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DEVELOPMENT OF COOPERATIVES: CATALONIA, 1860-1939**

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## RESTRICCIONES LOCALES Y TRANSFERENCIA DE CONOCIMIENTO EN LA FORMACIÓN Y EL DESARROLLO DE LAS COOPERATIVAS EN CATALUÑA, 1860-1939

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### RESUMEN

Se han propuesto diferentes factores para explicar por qué en algunas regiones hay una mayor propensión a formar cooperativas que en otras. Aunque el debate sigue abierto, la literatura ofrece varias interpretaciones. Por un lado, algunos estudios han enfatizado el papel desempeñado por el capital humano, el acceso al mercado y las instituciones, entre otros factores, mientras que otros estudios han señalado la *path dependence*, es decir, el desarrollo del capital social y la confianza dentro de una sociedad en el pasado ha podido incentivar la cooperación. Diferenciar ambos efectos está lejos de ser trivial y requiere un análisis cuidadoso. En este estudio observamos la propagación del cooperativismo en Cataluña desde 1860 hasta 1939. Cataluña no era solo la región industrial líder en España, sino también donde las cooperativas surgieron por primera vez y tuvieron una mayor presencia. De acuerdo con la evidencia existente, encontramos que el cooperativismo se extendió desde los municipios costeros hacia el interior. En este sentido, parece que la alfabetización y la accesibilidad facilitaron este proceso. Además, el capital social no se puede descartar como un factor relevante, especialmente en contextos rurales.

**Palabras clave:** cooperativas, capital humano, capital social, transferencia del conocimiento, Cataluña.

### ABSTRACT

Different factors have been proposed to explain why in some regions there is a greater tendency to form cooperatives. Although the debate remains open, the literature offers several interpretations. On the one hand, some studies have stressed the role played by human capital, market access and institutions, among other factors, while other studies have pointed to path dependence, that is to say, the development of social capital and trust within a society in the past encourages cooperation. Disentangling both effects is far from trivial and requires a careful analysis. In this study, we look at the spread of cooperativism within Catalonia from 1860 to 1939. Catalonia was not just the leading industrial region in Spain, but also where cooperatives first emerged and had a greater presence. In line with the existing evidence, we find that cooperativism spread from coastal municipalities to the hinterland. In this regard, it appears that literacy and accessibility facilitated this process. Besides, social capital cannot be discarded as a relevant factor, especially in rural contexts.

**Keywords:** Cooperatives, Human Capital, Social Capital, Knowledge Transfer, Catalonia.

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# LOCAL CONSTRAINTS AND KNOWLEDGE TRANSFER IN THE FORMATION AND DEVELOPMENT OF COOPERATIVES: CATALONIA, 1860-1939<sup>1</sup>

## 1.- Introduction

In 1995 the United Nations (UN) declared July 1, as the *International Day of Cooperatives*. Likewise, 2012 was proclaimed the *International Year of Cooperatives*. The UN has stressed the importance of the social economy, and hence cooperativism, as a democratic alternative to capital-based societies, and has argued that they are a crucial tool in the struggle against poverty and inequality.<sup>2</sup> Notwithstanding the potential benefits of cooperatives, it is far from clear why some regions appear to exhibit a greater tendency towards cooperation (or collective action).

Within economic history, several studies have recently explored the formation and development of cooperatives, broadly defined as organisations where profits or benefits are shared by their members (Henriksen et al. 2012; Beltrán 2012; Martínez-Soto et al. 2012; Garrido 2014; Fernández 2014a; Fernández and Simpson 2017; Watts 2017; among others). Yet, little attention has been paid to the spatial dimension which, in turn, raises a relevant question. If cooperatives reflect a greater desire to cooperate but they are unevenly distributed across space, then a better understanding of the latter could shed further light on the subject.

Traditionally, the spread of cooperativism has been regarded as a direct outcome of industrialisation and urbanisation. During the 19<sup>th</sup> century, cooperatives emerged, first in urban contexts and then in rural ones, as a mechanism to cushion workers from adverse conditions originating in a market economy. In general, consumers' cooperatives aimed at improving the living conditions of their members (usually industrial workers), whereas producer cooperatives permitted the sharing of resources and risk.

Historical studies have claimed that the early development of agricultural cooperatives is related to property (land) structure, human capital, market access, as well as institutions and product specialisation (Henriksen 1999; Simpson 2000; O'Rourke 2007a, 2007b; Garrido 2007; Martínez-Soto et al. 2012; Fernández 2014b; Fernández and Simpson 2017). Likewise, these and other studies have investigated the implications of trust and social capital (Galassi 1999; Beltrán 2012; Fernández 2014a; Garrido 2014).

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<sup>2</sup> For more information, see <http://www.un.org/en/events/coopsyear/>

Certainly, the existence of social networks and trust-based interpersonal relations is crucial in the emergence and development of cooperatives. Social capital might reduce the transaction costs of collective action, and limit free-riding (Ward 1958; Vanek 1970). Also, greater social capital facilitates decision-making, the resolution of conflict and the management of common-pool resources (Putnam 1993; Ostrom 1990, 2000; Svendsen and Svendsen 2004). Still, this approach has been criticised because of its ambiguity and immeasurability (Sobel 2002). Even more, some studies have argued that social capital alone does not explain the development of cooperatives (Henriksen 1999; Henriksen et al. 2011, 2012; Henriksen and O'Rourke 2005; Garrido 2014).

Therefore, the aim of this study is to present further evidence. In doing so, we will contribute to the existing debate by exploring the cooperative movement in Catalonia between 1860 and 1939. For this purpose, we have compiled a novel dataset with information on the whole population of cooperatives. Although the motivation to establish a consumers' cooperative, as opposed to a producer cooperative, differs widely, we will treat both as an outcome resulting from cooperation or collective action. In order to examine the spatial dimension, the unit of analysis will be the municipality. Besides, the period under study comprises the genesis of cooperativism, not only in Catalonia, but in Spain and Europe.

In line with the literature, this approach will assess whether social capital, measured with several distinct variables, or human capital and accessibility, among other factors, account for the spread of cooperatives in Catalonia. However, in contrast to previous studies, our dataset will allow us to study the relevance of each of these forces simultaneously.

## **2.- Historical background**

Conventionally, cooperativism has been regarded as a response to industrialisation and urbanisation within the so-called, *social question* debate (Thompson 1963; Wrigley 1990). Growing social tensions in response to poverty and deprivation prompted the formation of cooperatives. These organisations included consumers' cooperatives, whose aim was to facilitate access to basic goods (food, clothing), but also educational, welfare, recreational and cultural services. Although early cooperatives shared profits among their members, they also created libraries, theatres, nurseries and cafes, and offered temporary assistance schemes to help members overcome contingencies such as illness, disability, or unemployment.

In Europe, cooperativism developed at different paces. After the foundation of the first consumers' cooperative (*The Rochdale Equitable Pioneers Society*) near Manchester in 1844, numerous enterprises were created in Great Britain. Reformist bourgeoisie played a central role, since cooperation became a reasonable answer to the *social question* debate. In this way, workers pooled resources and effort in order to offset low salaries; an uneven distribution of wealth; vulnerability of working-class families to unemployment,

old age, work-place accidents and widowhood; precarious educational infrastructures; and, poor hygiene in the burgeoning urban centres.

Consumers' cooperatives proliferated in the late 19<sup>th</sup> century, when they were adopted by the labour movement.<sup>3</sup> Cooperativism rapidly spread in the early 20<sup>th</sup> century, especially after the outbreak of World War I (WWI). Falling material living standards resulting from rising prices stimulated further cooperation in urban settings (Brazda and Schediwy 1989, pp. 14-16). In rural contexts, cooperativism expanded in the late 19<sup>th</sup> and early 20<sup>th</sup> century- The transition from a subsistence traditional agriculture to a market-oriented one brought about greater competition in some European countries, and hence falling prices, setting the ground for the development of agricultural cooperatives (Federico 2005).

In Spain, cooperativism arrived late and expanded slowly, compared with other European countries. The existing evidence reveals that early cooperative associations were riddled with major and well-known problems, which hinder quantitative analyses (Garrido 1996). Notwithstanding this limitation, the available sources allow for a general analysis of the scope and development of the phenomenon.

The earliest cooperatives were founded in the coastal and metropolitan areas of Catalonia in the 1860s (Medina-Albaladejo and Pujol-Andreu 2014; Medina-Albaladejo 2017). At the onset of World War I (WWI), urban cooperatives sprang around the most industrialised and urban areas.<sup>4</sup> In 1908, 41.8% of all Spanish cooperatives were based in Catalonia. Seven years later, this proportion had decreased to 29.3%, with some regions such as the Basque Country, Valencia and Asturias witnessing a substantial increase. Before WWI, the social impact of consumers' cooperatives barely reached 1% of the Spanish population, compared to 10% in the industrial districts of Catalonia in 1915.<sup>5</sup> Catalonia was, therefore, on a par with countries such as Switzerland (13.8% in 1910); Finland (11.9%); Germany (9.5%); Sweden (6.9%) and Italy (8.8%), but it was still far below the United Kingdom and Austria (Medina-Albaladejo and Pujol-Andreu 2014). In Catalonia, the popularity of cooperativism continued in the following decades, as illustrated by Map 1. In 1933, 33.8% of non-agrarian cooperatives were in Catalonia (especially Barcelona), which was the most important region in this regard alongside the Basque Country (Instituto Nacional de Estadística 1934).

