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The international competitiveness of *cava*: success of a particular firm or the district ?

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Abstract

First of all, the author wonders about the degree of success of the Catalan sparkling wine industry in the recent past. The comparison with the Italian sparkling *spumante* and also with the case of the most celebrated sparkling wine in the world, *champagne*, shows a very positive trend of the cava production and exports in the last three decades of the XXth century.

Secondly, this paper focuses on the agent or cause responsible of this success. Is it due to a particular firm or should it be attributed to the whole industrial cava cluster around the area of Sant Sadurni d'Anoia? More than two thirds of the exports correspond to a particular firm. In this sense, we should attribute the success to it. However, the historical explanation of the development of the industrial cava cluster in the main and well-kwown viticultural Catalan area of Penedès, shows that all producers have benefit from the Marshalian external economies due to this concentration. And the paper shows that the leading export firm would never have succeeded in the international market without the existence of this kind of invisible advantages.

Resumen

En primer lugar el autor se pregunta qué es lo que exactamente significa la palabra éxito aplicada al caso de la evolución reciente de la industria catalana del cava. La comparación de las trayectorias seguidas por la industria italiana del *spumante* y la del más reputado vino espumoso del mundo, el *champagne*, muestran una trayectoria muy positiva del volumen de producción y de las exportaciones.

En segundo lugar el papel se pregunta por el agente responsable de este éxito. ¿Se debe a una empresa en particular o, por el contrario, al distrito en su conjunto, atendiendo que nos hallamos ante un sector muy concentrado geográficamente en torno a Sant Sadurní d'Anoia? La concentración de las exportaciones en más de dos tercios en manos de una sola empresa justificaría atribuir a dicha empresa el éxito. Sin embargo el análisis histórico de la formación del distrito industrial del cava en la zona del Penedés muestra como los productores se han podido beneficiar de las economías externas marshallianas inherentes a este tipo de concentraciones. El papel muestra que el éxito de la empresa exportadora líder se explica por la existencia de este tipo de ventajas invisibles derivadas de la concentración.

Key words: Sparkling wine; champagne; spumante; cava; wine industry; wine trade; cluster; skilled labor; protectionism.

JEL Classification: L66, O14, L23, D23, F14, F16, J24, N34, N64

> “When an industry has thus chosen a locality for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously.”
>
> Alfred Marshall: Principles of Economics. First published in1890 at London: Macmillan and Co., Ltd.

> “For at least insofar as the location of economic activity in space is concerned, the idea that an economy’s form is largely shaped by historical contingency is not a metaphysical hypothesis; it is simply the obvious truth.
>
> Nothing is better at suggesting the kind of model that we ought to use than a collection of examples, particularly with some historical depth, of how particular industries come to be in particular places.”
>
> Krugman, Paul: Geography and Trade. Leuven: Leuven University Press; Cambridge (Mass.): MIT Press, cop. 1991.

In wondering whether the success of *cava* should be attributed to a particular company or to the whole industrial district in which most of this wine is produced, we are taking several questions for granted. The first assumption is the belief that the evolution of this sector has indeed been successful; it would be worthwhile to check whether the evolution of this sector has really been as positive as is believed, and to provide some indications of a quantitative and qualitative nature to gauge more precisely the truth or the falsehood of this view. Another assumption implicit in this title is that the *cava* production sector has tended to adopt the ways of a classical industrial district according to the (also classical) definition of the concept found in the works of economists such as Marshall and Becattini[1]. Indeed, some doubt should be cast on the idea that the *cava* industry can be accurately and fully explained as a classical industrial district; indeed, its historical evolution must be reviewed in order to determine precisely when and why this sector adopted its current organizational structure, and why it established itself in the Penedès around Sant Sadurní d’Anoia, considered the capital of Spanish *cava*.

Our objective in this paper is to answer those questions. First of all, we explore whether the concept of “success”, generally attributed to the evolution of the *cava* sector, is

[1] A review of the main contributions to the definition of industrial districts can be found in “Les economies d’aglomeració: un repàs de la literatura”, in E. Viladecans Marsal and J. Jofre Monseny (2006), p. 120-126.

entirely appropriate. Second, we try to establish who is in fact responsible for this success – whether it is one particular company that deserves the credit, or the sector as a whole, located as it is in a specific, relatively limited area. Third, we examine whether this sector can in fact be explained in terms of the classical definitions of industrial districts. Finally, we trace the history of the geographical location of *cava* manufacturing in order to explain the process of geographical concentration around Sant Sadurní d'Anoia in the Penedès, a protected designation of origin area (PDO).

1. The success of the "cava" industry in the last three decades

We should start by defining what we mean by "success" in relation to the *cava* sector. To do so we will compare the situation in Spain with the situation in other countries, if the figures available permit.

Our two reference points for our comparison are the international sparkling wine par excellence, *champagne*, and *Asti spumante*, another wine with a humbler reputation but with a strong presence in international markets, produced in a PDO area including 52 towns in the provinces of Alessandria, Asti and Cuneo in Piedmont, Italy[2]. However, these wines are significantly different: whereas *champagne* is produced by the *méthode champenoise*, which consists of making previously bottled wine ferment a second time in order to obtain the sparkling characteristic when the wine and gases formed as the result of the process are mixed, *spumante* from Piedmont obtains its sparkling quality in large hermetically closed containers before being bottled. Catalan *cava,* which was once called *champaña* or *champán* to copy the name of the French sparkling wine which it so accurately imitated, is today produced using the Champagne method. Although years ago some Catalan sparkling wines were produced using the same method as *spumante* (*cuve close*) or using a suspect system consisting of adding artificial carbon dioxide, these methods have become obsolete in recent decades and today only a very few wines are produced in this way. Despite the differences in their production methods, however, Catalan *cava* and *Asti spumante* have similar origins. Both of them were first produced

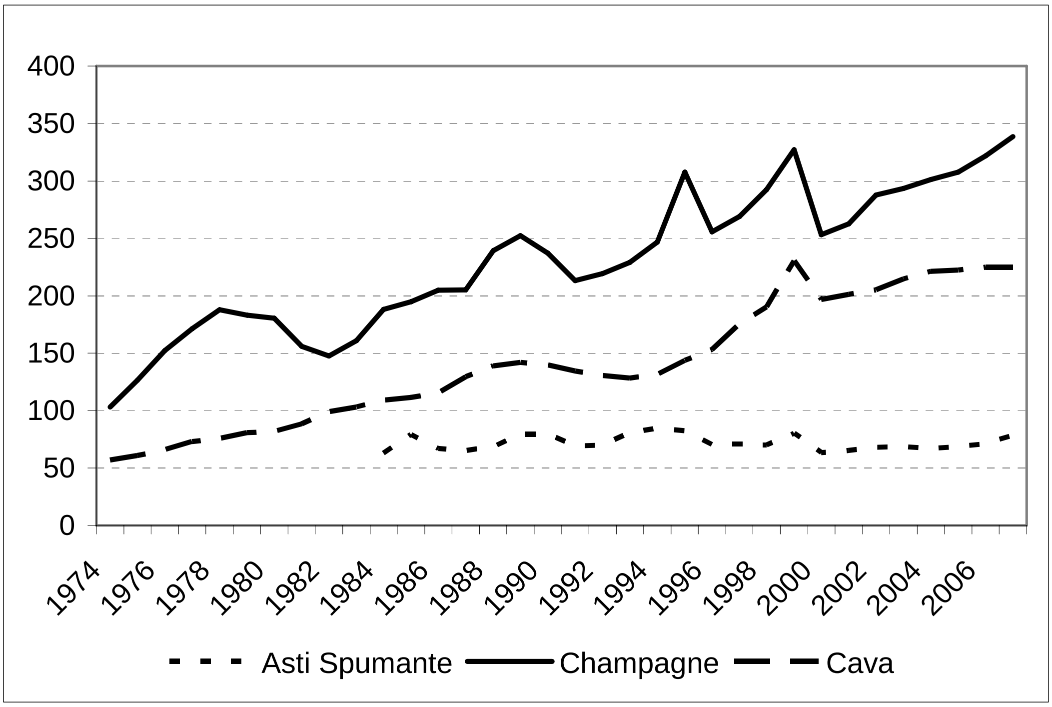
[2] G. Mainardi (2007), p.46.

at the end of the nineteenth century in imitation of *champagne*, which has been a reference for centuries.

