Dossier

Changes in wine consumption and its impact on the Spanish cooperative wineries, 1955-2010

Cambios en el consumo de vino y su impacto en las bodegas cooperativas españolas, 1955-2010

Francisco J. Medina-Albaladejo

Departamento de Análisis Económico
Facultad de Economía
Universidad de Valencia
Avenida de los Naranjos s/n
46022 Valencia (Spain)
Telephone: +34 9638 28222
francisco.medina@uv.es

Abstract

The wine sector has undergone a significant transformation during the twentieth century, especially in the second half, in terms of both supply and demand. The habits and preferences of consumers have changed dramatically, which is one of the main reasons behind the transformations of the sector. This paper aims to examine the effects of these new habits on the Spanish wine sector, especially with regard to the production and marketing processes. Especial focus will be put on a particular kind of firm, cooperatives, which are of enormous importance for the Spanish wine industry.

Keywords

wine industry, consumption, cooperative wineries, Spain

JEL codes: *L66, N54, P13, Q13*

Resumen

El sector vitivinícola ha experimentado una importante transformación durante el siglo XX, especialmente en su segunda mitad, tanto en el ámbito de la demanda como de la oferta. Los hábitos y preferencias de los consumidores han cambiado drásticamente, lo cual es una de las principales razones que están detrás de los cambios del sector. Este artículo examina los efectos de estos nuevos hábitos en el sector vitivinícola español, especialmente en los procesos productivos y de comercialización. Para ello pone especial atención en un tipo determinado de empresa, las bodegas cooperativas, que tienen una gran importancia en la industria del vino español.

Palabras clave

industria vitivinícola, consumo, bodegas cooperativas, España.

Códigos JEL: *L66, N54, P13, Q13.*

Fecha de recepción: 01/08/2017 - Fecha de aceptación: 18/10/2017

Introduction

The wine sector has undergone a significant transformation during the twentieth century, especially in its second half. The restructuring of the sector occurred for several reasons. In order to understand the changes from the point of view of supply, however, demand, or in other words, wine consumers, whose habits and preferences have changed accordingly, should be taken into account, because this is one of the main reasons behind the transformation.

This is neither an isolated case nor a mere national phenomenon, but one that has taken place on a global scale. Since the 1960s, wine consumption has fallen substantially worldwide in a constant and regular trend, in response to social changes which have had an effect on food consumption and lifestyle (Anderson, 2004; Martínez-Carrión & Medina-Albaladejo, 2010).

Traditionally, the leading countries in terms of wine consumption were in Southern Europe (France, Italy, Spain, Greece), where wine is part of the staple diet (Unwin, 1991). This practice is the cultural legacy of the "Mediterranean triad" (cereal, olive oil and wine), which was the basic dietary combination in these countries for thousands of years. Within this dietary framework, grape juice provided basic nutrients and was a very important source of calories.

A good example of the above is Spain, a traditional Mediterranean wine producer and consumer, where the new trends are having a very dramatic impact. This paper aims to examine the effect of these new habits on the Spanish wine sector, particularly with regard to the production and marketing process. Especial focus will be put on a particular kind of firm, cooperatives, which are of enormous importance for the Spanish wine industry, currently controlling around 70 % of total production (Cogeca, 2010).

These societies, which were mostly created in the 1950s and 1960s, were the basis of the industrialisation process affecting the Spanish wine sector (Pan-Montojo, 1994). Cooperatives produced large quantities of homogeneous wine of medium quality, which were then mostly commercialised in bulk. This output was well adapted to market demands during that period (Medina-Albaladejo, 2011).

One of the main ongoing historiographical debates about this kind of businesses focuses on their characteristics and deals with such topics as institutional design, organizational structure, governance, performance and efficiency. From a theoretical point of view, the questions are: Are the cooperatives efficient? Are they more or less efficient than mercantile societies? These questions have been at the center of an intense debate, and studies have leaned towards one or the other hypothesis, according to the specific case under study. Denmark is an example of success; the Danish cooperative dairy sector is more productive than mercantile societies and orients its activity towards the supply of international markets. The key for this was the role played by these cooperatives as formal institutions in rural society, where they created dense social networks characterized by high levels of trust, education and social cohesion (Henriksen, 1999; Henriksen & O'Rourke, 2005; Henriksen, Lampe & Sharp, 2011; Henriksen, Hviid & Sharp, 2012). German rural credit cooperatives pose a similar example (Guinnane, 2001).

In contrast, the Irish cooperative dairy sector has been regarded as a failure due to the low degree of social cohesion within these enterprises, as a result of intense social and political conflict (O'Rourke, 2007). Rural credit cooperatives in Southern Italy have faced similar problems (Galassi, 2001). Market shifts could also play an important role. For example, agricultural cooperatives in the United States found it hard to adapt to a changing economic context and increased competition. These conditions forced them to restructure, at the expense of social cohesion and solvency (Kramper, 2012).

Spanish historiography, for its part, has also tended to consider cooperatives as a failure before the Civil War (1936-1939), due to the low degree of social cohesion and the intense social and political conflicts that plagued rural areas. For this reason, as a rule, the Spanish agricultural cooperatives were insolvent and had a short life cycle (Garrido, 1996; Saumell, 2002; Martínez Soto, 2003; Planas, 2003; Planas & Valls-Junyet, 2011).

During Francoism (1939-1975), cooperative wineries spread all over the country with the financial support of the State, but they were not efficient either. Their main problems were their excessive financial dependency on the State and the low profitability. They did not optimize their resources and investments efficiently. Cooperatives also faced multiple problems in such fields of activity as management, production and marketing (Gómez Herráez, 2003; Medina-Albaladejo, 2015), and followed eminently productivist orientation. All these problems generated a strong inertia in the configuration of the sector. In addition, in the closing decades of the twentieth century, they faced problems adapting to changing wine demand patterns. This sets Spanish cooperatives apart from those in other European wine-producing countries, such as France or Italy, which underwent deep restructuring processes (Medina-Albaladejo, 2015; Medina-Albaladejo & Menzani, 2017; Planas & Medina-Albaladejo, 2017).

The main goal of my research is to examine the impact of new wine consumption trends in Europe, and the way that cooperative wineries adapted to the new circumstances. The starting hypothesis is that, in order to survive the changeable national and international market conditions, Spanish companies had to embark on a deep and traumatic process of restructuring. During the 1980s and 1990s, this involved large-scale investment in technology, which resulted in severe financial difficulties. I shall examine six case studies: cooperatives San Isidro (Jumilla, Murcia), Rosario (Bullas, Murcia), Virgen de las Viñas (Tomelloso, Ciudad Real), Pinoso (Alicante), Sant Isidre (Nulles, Tarragona) and Valls (Tarragona), all of these are located in the eastern regions of Spain. The main reason behind this selection is the availability of historical sources, which allows the analysis of the evolution of these entities in the long-term. Moreover, San Isidro and Virgen de las Viñas were two of the most important cooperative wineries in the country in terms of productive capacity.

The paper is organized as follows: in section 1 we present an overview of the evolution of wine consumption in Europe, focusing on the Spanish case in section 2. In sections 3, 4 and 5 we try to explain the productive, commercial and management changes that Spanish cooperative wineries had to undergo to adapt to new demand patterns. The paper ends with some concluding remarks.

1. Geographical context and overall evolution of European wine in Europe

From the 1890s, when it reached its peak, wine consumption began to slowly decrease in a downward trend that would last until World War Two. In parallel to this, tastes and preferences changed. Demand for good-quality, natural and low-alcoholic wines grew while the traditional demand for full-bodied wines decreased. Three causes have been proposed to explain these trends: the emergence of anti-alcohol movements, the impact of World War One and the commercial policies of some wine-producing countries (Morilla, 2001). Other authors, like Pinilla and Ayuda (2002), have shown that the increased consumption levels can be detected not only in traditional wine-producing countries, but also in countries with a medium consumption level and high income levels, due to easier imports, low prices and improved sea and road communications. In these countries, wine was only consumed by the higher social classes, while other sectors of the population preferred other beverages such as beer, for cultural reasons. In these countries, at any rate, wine was not consumed on a massive scale.

These changes, all of which took place before World War Two, determined the evolution of wine consumption in the second half of the twentieth century. In general, during this period wine consumption was in decline, especially in the last quarter of the century, decreasing from 280.3 million hectolitres in 1971-1975 to 236.3 in 2010, a drop of 15.6 %.

In order to make the evolution of wine consumption and the changes in demand during the second half of the twentieth century easier to understand, and also to put them in their correct geographical context, I have divided the European countries into three groups with well-defined demand characteristics. These groups reflect the main consumption models in the continent. Traditional Mediterranean producing and consuming countries form the group EuroG4S. The second group includes Central European countries, where wine consumption is traditionally high but less so than in the Mediterranean region. Finally, new consumers from Northern Europe form group EuroG4N (figures 1 and 2).[1]

Figure 1. Countries in the three areas arranged according to the evolution of consumption in the main countries of Europe

