperative firms generate value for some of the stakeholders analysed, specifically for their partners and creditors, but no significant differences have been found with CFs in terms of workers and the state. In both cases, it can be inferred that the period analysed has influenced the results, since it has been found that, first, cooperatives adjust wages downward rather than dismiss workers during a recession, which is in line with previous research, and second, that their tax contribution to the state is lower because they are subject to a more favourable tax system in Spain.

Keywords: cooperatives; sustainability; social economy; Spain

1. Introduction

Cooperatives are values-driven and principles-based [1] enterprises, and therefore sustainable development is part of their nature. These principles and values, such as equity, solidarity, democratic management and commitment to the environment, constitute a series of guidelines that value human beings over capital [2] and are aligned with the Sustainable Development Goals (SDG) of the UN 2030 Agenda [3], which represent basic principles related to the environmental, political and economic challenges facing our society, among others, with SDG 8 promoting continuous, inclusive and sustainable economic growth, full and productive employment and decent work for all; and with SDG 10 helping to reduce inequalities. The main role played by cooperatives in fulfilling the SDGs has recently been recognised, in the institutional context, by the United Nations Task Force on Social and Solidarity Economy and the International Co-operative Alliance's Cooperatives Europe. In addition, it has also been demonstrated in the economic literature that cooperatives are particularly aligned with the SDGs [4,5].

Cooperative firms are configured as an optimal business alternative to meet these challenges. They are business organisations whose management is designed to benefit all stakeholders. In recent years, various studies have highlighted the value of these companies as a vehicle for improving the business sector in local areas, boosting economic development in these areas [6]. It has also been found that the very nature of cooperative firms implies socially responsible behaviour [7].

Both their objectives (meeting the needs of their partners) and their democratic governance (one partner one vote) and ownership and control (mostly belonging to the partners-workers-users)

result in cooperative firms being a model of sustainable economic development. They have a people-centred approach that differs from conventional capitalist firms, that try to maximise value, being owned and controlled by capitalist investors and without democratic governance.

These differences between the two legal structures lead to the conclusion that the economic performance of cooperative firms is more focused on the search for value for all their stakeholders, and not only shareholder value. They are different, therefore, from conventional capitalist firms, that aim to maximise their value for shareholders—although, in keeping with the growing interest in corporate social responsibility and business ethics, many do so without neglecting other stakeholders [8].

The objective of this study is to test whether cooperative firms generate value for both their shareholders and the rest of their stakeholders. With this aim, a sample of worker and service cooperative firms (Coops) has been compared with a sample of Limited Liability Companies (LLCs). In this way, unconventional capitalist companies, from the social economy or third sector, represented by cooperatives (Coops), are compared with conventional Capitalist Firms (CFs) represented by LLCs. In this study, these firm structures were defined in accordance with Spanish legislation (Capital Societies Act for Limited Liability Companies and the Co-operative Act for cooperative firms).

To achieve this objective, the work has been structured as follows: the next section contains a review of the economic literature comparing the two types of company, discussing their main economic differences; the section after that sets out a description of the methodology used for the panel data and the panel data itself; to conclude, the results and their practical implications are discussed.

2. Literature Review

In the economic literature, specific differences between cooperatives and conventional firms have been debated in relation to various aspects, such as their objectives as a firm, the use of surpluses and the capital structure [2], but the results of this research are not conclusive for all business aspects. On different occasions, it has been found that the cooperative values and principles that make cooperative firms different from other business structures guarantee that the interests of all stakeholders are considered.

Cooperatives are organized to engender and sustain multiple benefits for the involved stakeholders and members, while contributing to local sustainable development [9,10]. Cooperatives can play an important role in the implementation of SDGs [11], because the seven cooperative principles contribute to it. Voluntary and Open Membership (First Principle) can contribute to the elimination of poverty (SDG 1) and enforces gender equality (SDG 5); Democratic Member Control (Second Principle) helps reduce inequalities (SDG 10); Member Economic Participation (Third Principle) facilitates the reduction of inequalities (SDG 10) and creates decent work and economic growth (SDG 8); Education, Training and Information (Fifth Principle) can contribute to improving education (SDG 4) by allocating resources endowed with the obligatory reserves destined for this purpose, and Concern for Community (Seventh Principle) works for the sustainable development of communities (SDG 11).

