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Eva Fernández and James Simpson

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JEL Classification: N53, N54, O13, Q10.

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If as late as the 1930s producer cooperatives were still relatively rare in most branches of agriculture, this was no longer true by the end of the twentieth century.[1] In the wine industry there were virtually none in 1900, but a century later they accounted for at least half of the national production in France and Italy, and 70 per cent in Spain. This paper looks at two very different explanations for their growth. First, cooperatives are examined from an organizational perspective, where they combined the low supervision and monitoring costs associated with the family farm with the growing economies of scale found in the new food processing technologies, as well as allowing greater market power in their negotiations with up and downstream trading partners. The second approach looks at cooperatives as organizations used by the state to help stabilize markets. This paper argues that the slow diffusion of wine cooperatives was caused by the high measurement costs associated with grape quality and selling wines collectively, and they only became widespread when the state offered material incentives for growers to join which helped compensate the high costs associated with collective action.

At the beginning of the twentieth century, cooperatives were seen as a way to improve wine quality and increase small farmers' bargaining power in an increasingly hostile market place. On both accounts they had only limited success, as the costs of monitoring grape quality by members usually outweighed any advantage in using the new wine-making technologies, and the highly fragmented nature of the European industry made price fixing arrangements impossible. By contrast, the conditions facing New World grape and wine producers were very different, and their experiments at industrial concentration and cartels offered European producers a model of what could be achieved with state support. The growth of Europe's wine cooperatives after 1950 was closely linked with state intervention which offered cheap loans and subsidies in exchange for them holding back and distilling surplus wines to support prices at times of overproduction. However, the state was unable to change the incentive structure that led to poor quality wines, and cooperatives grew fastest in those areas producing large quantities of cheap table wines, precisely the market niche which saw the major

[1] The literature on the early European farm cooperatives is very large. See especially Henriksen, 'Avoiding lock-in', O'Rourke, 'Culture, conflicts and cooperation', Beltrán-Tapia, 'Commons, social capital', Fernández, 'Trust, religion and co-operation', Garrido, 'Plenty of trust', Henriksen, Hviid, and Sharp, 'Law and Peace'.

downward turn in demand from the 1960s and 1970s, creating major structural surpluses. As a result, since the turn of the 1980s, between 20 and 40 million hectolitres of wine have been distilled every year, representing between 13 to 22 per cent of EU production, the equivalent of between three and six billion bottles.[2]

The paper is divided into four sections. The first argues that the success of wine cooperatives were restricted because of the poor quality wine they produced and their inability to influence market prices. Sections two and three examine the experiments at manipulating wine markets, first in the New World with the attempts to create private cartels to restrict supply and raise wine prices before 1914, and then by European governments from the 1930s, which led to the rapid growth in cooperatives. The fourth section argues that the growth in cooperatives did not result in better wines being produced because growers continued to face incentives that rewarded volume rather than grape quality, and governments now assured a market for much of the poor wine that was produced. The last section concludes.

I

Although one or two wine cooperatives had briefly existed in the 1890s, the movement only began in earnest in southern France with the so called *filles de la misère* during the crisis of overproduction at the turn of the twentieth century, when growers in the important Midi region had to sell their wine at cost or below in five of the seven harvests between 1900 and 1906.[3] A number of influential French writers including Charles Gide, Augé-Laribé and Adrien Berget saw cooperatives as a means to improve wine quality and increase growers' market power.[4] The rapid post-phylloxera reconstruction in the Midi had seen a doubling in the area under vines, and a 'flight' away from the hills (and the use of low yield grape varieties) to the fertile plains, where 'modern' viticulture practices included the use of irrigation, fertilisers, and chemicals to produce large quantities of very poor wine. In their rush to expand the area under vines,

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[2] Meloni and Swinnen, 'The Political Economy of European', p. 245.
[3] Warner, *Winegrowers of France*, p. 18. A wine cooperative existed briefly in 1890 in Barberá (Tarragona) and in 1893 in the Champagne region. Clique, *Les caves coopératives*, p. 14.
[4] Berget, *La coopération dans la viticulture européenne*, Auge-Laribe, *Le problème agraire du socialisme* and Gide, *Les associations coopératives*.

growers often had insufficient capital to build new cellars and storage capacity, and the wines had to be sold immediately after crushing (*vins non-logés)*.[5] Theoretically, by combining resources, one or two hundred family grape producers could produce both better and cheaper wine, because of the growing economies of scale recently available with the new wine-making equipment and better designed cellars, and their ability to hire oenologists who had a greater scientific appreciation of what led to wines deteriorating.[6] Wholesale merchants also faced lower costs when buying from one or two big wineries rather than having to collect from a large numbers of different growers scattered over a wide territory, while transportation costs were lower when wines were shipped in bulk. Cooperatives also provided space to store wines cheaply until they were sold at higher prices later in the year. Finally, technological change had also produced economies of scale in processing of the remains of the grapes (marc) to make alcohol and tartaric acid.

Yet despite the considerable early attention, there were still only 92 cooperatives in France in 1920, accounting for just two percent of total production. Wine prices, which fell once more by 70 per cent in real terms between 1917 and 1925, sparked a renewal of interest and numbers reached 353 by 1927, most of them located in the Midi, and they continued rising during the 1930s crisis (Table 1 and 2). [7] Elsewhere, in Spain, the 88 wine cooperatives of the early 1920s were little different to the 92 found in France, but they had hardly grown by the Civil War. In Italy there were more than a hundred wine cooperatives by the early 1930s, located mostly in the North, but these accounted for only between two and six percent of total output. Many had been created under a 1932 law and were *enopoli*, or organizations that were financed to regional federations (*Consorzi Provinciali per la Viticoltura*) and, because their members did not participate in the management of the wine-making and storage facilities, were not strictly

[5] Mandeville, *Étude sur les sociétés coopératives*, p. 43, See also Cot (1900) cited in Gervais, *La coopération en viticulture*, p. 50.

[6] The 21 cooperatives created between 1903 and 1910 in southern France had an average of 160 members, each producing around 50 hectolitres of wine in 1913, the equivalent to about a hectare of vines. Simpson, *Creating Wine*, pp. 72-3, calculated from Mandeville, *Étude sur les sociétés coopératives*, tables 1 and 2.