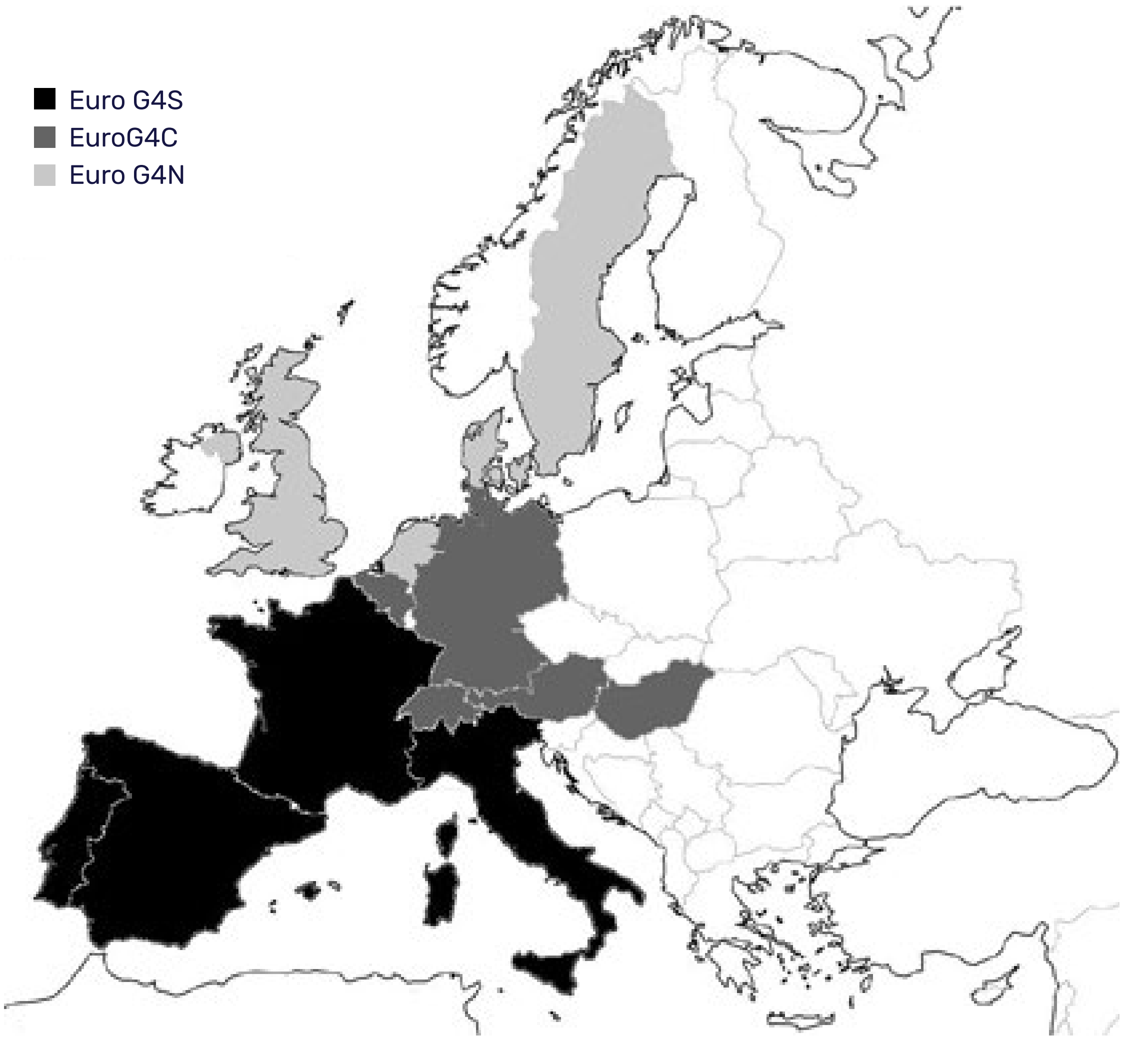
EuroG4S (old consumers)	EuroG4C (middle consumers)	EuroG4N (new consumers)
France	Germany	Netherlands
Italy	Switzerland	Denmark
Spain	Austria	Sweden
Portugal	Belgium	United Kingdom

Source: own elaboration.

The Mediterranean region is the main consumer and producer of wine worldwide. In 1986, wine consumption there amounted to 44.68 % of total world consumption. In Central Europe, consumption amounted to 9.58 % and in new consumers, to 3.96 %,

1 The criteria used to define these three areas are based on geographical location and per capita consumption. Countries in EuroG4S must have an initial consumption level above 40 litres per capita in 1955. Countries in EuroG4C must have a stable demand between 5 and 40 litres per capita in the second half of the twentieth century. And countries in group Euro G4N must have a low initial consumption level, less than 5 litres per capita, but this must have risen to over 15 litres per capita in the 2000s.

Figure 2. Geographical distribution of wine consumption in Europe, by the main areas



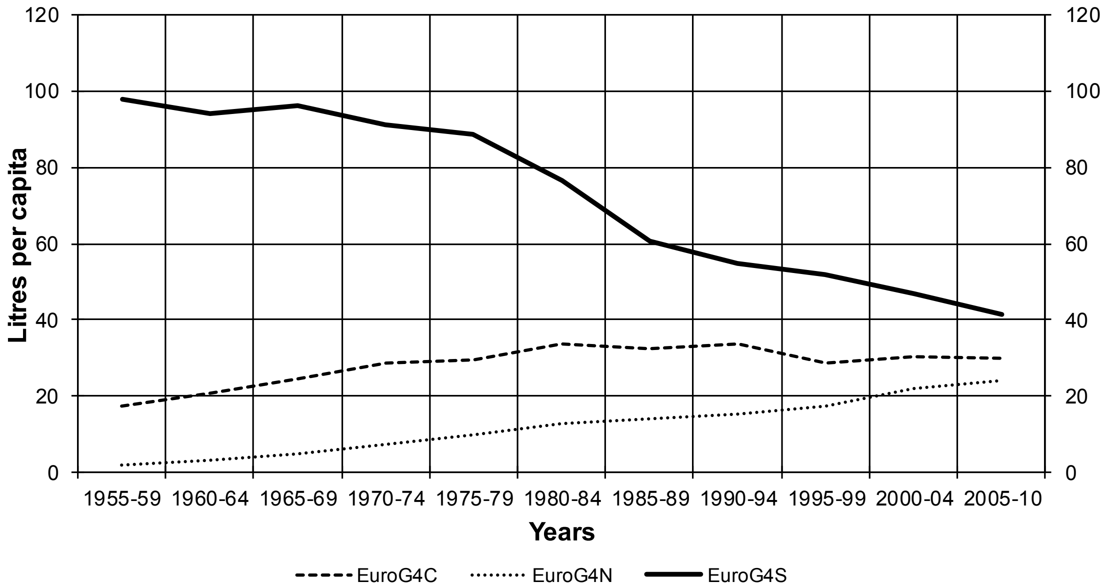
Source: own elaboration.

still, a low but growing percentage.[2] Therefore, our study embraces 58.22 % of total wine consumption in 1986. Special attention will be paid to emerging markets, such as the United States, Canada, Russia and China (Banks & Overton, 2010).

The distribution of total consumption, where the Mediterranean region is the most important consumer, has changed in recent years. The gap between new and old consumers is narrowing (figure 3). The relative importance of the Mediterranean area for total wine consumption has dropped to 27.4 % in 2010, while that of Central Europe has grown to 11.42 %. The relative importance of new consumers has also grown substantially, and in 2010 it was 8.38 % (Banks & Overton, 2010). Consumption in the Mediterranean region has decreased in absolute terms, which has led to an overall fall in wine consumption in the second half of the twentieth century.

2 Statistics OIV (n.d.). Retrieved from http://www.oiv.int/oiv/info/esstatoivextracts2 (2014, September 16).

Figure 3. Evolution of wine consumption in the main countries of Europe (litres per capita), 1955-2010. Five-year averages



Source: OECD, Food Consumption Statistics (1955-1984); Statistics OIV (1985-2010). Retrieved from http://www.oiv.int/oiv/info/esstatoivextracts2 (2014, September 16).

At the same time, new European consumer countries, where beer has historically prevailed, experienced a strong growing trend, closing the gap between the positions of new and old consumers. However, given their low initial values, these countries have not been able to compensate for the fall in consumption in the Mediterranean area. Consumption in Central Europe has remained high but stable, and has had no major repercussions on the evolution of global consumption values (see figure 3).

In the following pages, I shall undertake a more detailed analysis of each of these groups and of the evolution of demand during the second half of the twentieth century.

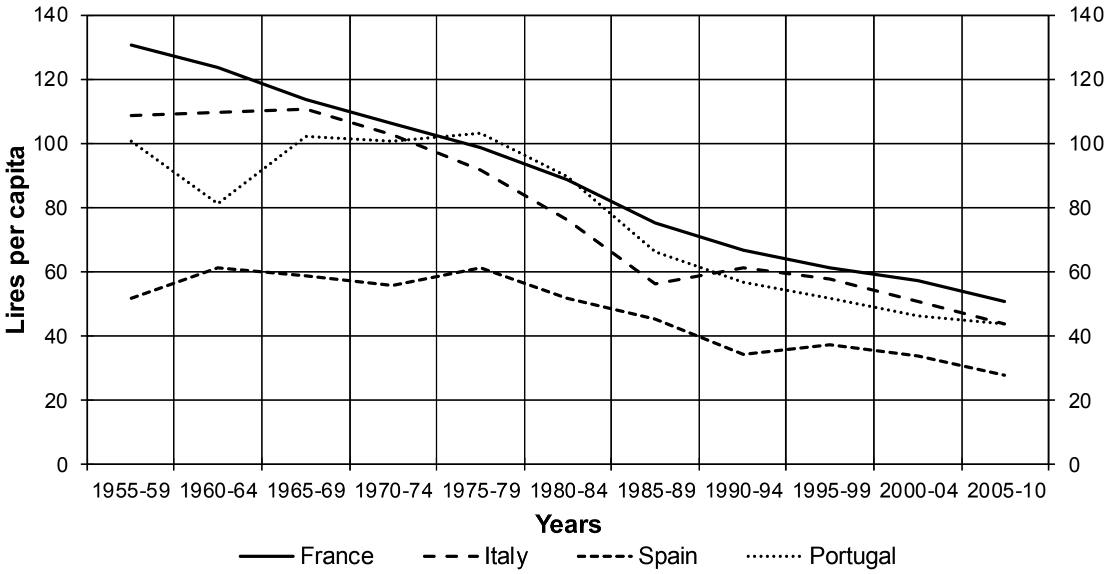
1.1. Traditional Mediterranean consumer countries (EuroG4S)

The main wine-consuming countries in the world are the biggest producers too, and are to be found in Mediterranean Europe: France, Italy and Spain form the core of wine consumption worldwide (Unwin, 1991; Pinilla & Serrano, 2008). However, wine consumption in the Mediterranean has long been affected by a decreasing trend in terms of demand. This decrease has been constant and widespread (see figure 4).