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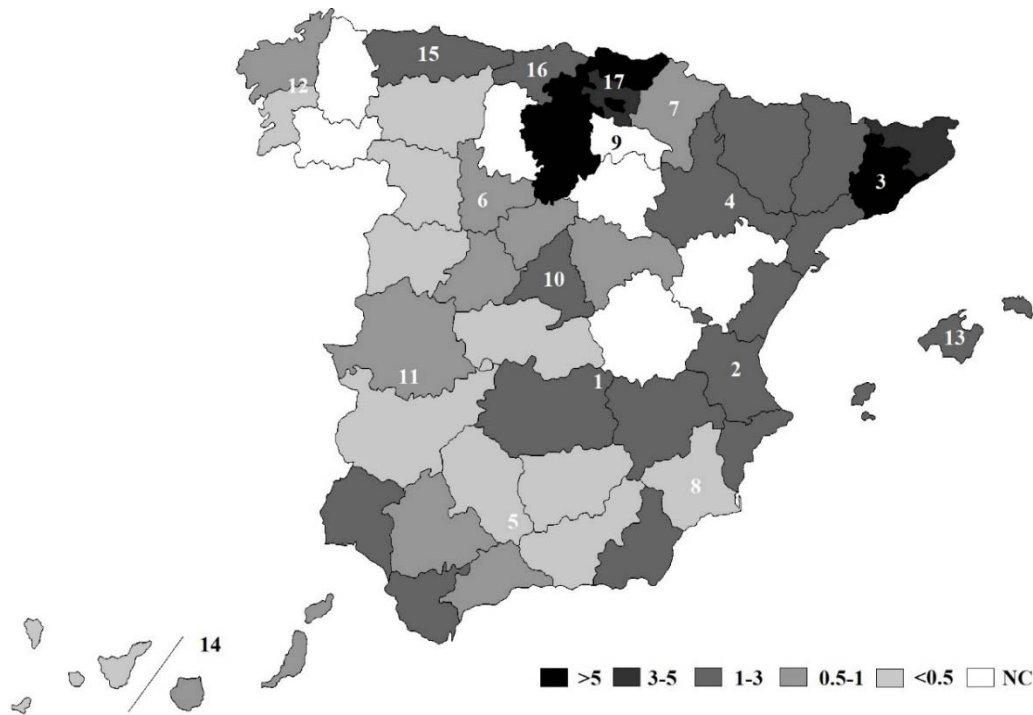
<sup>3</sup> Initially, labour organisations had rejected the cooperative model because it reinforced the exploitation mechanisms of social elites (Brazda and Schediwy 1989, pp. 14-16).

<sup>4</sup> In this study, urban cooperatives include consumers, producers, fishermen, credit, housing, electrical supply and pharmaceutical.

<sup>5</sup> Measured by the percentage that the members of the cooperatives and their families supposed about the total population, assuming families of four members and that only one was a member.

### Map 1

#### Number of urban cooperatives\* per 100,000 inhabitants in Spain, by provinces, 1933



\*Urban cooperatives (consumers', producers', fishermen's, credit, housing, electrical supply and pharmaceutical)

NC: No cooperatives

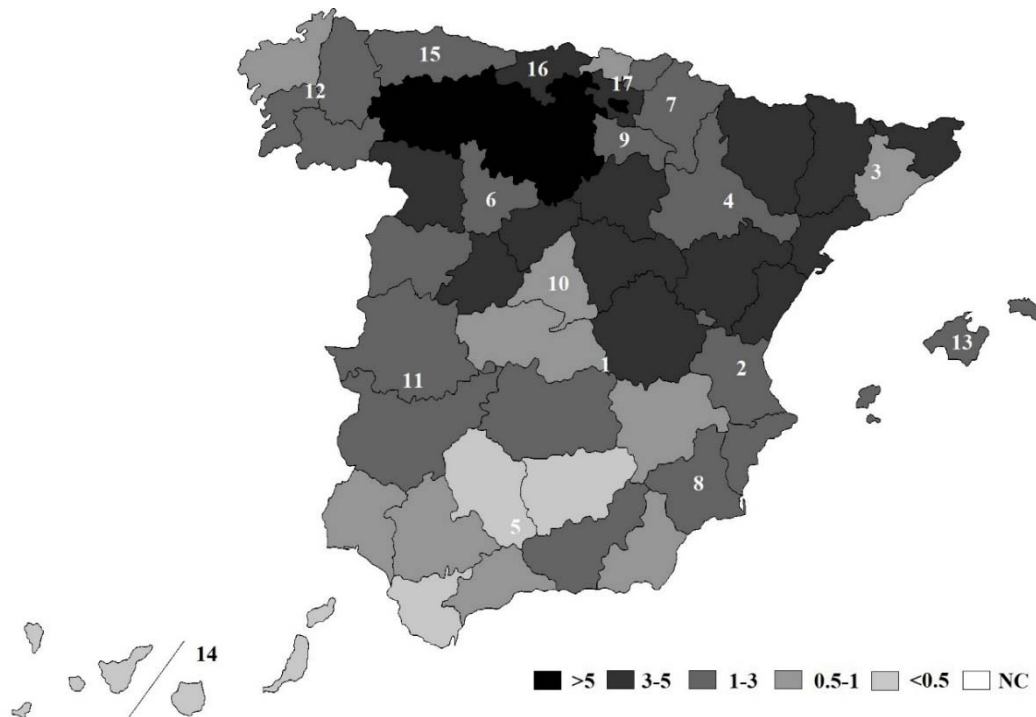
Spanish regions: 1 (Castile-La Mancha); 2 (Valencia); 3 (Catalonia); 4 (Aragon); 5 (Andalusia); 6 (Castile and León); 7 (Navarre); 8 (Murcia); 9 (Rioja); 10 (Madrid); 11 (Extremadura); 12 (Galicia); 13 (Balearic Islands); 14 (Canary Islands); 15 (Asturias); 16 (Cantabria); 17 (Basque Country).

Source: Instituto Nacional de Estadística (1934); Dirección General de Instituto Geográfico y Estadístico (1932).

Although agrarian cooperatives emerged later than urban cooperatives (consumers, producers), they were later to become the most frequent type, yet less common than in other European countries (Fernández 2014a, p. 686). In 1907, there were 433 agrarian cooperatives, and by 1915 there were 1,530 (Garrido 1996). By 1923, the number of these societies had soared to over 5,000, with a total of nearly 400,000 members (Ministerio de Fomento 1923), that is, around 12% of the agricultural population (Beltrán 2012, p. 512). These figures remained stable until the beginning of the Civil War in 1936. In Catalonia, however, agrarian cooperatives rapidly spread, but they were not as predominant as in other regions (Map 2). In 1933, there were 540 agrarian cooperatives in Catalonia (12.7% of a total of 4,266), second only to Castile and León (Ministerio de Agricultura 1934). Therefore, our study examines cooperativism in region, Catalonia, where cooperativism developed earliest and cooperatives, as a whole, has a meaningful presence.

## Map 2

### Number of agricultural cooperatives per 10,000 inhabitants\* in Spain, by provinces, 1933



\* In this map the number of agrarian entities per 10,000 inhabitants has been calculated, and not for every 100,000 inhabitants as in the Map 1. The purpose of this change is that in both maps the same rank can be used to classify the provinces according to their cooperative intensity, because the number of urban entities in the total of Spain was much lower than that of agrarian in those years.

NC: No cooperatives

Spanish regions: 1 (Castile-La Mancha); 2 (Valencia); 3 (Catalonia); 4 (Aragon); 5 (Andalusia); 6 (Castile and León); 7 (Navarre); 8 (Murcia); 9 (Rioja); 10 (Madrid); 11 (Extremadura); 12 (Galicia); 13 (Balearic Islands); 14 (Canary Islands); 15 (Asturias); 16 (Cantabria); 17 (Basque Country).

Source: Ministerio de Agricultura (1934); Dirección General de Instituto Geográfico y Estadístico (1932).

### 3.- Literature review

Over the last few decades, the historical study of cooperatives has revolved mainly around three debates. First, the formation and development process, especially as regards to the main motivations to form a cooperative. Second, the organisation and governance of these enterprises. In this line of research, studies have explored several dimensions such as their performance in a market economy. Third, the socioeconomic impact of cooperatives with respect to the standard of living of their members, both in rural and urban contexts. The latter has also paid attention to the modernisation, and profitability, of the agrarian sector.

Despite the scope and historical relevance of cooperatives, it remains unclear why in some regions cooperatives spread rapidly while in others did not. This is more acute as regards to consumers' cooperatives. In a way, the existing literature has approached this subject from a purely social or business history perspective. For example, studies have

looked at specific dimensions such as the relationship of cooperatives with the market, trade unions and social-democrat political parties (Purvis 1998; Gurney 2012); organisational issues, including internal conflict and the cooperatives' lack of flexibility to adapt to conditions of changing demand (Gurney 2012; Toms 2012); the role played by wholesale cooperative societies (Black and Robertson 2009; Webster 2012; Wilson et al. 2013a, 2013b); the social impact of cooperatives in the economic, financial, healthcare, educational and residential conditions of their members (Robertson 2010, 2012; Samy 2012; Jackson 2016; Watts 2017); the distribution of basic products among members (Schollier 1999; Medina-Albaladejo and Pujol-Andreu 2014); the role of cooperatives in the modernisation of food distribution chains in the second half of the 20<sup>th</sup> century; and, the competitiveness of cooperatives compared to capitalist firms (including case-studies which reflect both the success and the failure of cooperatives) (Zamagni et al. 2004; Alexander 2008; Shaw and Alexander 2008; Menzani and Zamagni 2009; Hilson 2011, 2013; Ekberg 2012a 2012b; Friberg et al. 2012; Kramper 2012; Balnave and Patmore 2012, 2015; Battilani and Zamagni 2012; Menzani and Medina-Albaladejo 2018).