[7] Warner, *Winegrowers of France*. Between 1919 and 1929 some 108 cooperatives were created in the Midi, Galtier, *Le Vignoble du Languedoc*, p. 338.

cooperatives.[8]

[Table 1]

[Table 2]

The highly unequal distribution of farm cooperatives across countries before the Second World War has produced a large literature, with specialists citing exogenous restrictions to growth such as weak capital markets; political opposition from private producers; social capital; or the lack of government commitment.[9] Endogenous factors, which increased costs and made cooperatives less competitive than private companies were also important, especially those related to crop specific attributes. In this respect, the enormous success enjoyed by dairy cooperatives in Denmark, Finland, Sweden, Australia or New Zealand and, to a lesser extent, in countries such as Ireland or the Netherlands, has been explained by the high density of cows, strong export demand for butter, and the superior ability of cooperatives as oppose to private firms to implement strict quality standards. This capacity to resolve marketing problems, and especially to enforce quality standards, has also been advanced to explain the success of wheat cooperatives in Canada, but their failure in Australia and the United States, as well as their strong presence in California citrus industry but relative absence in the Spanish.[10]

The problem of enforcing quality standards, and in particular measuring and monitoring grape quality, is the major explanation for the slow growth in wine cooperatives. In Europe, weather conditions varied from one year to the next, significantly influencing quality and volume. Growers responded by planting a number of different grape varieties to reduce the risks of losing their entire crop, as each was susceptible to different calamities. They also mixed shy-bearers, which produced better quality wines, with high yield varieties that gave poor quality wines. Grapes were sometimes collected

[8] Tirone, 'Mutations récentes du vignoble italien', p. 76, Lockhart, *Agricultural cooperation*, p. 33; Mussotte et al, *Conditions de commercialisation*, p. 30.

[9] For a theoretical description of farm cooperatives from an organizational perspective, see especially Valentinov, 'Why are cooperatives important in agriculture?', and from a historical perspective, Fernández, 'Trust, religion and co-operation' and 'Selling agricultural products'.

[10] For cooperative creameries, see Henriksen, 'Avoiding lock-in', Henriksen, Hviid, and Sharp, 'Law and Peace', and O'Rourke, 'Culture, conflicts and cooperation'; for wheat pools and orange associations, see Fernández, 'Trust, religion and co-operation' and Garrido, 'Plenty of trust.

too early and therefore unripe in an effort to reduce problems of disease, pests or risks of hail, or too late to maximize their sugar content (and hence the alcoholic strength of the wine) in cool years. The wines were then mixed, and if by accident wine quality on a small vineyard was spectacular one year, it was just as likely atrocious the following.[11]

Despite better wine making equipment and skilled oenologists, most cooperatives failed to improve quality as writers such as Charles Gide had hoped. Given the low prices that most wines were sold for and the high costs of checking each bunch of grapes to determine their quality, grapes were paid for only by the weight and sugar content, a proxy for the future wine's alcoholic strength.[12] However this failed to differentiate between the good and bad fruit. To placate growers, some initially allowed their members to sell privately part of their harvest, which resulted in the cooperatives receiving only the poor grapes that could not be sold elsewhere. By contrast, when cooperatives forced their members to hand over all the harvest, the economic incentive for growers was to maximise output at the expense of quality by uprooting their quality shy-bearers, and plant heavy-bearers. In both cases the end result was that cooperatives received poor grapes, leading to the production of low quality wines. Therefore unlike Denmark, where cooperative creameries succeeded because they were better able to control quality than private dairies, wine cooperatives have rarely produced fine wines. The great exception was Burgundy, where cooperatives actually improve wine quality before the Second World War. Here the considerable prices paid for a premium wine compensated the cooperative for the high monitoring costs associated with a strict control of vineyard practices and an exhaustive control of grape quality in the wine making.[13]

Finally, cooperatives often had difficulties in selling wines because market volatility made it difficult for members to determine whether the prices negotiated were fair, or

[11] The importance of 'vintage' continues today with fine wines, but modern wine making technique have reduced significantly the problem with ordinary table wines. For a discussion of these matters and nature of the family farm, see Carmona and Simpson, 'Explaining contract choice'.
[12] For a contemporary discussion on how cooperatives paid for grapes, see Torrejón y Bonete, *Bodegas industriales*, pp. 29-40.
[13] Clique, *Les caves coopératives*, pp. 21-60.

whether those involved in the sale had cheated. As a result, many early cooperatives limited themselves to making wine, and left the sale to individual members, rather than experience a poor sale which might discredit the management.[14]

The heterogeneous nature of grape characteristics, and a major preference by virtually all consumers until recently for strong cheap wines, created quality problems which European wine cooperatives were rarely able to resolve. Yet cooperatives were more widespread in some countries and regions than others.[15] One factor that helps to explain the greater presence of wine cooperatives in France before the Second World War was the greater availability of cheap capital for members to build the new winery. The original 1884 law on association was followed by those of 1906 and 1907, which allowed wine cooperatives access to long term credit at the almost uniform rate of 2 per cent interest over 25 years.[16] Between 1907 and 1914 around 50 cooperatives in southern France obtained loans covering an average of 47 per cent of their capital costs, and the state gave subsidies of 815 thousand francs, or an additional 14 per cent.[17] By contrast in Spain the law of 1906 (*Ley de Sindicatos Agrarios*) provided limited fiscal incentives but no credit, and growers found it difficult to access capital markets.[18] In Italy, cheap loans were available from 1931 that covered 20 per cent of capital needs.[19] At this time, the limited availability of cheap credit was a major problem, but it was not necessary an insurmountable problem. A small sample of nine cooperatives in Catalonia on the eve of the First World War shows that capital requirements needed by a member to build and equip a winery were equivalent to the gross value of a single year's harvest

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[14] Mandeville, *Étude sur les sociétés coopératives*, pp. 111-12 and Clique, *Les caves coopératives*, p. 187.

[15] For regional concentrations, see Simpson 'Cooperation and Cooperatives', and for Catalonia, Planas, 'El cooperativismo vitivinícola' and Planas and Valls-Junyent, '¿Por qué fracasaban las cooperativas agrícolas?'.

[16] Caupert, *Essai sur la C.G.V*, p. 111, Gervais, *La coopération en viticulture* and Mandeville, *Étude sur les sociétés coopératives,* p. 2 and 11. Capital was provided by the state, but lent through regional credit banks, which were responsible for the loans. Costs were greatly reduced because cooperatives were required to establish a specific legal structure to receive loans.

[17] Mandeville, *Étude sur les sociétés coopératives*, p. 139.

[18] Martínez Soto, 'El cooperativismo de crédito', p. 120, Carmona and Simpson, *El laberinto de la agricultura española*, p. 235, Garrido, 'Why did most cooperatives fail?', p. 184. Attempts by the Marqués de Camps in 1914 to pass a law that would have seen the state advance 10 per cent of the costs of the winery to be paid over 30 years with an annual interest of 3 per cent failed. Torrejón y Bonete, *Bodegas industriales*, p. 52.