France, the leading consumer and producer, was the first country to be affected by this trend, with a decrease in per capita consumption during the second half of the twentieth century. In 1955, this country held the top position in terms of per capita consumption, with 138 litres per annum. In 2010, France was still the leading consumer country, but consumption had dropped to only 46.62 litres per capita per annum. In the 1970s, Italy also joined this trend, followed by Spain and Portugal a decade later (figure 4).

What are the reasons behind this significant and constant fall in wine consumption in Mediterranean countries? José Morilla (2001) has warned against over-simplistic

Figure 4. Evolution of wine consumption in the Mediterranean region (litres per capita), 1955-2010. Five-year averages



Source: OECD, Food Consumption Statistics *(1955-1984); Statistics OIV (1985-2010). Retrieved from http://www.oiv.int/oiv/info/esstatoivextracts2 (2014, September 16).*

demand models based on prices and income, and has questioned their predictive value for the wine sector. This is due to prevailing tendencies towards product differentiation, market regulation, moral, legal and social factors, and the irreversible demand functions that affect large segments of the consumer basis. For this reason, factors other than price and income levels have to be taken into consideration; cultural and social factors are also highly relevant.

Several authors have already paid attention to this issue, and several conclusions have been set forth. For instance, it has been argued that demand is inelastic to price changes (Labys, 1976; Troncoso & Aguirre, 2006; Bardají, 1992), and that changes in income are less significant in countries with higher consumption levels (Tapli & Ryan, 1969; Bardají, 1992), because the product is deemed to be a basic foodstuff (for example, in the Mediterranean region). In some cases, like Australia and California, other authors have invoked the "hedonic function", according to which the relevant variable for demand is not price, but quality perception and area of origin (Golan & Shalit, 1993; Oczkowski, 1994). This notion has recently become significant also in new consumers and Mediterranean countries, where quality-related and cultural factors have become more and more relevant (Lecocq & Visser, 2006; St James & Christodoulidou, 2011).

There are several reasons behind this general evolution in the Mediterranean region, for example, the rise in income levels and standards of living due to industrialisation and urbanisation processes. This rise is not necessarily reflected in higher purchasing power, but in deeper health-and-fitness-related concerns, with the result that alcoholic drinks are less frequently consumed. In this regard, if consumption levels in France and Italy began dropping sooner than in Spain and Portugal, it was because these new socioeconomic trends changed sooner in those countries. Other factors in this evolution are changes in the age structure of the population or the emergence of alternative beverages that are better suited to the demands of a young, urban population.

These transformations have changed the lifestyle and consumption patterns, including wine-consumer preferences, in an ongoing homogenisation process. Nowadays, the frequent consumer does not usually drink table wine because the demand has shifted to good-quality wines. This product is drunk sporadically: it is fresh, young, well-presented and has relatively low alcohol content (Morilla, 2001).

The average frequent consumer is a highly cultured person (often with a university degree), under 50, with a middle-to-high income. The consumption of wine has become a gastronomic ritual, only performed on occasions, and the purchase is a meditated process (Millán & Yagüe, 1997; Sainz, 2000-2001; Bardají, 2004; Martín, 2006). The traditional drinker is, on average, older and prefers low-priced table wines with higher alcohol content (Bernabeu & Olmeda, 2002).

The new frequent consumer refers to the health-related properties of wine as defined by the scientific community. Moderate consumption helps to decrease fat and cholesterol levels. In addition, wine is a powerful anticarcinogenic, an antioxidant and a cardiovascular protective. The key to these properties is the presence of resveratrol in the skin of the grapes, which is especially high in red wines. (Moreno, 2000). This is what the Journal *Lancet* defined as the "French paradox". Scientific studies have shown that smoking is more common in France than in North America or Northern Europe; similarly, the French practise less sport, yet mortality due to cardiovascular disease is lower because of higher wine consumption (Renaud & Lorgeril, 1992). Since the 1990s, several institutions and scientific journals have published epidemiological studies about the health properties of wine. This has led to a change in the reputation of this product, especially due to the dissemination of these results through the mass media.

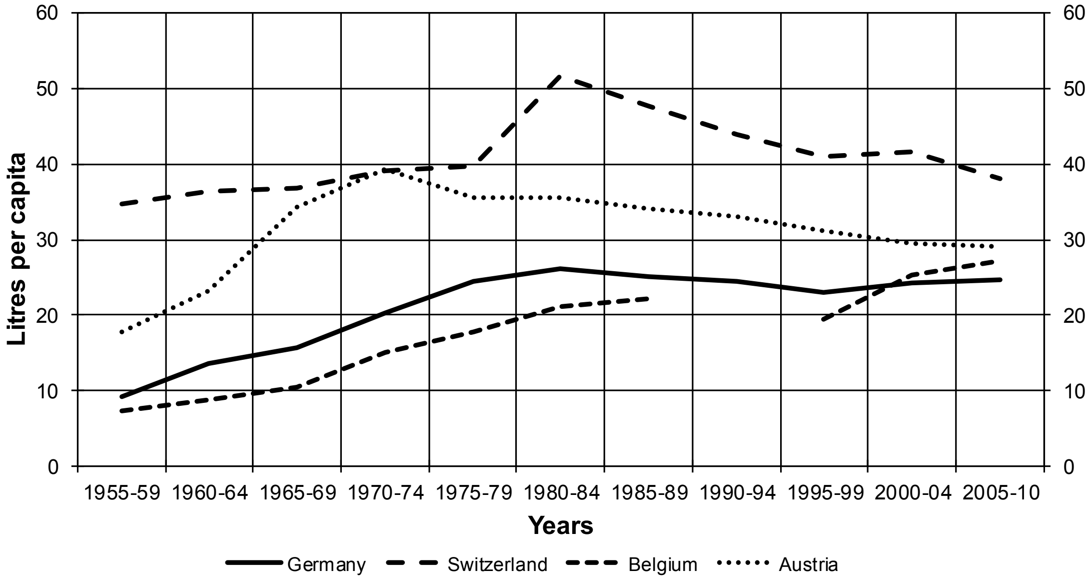
1.2. Central and Northern Europe (EuroG4C and EuroG4N)

Wine consumption in Central Europe is traditionally high, but has remained relatively stable and, in consequence, no intense growth processes have ensued (figure 5). Therefore, this area did not compensate for the fall in consumption in the Mediterranean one. This region could be described as an "intermediate area", because consumption is not as high as in the Mediterranean but, at the same time, it is not as low as in Northern Europe. This is in spite of the prevailing beer-drinking tradition. There are various reasons for the high levels of demand for wine. For example, there is a large Latin community in Switzerland and Belgium. Moreover, Germany and Austria are also traditional producers, a fact which helps to explain the high consumption levels.

Consumption levels in new consumer countries in Northern Europe were low, but in recent years they have risen. In the Netherlands, Denmark, Sweden and the United Kingdom, we should note a similar, and surprisingly rapid, rise in consumption in the second half of the twentieth century (see figure 6).

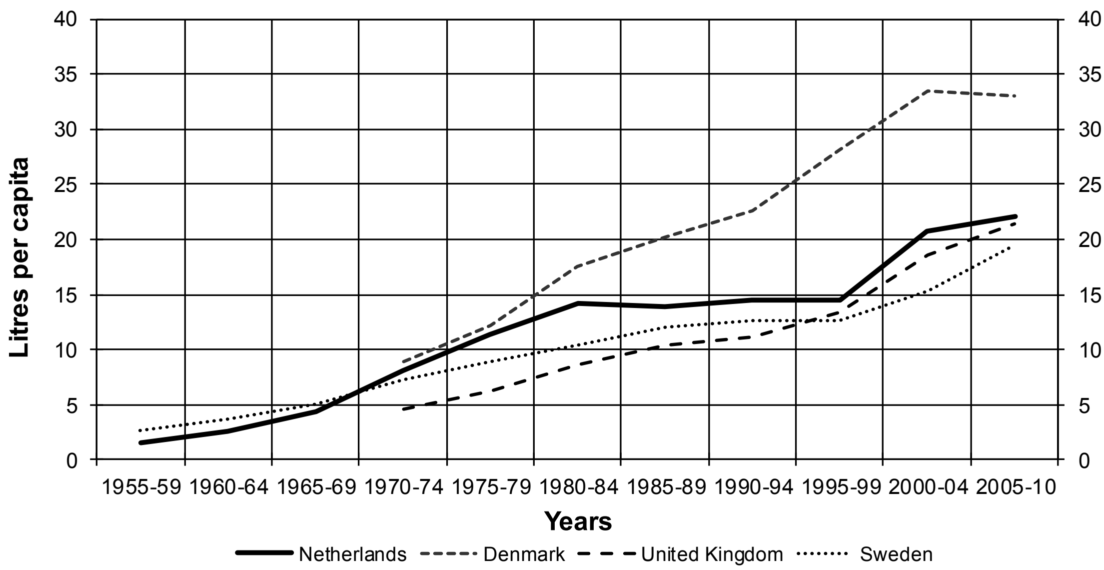
Wine consumption seems to have grown in these traditionally beer-drinking countries as a consequence of their high income levels. In these countries, consumers ask for good-quality wines for occasional consumption, which is in contrast to their more habitual consumption of beer. In addition, wine has become more accessible, and is no longer regarded as exclusive to the upper classes. Consumption levels are therefore increasing (Pinilla & Ayuda, 2002).