More specifically, it is worth stressing the publication of several studies, essentially based on agricultural cooperatives, that have revitalised research and discussion. Ingrid Henriksen and coauthors, for instance, have pointed to the importance of social capital in rural Denmark, considering this as the crux of the matter in the successful development of agricultural cooperatives (Henriksen 1999; Henriksen et al. 2011, 2012; Henriksen and O'Rourke 2005). These studies, however, do not neglect the potential role played by other relevant aspects. Likewise, Kevin O'Rourke (2007a, 2007b), Peter Van der Hallen (2009) and Francesco Galassi (1999) consider that the failure of dairy cooperatives in Ireland and Belgium and rural credit cooperatives in southern Italy can be largely explained by a lack of social cohesion.

Timothy Guinnane (2001) suggests that the successful performance of rural credit cooperatives in Germany was based on dense social relations, which allowed to monitor customers and enforce sanctions, and also opening credit lines to low-income social groups. Eva Fernández (2014a), on the other hand, emphasises the role played by cultural and religious factors in generating trust and thus social capital, claiming that cooperativism was especially successful in protestant societies.

In Spain, most studies have a limited scope. Moreover, urban cooperatives (consumers', producer), despite of their earlier development, have received little attention. Having said that, Francisco Beltrán (2012), using information at the province-level, found that the existence (or pre-existing) stock of social capital mattered for the emergence of agrarian cooperatives during the 20<sup>th</sup> century. In brief, provinces where agrarian cooperatives and trade unions developed earlier were those in which there was previous experience in the management of common-pool resources. These pre-existing relationships contributed to the formation of social networks that further facilitated the circulation of information and interpersonal relationships. Ángel Pascual Martínez-Soto, Susana Martínez-Rodríguez and Ildefonso Méndez (2012), however, stress the detrimental effect of male illiteracy on the formation of rural credit cooperatives.



According to them, the key factors for cooperation are both formal education and social capital. Samuel Garrido (2014), however, argues that social capital does not necessarily lead to the emergence of cooperatives, as shown by the citrus-growing cooperatives in eastern Spain.

The role played by institutions is also an important aspect. From a theoretical perspective, some authors have argued that cooperatives, which often suffer financial problems owing to low investment and weak capitalisation – mainly caused by a risk-averse membership – need support structures created by the State and other institutions in order to survive (Vanek 1970; Ben-Ner 1988; Hansmann 1996; among others). A large number of case studies have emphasised this as a cause of the success or failure of French, Italian, Spanish, Dutch and Danish agrarian cooperatives (Garrido 1996, 1997; Simpson 2000; Simpson and Carmona 2017; Chevet 2009; Henriksen et al. 2012; Planas 2013, 2016; Medina-Albaladejo 2015; Planas and Medina-Albaladejo 2017; Medina-Albaladejo and Menzani 2017; Fernández and Simpson 2017; Molema 2017). All things considered, the debate remains open.

## 4.- Data and methodology

### 4.1.- Data and sources

In order to study the spread of cooperativism in Catalonia, we build a novel dataset with information at the municipality-level (N=1,061) for 7 periods (1860-1876; 1877-1886; 1887-1899; 1900-1909; 1910-1919; 1920-1929; 1930-1939).<sup>6</sup> Regarding cooperatives, the main source is the *Aproximació a l'atlas cooperatiu de Catalunya fins 1936* (Celada 1989), that compiled information on cooperatives in Catalonia from 1860 to 1939.<sup>7</sup> In particular, this source provides the name and nature of the cooperative, the municipality where it was created, the year of foundation (and dissolution), and the earliest and latest archival records available. A fundamental issue with this dataset is consistency. Of a total sample of 2,103 cooperatives, the year of foundation is provided only for 803 (38.2%). As a result, we rely on the information on the earliest record found to fill in the gaps. In short, only in 10 cases out of 803 (1.24%) the year of foundation differs from the year of the earliest archival record, thereby suggesting that our proxy is a reliable indicator of the *entry year*.

That said, it is worth mentioning that the choice of the period of study (1860-1938) is no ad-hoc, as during this period the creation of cooperatives was not subject to a central authority. Afterwards, with the triumph of Francoism, these associations were forcefully integrated into the corporatist structure of the regime, and therefore the creation of

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<sup>6</sup> The periods are based on the year of publication of the national censuses (Junta General de Estadística 1863; Dirección General de Instituto Geográfico y Estadístico 1883, 1891, 1902, 1913, 1922, 1932).

<sup>7</sup> As Celada (1989) describes, the information was extracted from numerous primary sources consulted in public and private archives. This initiative, sponsored by the *Confederació de Cooperatives Catalana*, aimed to carry out a census of cooperatives in Catalonia between 1860 and 1938.

cooperatives was no longer spontaneous but a State-driven process (Medina-Albaladejo 2015; Medina-Albaladejo and Menzani 2017; Planas and Medina-Albaladejo 2017). Furthermore, Garrido (1996, 2007) points that agrarian cooperatives did not just result from a voluntary desire to share resources and risks. Catholic activism stimulated the development of ‘fictitious’ associations to disseminate anti-socialist propaganda. In this regard, it could be the case that the year of the earliest and latest archival record coincides or that one of the two is not reported. Of the 870 agrarian cooperatives, only 148 (17%) have been identified though not removed from the dataset because there is no documentary proof that any of them was one of those ‘fictitious’ cooperatives. This problem does not invalidate the analysis, but it must nevertheless be taken into consideration.

Table 1 briefly describes our sample. Although Rafael Celada (1989) provides a total of 2,235 cooperatives, there are several duplicates that have been removed. For example, some associations are mentioned in more than one record, but with slight changes in their name, leading them to be regarded as two different entities. In other cases, the cooperative changed its name, or was disbanded only to be reorganised at a later date. After removing duplicates and those with missing information we come up with a total of 2,093. Of these, 870 (41.6%) had an agrarian nature and 1,223 (58.4%) were non agrarian; within the latter group, consumers’ (38.8%) and production cooperatives (11.7%) predominated.<sup>8</sup>

**Table 1**  
**Statistical summary**

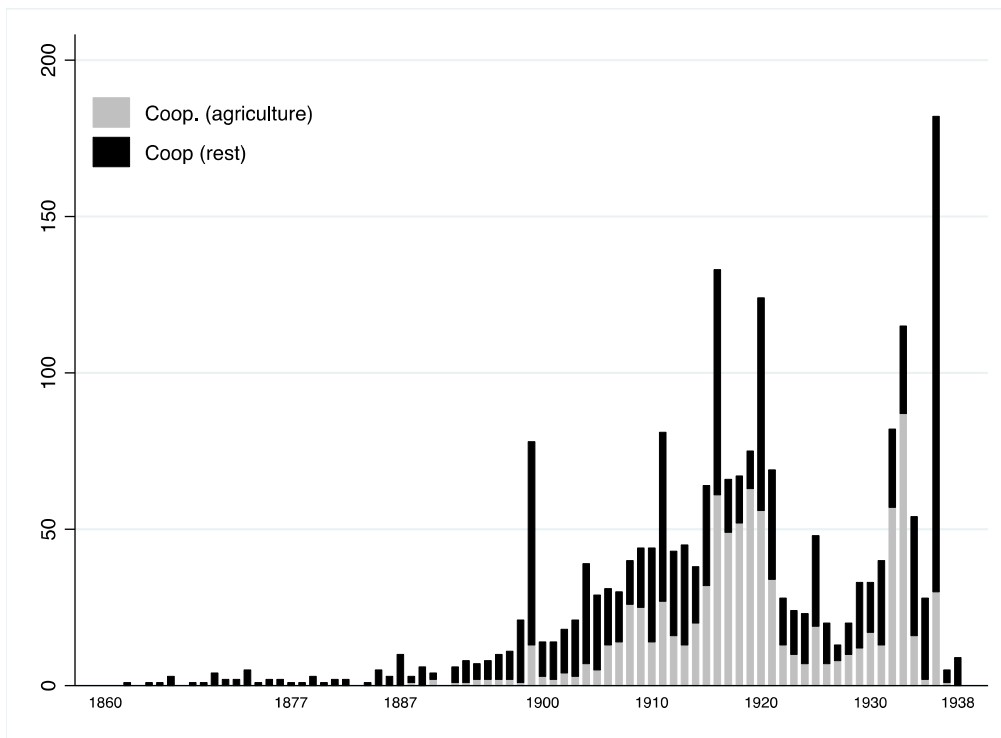
Period	Total cooperatives		Agricultural coops		Other cooperatives	
	Total	Sample	Total	Sample	Total	Sample
1860-1876	26	26	0	0	26	26
1877-1886	19	19	0	0	19	19
1887-1899	172	172	27	27	145	145
1900-1909	280	279	102	101	178	178
1910-1919	657	655	348	346	309	309
1920-1929	402	395	176	174	226	221
1930-1939	547	547	222	222	325	325
<b>TOTAL</b>	<b>2,103</b>	<b>2,093</b>	<b>875</b>	<b>870</b>	<b>1,228</b>	<b>1,223</b>

Source: Celada (1989).