Unfortunately, the figures available do not allow a comparison of the three sparkling wines before 1970. In the case of *champagne*, sales figures have been published since the mid-nineteenth century[3], but no reliable figures are available for Catalan *cava* until 1974, two years after the creation of the *Consejo Regulador de los Vinos espumosos y Gasificados*, the forerunner of the institution known today as the *Consejo Regulador del Cava*[4]. In the case of Piedmont *spumante,* the information is even more limited; sales can only be deduced from the figures published by the *Consorzio per la Tutela dell'Asti*, for the period 1984 to 1993, and full data on domestic market sales and export sales are only available since 1993[5]. Figures for the three types can be found in table 1, which shows information corresponding to periods of five-year means. Charts 1, 2 and 3 show annual information.

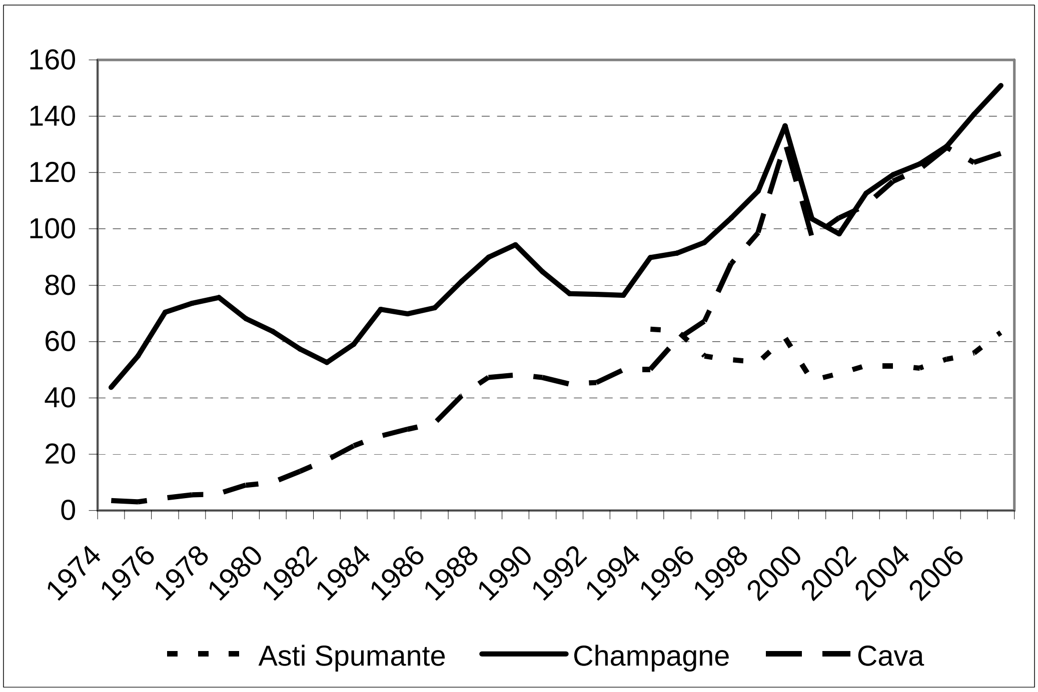
[3] A. L. Simon (1971), P. Forbes (1982) and *Comité Interprofessionnel du Vin de Champagne* (1992). For more recent figures, consult the *Union des Maisons de Champagne* Web page.
[4] G. Torelló Sibill (1989), p. 37-43.
[5] The data are from the *Consorzio per la Tutela dell'Asti* Web page or directly supplied by the *Consorzio*.

Chart 1: *Champagne*, *Asti spumante* and *cava* sales (millions of bottles)



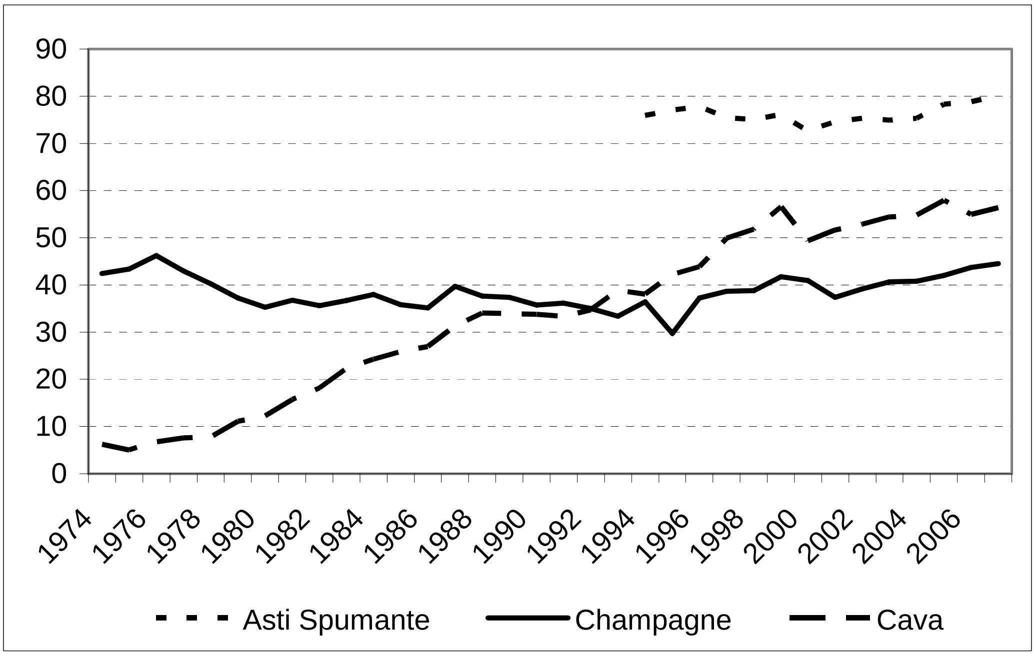
Source: quoted in text.

Chart 2: *Champagne*, *Asti spumante* and *cava* exports (millions of bottles)



Source: quoted in text.

Chart 3: C*hampagne*, *Asti spumante* and *cava. Proportion of exports* (%)



Source: quoted in text.