Figure 5. Evolution of wine consumption in Central Europe (litres per capita), 1955-2010. Five-year averages



Source: OECD, Food Consumption Statistics *(1955-1984); Statistics OIV (1985-2010). Retrieved from http://www.oiv.int/oiv/info/esstatoivextracts2 (2014, September 16).*

Figure 6. Evolution of wine consumption in the new consumer countries (litres per capita), 1955-2010. Five-year averages



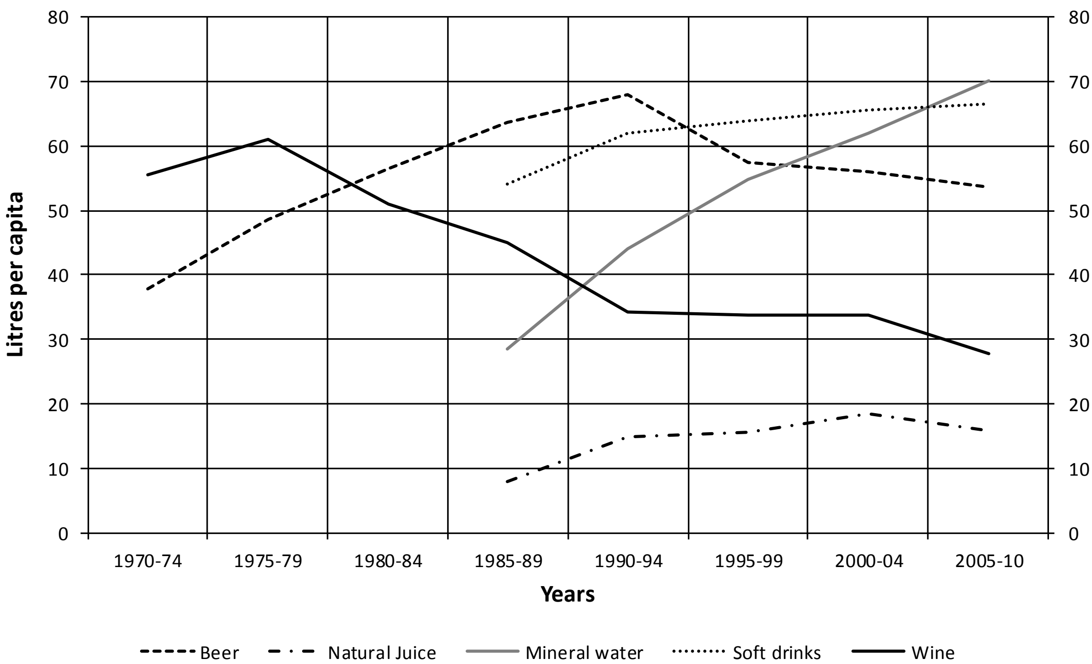
Source: OECD, Food Consumption Statistics *(1955-1984); Statistics OIV (1985-2010). Retrieved from http://www.oiv.int/oiv/info/esstatoivextracts2 (2014, September 16).*

2. A traditional Mediterranean consumer country: Spain

Spain is a paradigmatic example of the trends detected in the Mediterranean region. Indeed, trends in Spain are similar to those in France, Portugal or Italy, although Spain's per capita consumption levels are lower than in these countries. The Spanish example also presents other peculiarities. The reduction in wine consumption in the Mediterranean area has been caused by, among other things, the increasing consumption of substitute beverages like beer, soft drinks, natural juices or mineral water, a phenomenon which has been particularly intense in Spain, especially with regard to beer consumption.

In other Mediterranean countries, the gap between wine and beer consumption levels has narrowed, but wine is still predominant.[3] In Spain, beer consumption has increased enormously since the early 1980s, and it has taken a leading position. Recently, it suffered a slight drop but has now stabilised around 48 litres per capita (compared to wine consumption of 23.6 litres per capita in 2010) (figure 7). In another remarkable trend, the consumption of alcohol-free beer has also grown rapidly in Spain in recent years; as a consequence, Spain is now one of the countries with the highest consumption levels of alcohol-free beverages in Europe.

Figure 7. Drink consumption in Spain (litres per capita), 1970-2010. Five-year averages



Source: Spanish Ministry of Agriculture and Environment. Retrieved from http://www.magrama.gob.es/es/alimentacion/temas/consumo-y-comercializacion-y-distribucion-alimentaria/panel-de-consumo-alimentario/ (2014, September 17).

3 OECD, Food Consumption Statistics.

Moreover, other beverages which are much better suited to a young urban demand have come, in many instances, to replace wine. For instance, there has been a dramatic increase in the consumption of natural juices and soft drinks, and consumption levels of the latter are already higher than that of wine. The consumption of mineral water has increased from 23 litres per capita in 1987 to almost 70 in 2010, and today mineral water is the most widely consumed drink in Spain.[4]

This extraordinary transformation in consumer habits in Spain has been motivated, as in other Mediterranean countries, by the modernisation of society, but there are other reasons too. The hot climate, especially in the south of the Iberian Peninsula favours more refreshing drinks like beer or soft drinks (Pradas, 1994; Sainz, 1997; Resa, 2002). In addition, these beverages, which are often marketed by large multinationals, have lower alcohol content or are non-alcoholic and are advertised by intense marketing strategies; the Spanish wine sector, in contrast, is heavily fragmented and exhibits important commercial shortcomings. Institutional campaigns against the consumption of alcohol must also be taken into account (Millán & Yagüe, 1997).

A more detailed analysis of the demand structure for wine will help us understand the dramatic fall in consumption levels in the last third of the twentieth century and the new habits of the Spanish consumer. A study of wine consumption according to product type (table wine or *appellation contrôlée* (AC) indicates a trend towards an increasing preference for good-quality wines. In 1987, 85 % of all wine consumed in Spain was table wine, and only 15 % was AC, while in 2010 consumption of the former had dropped to 51 % while consumption of the latter had risen to 49 % of the total. The overall fall in consumption levels, therefore, is connected with the decrease in the demand for table wine from 36.4 to 8.1 litres per capita in the period 1987-2009. In the same period, the consumption of good-quality wines has remained stable at around 6 litres per capita.[5]

Moreover, we should also bear in mind changes in diet: the traditional Mediterranean diet has decreased in importance and the consumption of fast food has increased (Rodríguez Artalejo, Banegas, Graciani, Hernández de Vecino & Rey Calero, 1996). Wine is part of the Mediterranean diet, both in terms of the law (Martín & Vidal, 2004) and the specialists, which also contributes to explain the drop in consumption levels (Moreno, 2000).

In summary, the second half of the twentieth century has witnessed the emergence of new models of wine consumption, which are connected with an increasing tendency to eat outside the family home and a growing preference for good-quality wines (Mili, 2005). These trends are consistent with broader tendencies worldwide. In addition, consumer preferences have shifted, and the demand is now for good-quality, healthy and natural products.

4 Spanish Ministry of Agriculture and Environment. Retrieved from http://www.magrama.gob.es/es/alimentacion/temas/consumo-y-comercializacion-y-distribucion-alimentaria/panel-de-consumo-alimentario/ (2014, September 17).

5 Spanish Ministry of Agriculture and Environment. Retrieved from http://www.magrama.gob.es/es/alimentacion/temas/consumo-y-comercializacion-y-distribucion-alimentaria/panel-de-consumo-alimentario/ (2014, September 17).

3. Changes in the production process: at the crossroads of quality

3.1. The problem of grape quality

Traditionally, the Spanish wine sector is not only highly fragmented but also varied in nature: small wineries, cooperatives and large companies coexist in the same market (Yagüe & Jiménez, 2002; Huetz de Lemps, 1967). Nowadays, it is dominated by small wineries and cooperatives which operate at both local and regional levels.

In contrast, new producing countries, for example the United States and Australia, tend to be dominated by large wineries. These companies use different, but highly homogenous, types of grape in large-scale producing processes, which allows for the implementation of important economies of scale and the production of a high-quality product at a good price (Bardají, 1993; Cambolle & Giraud-Heraud, 2003; Folwell & Volanti, 2003; Gokcekus & Fargnoli, 2007). Prices are also affected by high investment in technology, advertising and marketing (Alyward, 2003; Geraci, 2004; Green, Rodríguez Zuñiga & Pierbattisti, 2003; Jordan, Zidda & Lockshin, 2007; Mora & Castaing, 2006; Franke & Wilcox, 1987; Woodside, 1999; Bardají, 2003) and we must take into consideration the effect of investment on wine consumption . These new wineries are, therefore, more market-oriented than Spanish firms, which are too product-focused, especially the cooperatives.

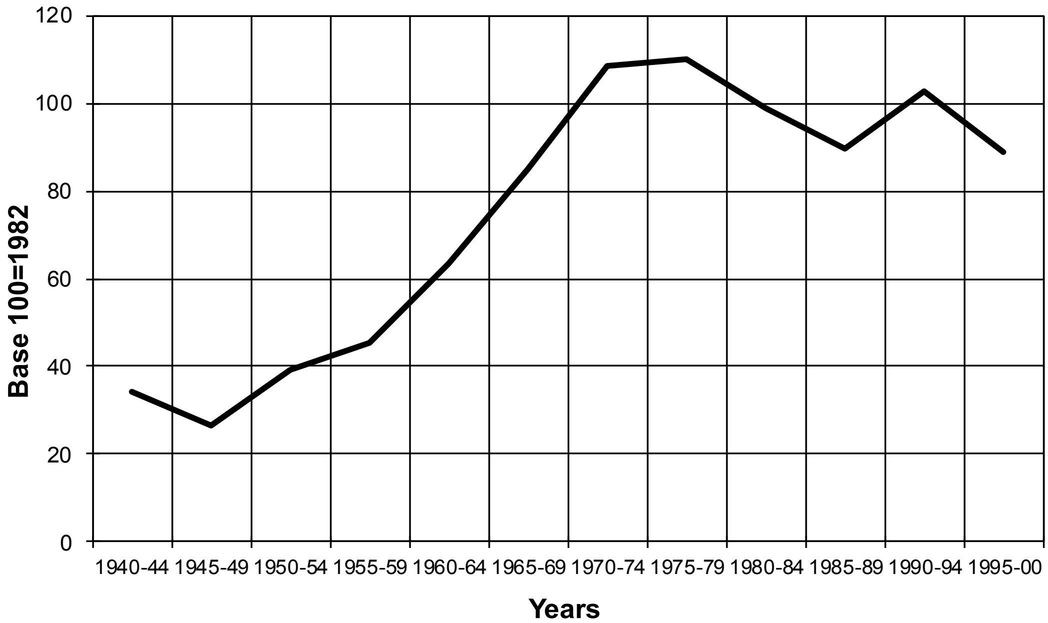
One of the reasons behind the creation of wine cooperatives in Spain was the need to give the vine grower access to modern industrial technology. This meant improved production processes and resulted in economies of scale, a bigger added value for the final product and a higher price for the grapes. Previously, vine growers sold the raw material on the market, at much lower prices than the finished product, or made wine in small individual wineries, where conditions were inadequate. This resulted in the production of low-quality, inhomogeneous wine batches (Medina-Albaladejo, 2011).