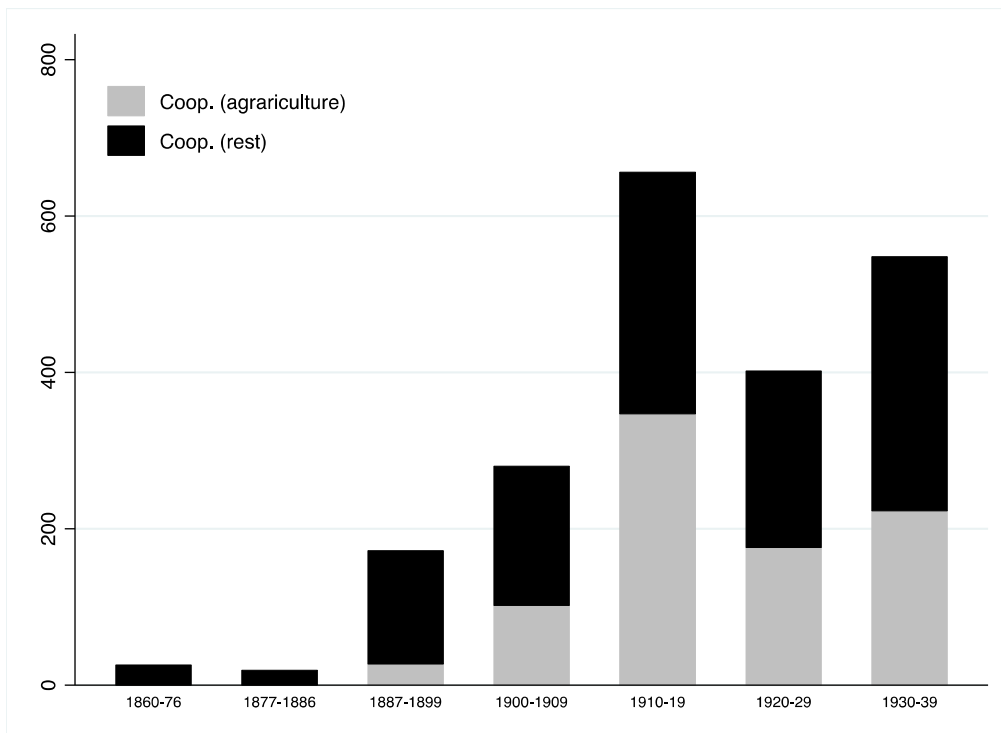
<sup>8</sup> Although most of the cooperatives are either consumer’s, production or agrarian, the dataset also includes associations created for housing (2.2% of the total), credit (0.6%) and health (0.6%) purposes, among others.

**Figure 1**  
**New cooperatives created in Catalonia, 1860-1939, by years and census periods**

**1a Years**



**1b Census periods**



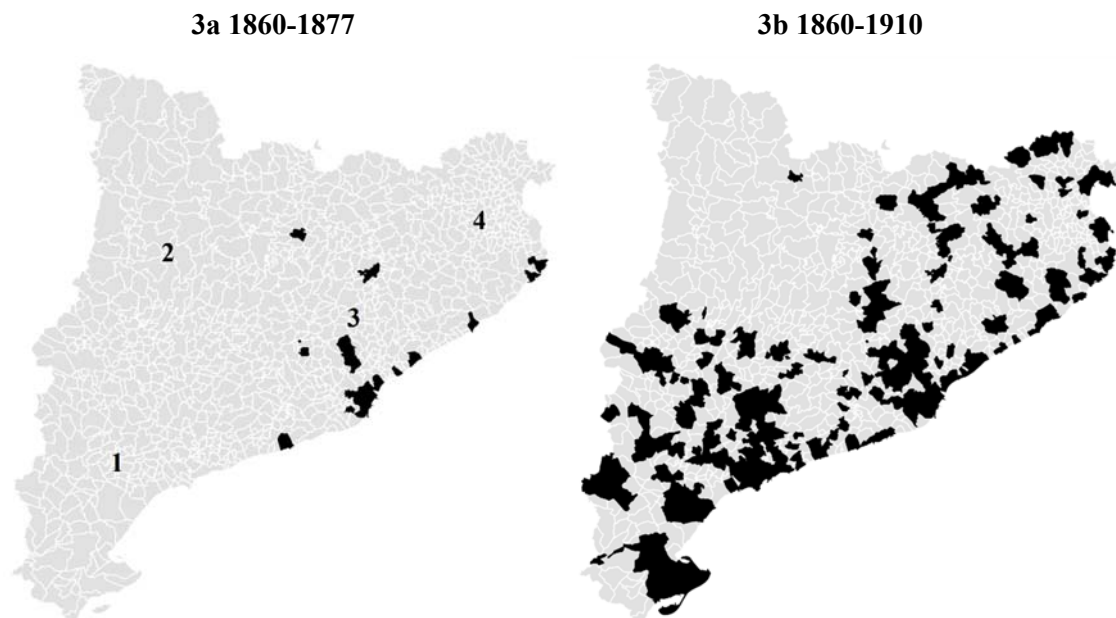
Source: Celada (1989).

Figure 1 illustrates the creation of cooperatives in Catalonia during our period of analysis. In general, there seems to be two major waves. First, cooperativism intensified between the late 19<sup>th</sup> century and 1920, especially during World War One (WWI). This, in turn, mirrors developments in the rest of Europe. The *social question* debate reached its peak in the early 20<sup>th</sup>-century. Besides, the scarcity and inflation brought about by the war led to the deterioration of living standards and stimulated the creation of cooperatives (Brazda and Schediwy 1989, p. 17). This pattern affected both urban and rural (or agrarian) contexts, although urban cooperatives had preceded agrarian one. This early wave came to halt in the 1920s, a decade characterised by the consolidation of cooperatives founded in the previous years, rather than by the creation of new ones. Then, the second wave took place during the 1930s, in a context of economic crisis and the proclamation of the Second Republic (1931-39), a period during which left-wing political parties and trade unions held substantial power and stimulated the development of cooperatives.<sup>9</sup>

Similarly, map 3 illustrates municipalities in which at least one cooperative was created between 1860-1877, 1860-1910 and 1860-1939. On the whole, map 3 suggests that the spread of cooperativism went from the coastal and metropolitan areas of Gerona and Barcelona to the hinterlands of Catalonia. More specifically, it shows that, by 1939, at least one cooperative had been formed in great part of the territory. Interestingly, the province of Lérida is where cooperativism, on the whole, was less prevalent.

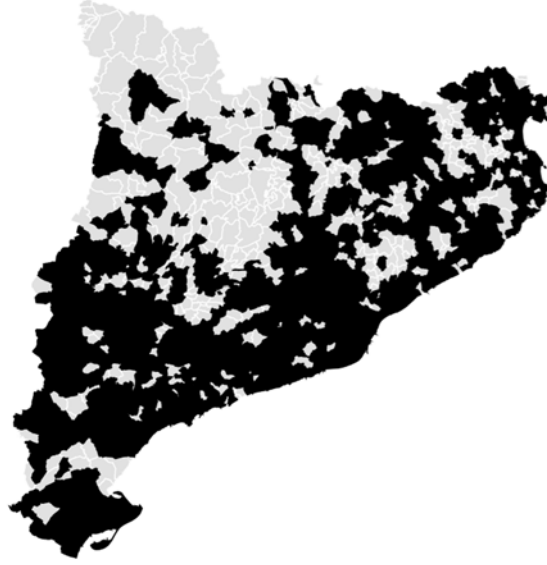
### Map 3

#### Presence of cooperatives in Catalonia, 1860-1939, by municipalities



<sup>9</sup> On 4 July 1931, during the Second Republic (1931-1939), the first national law ("*Ley de Cooperativas*") of cooperatives was passed.

### 3c 1860-1939



Note: The maps show the current municipalities, while the data has been worked following the municipal structure of the Spanish Second Republic (1931-1936). So they have been adjusted to the different municipal changes produced since the 1930s until today, especially in the Pyrenean counties of the provinces of Lérida and Gerona.

Catalonian provinces: 1 (Tarragona); 2 (Lérida); 3 (Barcelona); 4 (Gerona).

Source: Celada (1989).

#### 4.2.- Methodology

Given the nature of our data, we estimate a non-linear model where the dependent variable is a binary indicator. Specifically, we use a random effect probit model, which assess the impact of different variables on the probability that at least one cooperative will be born in a given municipality during a given period. The model is expressed by the following equation:

$$P(Y_{it} = 1|Z_{it}) = \Phi(Z_{it}\gamma + c_i) \quad (1)$$

where  $Y_{it}$  takes the value of 1 if at least one cooperative is formed in municipality  $i$  during period  $t$ , and 0 otherwise.  $Z_{it}$  is a vector of observable characteristics for each municipality  $i$  in period  $t$ ,  $c_i$  captures non-observable heterogeneity, while  $\Phi$  is the normal distribution function. Our model thus examines the extent to which different factors, suggested by previous literature, influence the likelihood that a new cooperative is formed in a particular municipality. That is to say, we investigate the spread of cooperativism within the territory of Catalonia between 1860 and 1939.

The vector of observable characteristics or  $Z_{it}$  comprises several dimensions. First, we control for a set of *local geo-economic conditions*. These are population density (*Popden*), illiteracy (*Illiteracy*), altitude (*Altitude*) and wealth per capita (*Wealth*). The former two are drawn from the Spanish population censuses. As the vast majority of

cooperative-members were males, these variables only include men.<sup>10</sup> On the other hand, the average altitude and surface area of each municipality come from the Catalonia's statistical office.<sup>11</sup> Finally, wealth per capita, which essentially captures the land and urban tax paid by each municipality, has been collected from the official gazettes of the provinces of Barcelona, Gerona, Lérida and Tarragona.

Our *a priori*, regarding *local conditions*, considers that densely populated areas are conducive to the dissemination of information while large markets attract investment. In this regard, we expect a positive association between population density and the surge of cooperatives. In contrast, illiteracy is detrimental to the adoption of a novelty. Moreover, reading and writing was essential to actively participate in the development and management of a cooperative (Henriksen 1999; Svendsen and Svendsen 2004; Martínez-Soto et al. 2012). Regarding altitude, we expect it to be negatively associated to the cooperative movement. This is because altitude captures accessibility, especially in Catalonia where coastal municipalities are more accessible than the hinterland. Finally, we expect a negative association with wealth. In a way, a larger concentration of wealth and greater inequality is expected in wealthier municipalities. This, in turn, might discourage cooperation, especially in agrarian settings (Simpson 2000; Garrido 1996, 2007), because cooperatives were chiefly joined by industrial workers, artisans (consumers' and production cooperatives) and small-and-medium landholders (agrarian cooperatives). Large businessmen, merchants or landowners had neither the incentive nor the need to cooperate to improve their access to basic products or to obtain better prices for their products in the markets, where they were in a strong bargaining position.