The production of *champagne* is clearly greater than Catalan *cava*, and much greater than *Asti spumante*. The growth in production in the last three decades has been similar – and remarkable – for both *champagne* and *cava*. Though for *spumante* in the 1970s we only have information regarding production, we can see that after notable growth in the 1970s and early 1980s (from approximately 20 million bottles in 1969 to 57 million in 1981)[6], production and sales remained stable during the second half of the 1980s at 70-75 million. Regarding total sales, then, the annual rate of growth of *cava* (4.2%) was slightly greater than that of *champagne* (3.8%) and is clearly greater than that of *spumante*. So the evolution of Spanish sparkling wine can be considered as quite good.

The main reason for the continuous growth of *cava* total sales has been its success in the export market. The figures in the table and the charts show that *cava* sales abroad have risen to half of the total, compared with the miniscule figure in the early 1970s. In the mid-1990s, *cava* exports surpassed those of *spumante*, whose growth had been

[6] Figures come from G. Mainardi (2007), p. 28-29.

spectacular in the previous twenty years[7]. Recently, export sales of *cava* have begun to approach those of *champagne*. In terms of the percentage of exports in total sales, *cava* surpassed *champagne* in the early 1990s (chart 3) and is approaching Italian *spumante*, which, according to the annual figures published since 1993, is firmly established in certain international markets and is in direct competition with Catalan *cava* in the popular and middle brackets of the market[8]. So there is a clear contrast between *champagne* and *spumante* on the one hand, which have more or less maintained their presence in international markets, and the rapid increase of *cava* on the other (chart 3). In view of its recent evolution, then, the *cava* industry can be regarded as a major success.

Table 1. Total sales and exports of *Asti spumante*, *champagne* and *cava*. Mean figures for five-year periods

	Asti spumante	champagne	cava
a) Millions of bottles sold			
1974-78	n.a.	148.1	66.6
1979-83	n.a.	165.6	90.7
1984-88	68.7	206.5	120.9
1989-93	75.8	230.2	135.1
1994-98	75.8	274.4	158.9
1999-2003	69.2	284.8	209.7
2004-07	71.3	317.4	223.4
b) Millions of bottles exported			
1974-78	n.a.	63.6	4.5
1979-83	n.a.	60.1	14.8
1984-88	n.a.	77.0	34.9
1989-93	n.a.	81.9	47.1
1994-98	57.8	98.8	72.8
1999-2003	51.7	114.1	111.3
2004-07	55.8	136.0	125.1
c) % Bottles exported			
1974-78	n.a.	42.9	6.7

[7] In the early 1970s, exports represented 30% of sales. The marked sales growth was directly related to the increase in exports in the late 1970s and early 1980s: “A metà degli anni 1970 le bottiglie di Asti sono 40 milioni. Si prosegue con numeri da capogiro, con ben 10 milioni di aumento dei volume all’anno: 38 milioni di bottiglie nel 1979, 48 milioni nel 1980, 57 milione nel 1981... L’estero è diventato intanto il grande consumatore di Asti. Quasi 43 milioni di bottiglie vanno all’export. La Germania è ora il primo importatore, con il ragguardevole consumo di 24 milioni di bottiglie.” G. Mainardi (2007), p. 28-29.

[8] In 2002, for instance, Freixenet was the leader in the British market, which had been dominated by Martini during the last three decades. *La Vanguardia*, 23.9.2002.

1979-83	n.a.	36.3	16.3
1984-88	n.a.	37.3	28.8
1989-93	n.a.	35.6	34.9
1994-98	76.3	36.0	45.8
1999-2003	74.8	40.0	53.1
2004-07	78.2	42.8	56.0

(n.a. = not available)

Source: Information collated from the *Consejo Regulador del Cava*, the *Consorzio per la Tutela dell'Asti* and the *Union des Maisons de Champagne*.

In conclusion, there are two main reasons for *cava*'s successful evolution. First, the rate of sales growth has increased steadily. Second, this industrial sector has clearly shown a superior competitive advantage — using the concept *sensu* authors such as Porter[9] — compared with the two other references, *champagne* and *spumante*.

2. Who is responsible for the success?

It is difficult to establish whether one particular company or the area of production as a whole should claim credit for *cava*'s success in recent years.

Unfortunately, the available information is scarce and rather unsystematic. It is almost impossible to find sales figures for each company, because the *Consejo Regulador del Cava* publishes the figures of the sector as a whole, and for individual firms we only have access to the partial results occasionally published by the larger ones. The data available are summed up in table 2.

Table 2. *Cava* exports since 1985

[9] Porter (1991) and (2003).

a) Millions of bottles

	Freixenet	Other	Total
1985	20.2	8.6	28.8
1990	33.3	13.9	47.2
1993	30.0	19.9	49.9
1998	69.1	29.6	98.6
1999	93.8	36.6	130.4
2000	74.1	22.9	97.0
2001	80.1	23.8	103.8

b) Percentages

	Freixenet	Other	Total
1985	70.1	29.9	100.0
1990	70.6	29.4	100.0
1993	60.1	39.9	100.0
1998	70.0	30.0	100.0
1999	71.9	28.1	100.0
2000	76.4	23.6	100.0
2001	77.1	22.9	100.0

Source: M. L. Solé Moro (1996), p. 151 and 159, G. Torelló Sibill (1989), p. 109, *La Vanguardia* (23.9.2002) and the *Consejo Regulador del Cava web page* (www.crcava.es).

In this period, Freixenet's international sales as a proportion of the entire *cava* sector fluctuated from a low of 60.1% in 1993 to a high of 77.1% in 2001. So it can be concluded that between two-thirds and three-quarters of the bottles exported were produced by the Freixenet Group. Its position as export leader is clearly beyond dispute. The Codorniu Group comes second, but at a considerable distance: their export sales in 1985 amounted to 6.4 million bottles, amounting to 22.2% of the total, whereas the rest of companies sold 2.2 million bottles abroad, or 7.6% of the total. This pattern, typical in the 1980s, does not seem to have changed significantly since then (see the figures published by B. Calzón in 1999)[10].

Since the growth of *cava* has been closely linked to the increase in exports in recent decades and since Freixenet is by a long way the leading exporter, we can provisionally conclude (this conclusion will be slightly qualified later) — that one particular

[10] The figures published by Calzón differ slightly from those in table 2. According to Calzón, Freixenet exported 97.4 million bottles (compared with the figure of 93.8 million bottles shown in table 2) in 1999. Codorniu exported 10.3 million bottles in the same year. B. Calzón (2001), p. 80.

company, rather than the whole district, should take credit for the success of the sector. But this statement raises another question: why Freixenet, and not one of the 200 other companies that the *Consejo Regulador del Cava* lists among its members?

Freixenet was founded during the First World War by Pere Ferrer Sala, born on a wealthy *masia* (a Catalan farm) called Freixeneda in Mediona, Penedès. Ferrer and his father-in-law, Joan Sala Tubella, a wine trader in Sant Sadurní d'Anoia, became partners. Both of them foresaw that sparkling wine manufacture using the champagne method could be immensely profitable[11]. They were two of the first champagne producers (or *champañistas* as they were called at the time) who set out to emulate the dazzling success of Manuel Raventós Domènech at Codorniu, who had the advantage of a headstart of several decades and whose company had attained what appeared at the time to be an unassailable position.