In other words, cooperatives brought industrialisation to the Spanish wine sector, according to Pan-Montojo (1994). This explains the rapid growth of this kind of firms in the 1950s, 60s and 70s. Their members handed their grapes over to the cooperative for processing and commercialisation, thus increasing overall production and solving marketing problems.

After continuous growth in the volume of grapes processed in the 1950s, 60s and 70s, an inflexion of the trend can be detected in the 1980s (see figure 8). This drop was the crisis suffered by cooperative wineries during that decade, which had a negative effect on the price of grapes. Many vine growers reverted to selling the raw material in the market, because the prices were higher and the cooperatives were heavily indebted and lacking in credibility. In short, changes in demand and wine consumption patterns were preceded by an intense adjustment of the supply structure.

In the 1950s and 60s, the wine produced by the cooperatives adapted well to the preferences of the Spanish consumer, who demanded table wines with high alcohol content instead of good-quality wines. Traditionally, cooperative wineries processed the members' grapes to produce table wine in bulk. Therefore, the quality of the raw material was hard to control. The introduction of new technologies increased the homogeneity of the product (despite the ongoing lack of control over raw materials), which was adapted to local tastes.

Figure 8. Evolution of the average grape volumes deposited by the members in six Spanish cooperative wineries,* 1940-2000. Base 100 = 1982. Five-year averages



** Cooperatives San Isidro, Rosario, Virgen de las Viñas, Pinoso, Sant Isidre, Valls.*

Source: End of season reports. Archive of the cooperative San Isidro; End of season reports. Archive of the cooperative Rosario; End of season reports and Minute books of the General Assembly. Archive of the cooperative Pinoso; Crop statistics. Archive of the cooperative Virgen de las Viñas; Gavaldá (1989); Gavaldà & Santesmases (1993).

The new consumption trends towards high-quality wines, however, meant that a much higher degree of control over the crops and the production process was necessary. Good-quality wines produced by new private wineries were much more in line with the new consumer preferences. These private enterprises began using the produce from their own vineyards, under much more rigorous conditions, or acquired grapes on the market after applying tough selection processes. Cooperative rules, in contrast, mandate that the members' raw material must be accepted whatever the case and regardless of quality. Crops undergo no control process, and this has important detrimental effects on the quality of the wine.

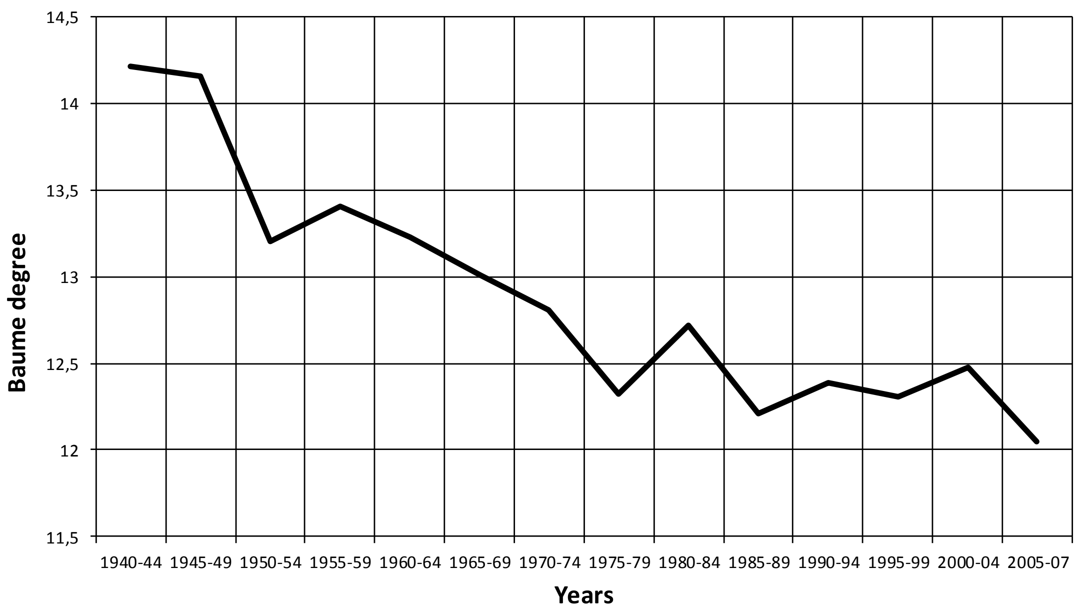
In the 1980s, cooperative wineries started establishing vintage standards in order to impose minimum quality criteria, sanctioning vine growers who did not meet these criteria. This led to the production of better raw material and thus to better quality wines, which were able to compete better in a saturated and declining market. Grape selection strategies were also adopted. However, these measures did not solve all the problems, because control was very difficult for cooperatives with a large number of members (some had between 500 or 1,000). Vine growers were unable to follow vintage standards correctly, and some members passed off low-quality grapes as high-quality, while selling their best produce in the open market.[6]

6 *Minute books of the General Assembly.* Archives of cooperatives Rosario, San Isidro and Pinoso.

These measures met with relative success, and the ultimate target, the production of high-quality, low-alcohol wine, was being progressively approached. In the final years of the twentieth century, Spanish cooperative wineries considerably improved their products, including organic wines, and their own vineyards through the production of good-quality grapes and the use of experimental areas, among other things.[7]

The decreasing level of sugar in the grapes (on the so-called Baumé scale), which determines the alcoholic content, since the late 1960s, is one sign of how these wineries are endeavouring to adapt to new market trends. This reduction is achieved by collecting the grapes at an earlier date than was traditional for the production of highly alcoholic wines (see figure 9).

Figure 9. Evolution of the average Baumé degree of the grape introduced by the members in six Spanish cooperative wineries.* 1940-2007. Five-year averages



** Cooperatives San Isidro, Rosario, Virgen de las Viñas, Pinoso, Sant Isidre, Valls.*
Source: End of season reports. *Archive of the cooperative San Isidro;* End of season reports. *Archive of the cooperative Rosario;* End of season reports and Minute books of the General Assembly. *Archive of the cooperative Pinoso;* Crop statistics. *Archive of the cooperative Virgen de las Viñas; Gavaldá (1989); Gavaldà & Santesmases (1993).*

In other words, these wineries carried out the necessary adjustment process to obtain wine that was more in line with consumer preferences. Traditionally, a high alcoholic content was considered a sign of quality. In this regard, Spanish wines were considered apt for *coupage* with French wines during the phylloxera crisis, in the late nineteenth century. In cooperative wineries, wines were classified according to their alcoholic content and not to their quality. In the 1970s and 80s, this practice changed, and oenologists started playing a part in the planning of production, with an eye on

7 *Minute books of the General Assembly.* Archives of cooperatives Rosario, San Isidro and Pinoso.

the market. Today, grapes above 14 Baumé, the minimum required in the 1960s, are no longer considered first-quality.[8]

In short, overproduction, market saturation, decreasing prices and changes in consumer preferences forced the wine sector to undergo a process of deep transformation in the 1980s, and it moved towards the production of bottled, good-quality wines. For wineries, and especially for cooperatives, this was a phenomenal undertaking, and the process of restructuration is in many cases still in progress. These entities grew a lot during the previous decades, when they followed productivist orientation, because they were forced to process all the raw material brought in by members. This strategy was ill-adapted to the new market patterns. It is much harder to restructure a big winery with an output of 30 million litres of wine, most of which is in bulk, than a little winery with an output of 500,000 litres. For big wineries, the transformation process is longer, more difficult and more traumatic. Moreover, environmental conditions at the time were hardly ideal: the economic crisis of the 1970s made the situation even harder for the cooperatives, and they suffered from financial difficulties, a distinct lack of professional managers, rigid structures, their social and non-profit orientation, an inadequate legal framework, etc. Many of these organisations went through a severe crisis, and some had to close down.

3.2. Technological modernisation

At the same time, in the face of all these changes, it was increasingly clear in the 1980s that cooperatives were becoming technologically obsolete. In this decade, new wine-production technologies (cold fermentation processes in stainless-steel tanks) were being adopted in producing countries worldwide, forcing Spanish cooperatives to adopt the said technologies despite all their difficulties.

It was finally in the 1990s that these plants engaged in investment plans to introduce the necessary new technology and human resources and to undertake the deep structural changes that would enable them to compete in the market (figure 10).

In short, in the face of financial limitations, Spanish wine cooperatives focused their technological modernisation on the elaboration processes. This was, however, the cause of severe financial difficulties, which were aggravated by the need to buy members' grapes at a high price; many vine growers, at any rate, continued selling their produce in the open market. This is shown by the small proportion of the investment covered by the firms' internal resources.