Beyond the set of factors reflecting local conditions, we also empirically assess variables related to the dissemination of information. In doing so, we examine whether the walking distance from a municipality to the capital-city of Barcelona (*Hours to Barcelona*) matters (Frígola 1824).<sup>12</sup> Barcelona stands as the principal urban agglomeration and maritime harbour. Besides, cooperatives developed there sooner and more rapidly. Additionally, our approach controls for the distance (in kilometres) from each municipality to the railway network (*Distance to railway*) during each period (Franch-Auladell et al. 2013, 2014). The railway not only transformed the landscape but it improved communications, facilitating the movement of people, goods and ideas. Regarding neighbouring effects, we include a spatial variable (*Peer-effect*), which is the share of municipalities within a county or "*comarca*" with at least a new cooperative during a period.<sup>13</sup> This variable is lagged one period to reflect that spatial diffusion of knowledge is not an immediate process.

Finally, our empirical analysis also controls for social capital. Following Beltrán (2012) and Garrido (2014), we first use information on the existence of common-pool

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<sup>10</sup> In our period of study, women-members were generally either widows or daughters of deceased members.

<sup>11</sup> <https://www.idescat.cat/emex/?lang=es>

<sup>12</sup> Data come from Frígola (1824), and have been complemented with information extracted from Google Maps (<https://www.google.es/maps/>).

<sup>13</sup> The spatial unit of analysis that we use here is "*comarca*". A "*comarca*" is a group of municipalities, which is somewhat equivalent to county.

resources (*Commons*) and irrigation systems (*Irrigation system*) managed by collective institutions, such local communities in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Instituto Nacional para la Conservación de la Naturaleza 1993; La Gaceta de Madrid 1897; Junta Consultiva Agronómica 1918). That said, it is worth stressing the difficulty of measuring social capital. The evidence on commons presents several issues. For instance, it relates to a period following processes of disentanglement throughout the 19<sup>th</sup> century. In addition, using the presence of communal property as a measure of social capital is riddled with other problems that must not be ignored, especially in Catalonia. Publicly-owned rural land included in the public-property registers was not necessarily free to use, as local oligarchies might have secured privileged access to the resource. That is, not all common land was publicly available. Conversely, some privately-owned land might have been publicly available for certain uses. The catalogue of common rural land of 1901 (Instituto Nacional para la Conservación de la Naturaleza 1993) includes some examples of State- or privately-owned land, the use of which was open to the community, and it is very likely that more examples exist.<sup>14</sup> The lack of visibility of these communal practices, which involved the exercising of traditional rights not supported by documents, is related to the evolution of property rights over time. As argued by Rosa Congost, Monserrat Pellicer and Lluís Serrano among others, from the 18<sup>th</sup> century onwards the Real Audiencia authorised the enclosure of common land in favour of the emerging elites, leading to the reduction and even the suppression of collective rights; this process of land appropriation had to face the opposition of local communities (Bosch et al. 1999; Congost 2007; Pellicer 2007; Serrano 2016). At any rate, the absence of references to publicly-owned land in Catalanian municipalities does not mean that some resources were not exploited collectively. As such, it is likely that communal property existed that is not expressed in the record.

In order to overcome these issues, we complement the above information with other indicators, such as the type of jurisdiction (royal, secular lordship or ecclesiastical lordship) (Frígola 1824). A binary variable (*Royal jurisdiction*) thus identifies whether a municipality was under royal jurisdiction in the *Ancién Régime* or not. Royal jurisdictions or municipalities where land belonged to the Crown were less likely to privatise; to pass from public to private hands. While the jurisdiction of a secular or ecclesiastical lord did not necessarily lead to private appropriation, the claim of the *Real Audiencia de Cataluña* (Royal Audience of Catalonia) ('No land without lord', rather than 'No lord without deed') played to the advantage of lords, both under ecclesiastical (for example in Cerviá de Ter, as analysed by Congost) and aristocratic jurisdictions. This drove the land into the

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<sup>14</sup> This register lists several rural areas owned by the state in Lérida (n° 4, 14, 16 and 17) in the municipalities of Ars, Pallerols and Tardente, which could be used by the residents for grazing, firewood and timber. In the municipality of Claverol, Mount Bayarri (n° 221) was listed as belonging to the town of Sosis, but the right-of-use was owned by the Dukes of Medinaceli, who received an annual fee paid by the residents. The register also records that the towns of Peramea and Pujal held rights over firewood and grazing, but the livestock were not allowed to stay overnight on the land (Instituto Nacional para la Conservación de la Naturaleza 1993, p. 431). In the municipalities of Vilech and Estaná, Mount Llobateras (n° 313) was listed as belonging to Obra Pía de la Seo de Urgell, but the residents of the two towns could walk and graze their animals there, as well as collecting firewood and timber (Instituto Nacional para la Conservación de la Naturaleza 1993, p. 443).

hands of lords, regardless of whether communal rights applied (Congost 2000, 2002). In short, it is expected that land in municipalities under secular or ecclesiastical lordships was more prone to become private property, thereby reducing one of the social capital mechanisms of the *Ancient Régime*.

**Table 2**  
**Descriptive statistics of explanatory variables**

Variable	Mean	Std. Dev.	Min.	Max.
<i>Local conditions</i>				
Population density	0.408	0.873	0.009	15.222
Illiteracy	0.535	0.187	0.081	0.979
Altitude (logs)	5.526	1.245	1.099	7.339
Wealth (logs)	4.628	0.514	2.286	8.076
<i>Diffusion</i>				
Hours to Barcelona (logs)	3.056	0.675	0.262	5.501
Distance to railway (logs)	2.405	1.251	0	5.038
Peer effect (t-1)	0.121	0.157	0	0.857
<i>Social capital</i>				
Royal jurisdiction [0,1]	0.355	0.479	0	1
Irrigation system [0,1]	0.287	0.453	0	1
Commons [0,1]	0.186	0.389	0	1
Crc_1859	2.067	0.738	0.670	5.530
Cic_1862	10.278	7.540	0.690	58.820

Source: see text.

In addition, we consider the number of criminal (*Crc\_1859*) and civil cases (*Cic\_1866*) per 1,000 male inhabitants in the second half of the 19<sup>th</sup> century (Ministerio de Gracia y Justicia, 1859, 1866). It is assumed that areas with less conflict had more social capital (Fernández 2014a). Ideally, we should have been able to use a variable to calculate urban social capital, for instance the number of guilds in existence before the collapse of the *Ancien Régime*, but this information is not available for the Catalanian provinces.

Finally, in a second specification we estimate a dynamic model, where the probability of a cooperative emerging in a given period depends on its previous history. Table 2 illustrates the descriptive statistics of the explicative variables.

## 5.- Results and discussion

Table 3 presents the econometric results for different specifications of the equation (1). Alongside the average marginal effects, the table presents standard errors. The estimated marginal values represent the effect of an infinitesimal change in the explanatory variable on the probability that in a municipality at least a new cooperative emerged during one time-period. In addition to the variables described above, all



specifications, although not reported, include dummies for province and census-periods. The former captures specific effects affecting all municipalities that belong to the same province, and the latter try to capture cyclical shocks affecting all municipalities within the same time period.

Model 1 estimates the effect of local conditions on the probability that at least one cooperative is created in a municipality in a given period. High population densities, high literacy rates and lower altitudes increase the probability of cooperatives being created. Conversely, higher wealth per capita decreases the probability of cooperatives being founded.

Model 2 considers knowledge dissemination-related variables in addition to local conditions. The nearer municipalities are to either Barcelona or the railway network (which expanded substantially during the period under consideration), the more likely they are to witness the foundation of a cooperative. Model 3 also incorporates the peer-effect. It is interesting to assess whether the creation of cooperatives in a given county during a given period increases the probability of cooperatives being created in other municipalities of the same county in the following period. The results of Model 3 suggest that the peer-spillover effect played a significant part in the dissemination of cooperativism.

Model 4 also incorporates the effect of social capital on the geographical diffusion of cooperatives in Catalonia. Of the five social capital-related variables, only two are statistically significant: the presence of irrigation systems managed by collective institutions (such as irrigator communities of the late 19<sup>th</sup> and the early 20<sup>th</sup> century) increases the probability of cooperatives being created. Conversely, a high number of civil legal cases in a given municipality decreases the probability of cooperatives being created. However, the presence of communal land in the municipality, the applicable jurisdiction of application in the municipality and the number of criminal cases have no significant impact on the probability of cooperativism.

The last column on Table 3 illustrates Model 5, which incorporates the lagged dependent variable. The aim of this specification is to assess whether cooperativism was persistent over time, that is, whether the creation of a cooperative in a municipality during a given time-span has any effect on the creation of cooperatives in the same municipality in subsequent periods. As the table suggests, the marginal effect of this variable is not statistically significant, so we may conclude that the diffusion of cooperativism in Catalonia was not a persistent phenomenon.