Bretos and Marcuello [12] conduct a critical review of the literature that concludes with the possible strengths of cooperatives, based on their principles, as strategic elements to achieve sustainable economic development and greater social cohesion.

There are different types of cooperatives, such as consumer, credit and education cooperatives, but we segment the sample into service cooperatives and worker cooperatives. Both follow similar strategies and in both the partners mainly contribute with their own work.

Therefore, cooperatives are models that incorporate a desire to serve the stakeholders in their mission [13]. As a result, this study aims to test whether the cooperative model can represent a factor in value creation for the four stakeholders: shareholders, workers, state and creditors.

In relation to the objective of the firm, the most widely held view [14,15] is that cooperative firms pursue the maximisation of net income per worker, while CFs aim to maximise profit, although this difference in behaviour has been questioned [16] by different authors, such as Park et al. [17], who consider that the ownership of capital by the workers is associated with higher productivity,

but that in reality the higher survival rate of these companies is due to greater employment stability rather than their high productivity, financial strength or flexible compensation. According to Dow [18], in the short term, worker-managed firms demonstrate inefficient behaviour by establishing an average income per partner-worker that is not in keeping with that offered in the labour market, and this has an influence on worker productivity and the firm's competitiveness.

As recognised by Burdín [19], the most appropriate definition of the goals pursued by cooperative firms is still a controversial issue. The results of this research support the idea that worker-managed firms pursue mixed objectives, placing importance on both employment and income per worker.

However, the traditional business model, the CF, where the ultimate strategic objective is to maximise the profit or value creation for the shareholder, is being replaced by a socio-economic model in which the objective is to create value for all stakeholders. So, the firm's objective in relation to maximising value for all its stakeholders, "despite its significant analytical contribution, remains fairly vague and difficult to measure" [20]. Nevertheless, the stakeholder approach is a valuable explanatory tool to address how firms can generate a broader positive impact at the social level [13].

In relation to creditors, different studies [21,22] have shown that cooperatives tend to be more indebted than CFs, for different reasons, as pointed out by Parliament et al. [23]: because they have more problems with funding themselves and resort more to external financing; because they do not have access to the financial markets to capitalise their securities; and because they are more likely to incur moral hazard derived from common responsibility and risk sharing.

However, recent analyses such as that of Atienza et al. [24], which compare cooperatives with conventional capitalist firms, have found no significant differences in their financial solvency ratios nor greater indebtedness for cooperatives. The empirical evidence is therefore inconclusive.

In relation to the contribution to the state, this depends significantly on the tax policy of each country, so the institutional environment is decisive when measuring the effects of this impact. Thus, in the case of Spain, cooperative firms enjoy tax benefits to which CFs do not have access, and this applies to different taxes, including the Corporation Tax, with a lower tax rate, tax exemptions and reduction of the social security payable. These are regulated in Spanish Law 20/1990 on the tax regime for cooperatives. This implies that the tax contribution of cooperatives to the generation of value is usually less than that of the comparable CFs.

Beyond the differences between the two types of firm, the literature has widely recognised that cooperatives have a positive influence in socio-economic terms on the people involved in the business and the region where they are located [2]. Different institutions (World Bank, UN) have highlighted the benefits of the cooperative firm as a model of sustainable development [25]. However, the issue of whether the value generated by the cooperative for all its stakeholders differs significantly from that generated by a conventional capitalist firm has not been empirically tested.