Raventós had developed a large company with impressive economies of scale in comparison with his imitators. He had a thorough knowledge of vine techniques and oenology which allowed him to guarantee quality, and he established a solid position in the domestic market after building a large, efficient commercial network[12]. Ferrer and his father-in-law were well aware of the strength of Codorniu's position and saw the international market as their only opportunity of growth if they were to compete. As early as the 1930s they tried to break into the US market, in association with another *cava* producer, Mont-Ferrant; in 1935 the two companies founded a partnership called the International Champagne Corporation[13], based in New Jersey. However, the venture foundered the following year with the outbreak of the Spanish Civil War and Pere Ferrer and his eldest son were murdered in the revolutionary turmoil of the early days of the war[14].

However, the death of the founder did not mean the end of the company. Ferrer's widow, helped at first by her daughters Pilar and Dolors and later by her son Josep

[11] B. Calzón (2001), p.22-23.
[12] J. Uribe (s.d.).
[13] E. Giralt Raventós (1998), p.123-124 and B.Calzón, p.27-28.
[14] B. Calzón (2001), p.27.

Ferrer Sala, took charge of the management. In 1958 Josep Ferrer Sala took over the company and decided to revive his father's ideas. Since Codorniu was soundly placed in the domestic market, and facing competition from increasing numbers of small producers especially in low quality sparkling wines for the less demanding consumers, Freixenet's chances of growth at home were limited, so it set out to establish *cava* in the main international markets. From 1970 onwards, the international expansion of the *cava* industry has been due almost exclusively to the Freixenet Group and to the work of the manager Josep Ferrer Sala.

Was it pure coincidence that a company like Freixenet was born in Sant Sadurní d'Anoia? Could a company able to establish itself international markets have prospered somewhere else? Is the fact that Freixenet was founded in Sant Sadurní, where a cluster (in the classical meaning of the term) had developed, the only reason for the success? To answer these questions, we must change our focus and start by describing the district where Spanish *cava* production was developed.

3. The cava cluster. General features

As is well known, Spain's largest are of *cava* production is the Penedès, around Sant Sadurní d'Anoia. Though we cannot specify the percentage of the total production from the cellars in Sant Sadurní and the surrounding area, the number of firms established there bears witness to the large-scale geographical concentration of the industry (table 3).

Table 3. Location of *cava* and base wine producers on November 2007

PDO (DO)	Cava producers		Base wine producers	
	Number of firms	%	Number of firms	%
DO Alella	7	2.6	3	1.8
DO Ampurdà	3	1.1		
DO Conca Barberà	10	3.7	11	6.7

DO Costers de Segre			1	0.6
DO Penedès	210	78.1	105	64.4
DO Pla De Bages	2	0.7		
DO Tarragona	8	3.0	12	7.4
DO Calatayud	1	0.4		
DO Campo De Borja			2	1.2
DO Cariñena	1	0.4	2	1.2
DO Navarra	2	0.7	1	0.6
DO Ribera Duero	1	0.4	1	0.6
DO Ribera Guadiana	4	1.5	3	1.8
DO Rioja	5	1.9	4	2.4
DO Utiel-Requena	7	2.6	8	4.9
DO Valencia	1	0.4	2	1.2
Not being part of a DO	7	2.6	8	4.9
	269	100.0	163	100.00

Source: the *Consejo Regulador del Cava.*

Here the firms are grouped according to their traditional protected designation of origin (PDO). Over three-quarters (78%) are sited in the Penedès PDO, which is dominated by Sant Sadurní d'Anoia (see table 4). This hegemony would be even more obvious if we had access to the production figures of each firm, because both production leaders, Codorniu and Freixenet, are based there.

Table 4. Number of *cava* producers in the towns of the Penedès PDO

Town	Number of firms
Sant Sadurní d'Anoia	75
Font-Rubí	14
Subirats	14
El Pla del Penedès	7
Torrelavit	7
Vilafranca del Penedès	7
Olérdola	6
Piera	6
Castellví de la Marca	6
Avinyonet del Penedès	5
Sant Martí Sarroca	5
Els Monjos	4
Santa Fe del Penedès	4
Vilobí del Penedès	4
La Granada	3
Pacs del Penedès	3

Aiguamúrcia	2
Castellet i la Gornal	2
Castellví de la Marca	2
Castellví de Rosanes	2
L'Arboç	2
Sant Esteve Sesrovires	2
Sant Llorenç d'Hortons	2
Sant Pere de Riudebitlles	2
Sant Quintí de Mediona	2
Torrelles de Foix	2
Vilanova i la Geltrú	2
Puigdàlber	2
Begues	1
Cabrera d'Anoia	1
Canyelles	1
Cubelles	1
El Vendrell	1
Gelida	1
La Bisbal del Penedès	1
Les Cabanyes	1
Llorenç del Penedès	1
Martorell	1
Masquefa	1
Olesa de Bonesvalls	1
Pontons	1
Sant Cugat Sesgarrigues	1
Sant Pau d'Ordal	1
Santa Oliva	1

Source: *Consejo Regulador del C*ava

The 75 wine cellars in Sant Sadurní d'Anoia represent approximately a third of the total. Taking into consideration the nearby towns which follow Sant Sadurní in table 4, this proportion easily exceeds 50%.

A similar concentration can be observed in the case of base wine producers, as shown by the records of the *Consejo Regulador del Cava* reproduced in table 3.

The next question to ask is whether this cluster possesses the features that characterize an industrial district. According to the experts who have applied and developed the theories that Marshall proposed in *Principles of Economy*, industrial districts have particular characteristics. The first is the availability of skilled labour. Second, the firms are specialized in one stage of the whole production process and, as a consequence, act as suppliers to other firms in the district which are involved in other production stages.

Third, the firms in the district have easy access to technology innovation. All these circumstances improve productivity as a result of external economies that differ substantially from traditional economies of scale and benefit from significantly higher competitiveness[15].

We can apply the first and the third premises of the above definition to *cava* manufacture, but probably not the second one — the division of labour in the firms involved in the different stages of the production process. All *cava* firms have tended towards vertical integration of the production stages (even agricultural ones) in order to obtain a higher quality product with greater added value. It is even quite usual for *cava* producers (not only the larger firms, but the medium-sized and small ones as well) to diversify their supply with quality still wines protected by the PDO[16].

These integration processes are borne out by the recurrence of the names in the registers of the different PDOs. In the case of *cava*, for instance, 105 *cava* producers (about 40% of the 269 registered companies) also produce the base wine needed for *cava* production. Many possess their own vineyards, and as well as being registered as *cava* producers in the *Consejo Regulador del Cava*, they are also registered as still wine producers of other PDOs (especially the Penedès PDO, because of the great concentration of *cava* industry in this wine area).[17] Therefore, the integration in the same firm of agricultural and industrial activities has led to a remarkable improvement in marketed products, as Raimon Soler has shown in several recent publications.[18]

Taking into account the distinctive nature of this sector and its internal structure, in which two large companies exert control (in the most conventional definitions of industrial district it is thought that small firms that cooperate are quite hegemonic), for our analysis Michael Porter's definition of the term *cluster* seems better suited. The conventional definition of industrial district insists that the members of the district have a great capacity of collaboration[19]. Porter thinks that geographical concentrations of

[15] A. Marshall (1993), p.223-232; G. Becattini (1992); M. Porter (2003), pp.203-288.
[16] R. Soler Becerro (2006), pp. 182-188.
[17] See the *Consejo Regulador del Cava* and the Penedès Denomination of Origin web pages.
[18] R. Soler Becerro (2003) and (2006).
[19] F. Pyke, G. Becattini, W. Sengenberger (1992) and G. Becattini (1992), pp. 71-73 (Becattini talks of "semiconscious and semivoluntary cooperation")

firms with the same activity or connected activities are successful in national and especially in international markets because of the great rivalry and competitiveness that is set up. For Porter, this is one of the four fundamental factors that creates the competitive advantage[20].