**Table 3**  
**Determinants of the creation of new cooperatives in Catalonia, 1860-1939**

	Model 1	Model 2	Model 3	Model 4	Model 5
	<i>dy/dx (s.e.)</i>	<i>dy/dx (s.e.)</i>	<i>dy/dx (s.e.)</i>	<i>dy/dx (s.e.)</i>	<i>dy/dx (s.e.)</i>
<i>Local conditions</i>					
Popden	0.022*** (0.006)	0.018*** (0.005)	0.022*** (0.006)	0.021*** (0.006)	0.022*** (0.006)
Illiteracy	-0.156*** (0.036)	-0.132*** (0.036)	-0.149*** (0.040)	-0.172*** (0.041)	-0.171*** (0.041)
Altitude (logs)	-0.035*** (0.004)	-0.023*** (0.004)	-0.025*** (0.005)	-0.023*** (0.005)	-0.024*** (0.005)
Wealth (logs)	-0.084*** (0.010)	-0.088*** (0.010)	-0.096*** (0.011)	-0.095*** (0.011)	-0.097*** (0.012)
<i>Diffusion variables</i>					
Hours_Bcn (logs)		-0.032*** (0.010)	-0.028** (0.011)	-0.026** (0.011)	-0.027** (0.012)
Dist_rw (logs)		-0.022*** (0.005)	-0.022*** (0.006)	-0.019*** (0.006)	-0.020*** (0.006)
Peer effect (logs)			0.116*** (0.038)	0.115*** (0.037)	0.120*** (0.038)
<i>Social capital</i>					
Royal jurid. [0,1]				-0.0002 (0.011)	-0.0003 (0.011)
Irrig. system [0,1]				0.035*** (0.013)	0.035*** (0.013)
Commons [0,1]				-0.023 (0.017)	-0.023 (0.017)
Crc_1859				0.006 (0.009)	0.006 (0.009)
Cic_1862				-0.003*** (0.001)	-0.003*** (0.001)
<i>Persistence</i>					
Y <sub>t-1</sub>					-0.018 (0.016)
Province effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Time effects	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Observations	7.365	7.365	6.313	6.313	6.313
Chi2	842.2	922.3	836.2	852.9	801.7
Log likelihood	-2254.01	-2230.86	-2176.06	-2167.52	-2166.76

Note: All estimates include the corresponding temporal and provincial dummy variables. Average marginal effects (*dy/dx*) and robust standard errors (*s.e.*) are reported. Y<sub>t-1</sub> represents the dependent variable lagged by one period. Significance level: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

Source: see text.

In general, our study confirms the importance of *local conditions* for the spread of cooperativism. Cooperatives, regardless of their nature, were more likely to be formed in densely populated municipalities. The result is robust across specifications. Similarly,

coastal municipalities, captured with the average altitude, witnessed this process with greater intensity. In sum, cooperatives were mainly established in urban agglomerations and rural contexts near the coast. The latter were, on the whole, more accessible and had more fertile land (Frígola 1824; Dirección General de Agricultura, Industria y Comercio 1891). Better land and access to the main markets encouraged the development of a market-oriented agriculture where cooperatives became an alternative for many farmers.<sup>15</sup>

Still, the above discussion cannot alone explain why in some municipalities cooperatives were rapidly adopted. As previously discussed, illiteracy hinders the development not just of a cooperative, but of a business enterprise. In line with the literature, our results show that illiteracy slowed down this advance (Henriksen 1999; Martínez-Soto et al. 2012; Garrido 2014). Literacy facilitated cooperation and, above all, permitted the management of the cooperative by its own members. Since they were responsible for the management and accounting, and critical decisions were usually discussed before approval or rejection, reading, writing and numerical skills were indispensable.<sup>16</sup>

Likewise, wealth per capita had a negative and statistically significant effect. As James Simpson (2000) pointed out, agricultural cooperatives were more widespread in areas where small and medium-sized holdings predominated, because they improved the bargaining position of farmers. In urban contexts, consumers' or producer cooperatives were often formed by industrial workers. In the city of Barcelona between 1900 and 1934, 70% of the members of the cooperative *Pau i Justícia*, one of the best-known consumers' cooperative, were industrial and construction workers, miners and small farmers.<sup>17</sup>

The novelty of cooperativism also deserves further discussion. Cooperatives emerged as an alternative or a *new way*. Then, the dissemination of knowledge played a fundamental role. Since this study goes from the early beginnings of the cooperative movement to the 1930s, we need to account for the spectacular advances in transport and communications. In particular, our results suggest that access to the railway network affected the diffusion process. Furthermore, proximity to the largest urban agglomeration, Barcelona, played a significant role. Interestingly, there appears to be a spatial-effect, or peer-effect, too. As table 3 shows, the likelihood that a cooperative is formed in a given municipality increases when cooperatives have already been founded within a county. In

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<sup>15</sup> This would partly explain the smaller impact of cooperativism in the province of Lérida (see Map 3), especially in the higher areas of the Pyrenees, where agricultural yields were lower than in the coastal areas during the 19<sup>th</sup> century (Dirección General de Agricultura, Industria y Comercio 1891).

<sup>16</sup> Nearly all (94%) new members of the consumers' cooperative *Pau i Justícia* (Barcelona) in the period 1900-1934 could read and write. The figures for *La Vanguardia Obrera* (Barcelona) are very similar. Archivo Municipal de Barcelona [hereafter AMB], Cooperativa Pau i Justícia, *Registro de socios*; Archivo de la Fundació Roca i Galés [hereafter AFRG], Cooperativa la Vanguardia Obrera, *Registro de socios*.

<sup>17</sup> In *La Vanguardia Obrera* (Barcelona), between 1894 and 1930, 57% of members belonged to these categories, compared to 75% in *Cooperativa de Súria* (Barcelona, 1916-1938) and 93% in *El Respeto Mutuo* (Hospitalet de Llobregat, Barcelona, 1910-1937). AMB, Cooperativa Pau i Justícia, *Registro de socios*; AFRG, Cooperativa la Vanguardia Obrera, *Registro de socios*; Archivo Municipal de Súria [hereafter AMS], Unió de Cooperadors de Súria, *Registro de Socios*; Archivo Municipal de L'Hospitalet de Llobregat [hereafter AMHLL], Cooperativa El Respeto Mutuo, *Registro de socios*.

short, the likelihood rises once cooperatives have reached neighbouring municipalities. This, again, suggests that information is paramount. In this line of thinking, our findings also indicate that the presence of cooperatives did not affect the subsequent formation of new ones.<sup>18</sup>

That said, this study also explores the relevance of social capital. Beltrán (2012) paved the way by emphasising the role played by the pre-existing stock of social capital, derived from the management of communal land or irrigation. In this approach, we attempt to identify this effect with a set of variables. Notwithstanding the difficulties related to the measurement of social capital, we find that cooperatives were more likely to emerge in municipalities with irrigation systems. Also, it seems that the number of civil cases (per 1,000 inhabitants) had a negative and statistically significant effect. Understandably, civil cases were somewhat voluntary, that is to say, individuals decided whether or not to bring their case into court. Then, the existence of strong interpersonal relationships would allow for conflict resolution without the need to appeal for external arbitration. Criminal cases, on the other hand, would not permit that.<sup>19</sup>

In order to shed further light on the subject, we also include in the empirical analysis other controls such as the type of jurisdiction and the existence of communal property. In both cases, there is no statistically significant impact. In the literature, it has been argued that communal land in municipalities under secular or ecclesiastical jurisdictions was more likely to be privatised. Yet, our study does not provide evidence in support of this. In this regard, it is worth stressing that communal land, after the disentailment processes of the 18<sup>th</sup> and 19<sup>th</sup> centuries, remained in small, mountainous, and isolated municipalities in the province of Lérida. More specifically, small communities of western Catalonia where, as map 3 illustrates, cooperativism did not spread. Moreover, emigration from the hinterland to the coast, especially to Barcelona and other industrial towns, raises a relevant issue (Silvestre 2005). If social capital was embedded in these migrants and many of them ended up as industrial or construction workers, then the pre-existing stock of social capital would have had a greater impact.<sup>20</sup>

In sum, cooperatives spread within Catalonia following a clear pattern. Densely populated municipalities had the upper hand. Additionally, cooperativism moved from the coast to the hinterland. Cooperatives were first formed in urban settings, around Barcelona and southern Gerona. Then, consumers' and production cooperatives spread to accessible municipalities where literacy rates were, on average, relatively high. Also, the existence of a pre-existing stock of social capital facilitated this process, although we

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<sup>18</sup> It may be argued that in municipalities with a greater propensity towards cooperation, cooperatives were not only founded but remained active over time.

<sup>19</sup> The human capital variable can also be used to indirectly measure social capital, as literacy rates can be directly related to the availability of communal goods and services. Until the 1900s, education expenditure in Spain depended on local authorities (teachers' salaries, school buildings, school equipment), and often these expenses were met with the revenues generated by communal property (Iriarte 2001; Beltrán 2013).

<sup>20</sup> In the period 1900-1934, 55% of the members of the cooperative *Pau i Justícia* (Barcelona) were from other regions of Catalonia and Spain, especially Aragon and Valencia. In a cooperative created in Súria (Barcelona), a small mining town, the proportion of non-local members was of 75%. AMB, *Cooperativa Pau i Justícia, Registro de socios*; AMS, *Unió de Cooperadors de Súria, Registro de Socios*.

could be underestimating this effect because of measurement. Last but not least important, our findings also suggest that spatial or peer-effects should not be discarded.

## 6. Conclusions

Over the last years, there has been mounting interest in the role of cooperatives for social and economic development. Poverty, rising inequality and social polarisation have thrust cooperatives into the limelight. But, this is somehow a *déjà vu*. The Industrial Revolution brought about extraordinary socioeconomic change. During the 19<sup>th</sup> century, the so-called *social question* debate called into question the welfare implications of industrialisation and the market economy. In this context, cooperatives emerged, offering an alternative way to capitalism. Yet, cooperativism spread unevenly across and within countries.