[19] Galtier, *Le Vignoble du Languedoc,* p. 19.

from between 1.4 and 6.5 hectares.[20] In addition, although small growers in Utiel (Valencia) waited 22 years to build their winery, those of neighbouring Requena built it themselves over a three year period.[21] Over time the importance of cheap capital increased, and the figure required per member in Spain by 1970 was equivalent to the annual production of 43 hectares, or twelve times the size of the family vineyard.[22]

II

Growers experienced not only significant production volatility from one year to the next, but also major and periodic structural imbalances between supply and demand. Abundant supplies of suitable land and qualified labour existed that could be used to increase output by planting new vineyards when wine prices increased. New vines took four years to become productive, by when the market had often already peaked. By contrast, growers were reluctant to uproot vines during market downturns as a vine's commercial life was around forty years, and instead they used their labour for other activities. From the late nineteenth century, better wine-making processes and the extensive use of chemicals also allowed stocks to accumulate, while distilling surplus wines became unprofitable because of competition from cheap 'industrial alcohol' produced from potatoes, sugar beet and other vegetable matter. These cheap alcohols were used as the basis from making 'artificial wines', which seriously threatened the profitability of the traditional industry, and led to massive political demonstrations in France's Midi region in 1907. [23] The government responded by establishing a new relationship with a farmers' group, by granting legal powers to a producers' association (the *Confédération Générale des Vignerons du Midi*) to monitor the industry itself, and guarantee that growers and merchants respected laws on adulterated wines. This type of alliance was a forerunner of future joint action between the state and a specific interest

[20] Campllonch, *Cellers cooperatius*, p.178, our calculations.
[21] Piqueras, *La vid y el vino*, p. 270.
[22] Our calculation from Archivo General de la Administración (Sindicatos, SIG35/40), and *La Semana Vitivinícola* (1971), no.1304.
[23] The supply elasticity of artificial or chemical wines was very high, as shown by the complaints in the Midi in the early 1900s. Sempé, *Régime économique du vin* and Gide, 'The wine crisis'. For the debates on fraud and adulterated foods around 1900, see Stanziani, *Histoire de la qualité alimentaire*.

group.[24]

The plight of many of the world's farmers during the Great Depression was exceptional, as world wheat production grew twice as fast as consumption between 1914 and 1939, and nominal prices for US corn, French wheat, and Japanese rice declined by 50 per cent.[25] Trends in wine markets were probably similar, although the difficulties in measuring changes in product quality make it harder to show the extent of the downturn (Figure 1). While European farmers' demands in the late nineteenth century could often be met by raising tariffs, this was now insufficient as domestic production was often in excess of demand, and export opportunities were strictly limited. Instead, following extensive government market intervention during the First World War, farm lobbies looked to the state to help resolve problems of low farm gate prices and persistent surpluses. The possibilities and nature of state intervention was not immediately obvious, but depended on crop characteristics and the broader market conditions.[26] Hoffman and Libecap argued that the US federal government chose to intervene in agriculture during the 1920s by either supporting private cooperative organizations or directly limiting supplies itself to raise prices. Private cooperatives were only possible when product quality was homogenous; new entry for producers difficult; commodities were perishable, making it difficult to accumulate stocks; and prices that could be raised with only small production cuts.[27]

Figure 1

Not one of these conditions were to be found with European wine production, suggesting that cooperative marketing associations would face serious difficulties to restrict wine supplies (Table 3). In France, for example, there were around 1.5 million producers in the 1930s, and cooperatives rarely produced more than 10,000 hectolitres, the equivalent to significantly less than 0.1 per cent of national production.[28] Quality

[24] See especially Sheingate, *The rise of agricultural welfare state*.
[25] Sheingate, *The rise of agricultural welfare state*, p. 16.
[26] It also depended on the nature of the value chain, lobby strength, and state capacity to intervene. Simpson, *Creating wine*.
[27] Hoffman and Lipecap, 'Institutional choice', pp. 399-400. They show that private cooperatives were particularly strong with citrus fruit and milk. See also Boughner and Sumner, 'Producer Participation'.
[28] Lachiver, *Vins, vignes et vignerons*, pp. 582-3. The figure was still 1.3 million as late as 1963, but only

varied significantly, not just between fine vintage wines and cheap blending ones, but also between common wines in neighbouring regions, or on a single plot from one year to the next and, as already noted, new entry and accumulating stocks was easy.

Table 3

However natural resource differences led to the New World wine industry being organised very differently to that found in Europe, which encouraged producers to attempt to control the significant market volatility that the industry experienced from the late nineteenth century. These experiences provided important lessons for European producers, not just to understand the obstacles to creating an effective cartel, but also how state involvement could resolve them.

New World growers enjoyed excellent climatic conditions allowing them to produce large quantities of high quality and homogenous grapes from one year to the next. This allowed grape growing and wine making to be carried out as separate businesses, and major wine producers could guarantee that sufficient grape supplies were available to benefit from the growing economies of scale found in wine-making. In Mendoza for example, ten wineries accounted for a third of Argentina's output in 1903, with the largest having production facilities of over 90,000 hectolitres, compared to an average capacity of between 11,000 and 13,000 hectolitres for cooperatives in the Midi a decade later.[29] The market power of the large producers in Mendoza and California was strengthened by import tariffs and the considerable distances separating them from their major markets, encouraging them to integrate forwards into wholesaling, and to create cartels.

In California the leading San Francisco merchants created the California Wine Association (CWA) in 1894 which sold around 80 per cent of the State's wine. It owned large wine making and storage facilities, and from the turn of the century sold wines

54 per cent sold their wine, and less than two out five were employed full time (or nearly full time), Loubère, *The wine revolution*, p. 71.

[29] Simpson, 'Factor endowments, markets and vertical integration', p. 48. The dry atmosphere of Mendoza allowed ripe grapes to remain on the vines for as long as three months, allowing the fixed costs of the winery to be spread over a much larger quantity of fruit. Denis, *The Argentina Republic*, pp. 86-7 and Pacottet, *Vinificación*, p. 78 and 82.

under its own brand names. The CWA was a trust rather than a cooperative, and successfully restricted supplies to raise prices, especially in the early 1900s.[30] In Mendoza the leading producers also attempted to organize collectively and created what they described as a 'cooperative'.[31] Product quality was notoriously low, and the cartel faced the classic free-rider problem of outside producers increasing output in response to higher prices. As the leading producers had close ties with local politicians, these passed a State law in 1916 that not only allowed public funds to be used to support prices by distilling surpluses, but also levied a punitive tax on the production of those growers who remained outside the scheme and were potential free-riders.[32] In Mendoza and California the political climate at the turn of the twentieth century was relatively permissive to big business and trusts, and both regions produced around 95 per cent of domestic wine output, but had less than 5 per cent of their nation's population. However, if annual per capita wine consumption in the US was just 2.4 litres in Argentina it was 50 litres, and the political costs in terms of consumer discontent and lost votes for national politicians in Argentina from allowing a small group of producers' a monopoly and forcing consumers to pay high prices for a basic necessity were considerably greater. In the event, Argentina's Supreme Court declared that provincial governments did not have the legal capacity to create private monopolies.