3.3. Bottle or die

Most of the products of these firms were sold in bulk and were unbranded, which meant that the product's added value was low. New market trends, however, forced these firms to change their production system. From the 1970s, it became clear that some of the product must be sold in bottles in order to offer a better quality, with a higher added value, at higher prices. This process is illustrated in figure 11, for the cooperative Rosario.

8 *Minute books of the General Assembly.* Archive of the cooperative Rosario.

Figure 10. Some technological improvements in cooperatives Rosario, San Isidro[9] and Pinoso, 1935-2005

Year	New technology	Improvement
Cooperative Rosario		
1955	1st phase of construction of the cellar	Construction of the first cellar
1957	2nd phase of construction of the cellar	Cellar enlarged to 2,200,000 litres
1961	3rd phase of construction of the cellar	Cellar enlarged to 3,240,000 litres
1961	1st bottling plant	Bottling
1967	4th phase of construction of the cellar	Cellar enlarged to 6,924,000 litres
1972	Renovation of reception machinery	Improvement in reception process of grape
1972	New machinery	Improvement in treatment process of grape
1974	Four new tanks of 500,000 litres	Increased storage capacity of cellar
1978	Bottling plant and machinery	Increased bottling capacity
1979	Construction of a warehouse for ageing	Production of better quality bottled wines
1986	Construction of 6 tanks	Increased storage capacity of cellar
1989	Renewal of bottling line	Increased bottling capacity
1990	New cold machinery	Improved control over fermentation process
1990	New stainless tanks	Improved control over fermentation process
1996	Investments Plan 1996-2005	Renovation in fermentation and bottling processes
Cooperative San Isidro		
1943	1st phase of construction of the cellar	Construction of the first cellar
1952	Construction of 8 tanks	Increased storage capacity of cellar
1965	Construction of 9 tanks	Increased storage capacity of cellar
1969	Bottling plant and machinery	Increased bottling capacity (1.500-2.000 b/h)
1975	Construction of 20 tanks	Increased storage capacity of cellar
1975	New machinery	Improvement in treatment process of grape
1975	New machinery (4 hoppers)	Improvement in reception process of grape
1975	New machinery	Improvement in treatment process of grape
1975	New cold machinery	Improved control over fermentation process
1975	Construction of cold treatment plant	Improved control over fermentation process
1975	New bottling plant and machinery	Increased bottling capacity (7.000 b/h)
1981	New machinery	Improvement in classification of grape varieties

9 Investments made by this cooperative from the second half of the 1980s to the present have not been included in this table due to the limitations imposed by the firm's management.

(Continuación Figura 10)

Year	New technology	Improvement
Cooperative Pinoso		
1935	Construction of 2 tanks (75,000 litres)	Increased storage capacity in cellar
1944	New machinery	Improvement in reception process of grape
1945	New machinery	Improvement of winemaking process
1947	New warehouse	Increased storage capacity of cellar
1952	New tanks (650,000 litres)	Increased storage capacity of cellar
1965	New tanks (1,000,000 litres)	Increased storage capacity of cellar
1966	New machinery	Improvement in reception process of grape
1968	New machinery	Improvement in treatment process of grape
1971	New machinery	Improvement in treatment process of grape
1973	New tanks (4,000,000 litres)	Increased storage capacity of cellar
1973	New machinery	Improvement in treatment process of grape
1973	New machinery	Improvement in winemaking process
1980	6 new tanks (60,000 litres)	Increased storage capacity of cellar
1980	New machinery (press, hopper)	Improvement in reception process of grape
1982	4 stainless tanks (4,000,000 litres)	Improved control over fermentation process
1999	Warehouse for ageing (5,000 barrels)	Production of quality bottled wines
2003	New cold machinery	Improved control over fermentation process
2005	Bottling plant and machinery	Increased bottling capacity

Source: Minute books of the General Assembly and the Board of Directors, *Annual Reports, Diverse documentation. Archives of the cooperatives Rosario, San Isidro and Pinoso*

Figure 11. Evolution of bottled wine of the cooperative Rosario, 1979-2005 (litres)

	Total			Percentages		
	0.75 cl.	1 litre	Total bottled	0.75 cl.	1 litre	Total bottled
1979	91.940	746.936	838.876	10,96	89,04	19,97
1980	558.901	799.857	1.358.758	41,13	58,87	40,86
1981	411.902	852.867	1.264.769	32,57	67,43	89,38
1982	275.452	832.011	1.107.463	24,87	75,13	51,75
1983	240.925	788.357	1.029.282	23,41	76,59	52,39
1984	241.832	712.596	954.428	25,34	74,66	68,42
1985	356.309	693.366	1.049.675	33,94	66,06	44,07
1986	367.741	632.898	1.000.639	36,75	63,25	31,34
1987	451.468	666.866	1.118.334	40,37	59,63	28,19
1988	477.072	609.528	1.086.600	43,91	56,09	40,67

(Continuación Figura 11)

	Total			Percentages		
	0.75 cl.	1 litre	Total bottled	0.75 cl.	1 litre	Total bottled
1989 (n.d.)						
1990 (n.d.)						
1991	408.850	542.046	981.361	41,66	41,66	21,65
1992	370.166	522.391	1.030.075	35,94	35,94	18,15
1993	334.220	487.253	1.063.776	31,42	31,42	20,66
1994	294.072	361.890	944.872	31,12	31,12	22,46
1995	294.903	343.234	977.694	30,16	30,16	42,71
1996	409.506	331.280	1.047.207	39,10	39,10	32,28
1997	432.515	333.146	1.104.155	39,17	39,17	51,33
1998	383.158	291.889	1.062.708	36,05	36,05	27,71
1999	432.628	194.777	836.360	51,73	51,73	31,90
2000	457.068	192.757	894.649	51,09	51,09	52,28
2001	567.031	156.211	948.284	59,80	59,80	26,17
2002	713.638	147.136	1.098.335	64,97	64,97	53,24
2003	778.919	130.362	1.170.890	66,52	66,52	32,13
2004	752.928	140.693	1.132.601	66,48	66,48	42,52
2005	790.955	117.394	1.147.216	68,95	68,95	51,45
Five-Year Averages						
1979-1983	315.824	804.006	1.119.830	28,20	71,80	42,92
1984-1988	378.884	663.051	1.041.935	36,36	63,64	38,28
1989-1990 (n.d.)						
1991-1995	340.442	451.363	999.555	34,06	45,16	22,87
1996-2000	422.975	268.770	989.016	42,77	27,18	36,46
2001-2005	720.694	138.359	1.099.465	65,55	12,58	38,65

Source: Annual sales. *Archive of the cooperative Rosario.*

From the 1960s, 1 litre bottles, and later 75 centilitre bottles, of high-quality wine became increasingly popular. These cooperatives understood that, given the stagnating conditions of the market, bottled wine was the only way to improve sales, even when wine in bulk could be sold at relatively high prices.[10] This is reflective of the new consumption trends in the last quarter of the twentieth century. Sales of bottled wine grew every year, and foreign markets emerged as one solution to the saturated, highly competitive Spanish market conditions and the fall in per capita consumption. Still, the transformation of these large structures was still ridden with problems.

At the same time, cooperative wineries started to age their best wines, and the construction of cellars for ageing became necessary. In addition, the attention paid to

10 *Minute Books of General Assembly.* Archives of the cooperatives Rosario, San Isidro and Pinoso.

different grape varieties also grew, as a sign of identity and differentiation. Moreover, at this time, cooperatives started introducing other strategies, such as the diversification of production. Previously, cooperatives produced mostly red wine, but at this stage wineries started producing white wines and other well-differentiated, branded products such as sangria, sweet wines and aged wines.[11]

4. The evolution of sales and the changes in commercial strategies

Historically, Spanish cooperatives sold wine to several kinds of customers. Locally, the main buyers were the consumers, through the operation of local retailers. Regionally, distribution was also channelled through retailers, while nationwide contracts relied on bottling factories and wine-dealers, but these agreements rarely continued over time. Only in the 1980s did some cooperative wineries create their own nationwide distribution systems, after coming to agreements with trading companies and retailers.

Cooperatives dominated production at regional level, and they also controlled most of the grape crops. This allowed them to maintain control over the regional markets even during critical periods, but their presence in the national and international markets was much lower.

These conditions seemed to be considerably stable, and commercial strategies, therefore, remained in the hands of cooperative members. In other words, these strategies were not sophisticated and were essentially focused on maintaining fixed prices for the wine sold in bulk.

At the end of the 1970s, and especially in the 1980s, this situation changed, and cooperative wineries had to modernise their organisational structures. These companies adapted to market changes by using new strategies and adopting professional management structures in order to improve sales.

The cooperatives also began to seek new markets, because exports allowed the influence zone to be enlarged and higher prices to be obtained. Europe and the United States started demanding good-quality bottled wine, with a denomination of origin, due to the consumer's high cultural and income levels. Therefore, cooperative wineries started exploring the international markets, while shifting an increasing proportion of their production to bottled wine with a denomination of origin in 75 centilitre bottles (the best format for good-quality), and decreasing sales of bulk and 1-litre bottles. This process is illustrated in figure 11 for the cooperative Rosario.

At the same time, wineries started using brand and marketing policies too: for example, they used labelled bottles and made the first attempts at advertising. Moreover, in these years cooperatives also improved their distribution systems and diversification strategies. In Spain, this process took place much later than in other wine-producing countries (Gamble & Taddei, 2007).

In the late 1970s and early 80s, the cooperative Rosario registered its first trademarks, which were used to label wines of different qualities: Rosario and Ungria (1979), Lebrel (1981) and Don Hidalgo and Señorío de Bullas (1985). The last of these brands was used for the highest quality wine. Their current brands are Tesoro de Bullas and Las Reñas. The cooperative San Isidro had launched their branding policies a few years

11 *Minute Books of General Assembly.* Archives of the cooperatives Rosario, San Isidro and Pinoso.

earlier, in the early 1970s, with Dejumilla and Sangría, although in reality this winery had been commercialising its own brands (sold in small bottles) since the 1940s (El Monasterio, Celia, Super-Cuatro and Gemina). The last of these brands is still active and is, in fact, used for the firm's best wine. Other labels produced by the San Isidro cooperative are Rumor, Cañalizo and San Isidro, and currently Genus and Sabatacha, among others. These trademarks come alongside graphic images which characterise the kind of wine contained in the bottle and identify the denomination of origin and quality, the variety of grape, its age and season, etc.