In this study, we examine why cooperatives were rapidly adopted in some places but not in others. For this purpose, a novel database has been compiled with information on cooperatives founded in Catalonia between 1860 and 1939. Regardless of their nature, it appears that cooperatives first reached densely populated areas in eastern Catalonia, and then moved into the hinterland. In this process, social and human capital played a fundamental role. Municipalities with a pre-existing stock of social capital and relatively high literacy rates exhibited a greater tendency to form cooperatives. Interestingly, spatial or peer-effects were also relevant, thereby stressing the relevance of information flows.

The transmission of knowledge across space was crucial. Once cooperatives were founded, the notion or idea of cooperativism was born. Then, this novelty spilled out. But, it only reached areas where local conditions were conducive to its development. In sum, this study exemplifies the complexity of history. Although disentangling the effect of past events, or path dependence, from contemporaneous factors is not trivial, further effort and thought should be made in order to better understand cooperation and collective action.

## References

- Alexander, Andrew. "Format development and retail change: supermarket retailing and the London Co-operative Society." *Business History* 50, no. 4 (2008): 489-508.
- Balnave, Nikola, and Greg Patmore. "Rochdale consumer co-operatives in Australia: Decline and survival." *Business History* 54, no. 6 (2012): 986-1003.
- \_\_\_\_\_. "The outsider consumer co-operative: lessons from the Community Co-operative Store (Nuriootpa), 1944–2010." *Business History* 57, no. 8 (2015): 1133-54.
- Battilani, Patrizia, and Vera Zamagni. "The managerial transformation of Italian co-operative enterprises 1946–2010." *Business History* 54, no. 6 (2012): 964-85.

- Beltrán, Francisco J. “Commons, social capital, and the emergence of agricultural cooperatives in early twentieth century Spain.” *European Review of Economic History* 16, no. 4 (2012): 511-28.
- \_\_\_\_\_. “Enclosing Literacy? Common Lands and Human Capital in Spain, 1860-1930.” *Journal of Institutional Economics* 9, 4 (2013): 491-515.
- Ben-Ner, Avner. “The life cycle of worker-owned firms in market economics.” *Journal of Economic Behaviour and Organization*, no. 10 (1988): 287-313.
- Black, Lawrence, and Nicole Robertson, eds. *Consumerism and the co-operative movement in modern British history*. Manchester: Manchester University Press, 2009.
- Bosch, Monica, Rosa Congost, and Pere Gifre. “Els bans. La lluita per l’individualisme agrari a Catalunya. Primeres hipòtesis (segles XVII-XIX).” In *Homes, masos, historia. La Catalunya del Nord-est (segles XI-XX)*, edited by Rosa Congost, and Lluís To, 299-328. Barcelona: Abadia de Montserrat, 1999.
- Brazda, Johann, and Robert Schediwy, eds. *Consumer Co-operatives in a changing world*. Geneva: International Co-operative Alliance, 1989.
- Celada, Rafael. *Aproximació a l’atlas cooperatiu de Catalunya fins 1936*. Barcelona: Generalitat de Catalunya, 1989.
- Chevet, Jean-Michel “Cooperative cellars and the regrouping of the supply in France in the twentieth Century.” In *Exploring the food chain. Food production and food processing in Western Europe, 1850-1990*, edited by Yves Segers, Jan Bieleman, and Erik Byust, 253-79. Turnhout: Brepols, 2009.
- Congost, Rosa. *Els darrers senyors de Cervià de Ter. Investigacions sobre el caràcter mutant de la propietat (segles XVIII-XX)*. Girona: Associació d’Història Rural de les Comarques Gironines, 2000.
- \_\_\_\_\_. “Comunales sin historia. La Cataluña de los masos o los problemas de una historia sin comunales.” In *Historia de la propiedad en España. Bienes comunales, pasado y presente*, edited by Salustiano de Dios et al., 293-328. Madrid: Colegio de Registradores de la Propiedad, 2002.
- \_\_\_\_\_. *Tierras, leyes, historia. Estudios sobre ‘La gran obra de la propiedad’*. Barcelona: Crítica, 2007.
- Dirección General de Agricultura, Industria y Comercio. *Avance estadístico sobre el cultivo de cereal y de leguminosas asociadas en España*. Madrid: Tipolitografía de L. Péant e Hijos, 1891.
- Dirección General de Instituto Geográfico y Estadístico. *Censo de la población de España 1877, 1887, 1900, 1910, 1920, 1930*. Madrid: Imprenta de la Dirección General de Instituto Geográfico y Estadístico, 1883, 1891, 1902, 1913, 1922, 1932.
- Ekberg, Espen. “Organization: Top Down or Bottom Up? The Organizational Development of Consumer Cooperatives, 1950-2000.” In *The Cooperative Business Movement, 1950 to the Present*, edited by Patrizia Battilani, and Harm Schröter, 222-42, Cambridge: Cambridge University Press, 2012a.

- \_\_\_\_\_. “Confronting three revolutions: Western European co-operatives and their divergent development, 1950-2008.” *Business History* 54, no. 6 (2012b): 1004-21.
- Federico, Goivanni. *Feeding the world: an economic history of world agriculture, 1800-2010*. Princeton: Princeton University Press, 2004.
- Fernández, Eva. “Trust, religion, and cooperation in western agriculture, 1880-1930.” *The Economic History Review* 67, no. 3 (2014a): 678-98.
- \_\_\_\_\_. “Selling Agricultural Products: Farmers’ Co-operatives in Production and Marketing, 1880–1930.” *Business History* 56, no. 4 (2014b); 547–68.
- Fernández, Eva, and James Simpson. “Product quality or market regulation? Explaining the slow growth of Europe’s wine cooperatives, 1880-1980.” *The Economic History Review* 70, no. 1 (2017): 122-42.
- Franch-Auladell, Xavier, Mateu Morillas-Torné, and Jordi Martí-Henneberg. “Railways as a Factor of Change in the Distribution of Population in Spain, 1900–1970.” *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 46, no. 3 (2013): 144-56.
- \_\_\_\_\_. “The Railway Network And The Process Of Population Concentration In Spain, 1900-2001.” *Revista de Historia Economica-Journal of Iberian and Latin American Economic History* 32, no. 3 (2014): 351-79.
- Friberg, Katarina, et al. “The Politics of Commercial Dynamics: Cooperative Adaptations to Postwar Consumerism in the United Kingdom and Sweden, 1950-2010.” In *The Cooperative Business Movement, 1950 to the Present*, edited by Patrizia Battilani, and Harm Schröter, 243-62, Cambridge: Cambridge University Press, 2012.
- Frígola, Vicente. *Relación de los pueblos de que consta el principado de Cataluña*. Barcelona: Imprenta de la Viuda e Hijos de D. Antonio Brusi, 1824.
- Galassi, Francesco. “Measuring Social Capital: Culture as an Explanation of Italy’s Economic Dualism.” *European Review of Economic History* 5, no. 1 (2001): 29-59.
- Garrido, Samuel. *Treballar en comú: el cooperativisme agrari a Espanya (1900-1936)*. Valencia: Edicions Alfons el Magnànim, 1996.
- \_\_\_\_\_. “Why did most cooperatives fail? Spanish agricultural cooperation in the early Twentieth century.” *Rural History* 18, no. 2 (2007): 183-200.
- \_\_\_\_\_. “Plenty of trust, not much cooperation: social capital and collective action in early twentieth century eastern Spain.” *European Review of Economic History*, no. 18 (2014): 413-32.
- Guinnane, Timothy W. “Cooperatives as Information Machines: German Rural Credit Cooperatives, 1883–1914.” *The Journal of Economic History* 61, no. 2 (2001): 366-89.
- Gurney, Peter J. “Co-operation and the ‘new consumerism’ in interwar England.” *Business History* 54, no. 6 (2012): 905-24.
- Hansmann, Henry. *The Ownership of Enterprise*. Cambridge-Londres: The Belknap Press. of Harvard University Press, 1996.

- Henriksen, Ingrid. "Avoiding Lock-in: Cooperative Creameries in Denmark, 1882–1903." *European Review of Economic History* 3, no. 1 (1999): 57-78.
- Henriksen, Ingrid, Morten Hviid, and Paul Sharp. "Law and Peace: Contracts and the Success of the Danish Dairy Cooperatives." *The Journal of Economic History* 72, no. 1 (2012): 197–224.
- Henriksen, Ingrid, Markus Lampe, and Paul Sharp. "The Role of Technology and Institutions for Growth: Danish Creameries in the Late Nineteenth Century." *European Review of Economic History* 15, no. 3 (2011): 475-93.
- Henriksen, Ingrid, and Kevin O'Rourke. "Incentives, Technology and the Shift to Year-round Dairying in Late Nineteenth-century Denmark." *The Economic History Review* 58, 3 (2005): 520–24.
- Hilson, Mary. "A Consumers' International? The International Cooperative Alliance and Cooperative Internationalism, 1918–1939: A Nordic Perspective." *International Review of Social History* 56, no. 2 (2011): 203-33.
- \_\_\_\_\_. "Consumer Co-operation and Economic Crisis: The 1936 Roosevelt Inquiry on Co-operative Enterprise and the Emergence of the Nordic 'Middle Way'." *Contemporary European History* 22, no. 2 (2013): 181-98.
- Instituto Nacional para la Conservación de la Naturaleza. *Catálogo de los montes y demás terrenos forestales exceptuados de la Desamortización por razones de utilidad pública, formado en cumplimiento a lo dispuesto en el artículo 4º del real decreto de 27 de febrero de 1897*. Madrid: ICONA, 1993.
- Instituto Nacional de Estadística. *Anuario Estadístico de España*. Madrid: INE, 1934.
- Iriarte, Iñaki. "Explotación forestal, medio ambiente y derechos de propiedad en los montes municipales de Navarra (1900-1935)." In *Naturaleza transformada. Estudios de historia ambiental en España*, edited by Manuel González de Molina, and Joan Martínez Alier, 211-38, Barcelona: Icaria, 2001.
- Jackson, Andrew J. H. "The Cooperative Movement and the Education of Working Men and Women: Provision by a Local Society in Lincoln, England, 1861–1914." *International Labor and Working-Class History*, no. 90 (2016): 28-51.
- Junta Consultiva Agronómica. *Medios que se utilizan para suministrar el riego a las tierras y distribución de los cultivos en la zona regable*. Madrid: M. G. Hernández, 1918.
- Junta General de Estadística. *Censo de la población de España 1860*. Madrid: Imprenta Nacional 1863.
- Kramper, Peter. "Why Cooperatives Fail: Case Studies from Europe, Japan, and the United States, 1950–2010." In *The Cooperative Business Movement, 1950 to the Present*, edited by Patrizia Battilani, and Harm Schröter, 126-49, Cambridge: Cambridge University Press, 2012.
- La Gaceta de Madrid. "Relación de los montes y terrenos forestales no declarados de interés general y dependientes del Ministerio de Hacienda." *La Gaceta de Madrid*, no. 242, 248, 265 (1897).
- Martínez Soto, Ángel P., Susana Martínez Rodríguez, and Ildefonso Méndez. "Spain's development of rural credit cooperatives from 1900 to 1936: the role of financial