3. Methodology

3.1. Data Collection

The data have been obtained from the Orbis database [26] for the period 2013–2017 by filtering out two samples, one for worker and service cooperative firms and another for Limited Liability Companies. In both cases, the companies in the primary sector have been eliminated (due to their limited number), along with those involved in banking and insurance activities (due to their special characteristics). The samples have been cleaned to leave only the firms with all the data available in the reference years and eliminating those with negative value added (value added is the difference between the total sales revenue and the total costs incurred to obtain that revenue, without including depreciation, interest, taxes and salary costs). According to their age, both CFs and Coops have been operating on average for more than twenty years. Therefore, they can be considered the majority of mature companies in their sector. Finally, since most of the cooperatives had fewer than 50 workers,

we have used this criterion to standardise the two samples. Therefore, the final sample includes 512 firms split into $n = 393$ CFs and $n = 119$ Coops.

Table 1 shows the firms classified according to the sector of economic activity. In both cases the majority belong to the services sector rather than to the industrial sector.

Table 1. Distribution of sample firms by sector of activity.

Sector	CF		Coop	
	N	Percent	N	Percent
Industry	109	27.7	52	43.7
Services	284	72.3	67	56.3
Total	393		119	

Source: author-compiled data.

Table 2 shows the distribution of the companies by size. In both samples, micro-enterprises with fewer than ten workers make up the majority, compared to small companies, which accounted for 28.3% of the CFs and 41.2% of the Coops.

Table 2. Distribution of sample firms by size.

Size T	CF		Coop	
	N	Percent	N	Percent
Micro (0–9 employees)	281	71.5	70	58.8
Small (10–49 employees)	112	28.3	49	41.2
Total	393		119	

Source: author-compiled data.

3.2. Selection of Economic Variables

3.2.1. Dependent Variables

According to Poulain-Rehm and Lepers [20], the distribution of value added in the accounting sense was adopted as a dependent variable because “it is possible to measure the value allotted using financial documents (as employees, creditors, the State and shareholders) despite the bias concerning the measured objective of the created value”. VA is considered to be stakeholder value [27] because it is distributed to the employees, state, creditors and shareholders and used for the self-financing of the firm. Specifically, for shareholders (DIVVA), the log of the ratio of dividends over value added is used; for employees (PCVA), the log of the ratio of staff costs to value added is used; for creditors (INTVA), the log of the ratio of interest and similar payments over value added is used; and for the state (TAXVA), the log of the ratio of tax over value added is used.

3.2.2. Explanatory Variables

The following were selected as explanatory variables on the basis that previous research has found them to be relevant [20,28–30]. The main independent dichotomous variable takes the value 0 if it is a CF and 1 if it is a Coop. Financial and economic variables: financial risk (Leverage) and investment policy (Inv), both also measured in logarithmic form. Control variables: size and sector are included as dummy variables (See Table 3).

Table 3. Summary of the variables in the study.

Abbreviation For the Variable	Variables
Stakeholder value creation	
PCVA	Log Staff Cost/Value Added
TAXVA	Log Taxes/Value Added
INTVA	Log Interest Expenses/Value Added
DIVVA	Log Dividends/Value Added
Explanatory and control variables	
Type	Type of firm, dichotomous variable: Coop = 1 CF = 0
Size	0 = Micro 1 = SME
Sector	Economic activity Secondary = 0 Tertiary = 1
Inv	Log Fixed Assets/Net Sales
Leverage	Log Debt Coefficient

Source: author's elaboration.

Table 4 summarises the main descriptive statistics for the numeric variables used in the models to be assessed. All the economic variables analysed are higher on average for the CFs than for the Coops, except for the INTVA and DIVA variables.

Table 4. Descriptive statistics for the economic variables in the sample.

	CF			Coop		
	N	Mean	Std. Dev	N	Mean	Std. Dev
Inv	393	23.90	758.01	119	2.834	30.63
Leverage	393	88.76	134.27	119	64.15	90.20
PCVA	393	0.8032	1.000	119	0.7348	0.3215
TAXVA	393	0.0358	0.0462	119	0.0170	0.0275
INTVA	393	0.0492	0.1510	119	0.0637	0.1011
DIVVA	393	0.1025	0.4392	119	0.1234	0.4639

Source: author-compiled data.