Porter's theories, therefore, seem particularly appropriate for the analysis not only of the concentration of the *cava* industry, but also of its success in international markets. But as Krugman proposed in his reinterpretation of Marshall's theory about industrial districts, the historical method should be used to be sure that an interpretative theory of industrial location is accurate[21]. Accordingly, we will try to answer three questions: when, how and why did this industrial activity concentrate in the Catalan area of Penedès, and especially around Sant Sadurní d'Anoia?

4. The origins of the industry outside Sant Sadurní d'Anoia

The sparkling wine industry in Spain began in the final decades of the twentieth century, when traders and vine growers realized the business potential of a wine that mimicked as closely as possible the produce of the Champagne region in France. The historian Giralt noted the presence of national producers in the mid-nineteenth century, but, as he himself affirmed, producers with a clear commercial vision did not emerge until some years later[22].

Some exhibitors at the wine exhibition of 1877, mainly Catalans, presented imitations of *champagne*, as shown in table 5. As Giralt stated in his pioneering work, Catalonia imported more sparkling wine than any other area of Spain, and so it is no coincidence that this region should have been home to the first companies imitating the wines of Champagne[23].

[20] M. Porter (1991), p. 157-177 and (2003), p. 174-189.
[21] P. Krugman (1992), p.62.
[22] E. Giralt Raventós (1993).
[23] E. Giralt Raventós (1993). See also F. Valls-Junyent (2002).

Table 5. Sample of sparkling wines that were displayed in the National Wine Exhibition of 1877

Participant	Town	Samples	Observations about participants and samples
Sánchez Almodóvar (D. Antonio)	Aspe (Alicante)	1876 White wine to make it sparkling	
		1875 Sparkling wine	
Castells de Pons (Excmo. Sr. D. Antonio)	Barcelona	Sparkling wine from Constantí (Tarragona). Made by an Italian process.	Prizewinner at the exhibitions of Paris, Vienna Philadelphia, Madrid, Saragossa and Catalonia.
Vilaret (D. Agustin)	Barcelona	Two samples of sparkling wine from Blanes	
		Sparkling wine	Yearly production of 10,000 bottles. Prizewinner at the exhibitions of Barcelona in 1872, and Philadelphia in 1876.
González Estefani (D. Joaquin)	Cuzcurrita (Logroño)	1868 Sparkling wine, imitation of champagne. Made from *tempranillo*, *garnacha*, *graciana* and *blanca* grapes	
Gil (D. Francisco)	Reus (Tarragona)	1876 Sparkling wine	D. Francisco Gil is considered one of the first Spanish champagne makers. His firm was often visited by people interested in learning about the industry.
Soberano y Compañía (Sres.)	Reus (Tarragona)	1874 sparkling wine made using the champagne process	
		1875 sparkling wine made using the champagne process	
Calvo (D. Francisco) y Lucía (D. José)	Valencia	Orange sparkling wine	Yearly production about 80 hl.

Source: *Exposición Nacional Vinícola de 1877: catálogo general*. Madrid: Impr., Estereotipia y Galvanoplastia de Aribau, 1877.

Among the pioneers of the new industry were many firms sited in Reus. The two most important were led by Domingo Soberano and Francisco Gil, whose partnership, Soberano y Cia., had started to produce sparkling wines in 1863. However, we know that in 1869 they worked separately[24].

The origins of the Spanish sparkling wine industry can therefore be analysed as a typical case of import substitution. The industry expanded and consolidated thanks to Spain's new trade policies, such as the protectionist tariff introduced by Cánovas[25]. After 1891, the increase of the tariff on sparkling wines importation was an incentive for the firms that had started to produce this kind of wine in Spain. Besides, some well-known importers and dealers of French sparkling wine tried to establish themselves as producers,[26] such as Bosch y Fuster, a Badalona firm run by the brothers Josep and Vicenç Bosch which, as well as producing the famous *Anís del Mono*, also imported foreign wines and liquors. At the end of the nineteenth century, some champagne brand names appear among the products that the brothers distributed – the outstanding example being Moet&Chandon, which was probably the highest-selling champagne in Spain at the time[27].

In 1900 the yearbooks for commercial brands included seven firms that produced sparkling wines (table 6). Besides Bosch y Fuster, there were four firms sited in Reus. One of them, already included in the list of exhibitors of 1877, was owned by Domingo Soberano; another, which belonged to Romà Sardà, continued the commercial activities of Francesc Gil, another Reus businessman who had participated in the wine exhibition of 1877. These firms were created as a result of the increase in commercial protection and the reduction of imports brought about by the 1891 tariff. During the last decade of the nineteenth century, then, Reus became the capital of the Spanish sparkling wine industry. "Champagne from Reus" acquired a significant market share thanks to the falling imports and the advertising campaigns launched by the producers and by the

[24] E. Giralt Raventós (1993).
[25] J. M. Serrano Sanz (1987); F. Valls-Junyent (2002) and (2007).
[26] F. Valls-Junyent (2003).
[27] F. Valls-Junyent (2004) and (2007).

leading retailers, who frequently used the term “champagne from Reus” to advertise all their brands[28]. Some advertisements appealed to customers’ economic nationalism:

“If you are PROTECTIONIST, taste the exquisite champagne Sardà from REUS. Natural sparkling wine by R. Sardà and Montseny (F. Gil’s successor, Reus)”[29]

One of the firms in the column for 1900 in table 6 belonged to Manuel Raventós. His firm was the only one located in Sant Sadurní d’Anoia until the First World War, and became the leader of the sector during the greater part of the twentieth century. The firm began to produce wines around 1872, when Josep Raventós, Manuel Raventós Domènech’s father, made his first experiments with sparkling wine production in his basement in Barcelona, where he had moved from his farm in Sant Sadurní d’Anoia in the aftermath of the Third Carlist War. When Josep Raventós died in 1885, his son Manuel took charge of the property of Can Codorniu, and in 1890 decided to change strategy: he maintained its chief crop, the vine, but changed the product. His father had specialized in *mistella* production and had many customers in Barcelona, mainly landlords and restaurant owners. Manuel Raventós saw that his father’s earlier experiments with sparkling wine had great business potential. Obliged to replant the vines as a result of a plague of phylloxera, he took the opportunity to produce base wines for champagne production – that is, the production of sparkling wine using the champagne method[30]. His visionary and enterprising character transformed an activity which his father had considered a hobby into a great industry[31].

Chart 4 traces the chronology of Codorniu’s take-off as a sparkling wine producer. Until 1893 *mistella* sales were the firm’s main income, but during the following economic year the income from sparkling wines was far higher. For instance, in 1894, 36,456 bottles were sold, for which the firm took in the respectable amount of 95,138.29 PTA. Only two years later, this figure had doubled and the turnover exceeded 200,000 PTA. By 1896 *mistella* had become a marginal product in the firm’s economic activity[32].