Marketing strategies and advertisement were not needed by cooperatives until the 1970s, when they started taking part in regional, national and international festivals and trade fairs. Thenceforth, they started hiring commercial space in regional or national newspapers and radio programmes. Moreover, they started organising business trips to directly promote the product, sometimes even internationally. [12] In the 1990s, these wineries started assuming more modern strategies, such as direct promotion in shopping centres.

In addition, the transformations undergone by the institutional environment seem to have helped cooperatives to improve their general standing. In the last decades of the twentieth century, several designations of origin launched their first corporate marketing campaigns, based on solid brands, the access to which was very restricted for producers. This was done in parallel with the firms' own marketing activities (Carbone, 2003; Johnson & Bruwer, 2007; McCutcheon & Bruwer, 2009; Remaud & Lockshin, 2009; Schamel, 2009; Espejel & Fandos, 2009).

5. Changes in the organisational structures and the introduction of professional management cadres

One of the major problems faced by cooperative wineries was the lack of professional management personnel. Until the 1980s, management positions were occupied by cooperative members, and often the oenologist was the only member of the staff with the appropriate professional qualifications. This organisational shortcomings hampered commercial strategies, expansion plans, financial management, accounting control, investment policies and centralised decision-making in human resources related issues.

In other words, there was a lack of proper entrepreneurship. These enterprises enjoyed very favourable initial conditions: they controlled most vineyards in their regions, had strong support from the State and did not have to compete with large mercantile companies. Yet, they did not take due advantage of this situation.

Until the 1970s, cooperative wineries lacked adequate commercial strategies, and accounting was chaotic. The arrival of computers in the 1980s brought some measure of homogeneity, and this was also aided by the earliest external audits. Decisions were excessively centralised, and ultimately they all fell to the chairman. In the 1970s, some degree of specialisation was first introduced, via the appointment of committees that

12 In 1975, the cooperative San Isidro' initiated a series of business trips to promote its product in countries like the USSR, Czechoslovakia, Poland, Germany, Switzerland and France. *Annual Report 1975,* Archives of the cooperative San Isidro.

were put in charge of specific issues, like production and marketing. This was followed by the creation of posts like that of "executive manager" and "commercial manager" (Medina-Albaladejo, 2011; Medina-Albaladejo & Menzani, 2017).

Therefore, professionalisation came first to the commercial area, followed by production (with the arrival of the oenologist), as a response to the drop in sales in the early 1980s. The arrival of commercial managers and sales representatives soon contributed to an increase in sales at a critical period. Executive managers, trained in business management, also came to replace former boards of directors and chairmen.

Ever since the 1990s, the management of these cooperatives has remained in the hands of professional cadres. The firms' structures have been divided into professional departments (management, production, sales, marketing, finances, etc.). In addition, other aspects are now undertaken through external advisors, for example, legal issues or account audits.

Conclusions

The wine sector has undergone a series of great transformations in the second half of the twentieth century, concerning both production and demand. During this period, wine consumption has fallen constantly, and the habits and preferences of the consumers have changed. These new consumption trends have caused an intense process of restructuring in the productive sector, forcing wineries to adapt.

In this study, I have tried to revise the reasons behind these changes in demand patterns, according to the literature. We have seen that the worldwide fall in wine consumption is due to the decreasing consumption levels in the main consuming and production region: Mediterranean Europe. Traditionally, in these countries wine was consumed regularly as part of the diet, but today wine drinking is more of a sporadic habit. Similarly, consumers now demand well-presented, well-identified (such as, appellation contrôlée) and high-quality wine.

At the same time, wine consumption in other regions of the world, where this product was not so common, has grown substantially, for example in Northern Europe. The role played by non-European, new producing countries is also relevant. In other words, a process of convergence has taken place in terms of consumption patterns in new and old consuming countries. The demand in both groups has become homogenous, and there is now a clear preference for bottled, well-presented, natural wines with low alcohol content. A good example of these new trends is Spain, a traditional consumer and producer country, where consumption levels have fallen constantly in the second half of the twentieth century due to the great increase in demand for other beverages more suited to the new nutritional habits.

This overview has mainly focused on the wine sector, with regard to the decrease in the size of vineyards and the increase in the production of *denominación de origen* wines (equivalent to the French appellation contrôlée). It has also paid preferential attention to the restructuring of the wine sector in Spain, where 70 % of the production is controlled by cooperative wineries; often, these cooperatives are large concerns that were created under the auspices of Franco's regime, as a development tool for economically depressed areas. Initially, their production adapted well to the old consumption patterns, but since the 1970s they have had to undertake a severe restructuring process in order to adapt to new consumption preferences.

Cooperative wineries had to implement more effective control mechanisms, with regard to the production and the quality of the grapes, in order to decrease the alcohol content of the wine, and they also had to apply modern production procedures, such as cold processes, and use bottling plants, etc. Similarly, they have had to diversify production and market a more carefully presented product.

At the same time, due to falling consumption levels and new demand patterns, co-operative wineries began incorporating professional management cadres and developing branding and marketing strategies. Similarly, these firms had to embark on huge investment policies in order to implement these changes, which often put them in a difficult financial position.

In short, new trends in consumption have forced the wine sector to undergo a major, and often traumatic, transformation of its business model.

Acknowledgments

This work was supported by the Ministerio de Economía y Competitividad (Spain) under Grant HAR2016-76814-C2-1-P and HAR2015-64076-P (MINECO/FEDER, EU).

Bibliography

Anderson, K. (2004). *The World's Wine Markets. Globalization at Work*. Cheltenham-Northampton, United Kingdom-United States: Edward Elgar.

Aylward, D. K. (2003). A Documentary of Innovation Support among New World Wine Industries. *Journal of Wine Research, 14*(1), 31-43.

Banks, G. & Overton, J. (2010). Old World, New World, Third World? Reconceptualising the Worlds of Wine. *Journal of Wine Research,* 21(1), 57-75.

Bardají, I. (1992). El consumo de vino. *Revista de Estudios Agro-sociales y Pesqueros, 162*, 153-182.

Bardají, I. (1993). El vino en Estados Unidos. *Revista de Estudios Agro-Sociales y Pesqueros*, *163*, 219-257.

Bardají, I. (2003). Quality Wines in Spain. In S. Gatti.; E. Giraud-Héraud & S. Mili (eds.), *Wine in the Old World. New risks and opportunities* (pp. 73-84). Milano, Italy: Franco Angeli.

Bardají, I. (2004). Tendencias en el mercado español de vino. *Distribución y Consumo, November-December,* 57-68.

Bernabéu, R. & Olmeda, M. (2002). Factores que condicionan la frecuencia de consumo de vino. *Distribución y consumo,* September-October, 57-61.

Cambolle, C. & Giraud-Héraud, E. (2003). Economic Analysis of Certification by an AOC. In S. Gatti.; E. Giraud-Héraud & S. Mili (eds.), Wine in the Old World. *New risks and opportunities* (pp. 15-28). Milano, Italy: Franco Angeli.

Carbone, A. (2003). The Role of Designation of Origin in the Italian Food System. In S. Gatti.; E. Giraud-Héraud & S. Mili (eds.), *Wine in the Old World. New risks and opportunities* (pp. 29-40). Milano, Italy: Franco Angeli.

Cogeca, General Committee for Agricultural Cooperation in the European Union (2010). *Agricultural Cooperatives in Europe.* Main Issues and Trends. Brussels, Belgium: Cogeca.

Espejel, J. & Fandos, C. (2009). Wine Marketing Strategies in Spain: A Structural Equation Approach to Consumer Response to Protected Designations of Origin (PDOs). *International Journal of Wine Business Research, 21*(3), 267-288.

Folwell, R. J. & Volanti, M. (2003). The Changing Market Structure of the USA Wine Industry. *Journal of Wine Economics, 4*(1), 25-30.

Franke, G. & Wilcox, G. (1987). Alcoholic Beverage and Consumption in the United States, 1964-1984. *Journal of Advertising, 16*(3), 22-30.

Galassi, F. (2001). Measuring Social Capital: Culture as an Explanation of Italy's Economic Dualism. *European Review of Economic History,* 5(1), 29–59.

Gamble, P. R. & Taddei, J. C. (2007). Restructuring the French Wine Industry: The Case of the Loire. *Journal of Wine Research*, *18*(3), 125-145.

Garrido, S. (1996). *Treballar en comú: el cooperativisme agrari a Espanya (1900-1936).* Valencia, Spain: Edicions Alfons el Magnànim.

Gavaldá, A. (1989). *L'associacionisme agrari a Catalunya (el model de la Societat Agrícola de Valls: 1888-1988).* Valls, Spain: Institut d'Estudis Vallencs.

Gavaldá, A. & Santesmases, J. (1993). Història econòmico-social de les cooperatives agrícolas de Nulles (1917-1992). Valls, Spain: Institut d'Estudis Vallencs.

Geraci, V. W. (2004). Fermenting a Twenty-First Century California Wine Industry. *Agricultural History*, *78*(4), 438-465.

Gokcekus, O. & Fargnoli, A. (2007). Is Globalization Good for Wine Drinkers in the United States? *Journal of Wine Economics*, *2(*2), 187-195.

Golan, A. & Shalit, H. (1993). Wine Quality Differentials in Hedonic Grape Pricing. *Journal of Agricultural Economics,* 44, 311-321.

Gómez Herráez, J. M. (2003). Las cooperativas en el marco de las hermandades sindicales (Albacete, 1939-1959). *Historia Agraria,* 30, 151–182.