3.3. Hypotheses and Methods

To test the purpose of this research—that the VA generated by the cooperative for all its stakeholders differs significantly from that generated by a conventional capitalist firm—two hypotheses are proposed:

Hypothesis 1 (H1). *Coops positively influence shareholder value added.*

Hypothesis 2 (H2). *Coops positively influence stakeholder value added.*

To do this, four models have been proposed (see Figure 1): the first, the DIVVA model, aims to test the first hypothesis, while the other three models, PCVA, TAXVA and INTVA, aim to test the second hypothesis. To do this, the study uses the panel data methodology known as Correlated

Random Effects (CRE). This is an alternative to Fixed Effects (FE) that still allows unobserved effects to be correlated with the observed explanatory variables [31,32]. CRE is considered a good method when the response variable is a fraction or proportion [33]. CRE offer some advantages, given that “a decomposition within and between effects in a single model increases flexibility in model setup because it combines advantages of FE and RE models” [34].

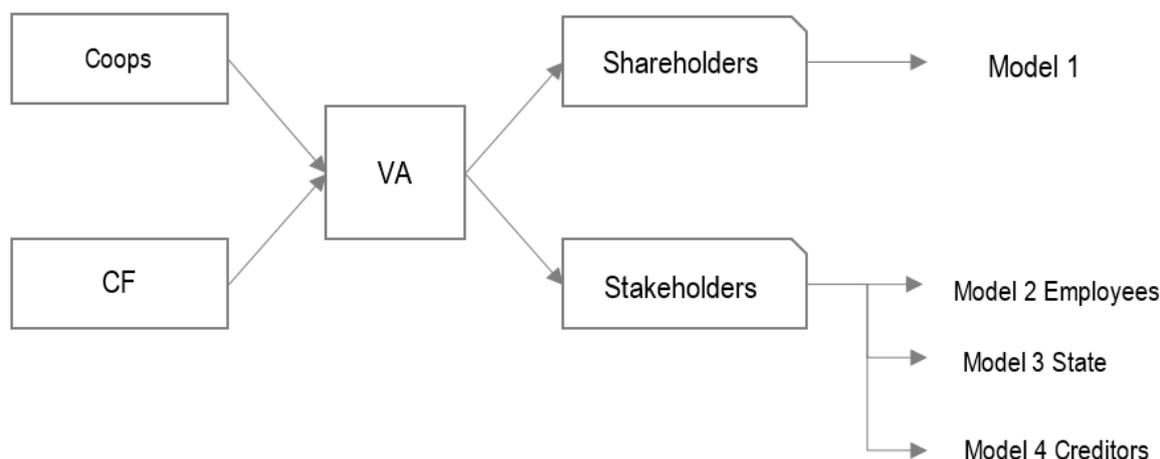


Figure 1. Distribution of economic value between the different stakeholders.

The result of the Hausman test in the four models proposed rejects the null hypothesis, thus indicating that we should use the FE estimator. However, the models include three time-invariant variables, Type, Sector and Size, and FE cannot estimate the effects of these variables. Following Wooldridge [31], the CRE approach provides a way to include time-constant explanatory variables in what is effectively a fixed effects analysis.

We therefore use CRE as a technique allowing us to include the average of the time-varying explanatory variables (MLeverage and Minv) in a regression model with random effects (RE) in such a way that the coefficients associated with the variables are a consistent estimate of the fixed effects, while the coefficients of the averages control the correlation between the error term and each of the explanatory variables [31].

4. Results and Discussion

The CRE results for the four models are shown in Table 5. It can be observed that H1 is accepted (model 1 DIVVA) and H2 is rejected, except for the creditors group (model 4 INTVA). The four models have shown a good fit and explanatory power. Some results are similar to those in the empirical evidence to date [30,35].

Table 5. Correlated Random Effects Results.

