EXPANDED ABSTRACT

Capitalist enterprises versus cooperative enterprises: comparative analysis of economic and financial results for Spain in 2008-2015

This paper discusses the economic performance of cooperatives as compared to conventional, investor-owned firms in Spain and, more specifically, in recent years of economic crisis. From a global perspective, considering all types of cooperative firms, comparative evidence in the empirical literature has been developed under two approaches (Sexton and Iskow, 1993, and Soboh *et al*, 2009). The first focuses on the measurement of financial and economic ratios, while the second relies on the comparison of estimated economic efficiency. Now, this literature, in both approaches, has focused mainly on the agri-food sector (Soboh *et al*, 2009). Indeed, there are hardly any empirical studies outside the primary sector. And no study provides a general comparison for the Spanish economy comprising all economic sectors; nor compares different sectors, or distinguishes different sizes of companies. The originality of this article lies therein. In the international literature, only Challita *et al* (2014) has performed a similar work to this one, focussing on France.

As per the approach of comparative analysis based on financial ratios, our goals are as follows:

- To compare, for the economy as a whole, for all types of cooperatives, the financial ratios of Spanish investor-owned and cooperative firms in the recent crisis period 2008-2015.
- To perform the same comparison, but discriminating for economic sectors and firms' size.

We base our study on some of the most widely used ratios in the literature, classified in the following categories: financial soundness (solvency, financial autonomy), liquidity, profitability (ROE, ROA) and external financing (indebtedness level and liability structure).

The main theoretical hypothesis in the comparison of financial ratios between cooperatives and investor-owned firms, as reflected in the literature, are as follows:

- Profitability, which, according to a first hypothesis, is greater in investor-owned firms than in cooperatives, based on the fact that, while the investor-owned firms pursue profit maximization, this goal is not isolated from others in the cooperatives. However, a second hypothesis establishes that profitability will depend on market power in the sector considered.
- Solvency is better in investor-owned firms.

- With regard to liquidity, there are two hypotheses. Under the first, liquidity would be better in investor-owned firms because of the cooperatives' behaviour, arising from moral hazard issues. Under the second hypothesis, based on an argument of aversion to risk, cooperatives would achieve higher liquidity ratios.
- Indebtedness is larger in cooperatives.

The source of data for financial ratios is the SABI (*Sistema de Análisis de Balances Ibéricos*) database. A total of 6,963 firms were randomly selected, comprising of 4,126 investor-owned firms (59.26% of the total) and 2,837 cooperatives (40.74% of the total). The sample covers the period 2008 to 2015, with the average value calculated for the entire period mentioned in each firm in the sample. Because of high dispersion and errors in the data, following a usual statistical procedure the extreme values for each of the variable were identified and removed.

The following twelve economic sectors were selected based on the National Classification of Economic Activities (CNAE) for 2009: primary sector; manufacturing and extractive industry and energy and water supply; construction; trade and repair of vehicles; transport and storage; hostelry; information and communication and financial and insurance activities; real estate activities; professional, scientific and technical activities; administrative activities and auxiliary services; education, health and social services activities; and, finally, artistic, recreational activities and other services. Regarding the analysis by size of firms, we have followed the definition by the European Commission.

The empirical analysis has consisted in comparing the average value of the different ratios between investor-owned and cooperative firms. As a first step, we have checked the hypothesis of normality of the distributions of each ratio for both types of firms. Virtually all the results of these tests contradict the normality hypothesis. Since in most cases the distribution is not normal, we apply the nonparametric Mann-Whitney test for independent samples, so as to check when the distributions of the samples for both types of firms are statistically different. Likewise, we also report the results of the T test for independent samples. In most cases, the two tests give identical results. The analysis of the results consists of comparing the average of the different ratios between both types of firms, as long as the corresponding test shows that the distributions are statistically different. And in such case, and only in such cases, the results of the average are illustrated by Graphs.

Likewise, in order to provide more information, we graphically represent the evolution, for the entire analysed period, of each ratio for all firms, and also for cooperatives and investor-owned firms separately.

Our findings are as follows. With regard to solvency, in the Spanish economy as a whole, cooperatives are financially sounder than investor-owned firms. This result is further confirmed for microenterprises, as well as in the sectors of industry, construction, trade and repair of vehicles and administrative activities. These findings contradict the hypothesis established in the literature. In con-

cluding, it can be said that, during the recent period of economic crisis in Spain, cooperatives have shown higher solvency. In terms of liquidity, for the Spanish economy generally, investor-owned firms show a higher level; however, for micro-enterprises, the opposite is true (although the difference is nearly negligible). By sectors, the liquidity ratio is higher in cooperatives in construction, industry and administrative activities. However, in the primary sector liquidity is higher for investor-owned firms. Therefore, the results are not fully conclusive, according to the two opposite hypotheses hereby explained. Thirdly, investor-owned firms have conclusively earned higher profitability than cooperatives during the recent period of crisis in Spain, which further confirms the hypothesis based on the differing goals of each type of firm. Specifically, regarding financial profitability, the result is very conclusive: both for the economy as a whole, as in the four types of firm sizes, and in most sectors, investor-owned firms attain a much higher financial return than cooperatives. Finally, regarding the financing structure, we conclude that investor-owned firms are more indebted than cooperatives, and, consequently, the hypothesis is not validated. This is true for the economy as a whole, and in eight economic sectors, as well as in micro-enterprises and SMEs. Only in large corporations investor-owned firms are less indebted than cooperatives. Likewise, it is shown that investor-owned firms are commonly more indebted in the long term than cooperatives.

Summing up, we can conclude that cooperatives, during the recent period of economic crisis in Spain, have enjoyed a sounder financial structure in the long term, with lower insolvency risk, as well as less indebtedness. Meanwhile, investor-owned firms have conclusively secured a higher profitability and, as a result (although less conclusively so), also higher liquidity. Also, investor-owned firms have a greater share of long-term indebtedness.

KEYWORDS: Cooperatives, capitalist companies, comparative analysis, financial ratios.