- resources and formal education.” *European Review of Economic History* 16, no. 4 (2012): 449-68.
- Medina-Albaladejo, Francisco J. “Co-operative wineries: Temporal solution or efficient firms? The Spanish case during late Francoism, 1970–1981.” *Business History* 57, no. 4 (2015): 109-41.
- \_\_\_\_\_. “Consumer Co-operatives in Spain 1860-2010.” In *A global history of consumer co-operation since 1850: movements and businesses*, edited by Mary Hilson, Silke Neunsinger, and Greg Patmore, 326-52, Leiden: Brill, 2017.
- Medina-Albaladejo, Francisco J., and Tito Menzani. “Co-operative Wineries in Italy and Spain in the Second Half of the Twentieth Century: Success or Failure of the Co-operative Business Model?” *Enterprise & Society* 18, 1 (2017): 32-71.
- Medina-Albaladejo, Francisco J. and Josep Pujol-Andreu. “Cooperativas de consumo y niveles de vida, España 1865-1939: una primera aproximación.” *Scripta Nova* XVIII, no. 494 (2014). [http://www.ub.edu/geocrit/sn/sn-494.htm#\\_ednref14](http://www.ub.edu/geocrit/sn/sn-494.htm#_ednref14).
- Menzani, Tito, and Francisco J. Medina-Albaladejo. “Between Leader-worship and Member’s Democracy: The Consumer Co-operatives in Fascist Italy.” *Historia y Política*, no. 39 (2018): 235-60.
- Menzani, Tito, and Vera Zamagni. “Cooperative Networks in the Italian Economy.” *Enterprise & Society* 11, no. 1 (2009): 98-127.
- Ministerio de Agricultura. *Censo estadístico de sindicatos agrícolas y comunidad de labradores*. Madrid: Viuda de M. Navarro, 1934.
- Ministerio de Gracia y Justicia. *Estadísticas de la administración de justicia en lo criminal en la península e islas adyacentes*. Madrid: Imprenta Nacional, 1859.
- \_\_\_\_\_. *Estadísticas de la administración de justicia en lo civil en la península e islas adyacentes*. Madrid: Imprenta Nacional, 1866.
- Ministerio de Fomento. *Estadística social agraria de entidades agrícolas y pecuarias*. Madrid: Establecimiento Tipográfico, 1923.
- Molema, Marijn. “Collective organisation of knowledge in the early phase of the Dutch-Friesian dairy industry (c. 1880-1914).” *Historia Agraria*, no. 73 (2017): 91-118.
- O’Rourke, Kevin. “Property Rights, Politics and Innovation: Creamery Diffusion in Pre-1914 Ireland.” *European Review of Economic History* 11, no. 3 (2007a): 395-417.
- \_\_\_\_\_. “Culture, Conflict and Cooperation: Irish Dairying before the Great War.” *The Economic Journal* 117, no 523 (2007b): 1357–79.
- Ostrom, Elinor. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press, 1990.
- \_\_\_\_\_. “Social capital: a fad or a fundamental concept.” In *Social Capital: A Multifaceted Perspective*, edited by Partha Dasgupta, and Ismail Serageldin, 172-214, Washington: World Bank, 2000.
- Pellicer, Monserrat. “Los cercamientos de tierras en Cataluña. Fuentes para el estudio de una ‘revolución silenciosa’ (1714-1785).” In *Campos cerrados, debates abiertos. Análisis histórico y propiedad de la tierra en Europa (siglos XVI-XIX)*, edited by Rosa Congost, and José M. Lana, 249-92, Pamplona: UPNA, 2007.

- Planas, Jordi. “El cooperativismo vitivinícola en tiempos de crisis: el Sindicato de Viticultores de Igualada (1921-1936).” *Investigaciones de Historia Económica-Economic History Research* 9, no. 3 (2013): 155-64.
- \_\_\_\_\_. “The emergence of winemaking cooperatives in Catalonia.” *Business History* 52, 2 (2016): 264-82.
- Planas, Jordi, and Francisco J. Medina-Albaladejo. “Too Little Intervention or Too Much? The Contribution of the State to the Development of Wine Cooperatives in Spain.” *Revista de Historia Industrial*, no. 70 (2017): 77-107.
- Purvis, Martin. “Stocking the Store: Co-operative Retailers in North–East England and Systems of Wholesale Supply circa 1860–77.” *Business History* 40, no. 4 (1998): 55-78.
- Putnam, Robert. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press, 1993.
- Robertson, Nicole. *The Co-operative movement and communities in Britain, 1914-1960: minding their own business*. Farnham: Ashgate, 2010.
- \_\_\_\_\_. “Collective strength and mutual aid: Financial provisions for members of co-operative societies in Britain.” *Business History* 54, no. 6 (2012): 925-44.
- Samy, Luke. “Extending home ownership before the First World War: the case of the Co-operative Permanent Building Society, 1884-1913.” *The Economic History Review* 65, no. 1 (2012): 168-93.
- Serrano, Lluís. *Tancar la terra. Pràctiques de propietat i dinàmiques socials (Catalunya, 1850-1910)*. Girona: Associació d’Història Rural de les Comarques Gironines, 2016.
- Scholliers, Peter. “The Social-Democratic World of Consumption: The Path-Breaking Case of the Ghent Cooperative Vooruit Prior to 1914.” *International Labor and Working-Class History*, no. 55 (1999): 71-91.
- Shaw, Gareth, and Andrew Alexander. “British co-operative societies as retail innovators: Interpreting the early stages of the self-service revolution.” *Business History* 50, no. 1 (2008): 62-78.
- Silvestre, Javier. “Internal migrations in Spain, 1877-1930.” *European Review of Economic History*, no. 9 (2005): 233-65.
- Simpson, James. “Cooperation and cooperatives in southern European Wine Production. The nature of successful institutional innovation, 1880-1950.” *Advances in Agricultural Economic History*, no. 1 (2000): 5-126.
- Simpson, James, and Juan Carmona. “Explaining the presence and absence of Spanish farm cooperatives before 1936: a political economy approach.” Working Papers in Economic History, Madrid, Universidad Carlos III de Madrid, 2017.
- Sobel, Joel. “Can we trust social capital?” *Journal of Economic Literature*, no. 40 (2002): 139-54.
- Svendsen, Gunnar L. H. and Gert T. Svendsen. *The creation and destruction of social capital: entrepreneurship, cooperative movements and institutions*. Cheltenham-Northampton: Edward Elgar, 2004.
- Thompson, Edward P. *The Making of the English Working Class*. London, 1963.

- Toms, Steven. "Producer Co-operatives and Economic Efficiency: Evidence from the Nineteenth-century Cotton Textile Industry." *Business History* 54, no. 6 (2012): 855-82.
- Van der Hallen, Peter. "The transaction cost approach and the performance of the Belgian dairy co-operatives before 1940." Working Paper Social and Cooperative Entrepreneurship SCE-09.02, 2009.
- Vanek, Jaroslav. *The General Theory of Labour Managed Market Economies*. Ithaca: Cornell University Press, 1970.
- Ward, Benjamin. "The firm in Illyria: market syndicalism." *The American Economic Review* 48, no. 4 (1958): 566-89.
- Watts, D. C. H. "Building an alternative economic network? Consumer cooperation in Scotland from the 1870s to the 1960s." *The Economic History Review* 70, no. 1 (2017): 143-70.
- Webster, Anthony. "Building the Wholesale: The development of the English CWS and British co-operative business 1863-90." *Business History* 54, no. 6 (2012): 883-904.
- Wilson, John F., Anthony Webster, and Rachael Vorberg-Rugh. *Building co-operation: a business history of the co-operative group, 1863-2013*. Oxford: Oxford University Press, 2013a.
- \_\_\_\_\_. "The Co-operative Movement in Britain: From Crisis to 'Renaissance', 1950-2010." *Enterprise & Society* 14, no. 2 (2013b): 271-302.
- Wrigley, E. A. *Continuity, Chance and Change: The Character of the Industrial Revolution in England*. Cambridge: Cambridge University Press, 1990.
- Zamagni, Vera, Patrizia Battilani, and Antonio Casali. *La cooperazione di consumo in Italia*. Bologna: Il Mulino, 2004.