	Model 1: DIVVA	Model 2: PCVA	Model 3: TAXVA	Model 4: INTVA
Type	0.4796646 *** (0.1504098)	−0.1057451 ** (0.0413318)	−0.857507 *** (0.1301242)	0.3119037 ** (0.1379757)
Size	−0.4775728 *** (0.147619)	0.0427199 (0.0312053)	−0.2972845 *** (0.1053224)	−0.331231 *** (0.1118877)
Sector	−0.3799097 *** (0.1450873)	−0.0396391 (0.0336853)	0.4069808 *** (0.1076507)	−0.1976776 * (0.1132788)
Leverage	0.0450992 (0.0904224)	0.0200099 ** (0.0095659)	−0.0970921 *** (0.0371706)	0.2721943 *** (0.0562196)
Inv	−0.0044809 (0.1694699)	0.0499374 ** (0.0199685)	−0.0814099 (0.1008912)	0.1357864 * (0.0752091)

Table 5. Cont.

	Model 1: DIVVA	Model 2: PCVA	Model 3: TAXVA	Model 4: INTVA
MLeverage	−0.1880955 (0.1017708)	−0.025204 * (0.0138383)	0.0239241 (0.0438861)	0.111192 (0.0695469)
MInv	0.1688187 (0.1744245)	−0.1016388 *** (0.0214712)	0.1153734 (0.1018735)	0.0143535 (0.076385)
Cons	−2.370522 *** (0.2108041)	−0.3737572 *** (0.0515791)	−3.68629 *** (0.141528)	−4.820358 *** (0.1961528)
Wald Chi ²	60.41 ***	45.63 ***	92.55 ***	166.69 ***
rho	0.34688706	0.64566633	0.54992303	0.66435751
N. obs	962	2212	1904	2212

Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. T based on robust standard errors in parenthesis; source: data compiled by the author.

The results of model 1 show that cooperatives have a positive and significant influence on the DIVVA variable, therefore allowing us to accept *Hypothesis 1: Coops positively influence shareholder value added*. However, we can only partially accept the second hypothesis because the results detect a significant and positive influence of cooperatives on the creditors group (Model 4 INTVA) but not on the rest of the stakeholders analysed, that is, employees (GPVA) and the state (TAXVA).

In the case of model 2, the results may be due to the fact that the period analysed includes years of economic recession and, as previous empirical evidence has shown, cooperatives adjust wages downward rather than dismiss workers [24]. The specific nature of cooperatives leads these firms to prioritise the preservation of jobs over the maintenance of high profits, which is why they tend to reduce salaries and working hours instead of dismissing workers [2,36]. Since Burdín and Dean [37] demonstrate that capitalist firms and worker cooperatives use different wage and employment adjustment mechanisms, the crisis negatively affected both wages and employment, although the employment adjustment was larger in capitalist firms than in worker cooperatives.

In the face of economic shocks, employees are more willing to accept changes in their working conditions and to find ways to reduce costs and enhance their relationship with their customers. These measures are necessary to increase the cooperatives' chances of survival and to maintain their employment levels [38]. The greater flexibility of cooperatives to adjust hours worked rather than employee numbers confers greater labour stability [36,39]. Cooperatives are more selective at the time of hiring and more reluctant at the time of firing, which reduces the incentive to expand operations simply to take advantage of the opportunities in expansive phases, but also makes them less vulnerable to contractions [40].

The results of model 3 are consistent with the fact that cooperative firms in Spain are fiscally protected and, therefore, when their earnings are equal to those of their conventional capitalist equivalents, they pay less Corporation Tax. In relation to this issue, it is also worth noting that Marín-Sánchez [41] states that Spanish legislation makes it possible for cooperatives to treat their financial information in such a way that the tax benefits resulting from alternating financial years with losses and financial years with profits are maximised. In this way, the increase in cooperatives with losses during the recession seen in the study period could be managed with accounting and fiscal mechanisms that make alternating profits and losses a viable and legal strategy.

In relation to model 4, we observe a positive and significant influence of cooperative firms on the INTVA variable. Cooperative firms have traditionally used external funding to finance their investments, in part due to the lack of implicit incentives to finance themselves with their own resources. This arises as a result of their specific nature, from factors such as: the role of partner-workers; limits on the raising of capital by equity partners; the inability to sell shares; and limits on the recovery of the obligatory reserve funds that characterise this legal structure in Spanish legislation.