These two New World experiences were followed with interest in France, and a couple of ambitious attempts were made in 1905 and 1907 in the Midi to create marketing boards. The aim was to attract sufficient members so that they could absorb the costs of removing surplus wine from the market to support prices at times of overproduction.[33] The proposals failed, in part because banks were unwilling to back the schemes, but also because of the difficulties to monitor and enforce agreements among so many cooperatives, and problems of the free-rider, as many growers would have remained outside the associations, and would have benefited from any price rises without having

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[30] For the CWA see especially Peninou and Unzelman, *The California Wine Association*, and Simpson, *Creating Wine*, pp. 204-19.

[31] Attempts by family grape growers to create cooperatives had limited success because of the opposition of large wine makers. Mateu, 'Los caminos de construcción', p. 15.

[32] Ibid., 'Los caminos de construcción', p. 16

[33] Atger, *La crise viticole*, pp. 116-22, Degrully, *Essai historique et économique*, pp. 375-85, Postal-Vinay, 'Debt and agricultural performance', pp. 180-1 and Simpson, *Creating Wine*, pp. 74-5.

to contribute to the costs of market support.

III

The growing weakness of farmers' bargaining power in the market from the late nineteenth century was accompanied by a significant increase in their organizational strength and political influence. The farm sector in the 1930s still accounted for around a third of the active population in industrial economies such as Germany and France, and half in Italy and Spain, and politicians in both democratic and authoritarian regimes could not afford to ignore the sector. Yet there were limits to the extent that agriculture could 'capture' the state, as the sector was highly diverse, and the demands from different farm groups were sometimes diametrically opposed to each other (livestock producers, unlike cereal farmers, wanted cheap not expensive feed, etc.). Within the wine sector, there were also important divisions between the interests of producers, merchants, and consumers, as well as opposition from sugar and industrial alcohol producers who, if numerically very small, were an important source of taxation for governments.[34]

There were often important restrictions on the ability of the state to intervene. Policies that raised farm prices, such as tax reductions, were relatively easy to apply, but if successful only encouraged growers to increase output by planting more vines, or increasing yields by using more labour, fertilizers, or irrigation. By contrast, schemes to subsidize the grubbing up of surplus vineyards, or encouraged producers to shift production towards quality wines with lower yields, required the state to have detailed farm level information to ensure compliance.[35] In time, governments often moved towards a corporatist arrangement, whereby in exchange for providing favourable legislation to producers it delegated the monitoring and enforcement of production controls to local growers associations, just as the French government had used to control wine adulteration in the Midi in 1907.[36]

[34] These differences are discussed in Fernández, 'El fracaso del lobby viticultor' and Simpson, *Creating Wine*.
[35] For a discussion of these problems, see Pasour and Rucker, *Ploughshares*.
[36] Sheingate, *The rise of agricultural welfare state*, pp. 94-5.

The French government during the 1930s intervened in a number of different ways in the wine sector in an attempt to resolve the problems of overproduction. When prices fell sharply in 1929 following a very large harvest, an emergency fund of 250 million francs was created to purchase alcohol distilled from wine in 1930.[37] Major legislation was introduced from July 1931 under the *Statut de la Viticulture*, which included temporary bans on new vineyards, a prohibition on planting of high yielding 'hybrid' grape varieties, and a tax system which discriminated against large producers and high yielding vineyards. It also blocked the sale of wine for producers of more than 400, and later 200, hectolitres, when prices fell below cost. The alcohol produced from the distillation of blocked wines was bought by the government to guarantee its removal from the market. As Warner noted, previous governments had passed plenty of laws and controls, but 'the relative inviolability of the winegrower's plant and cellars' made it difficult to implement them, until it was 'finally breached in 1934.'[38] Yet while it was relatively easy to monitor the limited number of large estates, this was not the case with smaller vineyards, and two-thirds of national production came from those growers who produced less than 200 hectolitres.

The *Statut de la Viticulture* failed in its attempt to control new plantations and the area of the vineyard increased from 1.5 to 1.6 million hectares between 1926-1930 and 1938 (Figure 2), perhaps reflecting the success of the blockage and distillation programs in raising price. Between 1935 and 1954 an annual average of six million hectolitres of wine was compulsory distilled, and this policy was reinforced with the *Statut de l'Alcool* in 1935, which reorganized the state alcohol monopoly and extended the public purchases of wine alcohol, paying 2.5 times the price of industrial alcohol (made from sugar beet), and effectively constituting an additional subsidy to winegrowers.[39] Finally, the need to store rather than sell wines led to the government offering short-term credit to cooperatives that was equivalent to 3.7 per cent of the value of national wine output in 1934.[40] Therefore although the traditional incentive problems associated with grape

[37] Warner, *Winegrowers of France*, Chapter 7.
[38] Ibid., *Winegrowers of France*, p. 98.
[39] Ibid., *Winegrowers of France*, p. 115. According to this author, the state alcohol monopoly gave winegrowers 'an assured and profitable annual outlet' which was approximately 33 percent greater than their average annual distillation from 1920 through 1930' (p.148).
[40] Calculated from INSEE, *Recensement général de l'agriculture*. Some 566 cooperatives (95 per cent of

quality were not resolved, government intervention led to almost 500 new cooperatives being created in the 1930s, half of them in the Midi.[41] A similar policy was found with wheat.[42]

[Figure 2]

While state intervention helped the number of wine cooperatives to grow in France, it was largely absent in Spain, and numbers increased from 88 in 1921 to only 100 in 1935.[43] The 1942 law on granted fiscal exemptions, and although numbers increased to 193 by 1950, most were inoperative because of a lack of capital, and cooperatives accounted for only 8.5 percent of total wine output.[44]

Government policies gave the cooperative movement in both France and Spain a major stimulus from the 1950s and 1960s. In France, after wartime shortages, there was a rapid recovery in wine production and the series of abundant harvests in 1950-1956 coincided with a decline in consumption leading to surpluses and falling prices. Policies similar to those of the 1930s were now reintroduced and collected in the *Code du Vin* of 1953, which established taxes on high yielding vineyards; introduced the compulsory blocking of wines and distillation of between 10 and 16 per cent of the harvest; provided subsidies to uproot vines and prohibited the planting of high yielding varieties.[45] These measures were accompanied with a new price system to regulate the market, with production being divided into *quantum* wines, or those that could be only sold in specific quantities and at fixed times during the year, and *hors-quantum* wines,

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the total) received 230 million francs to store surplus production. Tardy, 'Le point de vue français', p. 314.

[41] The number of co-operatives increased from 353 in 1927 to 595 in 1933 and 827 in 1939 (Table 1). Some 229 cooperatives were created in the Midi between 1930 and 1939, Galtier, *Le Vignoble du Languedoc*, p. 338.