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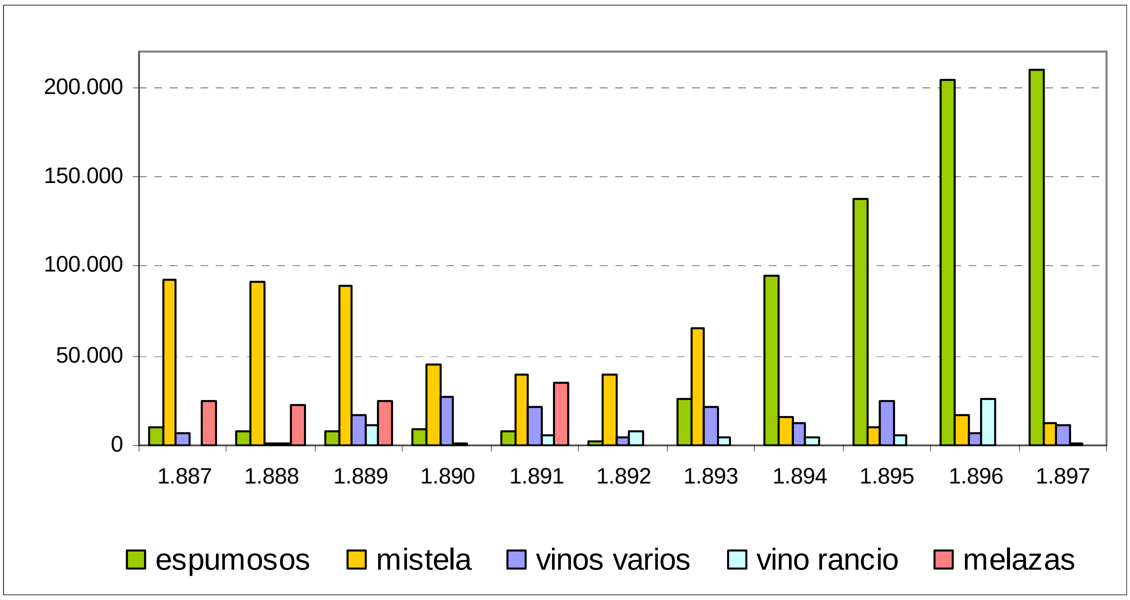
[28] E. Giralt Raventós (2004), pp. 132-133.
[29] Reproduced by E. Giralt Raventós (2004), p. 117.
[30] J. Uribe (s.d.).
[31] See C. Mestre Artigas (1930) and 1961) and E. Giralt Raventós (2000) for descriptions of his personality. Manuel Raventós also published his own books: (1911) and (s.d.).
[32] These figures are taken from Manuel Raventós’ accounts books. Archives of Codorniu SA.

Chart 4. Proportions of the types of wine produced by Manuel Raventós Domènech in his property Can Codorniu 1887-1897 (PTA)



Source: Manuel Raventós Domènech's accounts books. Archives of Codorniu SA

Manuel Raventós's dynamism, his ambition and his solid technical knowledge of viticulture and oenology, in addition to his exceptional management skills, established Codorniu as the market leader during the first years of the twentieth century. The firm's sales increased dramatically over the period. In 1911 Raventós's sales surpassed the sales of imports from France in Spain[33].

This unstoppable rise radically changed the geographical structure of the industry, as Sadurní d'Anoia replaced Reus as the capital of Spain's sparkling wine production.

By the time of the First World War, Reus had lost its position as the leading sparkling wine producer. The presence of Reus firms in the yearbooks for this period fell from four in 1900 to three in 1907 and two in 1913, when the historic firm Domingo Soberano no longer featured (table 6); Soberano went on to specialize in another product, for which it was to earn a fine reputation. As champagne producers

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[33] Codorniu's sales reached 286,420 bottles, whereas the total amount of imported bottles reached 272,405. This landmark is reported by E. Giralt Raventós (1993), p.75.

disappeared, other new firms started to produce another wine which (like champagne) was also imitated: Torino vermouths[34].

During the same period, a new centre of sparkling wine production was developing in Badalona. When Bosch y Fuster was dissolved, its assets were transferred to Vicenç Bosch's firm, which tried (with little success) to continue large-scale sparkling wine production and selling. In 1916 three Badalona producers in appeared in the Bailly-Bailliere-Riera commercial yearbook. Like Vicenç Bosch, two of the three producers who appear in the yearbook for some of the four years quoted in table 6 were also liquor producers.

[34] M. Ferran Sans (2004).

Table 6. Spanish champagne and sparkling wine producers until the First Word War

1900	**1907**	**1912**	**1916**
Badalona: - Bosch y Fuster	Badalona: - Bosch y Fuster - José Garriga	Badalona: - Vicente Bosch - Pedro Sabaté	Badalona: - Vicente Bosch - Pedro Sabaté - Juan Aragall
Reus: - Domingo Soberano - Fco. Perpiñá - Román Sardá - Hijo de J. Gili	Reus: - Domingo Soberano - Román Perpiñá - Miró y Tarragó	Reus: - Román Perpiñá - Miró y Tarragó	Reus: - Román Perpiñá - Miró y Tarragó
St.Sadurní d'Anoia: - Manuel Raventós	Sant Sadurní d'Anoia: - Manuel Raventós	Sant Sadurní d'Anoia: - Manuel Raventós	Sant Sadurní d'Anoia: - Manuel Raventós
Other: Coruña: - Félix Martínez		Other: Tordera: - Adroher y Ametller Banyoles: - Demissy, Miquel y Cia.- Mont-Ferrant. Blanes: - Demissy, Miquel y Cia. - Montferrant Barbastro: - Lalanne y Cia.	Other: Tordera: - Adroher y Ametller Banyoles: - Demissy, Miquel y Cia.- Mont-Ferrant. Blanes: - Mont-ferrant - Miquel y Cia. Masnou: - Champagne Sors-José García Vimbodí: - Splendid-Isidro Dalmau

Source: *Anuario General de España Bailly-Bailliere*.

However, Badalona was unable to establish itself as Reus's successor as the capital of champagne industry. In a previous study I described the worries that sparkling wine production caused Vicenç Bosch. Because of the difficulties, Bosch concentrated his efforts on the production of the already famous liquor Anís del Mono[35]. His colleagues in liquor production in Badalona who also tried to produce champagne suffered a similar fate, and after the First World War the presence of this activity in Badalona simply faded away.

Apart from Badalona, in other towns — especially Catalan towns — some business enterprises arose in the early twentieth century (table 6). Among them the only outstanding one was Demissy, Miquel and Cia. This company revived Mont-Ferrant, one of the pioneering firms which participated in the wine exhibition of 1877 and which we mentioned in our analysis of the origins of the sector. Mont-Ferrant was founded by Agustí Vilaret from Blanes, an *indiano* (a Spaniard who returned rich from the Americas) who had displayed two samples in the exhibition of 1877 (table 5). At his death, in 1903, his son and heir refused to continue the business[36], and the cellars were offered to Bosch y Fuster from Badalona, who, after some thought, declined the offer[37]. Finally, Demissy, Miquel and Cia. took charge of Vilaret's factory in 1906. It is likely that the same firm possessed another factory in Banyoles, but this cannot be conclusively proved at present.

Another venture around this time was destined to endure for many years: Champagne Sors, a Masnou firm, which was set up between 1912 and 1916 and did not close until the 1960s[38]. The life of Adroher y Ametller from Tordera was shorter and more troubled, passing from one owner to the other before finally dissolving during the Spanish Civil War[39].