Finally, the size variable has a negative influence in models 1, 3 and 4 in favour of SMEs compared to micro-enterprises, and similar results were found for Employee Owned Firms in previous studies [30]. Similarly, the activity sector was significant in models 1 and 4, in favour of the service sector, and in model 3 in favour of the industrial sector. The impact of investment policy appears significant and positive in models 2 and 4, which implies that a greater investment in assets has positive effects both in the generation of value for the workers, via higher remuneration, and in higher financial interest from greater indebtedness, resulting in a residual for taxes and shareholders on the short term, because the effects of the investment policy are usually observed on shareholders in the long term [20]. Meanwhile, the Leverage variable has a negative influence on taxes and a positive influence on both workers (model 2) and creditors (model 4).

5. Conclusions

The traditional business model, the CF, where the ultimate strategic objective is to maximise profit and create shareholder value, is being replaced by a socio-economic model where the objective is to create value for all stakeholders. This results in direct effects on the society in which the company operates. In this sense, the cooperative model becomes of great importance for sustainable development, in accordance with its cooperative values and principles, and becomes a benchmark for social innovation—not only because at the economic level it contributes to income generation, the democratisation of ownership and efficiency in the use of resources through economies of scale, but also because it is important for rural sustainable development and the survival of local territories, becoming an instrument for the empowerment of the population as managers of their own progress and development.

According to Ferruzza et al. [42], SDG 8 best represents the idea of a need for a new development model that combines economic growth while ensuring inclusion and fairness in the distribution of economic resources and guaranteeing decent working conditions. Cooperatives must therefore adopt a sustainable development strategy that can represent an effective alternative to the dominant model, capable of comprehensively responding to today's challenges [43]. Cooperative values and principles, that make Coops different from other enterprises, contribute to the achievement of some SDGs, ensuring that the interests of all stakeholders are taken into account. Moreover, as their members assume multiple stakeholder roles (partners, suppliers, customers, workers, etc.), Coops will pursue the needs of these stakeholders and even count on their active participation [4].

In this study we have tested whether the cooperative model may represent a factor that supports value creation for the stakeholders analysed: shareholders, workers, state and creditors. We have done so by offering new empirical evidence about the differences with Capitalist Firms. The results do not confirm that the business behaviour of cooperative firms positively influences the distribution of value in favour of all the stakeholder groups analysed. They do demonstrate its positive influence on shareholders and creditors, but this does not apply to workers and the state. In the latter case, the results are consistent with cooperative firms in Spain being fiscally protected and, therefore, when their earnings are equal to those of their conventional capitalist equivalents, they generate less value via taxation. The model's results, which reflect the distribution of value in favour of the workers, refute some of the theories to date [16]. However, one explanation for this can be found in the economic cycle analysed (2013–2017), that was partly affected by the economic crisis. As previous empirical evidence has shown, cooperatives adjust wages downward rather than dismiss workers [24]. With this in mind, this analysis provides one important insight: cooperatives operate in line with their purpose and in keeping with the legal and fiscal institutional structure.

However, the results of this study should be treated with caution, because they are subject to some limitations. In relation to the methodology, the database is not balanced and the data is based solely on accounting figures, although, as Harris and Fulton [44] point out, some of the benefits of cooperatives are not reflected directly in the business accounts. Therefore, as Lazcano et al. [45] suggested, there is a need to standardise the social accounting to demonstrate and understand the value of social economy

companies. Similarly, Parliament et al. [23] argue that this approach does not include non-market dimensions and objectives that are inherent to cooperatives in line with their own principles. To detect social benefits for a wide spectrum of stakeholders, other items should have been evaluated through interviews or questionnaires, and it is expected that these will be developed in future research.

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Abbreviations

Coops	Cooperative Firms
CFs	Capitalist Firms

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