[42] The government encouraged the holding back of stocks following the abundant wheat harvests of 1932 and 1933, leading to the number of co-operatives reaching 1,100 and accounting for 85 percent of output by 1938. A similar figure was found in the early 1950s. Hirschfield, *La coopération agricole*, p. 24.

[43] Fernández, 'El fracaso del lobby viticultor'; Galtier, *Le Vignoble du Languedoc,* pp. 29 and 76.

[44] *Bulletin de l'OIV,* 1954, no. 275, pp. 27 and 61. The lack of financing in the early 1950s was initially solved by ten year loans of up to 80 per cent of the initial capital requirements at an interest rate of 2.75 per cent, advanced by the National Service for Agricultural Credit. Galtier, *Le Vignoble du Languedoc*, pp. 75 and 78.

[45] Bardissa, *Cent ans de guerre du vin*, pp. 42-43. The government in 1950-51 reinstated the tax on high yield producers and the blockage and distillation of wines. Warner, *Winegrowers of France*, p. 172.

which could only be sold in years of poor harvest.[46]

The wine blocked after the harvest was sometimes considerable, reaching 60 or 70 percent of production in 1949 and 1951.[47] The elaboration of a cadastre survey allowed the government now to offer incentives to grub up vineyards, and the area fell by 25 per cent between the mid-1950s and 1970 (Figure 2). The increasing amount of blocked wine required an expansion in cellar capacity, and although the number of cooperatives increased by only a hundred or so between 1953 and 1980, the size of existing ones increased rapidly, so that cooperatives accounted for half of all French wine (Table 2). Individual cooperatives could not hope to influence market prices but by 1980, with state support, members enjoyed similar benefits in the form of higher prices to those that producer cartels had sought in California and Mendoza before 1914.[48]

In Spain, wine policies implemented after the sharp drop in prices in 1953 were also based on the blockage and distilling of part of the harvest, and again produced a rapid growth in cooperatives.[49] In the early 1950s, many small producers lacked storage facilities and cooperatives accounted for only 8.5 per cent of national production. Problems were especially acute in La Mancha, and a large number of growers were left with grapes they could not sell, and the government was forced to rent private facilities (*bodegas de maquila*) so that they could make their wines.[50] To avoid a repetition, the government encouraged the creation of cooperatives by offering ten year loans at 2.75 per cent annual interest to finance 80 per cent of fixed investments, as well as giving short term payments (*primas al almacenamiento*) for blocking wines after large harvests. Cooperative numbers increased from 193 in 1950 to 357 in 1955, and 407 in 1957, when they accounted for 25 per cent of output and enjoyed a membership of more

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[46] Spahni, *The Common Wine Policy*, pp. 16-22; Barthe, *L´Europe du vin*, pp. 102-108; Barthe, *25 ans d´organisation communautaire*, pp. 8-11; Berger and Maurel, *La viticulture et l'économie du Languedoc*, p. 88.
[47] Warner, *Winegrowers of France*, p. 170 and 172.
[48] French cooperatives in 1980 averaged 228 members and produced less than 30,000 hectolitres, equivalent to less than 0.05 percent of national production. Loubère, *The wine revolution*, p. 147.
[49] The *Comisión de Compras de Excedentes de Vino* (Commission for Purchasing Surpluses) was created to store and distil part of the harvest. Fernández, 'Productores, comerciantes y el estado', Chapter 4.
[50] La Mancha in 1960 had over 500 thousand hectares of vines and produced 25 per cent of Spanish wine, but only 10 per cent of winegrowers could store wines for any length of time. *Primer Censo Agrario*.

than 100,000.[51] Those that received subsidies for storing wines grew from 19 in 1954 to 232 in 1959, and the amounted of wine temporary blocked rose from 127 thousand to more than 2 million hectolitres, or 10 percent of total production, with 40 per cent of the subsides going to La Mancha in 1958-9.[52]

During the 1960s Spanish cooperatives continued to benefit from a combination of cheap long term loans, state subsidies that amounted to 10 percent of the value of production, and loans for members until they sold their blocked wines.[53] By 1969, there were 789 cooperatives with an average membership of 274 and a total capacity for 20 million hectolitres, although they handled that year only 12.5 million hectolitres, or half the Spanish harvest (Table 2). Growth was fastest greatest in La Mancha and Levante, regions of low quality wines and significant problems of surplus production, as well as being areas where wine distilling was important, with a third of all alcohol factories and a half of production being found in La Mancha alone.[54]

[Table 4]

This policy of blocking surplus wines in cooperatives helped to stabilize markets. Price volatility in La Mancha in the early 1960s was sharply lower than that found in the late nineteenth century when no cooperatives existed. The standard deviation suggests volatility reached 8 per cent in the period 1874-1892 compared to 5 per cent in 1953-1972, but during the period of rapid cooperative growth, the standard deviation fell from 7 per cent in 1953-1960 to only 3.6 per cent in 1961-1972.[55]

By contrast the number of Italian cooperatives grew much more slowly, increasing from 208 to 629, and production from six to 18 percent of the country's wines, between 1955 and 1969, compared to the 50 percent found in Spain and France (Tables 1 and 2). This has been explained by competition from the 120 *enopoli*, or private wineries, which

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[51] *Bulletin l'OIV,* 1960, no. 358, p. 93; and Pan-Montojo, 'Las industrias vinícolas españolas', p. 328

[52] Calculated from Comisión de Compras de Excedentes de Vino, *Memoria de la actuación*.

[53] Calculated from data from UNACO, *Memoria que presenta la Junta,* 1962, pp. 46, 53. The *Comisión de Compras de Excedentes de Vino* in 1967 introduced a new subsidy equivalent to 10 per cent of the market price to block surpluses in cooperatives and private cellars. Archivo General de la Administración (Sindicatos. SIG35/65) and FORPPA, *Informe a la Comisión especializada*.

[54] Fernández, 'Productores, comerciantes y el estado', Ch. 5.

[55] Own calculations from, GEHR, *El vino, 1874-1907* and *La Semana Vitivinícola* (various years).

dominated regional wine-making, bottling, and marketing, as well as responding to the state's demands to help regulate the market.[56] The 1952 Fanfani Law provided cooperatives with cheap loans of up to 75 percent of capital requirements, but wine policy in Italy was generally limited to granting tax advantages to distilling and restricting imports, rather than subsidies.[57] However, the demand for state intervention was also originally less than elsewhere as wine exports multiplied by more than 10 between 1955 and 1980, with Italy benefitting from both membership of the Common Market, and Algeria being shut out of the French market. Problems of overproduction were consequently less.[58]

The introduction of French style intervention into the Italian wine markets with the European Common Wine Policy led to a rapid expansion in the number of cooperatives, reaching almost 800 and accounting for 38 per cent of production in 1980 (Tables 1 and 2).[59] In 1970, the Common Wine Policy defined two prices for table wines: a guide price (considered as being adequate for the producer), and a threshold price (below which intervention measures came into play). A common tariff on imports and controls on new plantings was established, and attempts were made to stabilize prices by granting subsidies for the short and long-term blockage of wines and, in cases of serious supply and demand imbalances, measures "to encourage voluntary distillation of surpluses".[60]

IV

A combination of effective controls on the area of vines and grape yields, together with cooperatives blocking and distilling surpluses following large harvests, might have

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[56] Giorgi and Niederbacher, *Conditions de commercialisation*, pp.34 and 36, and Lockhart, *Agricultural cooperation*, p.188.