Green, R., Rodríguez Zuñiga, M. & Pierbattisti, L. (2003). Global Market Changes and Business Behavior in the Wine Sector, In S. Gatti.; E. Giraud-Héraud & S. Mili (eds.), *Wine in the Old World. New Risks and Opportunities* (pp. 157-170). Milano, Italy: Franco Angeli.

Guinnane, T. W. (2001). Cooperatives as Information Machines: German Rural Credit Cooperatives, 1883–1914. *The Journal of Economic History, 61*(2), 366–389.

Henriksen, I. (1999). Avoiding Lock-in: Cooperative Creameries in Denmark, 1882–1903. *European Review of Economic History, 3*(1), 57–78.

Henriksen, I., Hviid, M. & Sharp, P. (2012). Law and Peace: Contracts and the Success of the Danish Dairy Cooperatives. *The Journal of Economic History, 72*(1), 197–224.

Henriksen, I., Lampe, M. & Sharp, P. (2011). The Role of Technology and Institutions for Growth: Danish Creameries in the Late Nineteenth Century. *European Review of Economic History, 15*(3), 475–493.

Henriksen, I., & O'Rourke, K. H. (2005). Incentives, Technology and the Shift to Year-round Dairying in Late Nineteenth-Century Denmark. *Economic History Review, 58*(3), 520–524.

Huetz de Lemps, A. (1967). *Vignobles et vins du Nord-Ouest d'Espagne*, Bordeaux, France: Bellenef.

Johnson, R. & Bruwer, J. (2007). Regional Brand Image and Perceived Wine Quality: The Consumer Perspective. *International Journal of Wine Business Research, 19*(4), 276-297.

Jordan, R., Zidda, P. & Lockshin, L. (2007). Behind the Australian Wine Industry's Success: Does Environment Matter? *International Journal of Wine Business Research, 19*(1), 14-32.

Kramper, P. (2012). Why Cooperatives Fail: Case Studies from Europe, Japan, and the United States, 1950–2010. In P. Battilani & H. Schröter (eds.), *The Cooperative Business Movement, 1950 to the Present* (pp. 126-149). Cambridge, United Kingdom: Cambridge University Press.

Labys, W. C. (1976). An international comparison of price and income elasticities for wine consumption. *Australian Journal of Agricultural Economics, 20*, 33-36.

Lecocq, S. & Visser, M. (2006). What Determines Wine Prices: Objective Vs. Sensory Characteristics. *Journal of Wine Economics, 1*(1), 42-56.

Martín, M. A. & Vidal, F. (2004). La nueva ley de la viña y del vino: líneas maestras y consecuencias para las actuales denominaciones de origen. *Revista de Estudios Agro-Sociales y Pesqueros, 204*, 47-66.

Martín, V. J. (2006). Consumo de vinos. Principales características y distribución comercial. *Distribución y Consumo, January-February*, 60-101.

Martínez-Carrión, J. M. & Medina-Albaladejo, F. J. (2010). Change and Development in the Spanish Wine Sector, 1950–2009. *Journal of Wine Research, 21*(1), 77-95.

Martínez Soto, A. P. (2003). El cooperativismo de crédito en España, 1890-1934: modelos de gestión y balance de su actuación. *Historia Agraria, 30*, 119-150.

McCutcheon, E., Bruwer, J. & Li, E. (2009). Region of Origin and Its Importance Among Choice Factors in the Wine-Buying Decision Making of Consumers. I*nternational Journal of Wine Business Research, 21*(3), 212-234.

Medina-Albaladejo, F. J. (2011). *Cooperativismo y sector vitivinícola en España durante la segunda mitad del siglo XX* (PhD diss.). Universitat Autònoma de Barcelona, Barcelona, Spain.

Medina-Albaladejo, F. J. (2015). Co-operative Wineries: Temporal Solution or Efficient Firms? The Spanish Case During Late Francoism, 1970-1981. *Business History, 57*(4), 589-613

Medina-Albaladejo, F. J., Martínez-Carrión, J. M. Ramon-Muñoz, J. M. (2014). El Mercado mundial de vino y la competitividad de los países del hemisferio sur, 1961-2010. *América Latina en la Historia Económica,* 21(2), 40-83.

Medina-Albaladejo, F.J.; Menzani T. (2017). 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), pp. 32-71.

Mili, S. (2005). Transformaciones del consumo alimentario y su repercusión en el sistema agroalimentario. *Revista de Estudios Agrosociales y Pesqueros, 205*, 221-247.

Millán, A. & Yagüe, M. J. (1997). Consumo de vino. Evolución y tendencias, *Distribución y Consumo, 32,* 17-41.

Mora, P. & Castaing, Y. (2006). *Buenas prácticas en marketing del vino. 20 estudios de casos de vinos del mundo.* Madrid, Spain: Mundi-Prensa.

Moreno, A. (2000). Efectos saludables del consumo moderado de vino. *Zubía, 12*, 59-102.

Morilla, J. (2001). Cambios en las preferencias de los consumidores de vino y respuestas de los productores en los dos últimos siglos. In J. Carmona, J. Colomé, J. Pan-Montojo, J. Simpson (eds.), *Viñas, bodegas y mercados. El cambio técnico en la vitivinicultura española, 1850-1936* (pp. 13-38). Zaragoza, Spain: Prensas Universitarios de Zaragoza.

Oczkowski, E. (1994). A hedonic price function for Australian premium table wine. *Australian Journal of Agricultural Economics, 38*(1), 93-110.

O'Rourke, K. (2007). Culture, Conflict and Cooperation: Irish Dairying Before the Great War. *The Economic Journal, 117*(523), 1357–1379.

Pan-Montojo, J. (1994). *La bodega del mundo. La vid y el vino en España (1800-1936),* Madrid, Spain: Alianza.

Pinilla, V. & Ayuda, M. I. (2002). Pautas de consumo y comercio internacional de productos agrarios: el caso del vino, 1850-1938. In J. M. Lana Berasain, (coord.), *En torno a la Navarra del siglo XX. Veintiún reflexiones acerca de Sociedad, Economía e Historia* (pp. 61-78). Pamplona, Spain: Universidad Pública de Navarra.

Pinilla, V. & Serrano, R. (2008). The Agricultural and Food Trade in the First Globalization: Spanish Table Wine Exports 1871 to 1935 *A Case Study. Journal of Wine Economics, 3*(2), 132-148.

Planas, J. (2003). Cooperativismo y difusión del cambio técnico en la agricultura. La contribución de las cámaras agrícolas (Cataluña, 1890-1930). *Historia Agraria, 30,* 87-117.

Planas, J. & Medina-Albaladejo, F. J. (2017). Too Little Intervention or Too Much? The Contribution of the State to the Development of Wine Cooperatives in Spain. *Revista de Historia Industrial, 70*, 77-107.

Planas, J. & Valls-Junyet, F. (2011). ¿Por qué fracasaban las cooperativas agrícolas? Una respuesta a partir del análisis de un núcleo de la Cataluña rabasaire. *Investigaciones de Historia Económica, 7*, 310-321.

Pradas, R. (1994). Cervezas, aguas, zumos y refrescos. El mercado de bebidas se orienta hacia los productos sin alcohol. *Distribución y Consumo, August-September*, 108-122.

Remaud, H. & Lockshin, L. (2009). Building Brand Salience for Commodity-Based Wine Regions. *International Journal of Wine Business Research, 21*(1), 79-92.

Renaud, S. & Lorgeril M. (1992). Wine, Alcohol, Platelets, and the French Paradox for Coronary Heart Disease. *Lancet, 339*, 1523-1526.

Resa, S. (2002). Aguas envasadas, zumos, refrescos y cervezas: una demanda en crecimiento. *Distribución y consumo, July-August*, 75-85.

Rodríguez Artalejo, J. R., Banegas, M. A., Graciani, R., Hernández de Vecino, R. & Rey Calero, J. (1996). El consumo de alimentos y nutrientes en España en el periodo 1940-1988. Análisis de su consistencia con la dieta mediterránea. *Medicina Clínica, 106*(5), 161-168.

Sainz, H. (1997). Aguas, cervezas y refrescos. Un consumo marcado por la estacionalidad y el clima. *Distribución y Consumo, 34,* 57-70.

Sainz, H. (2000-2001). La actitud de los consumidores ante los vinos con Denominación de Origen. *Distribución y Consumo, 55*, 131-146.

Saumell, A. (2002). *Viticultura i associacionisme a Catalunya. Els cellers cooperatius del Penedés (1900-1936).* Tarragona, Spain: Diputació de Tarragona.

Schamel, G. (2009). Dynamic Analysis of Brand and Regional Reputation: The Case of Wine. *Journal of Wine Economics, 4*(1), 62-80.

St James, M. & Christodoulidou, N. (2011). Factors Influencing Wine Consumption in Southern California Consumers. *International Journal of Wine Business Research, 23*(1), 36-48.

Tapli, J. & Ryan, W. (1969). The Prospects for Wine in Australia. *Quarterly Review of Agricultural Economics, 22,* 197-209.

Troncoso, J. L. & Aguirre, M. (2006). Demanda y oferta de vino en el periodo 1980-2004: un análisis econométrico. *Panorama socioeconómico, 44*, 26-32.

Unwin, T. (1991). Wine and the Vine: an *Historical Geography of Viticulture and the Wine Trade*. London, United Kingdom: Routledge.

Woodside, A. G. (1999). Advertising and Consumption of Alcoholic Beverages. *Journal of Consumer Psychology, 8*(2), 167-186.

Yagüe, M. J. & Jiménez, A. I. (2002). La denominación de origen en el desarrollo de estrategias de diferenciación: percepción y efectos de su utilización en las sociedades vinícolas de Mancha y Valdepeñas. *Revista de Estudios Agro-Sociales y Pesqueros, 197*, 179-204.