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[35] F. Valls-Junyent (2004).
[36] E. Giralt Raventós (1998), p.107.
[37] Archives of Anís del Mono. A letter from Joaquim Miralles (Blanes) to Vicenç Bosch (Badalona), 28.11.1903.
[38] The firm appears in the yearbook for 1960. *Anuario Bailly-Bailliere-Riera*, 1960.
[39] Bou and Serra (1996).

Elsewhere in Spain records of sparkling wine production are scarce. We know nothing about the firm from La Coruña (in the 1900 column in table 6) or the firm from Barbastro (in the 1912 column). There is some evidence that Jerez firms tried to produce and sell sparkling wine – the most notable being Pedro Domecq's firm[40] – but none of them prospered, because of the intrinsic difficulties of this industry. Indeed, those difficulties were probably insuperable in areas of the country in which the consumption of sparkling wines was very low; as I have said above, the Catalan primacy in this sector was closely related to the high levels of consumption of sparkling wine in Catalonia.

5. The formation and evolution of the Sant Sadurní champagne cluster after the First World War

The Sant Sadurní champagne cluster began to develop at the time of the First World War. In the early 1920s, many sparkling wine producers with ambitious business plans appeared in the town. Today, some of these firms continue to be the most dynamic members of the sector – for instance, Freixenet, described in the previous chapter. In 1918 only Manuel Raventós (Codorniu) features in the yearbooks as a champagne producer, but from 1919 onwards the list started to expand (table 7).

In 1919 Codorniu had two competitors in the same town. Marquesa de Monistrol was included in the yearbooks as a sparkling wine and brandy producer, though from 1920 onwards the firm appeared only as a brandy wine producer. The other competitor, Modest Rigol, appears to have survived longer, as the name appears in the Bailly-Bailliere-Riera yearbooks forty years later.

Modest Rigol was a producer of traditional carbonated drinks in Sant Sadurní. Rather than using the champagne method to made sparkling wine, he took advantage of his

[40] Pedro Domecq advertised his products (sparkling wines) in a journal called *La Defensa*, Alcoi 1994. The Bailly-Bailliere yearbooks for Jerez contained a long list of "criadores-exportadores de Vinos espumosos y aromáticos". But sparkling wine producers like Pedro Domecq were exceptions. I am most grateful to Miquel Gutiérrez for this reference.

experience with carbonated drinks and started to produce sparkling wine by adding carbon dioxide to wine, just as he added this substance to water in order to obtain fizzy drinks. He was the first producer of sparkling wine in Sant Sadurní to use this method, which would become very popular in the following decades, especially in the years after the Spanish Civil War when the shortage of sugar made it difficult to produce sparkling wine with the champagne method. Table 7 shows the Sant Sadurní firms that used the champagne method and the ones that used carbon dioxide addition, and analyses the kind of taxes paid by the producers to establish which method they used: those who used the champagne method paid a tax according to the number of *pupitres* (a frequent instrument in this kind of production), while those who added carbon dioxide to wine paid a tax for the number of gasification machines.

Table 7. Sparkling wine producers in Penedès from 1918 to 1936

	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1930	1935	1936
Sant Sadurní d'Anoia														
Raventós, Manuel ([1])	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Marquesa de Monistrol ([2])		x												
Rigol, Modesto ([3])		x	x	x	x	x	x	x	x	x	x	x	x	x
Bodegas Bilbainas			x	x										
Ferrer, Pedro ([4])			x	x	x	x	x	x	x	x	x	x	x	x
Oliver, Salvador ([5])			x	x	x	x	x	x	x	x	x	x	x	x
Miró, Juan ([6])						x	x	x	x	x	x	x	x	x
Muntaner, José						x	x	x	x	x	x	x		
Raventós, Jaime						x	x	x	x	x	x	x	x	x
Parera, Jerónimo ([7])								x	x	x	x	x	x	x
Mata, Salvador ([8])									x	x	x	x	x	x
Fontanals, Ramon											x	x	x	x
Carbó, Juan ([9])												x	x	x
Carreras, Salvador												x		
Raventós, Pedro													x	x
Santacana y Roig													x	x
Mestres, José													x	x
Tubella, Jaime														x
Fontrubí														
Baquès, Pedro						x	x	x	x	x	x	x	x	x
Gelida														

Gelabert, J.							X	X						
Colomer, José ([10])									X	X	X	X	X	X
Jordán, Carlos														X
Vilafranca del Penedès														
Ferret Batlle, José									X	X	X			
Raventós, Juan													X	X
Hill, José													X	
Gallemí, Antonio ([11])													X	
Sant Quintí de Mediona														
Farré, Juan													X	X
TOTAL	1	3	5	5	4	8	9	10	12	12	13	14	19	19

Notes:

Crosses indicate that the firm appeared in the *Guía General de España* in that particular year. The grey shading indicates that the firm is registered as a producer of both sparkling wine and carbonated drinks in the industrial register of Sant Sadurní d'Anoia.

(1) From 1927 onwards his firm was registered as Codorniu SA; (2) She was also registered as a brandy producer, but from 1920 onwards shewas no longer registered as a champagne producer; (3) In the yearbooks he is registered as a carbonated drinks producer from the beginning of the twentieth century. In 1935 he is registered as Ramon Rigol; (4) From 1925 his firm is registered as Freixenet, Pedro Ferrer; (5) He appears as the producer of the brand called Calixtus; (6) According to the advertisements published he marketed Champán Noya; (7) Jeronimus is marketed by this producer. In 1935 he registered Castellblanch; (8) Lincoln is marketed by this producer; (9) In 1935 he was registered as Benito Carbó; (10) It is likely that he took over the activities of J. Gelabert; (11) His main activity was liquor production.

Source: the following editions of *Anuario general de España: (Bailly, Baillière, Riera): comercio, industria, agricultura, ganadería* and *Guía general de Cataluña: (Bailly-Baillière-Riera): comercio, industria, agricultura, ganadería, propiedad, profesiones y elemento oficial*. For 1929 and from 1931 to 1934 I have not found any editions of either yearbook. All the information regarding the industrial register from Sant Sadurní d'Anoia comes from the local Archives, reg. 323, box 231.

From 1920 onwards the list of champagne producers expanded year after year. As noted above, one of them was Pere Ferrer, who founded Freixenet, the firm that would become Raventós-Codorniu's main competitor. Some of the firms had both a short life and a limited influence in the Penedès region. For instance, we know nothing about the failure of Bodegas Bilbaínas from La Rioja, but it is interesting that the firm was sold to a producer from Sant Sadurní many years later[41]. However, the fact that some firms that were not originally from Sant Sadurní tried to set up there bears witness to the town's power of attraction. Significantly, some firms not sited in Sant Sadurní appeared in the same pages of the yearbooks as the ones sited there[42].

Outside Sant Sadurní d'Anoia, only a few firms in the rest of the Penedès PDO produced *cava* before the Spanish Civil War. In general those firms produced sparkling wines as a sideline but with little success. For example, the liquor producer Antoni Gallemí from Vilafranca was included in the Bailly-Bailliere-Riera yearbook for 1935 as a champagne producer, but he had disappeared one year later. However, Gallemí's venture is an interesting one: he started to sell his sparkling wines under similar names to those used by Codorniu for his second-string brands (the brands were sold by the company called Vins Mousseux Naturels SA). For instance, the name of one of the Gallemí's wines was so similar to one of the Codorniu's best-selling brands (Alfred Delapierre) that Raventós took him to court. Gallemí lost the trial and gave up champagne production[43]. This case reflects the growing desire to emulate Codorniu's success in Sant Sadurní and in the Penedès. The rival firms were probably confident of success, just like Manuel Raventós, who had risked his inheritance to transfer from *mistella* to *cava* production. This optimism, which must have been shared by those who used the champagne method and those who used the gasification method to produce a lower-quality, cheaper product, was justified by the growth in demand of sparkling wines during the 1920s and the first half of the 1930s.