[57] Galtier, *Le Vignoble du Languedoc,* p. 29. European Communities: Directorate General Press and Information, *Newsletter on the Common Agricultural Policy*, p. 2.

[58] Calculated from Istituto Centrale di Statistica, *Sommario di Statistiche Storiche*.

[59] EU Commission, 1970, p. 1-2. Policy was financed by the *European Agricultural Guidance and Guarantee Fund*. The European Economic Community wine policies were influenced by the French tradition of regulation, which attempted to "adjust supply to demand and to raise quality standards", and guarantee farm incomes through market intervention. See Meloni and Swinnen, 'The Political Economy of European'.

[60] European Communities: Directorate General Press and Information, *Newsletter on the Common Agricultural Policy*, p. 23; EU Commission, *The common organization*, p. 4

given the industry long term stability if demand conditions had not changed so dramatically. However, between 1955/59 and 1985/9, per capita consumption fell by 45 per cent in France, 34 percent in Italy, and 17 percent in Spain, with exports only partly offsetting this fall.[61] The drop was greatest for cheap wines, precisely the market segment dominated by cooperatives.[62] In Spain as late as 1980 less than ten per cent of table wines were considered as premium and therefore likely to have been estate bottled, and just two per cent of all the wines were exported in bottles.[63] Traditional cooperatives, which had developed as specialized institutions for processing large quantities of poor quality grapes to make wines for blending, found it difficult to adapt to the changing market. By contrast, the prohibitively high monitoring and enforcement costs associated with classifying grapes found in cooperatives were obviously absent on private vineyards, and from the 1970s a combination of technological change and the adoption of scientific wine making practices allowed relatively small producers to move up the quality ladder.

In Spain the success of market intervention encouraged low quality wine producers to increase output, and the area under vines continued to expand until the 1960s, as the lack of a cadastre made it difficult for the government to control plantings, explaining the absence of subsidies to uproot vines or tax more heavily those that produced poor quality vines (Figure 2).[64] In particular, the area of vines in La Mancha reached half the national total, while yields increased substantially. By contrast, in France the cadastre allowed the state to monitor closely the area planted and therefore it could offer economic incentives for grubbing up existing vines to tackle overproduction.[65] The result was a sharp fall, with 200.000 hectares disappearing every decade from the mid-

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[61] Calculated from OIV, *VIIe Congrès*, p. 282, *La Semana Vitivinícola* (1954), 6-12/06, p. 7, OIV, *Memento de la L'OIV* and ONIVINS, *Statistiques*. Exports multiplied between 1955 and 1980 by almost 5 in Spain, by 3 in France and by 10 in Italy, calculated from Italy: Istituto Centrale di Statistica, *Sommario di Statistiche Storiche*; France: Lachiver, *Vins, vignes et vignerons*; Spain: *Anuario de Comercio Exterior* (various years).

[62] Fernández, 'Especialización en baja calidad'. Between 1987 and 2009 annual per capita consumption of cheap table wines in Spain declined from 36.4 to 8.1 litres, while premium wine consumption remained constant at 6 litres. Medina-Albaladejo, *Cooperativismo*, p. 108.

[63] *Anuario de Estadística Agraria*, 1980, p.359 and *Anuario de Comercio Exterior*, various years.

[64] With the cadastral survey finished in 1982, a decisive policy shift occurred the following year and programs to subsidize uprooting were introduced after the membership of Spain into the EEC, Dubos, 'La evolución del mercado común'. However, because wine prices increased after 1986, the area of vines only started to decline from the 1990s, Barceló, *Liberalización, ajuste y reestructuración*, p. 193.

[65] Lachiver, *Vins, vignes et vignerons*, p. 509 and 512.

1950s, with the area in the Midi declining by a third between 1950 and 1980 (Table 5). However, this region still accounted for 42 per cent of French domestic production in the 1980s, a figure not so different to that of La Mancha.[66]

[Table 5]

The growth in wine cooperatives after 1950 took placed despite the difficulties of measuring grape quality, and growers responded to the incentives of how grapes were priced, which until the mid-1970s in southern France continued to be based on sugar content and weight (*rémunération au kilo-degré*),[67] encouraging growers to increase output rather than invest to improve quality.[68] From the 1980s, the dramatic decline in demand for cheap wines led a few cooperatives to introduce payment systems that rewarded quality *cépages*,[69] but most continued to produce low quality blending wines, which were often distilled or used for cheap brandy production.[70] In Spain, cooperatives accepted all grapes from their members, and controls on the delivery of bad quality ones were ineffective.[71]

Selling wine was another difficulty. Initially, as noted, many French cooperatives only made and stored wines, leaving each member to market his or her share, although the cooperative often acted as a *courtier*, by linking sellers with buyers. From the early 1960s the practice of cooperative marketing became widespread in the Loire, South-West and Rhone regions, although in the Midi this only happened later.[72] In Spain, wine was sold through brokers or visits organized by members to the provincial capital, but it was difficult to find buyers in years of overproduction.[73] The economic results of the Spain's cooperatives were poor and in the mid-1970s they had a high level of

[66] Lachiver, *Vins, vignes et vignerons* and Medina-Albaladejo, *Cooperativismo*, p. 119. La Mancha refers to 1980-4.
[67] Touzard et al., 'Qualité du vin'.
[68] Boulet and Laporte, *Contributions a une analyse économique*, p. 25; Clavel and Baillaud, *Histoire et avenir des vins*, p. 101-103; Gide, *Les associations coopératives*.
[69] Jarrige and Touzard, 'Les mutations de l'organisation'.
[70] Voss, *The European wine industry*, p. 40; Loubère, *The wine revolution*, p. 147.
[71] Medina-Albadalejo, 'Factores determinantes'. In La Mancha the pricing system was based entirely on weight until the 1970s, when grape's sugar content was also taken into consideration. Fernández, 'Productores, comerciantes y el estado', Chapter 6.
[72] Mussotte et al, *Conditions de commercialisation*, p. 159 and 169; Boulet and Laporte, *Contributions a une analyse économique*, p. 4.
[73] Fernández, 'Productores, comerciantes y el estado', Chapter 6.

indebtedness.[74] These difficulties facing French and Spanish cooperatives in marketing their wines were less apparent in Italy, as a third of the cooperatives had bottling plants and were integrated into commercial networks.[75] By the late 1960s, there were 16 private regional organizations, mainly in Northern Italy, which linked groups of cooperatives together for marketing purposes.[76]

In response to changing consumption patterns, governments looked to increase the number of appellations, including in areas dominated by cooperatives and traditionally producing poor quality wines. In exchange for help from the state to create a collective brand which would hopefully lead to higher wine prices, growers had to adapt to markets by installing new wine-making technologies and restrictions on grape varieties and yields, thereby improving quality and reducing volume.

However, the response of cooperatives to moving up the quality ladder in France and Spain has been mixed. The possibilities of adapting to new market conditions for a small cooperative producing 10,000 hectolitres in a favourably location such as Bordeaux was very different to one producing ten or twenty times more in the Midi. Instead, growers resorted from time to time with 'voice', perpetuating the militant tradition of the South. Only with the turn of the new century have there been major attempts to move-up market, with the considerable new investment in facilities for maturing wines, bottling plants and brand creation that this implied.

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[74] Medina-Albadalejo, 'Co-operative wineries'.
[75] Contò, 'Recenti evoluzioni della politica vitivinicola', p. 42.
[76] Giorgi and Niederbacher, *Conditions de commercialisation*, p. 35. For the forward integration of Italian wine cooperatives into marketing, see Medina-Albadalejo, 'Los Consorzi Vinicoli'.

V

The historical literature on farm producer cooperatives is usually told in one of two very different ways. First, and that used to describe most of Europe's cooperatives before the Second World War, explains them in terms of family farmers capturing economies of scale in food processing and marketing activities. The cooperative is seen as a means to strengthen the family farm and make it more competitive in the market place. An alternative literature looks at cooperatives as an instrument for government intervention to artificially fix prices and reduce market competition. In exchange for material incentives for joining cooperatives, members are required to implement government controls to help reduce market volatility by delaying sales, or voluntarily eliminating surpluses. This paper has shown that wine cooperatives were still relatively scarce in France before the 1930s, and in Italy and Spain before the 1950s, and it was the appeal of reducing, rather than increasing competition, than made them most attractive to potential members.

Charles Gide believed that cooperatives with their modern installations and scientific winemaking procedures would produce not just greater economies of scale and lower unit costs, but also better wines. He proved to be only half right. The high costs of measuring and monitoring grape quality resulted in growers facing incentives to maximise the volume of their harvests at the expense of quality. Yet the wine cooperative movement grew slowly despite this serious handicap, in part because consumer demand from the greater part of the twentieth century was restricted to cheap, rather than fine wines, but also because cheap loans were increasingly offered to finance winery construction and, from the 1950s, government subsidies. Wine cooperatives therefore differ to those created by dairy farmers, perhaps the sector which enjoyed most success among European producers before the Second World War. In Denmark in particular, contracts were created that gave incentives to producers to improve milk quality which, with modern processing technologies, allowed the cooperative to compete at the top end of the butter market.

From the 1950s governments attempted to stabilize the wine market by financing the storage and distillation of surplus wines in years of low prices, thereby effectively providing an insurance policy for cooperative members. These measures were especially successful in regions producing cheap wines, such as the Midi or La Mancha, because many growers lacked storage facilities, and consequently forced to sell their wine immediately after it was fermented. However, the very success of the policy created major difficulties for the wine market to adapt to changes in demand, especially from the 1980s, when per capita consumption fell, and consumers began to move upmarket. Demand changes were accompanied by a significant growth in scientific knowledge about wine making, and equipment became available which allowed small growers to greatly improve product quality. Small private producers were therefore more competitive in the new market conditions, as they were better able to integrate superior grape production with scientific wine making. By contrast cooperatives, lacking a supply of quality grapes, remained in the eyes of the consumer synonymous with cheap, poor wines.

Table 1

Number of wine cooperatives in France, Italy and Spain, 1914-1980

	France	Spain	Italy
1908	13		
1920 (1)	92	88	80
1928 (2)	353		84
1933 (3)	595	100	128
1945	858		
1950 (4)	997	193	161
1953	1,036	263	208
1957 (5)	1,109	407	214
1969	1,202	782	624
1980 (6)	1,158	848	783
2000	870	715	607

Notes: (1) Spain, refers to 1921; Italy, refers to 1924; (2) France refers to 1927; (3) Italy, refers to 1932 and Spain 1935; (4) Italy and France, refers to 1951; (5) Italy, refers to 1955; (6) Spain, refers to 1981-2

Sources:

France: 1908, 1920, 1945, 1951, 1980, 1983 and 1985, Loubère, *The wine revolution*, p. 139 and 147; 1928, *Bulletin de l'OIV*, 1929, no. 19, p. 84; 1933, Tardy 'Le point de vue français', p. 315; 1953-1962, Barthe, *Economie et politique viticoles*, p. 36; 1964-1979, ONIVINS, *Statistiques*; 2000, Anderson et al., 'The global picture', Table 2.2.

Italy: data prior 1955, Cotta, *Agricultural co-operation,* p. 71; Simpson, 'Cooperation and cooperatives', p. 110; and Galtier, *Le Vignoble du Languedoc*, p. 29); 1955, *Bulletin l'OIV,* 1956, no. 299; 2000 Anderson et al., 'The global picture', Table 2.2. Other years: *Annuario Statistico Italiano* (various years).

Spain: 1921, Pan-Montojo, 'Las industrias vinícolas españolas', p. 328; 1935, OIV, *IVe Congrès International*; 1950 and 1961, UNACO, 1961, *Memoria que presenta la Junta*, p. 25; 1953, *La Semana Vitivinícola,* 1978, no. 1657; 1957, Pan-Montojo, 'Las industrias vinícolas españolas', p. 328; 1966, Archivo General de la Administración (Sindicatos. SIG 36/6938); 1969, Archivo General de la Administración (Sindicatos, SIG35/40); 1981-2, *La Semana Vitivinícola,* 1982, no. 1893, p. 4565, 2000, Anderson et al., 'The global picture', Table 2.2.

Table 2

Quantity of wine produced by cooperatives (% of total)

	France	Spain	Italy
1920	2	5	
1928			6
1931 (1)			2
1945	25		
1950	27	9	
1953	26	13	
1957	35	25	6
1969	45	50	18
1980	49	63	38
2000	52	70	55

Source: see previous table. (1) Data refers to production capacity of Italian cooperatives in 1931; Calculated from Medina-Albadalejo, 'Los Consorzi Vinicoli' and Istituto Centrale di Statistica, *Sommario di Statistiche Storiche.*

Table 3

Private cooperatives and market power

	European Producers	New World Producers
Relatively few producers	No	Yes
Product quality homogenous	No	Yes
New entry difficult	No	No
Commodity perishable	No	No
Prices recover with small production cuts	No	Yes

Source: Adapted for wine from Hoffman and Libecap, 'Institutional choice'.

Table 4

Spain's cooperatives by main producing regions

	1946-7	1954	1969
Mancha	13	58	197
Cataluña-Baleares	75	108	173
Levante	22	47	119
Aragón	1	8	60
Navarra, Rioja	31	79	102
Andalucía Occidental	6	6	36
Otras	6	18	95
España	154	324	782

Source: see table 1.

Table 5

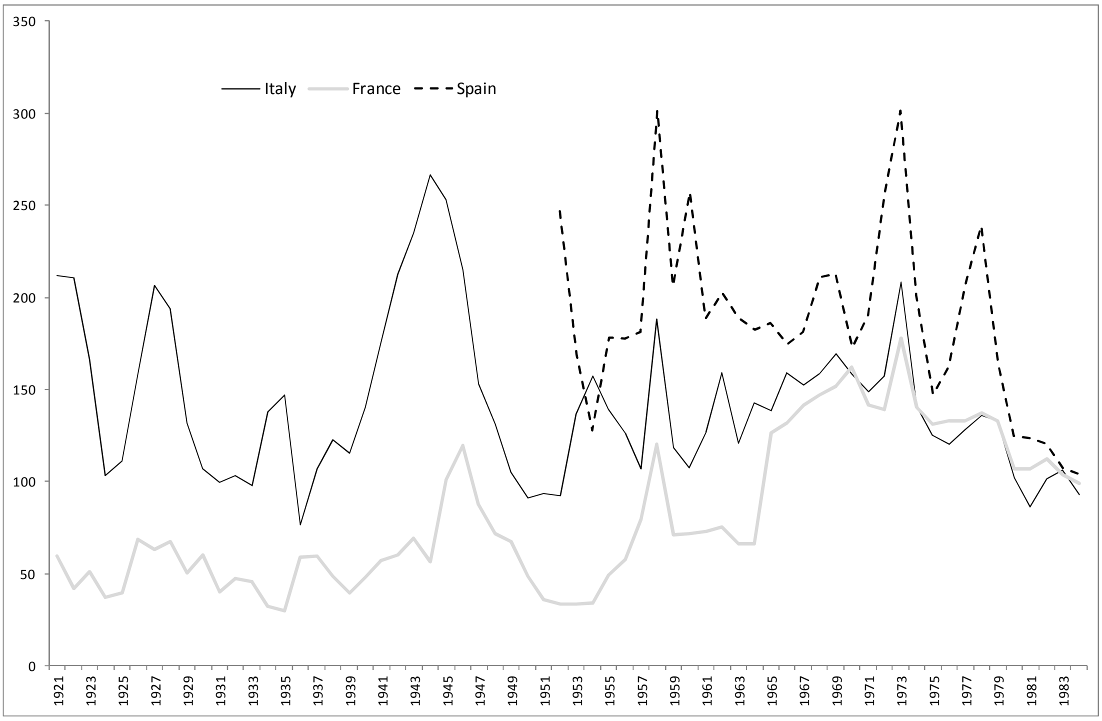
Vineyard land in the Midi and La Mancha, 1950-1987

	Midi		La Mancha	
	Thousand hectares	1950-9=100	Thousand hectares	1950-9=100
1950-1959	512	100	523	100
1960-1969	436	85	611	117
1970-1979	430	84	713	136
1980-1987	393	77	770	147

Source: own calculations from Lachiver, *Vins, vignes et vignerons* and *Anuario de Estadística Agraria* (various years).

Figure 1

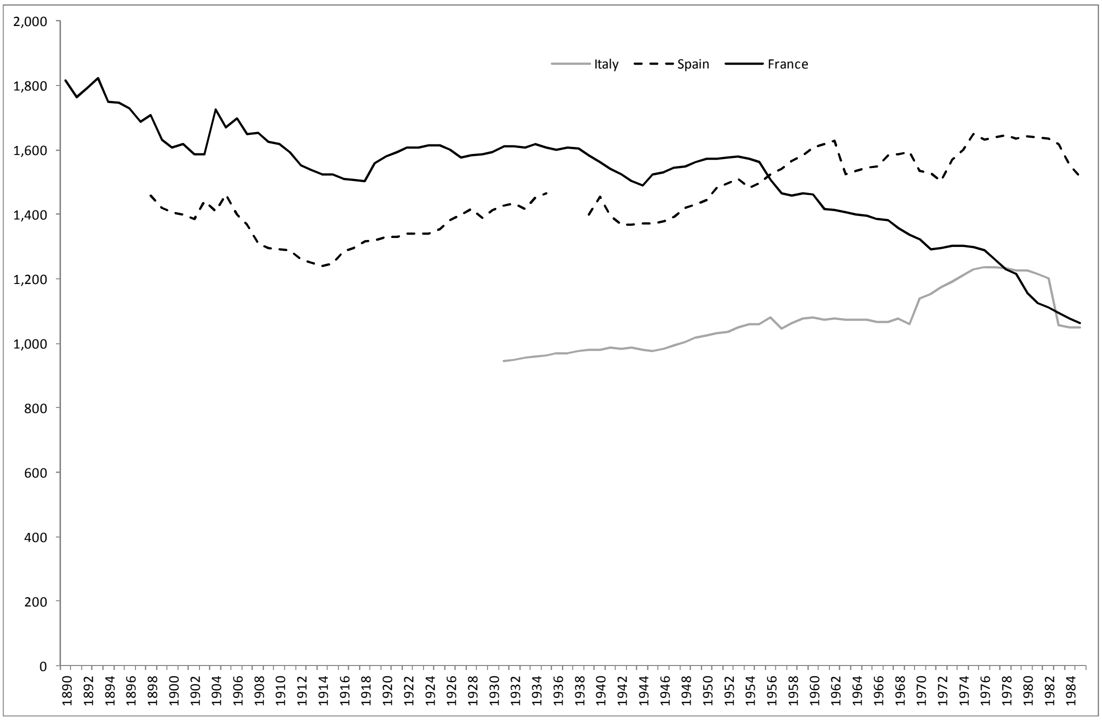
Constant prices of wine in France, Italy and Spain between 1921 and 1985



Sources: Own calculations; France: *Annuaire Statistique de la France*; Italy, Istituto Centrale di Statistica, *Sommario di Statistiche*; Spain, Carreras, A. and X. Tafunell, *Estadísticas Históricas, Bulletin de l'OIV* (1960), no. 358, p. 69 and *La Semana Vitivinícola* (various years)

Figure 2

Area under vines in France, Italy and Spain in 1890-1985 (in thousand hectares)



Sources: France: *Annuaire Statistique de la France*; Italy, Istituto Centrale di Statistica, *Sommario di Statistiche*; Spain, Carreras, A. and X. Tafunell, *Estadísticas Históricas.*

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