[41] Codorniu bought Bodegas Bilbaínas for 4 bn pesetas in 1997. J. Uribe (s.d.), p.391.
[42] R. Mullerat and Daniel Vallbona, both from Santa Coloma de Queralt, who produced the champagne Imperial Gourmet and the sparkling wine Royale Cuvée of Vallbona, were included in the Sant Sadurní d'Anoia page in the 1925 yearbook. *Anuario General de España Bailly-Bailliere-Riera*, 1925.
[43] J. Uribe (s.d.), p.309.

But why was *cava* born in Sant Sadurní? Krugman and Porter's theories of industrial concentration appear to explain this, although some other complex theories have been proposed. Some have attributed the concentration of *cava* production in Sant Sadurní and in the area of Penedès to the geological characteristics of the soil, claiming that the presence of clay in the area's geological substratum would have favoured the excavation of the cellars. Nonetheless, although the builders would have been pleased to encounter this geological feature, it is by no means unique to Sant Sadurní: in fact it is shared by other areas in Penedès and along the Catalan pre-litoral depression.

The first reason for the *cava* cluster in Sant Sadurní was that the sector's largest firm was based there. Manuel Raventós of Codorniu laid the foundations for the birth of the other firms, which tried to imitate and compete with him. But many small firms in different Catalan towns in the 1930s would have had this intention; altogether there were 50 firms in 30 Catalan towns, with thirteen producers based in Sant Sadurní, as shown in tables 7 and 8).

The second reason is even more important than the previous one: as the firm grew in the early 1920s Codorniu became a *cava* school, where new workers learned the secrets of making this complex product. In the early stages of the industrys' growth, in the 1890s, Manuel Raventós had to employ skilled French workers to disgorge and shake; but by the beginning of the twentieth century there are no records of French workers, probably due to the increasing numbers of skilled local workers who would also have been able to teach new workers. Between 1900 and 1910 the number of workers rose remarkably (table 8).

Table 8. Number of workers in Can Codorniu during the 45th week (first week of November) of 1900 and 1910

	Number of workers		Total days worked	
	1900	1910	1900	1910
Industrial work				
- Office	1	2	6.0	12.0

- Shipping	5	13	29.5	73.5
- Cellars	13	30	78.0	180.0
- Laundry		1		2.3
- Carters	9	6	55.0	35.8
- Distillery		4		24.0
- Pools (bottle cleaning?)		8		68.7
Agricultural work				
- "Pinet's team"	11	6	65.0	35.0
- "Regalat's team"	10	8	56.0	42.5
- "Jaume Mir's team"		7		40.5
- "Emilio's team"		8		48.0
- " Miquel's team"	11			
- Gardener		1	60.0	2.0
	60	94	349.5	564.3

Source: Archives of Codorniu SA. Wage books for 1900 and 1910.

As table 8 shows, the firm had an agricultural work section for obtaining base wines from the vines in order to produce *cava*. In the 45th week of 1900, 32 labourers were employed in three teams who worked 181 days. In 1910 the number of agricultural workers had gone down slightly, as had the total number of days worked. In contrast, the industrial work had more than doubled, from 28 industrial workers in the 45th week of 1900 to 64 workers in 1910, as had the number of days worked. This upward trend was to continue in the following years. Consequently, Codorniu became the main training institution for many workers who learnt to make quality sparkling wine using the champagne method, which at that time was considered a mystery. According to Marshall, this accumulation of knowledge is typical of all industrial districts, and it led to the establishment of many firms in the neighbourhood. As the number of competitors grew, the "secrets" of *cava* production were revealed and new skilled workers were trained. Between 1935 and 1950 the number of producers in Sant Sadurní doubled. Its relative weight inside the Spanish sparkling wine industry also increased: in 1935 Sant Sadurní housed 24% of Spanish *cava* producers, and by 1950 this percentage had risen to 31% (table 9).

Table 9. Localization of sparkling wine industry from the First World War

a) a) Number of producers

	1916	1922	1928	1935	1942	1950	1960

Catalonia							
Sant Sadurní d'Anoia	1	5	12	13	18	26	40
Rest of DO Penedès	0	4	4	7	6	13	17
Rest of Catalonia	11	15	25	33	37	30	24
Total of Catalonia	12	24	41	53	61	69	81
Rest of Spain	1	11	9	9	12	15	16
Total	13	35	50	62	73	84	97

b) b) Percentages with respect to the total in Spain

	1916	1922	1928	1935	1942	1950	1960
Catalonia							
Sant Sadurní d'Anoia	7.7	14.3	24.0	21.0	24.7	31.0	41.2
Rest of DO Penedès		11.4	8.0	11.3	8.2	15.5	17.5
Rest of Catalonia	84.6	42.9	50.0	53.2	50.7	35.7	24.7
Total of Catalonia	92.3	68.6	82.0	85.5	83.6	82.1	83.5
Rest of Spain	7.7	31.4	18.0	14.5	16.4	17.9	16.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *Anuario general de España: (Bailly, Baillière, Riera): comercio, industria, agricultura, ganadería...* for the years 1916, 1922, 1928, 1935, 1942, 1950, 1960.

After the Civil War, *cava* production increased both in Sant Sadurní and in the neighbouring area. In 1960 there were 57 firms in Sant Sadurní and in nine nearby towns (Cervelló, Martorell, Olérdola, Pachs, el Pla del Penedès, Sant Esteve ses Rovires, Subirats, Torrelavit and Vilafranca), accounting for 59% of Spain's total. The article by the geographer Salvador Llobet highlights the fact that the region was also home to the largest firms.

Table 10. Structure of the Spanish sparkling wine industry around 1959

Bottles	Sant Sadurní d'Anoia	Rest of the province of Barcelona([1])	Rest of Spain	TOTAL
> 5,000,000	1	0	0	1
1,000,000 - 5,000,000	0	0	0	0
400,000 - 1,000,000	4	2	0	6
200,000 - 400,000	3	3	0	6
100,000 - 200,000	12	4	1	17

50,000 - 100,000	7	9	1	17
< 50,000	15	9	3	27
TOTAL	42	27	5	74(2)

Notes: (1) Mainly firms sited in the towns around Sant Sadurní in the area of Penedès. (2) This is slightly lower than the total in 1960 (table 9) and lower even than the total in 1950. In his article, Llobet explains the difficulties involved in obtaining production figures from firms: he adds that in the case of some very small firms no data at all are available.

Source: S. Llobet (1959), p. 469-470

As this table shows, Codorniu's leading position was indisputable. However, some of its competitors had managed to achieve positions of real strength in the market. Freixenet was the most evident example. In 1957 Josep Ferrer Sala took charge of the company and planned a strategy to introduce innovation and new forms of marketing, and to boost its international presence. He changed the packaging, introducing a ground glass bottle (used previously by his father) for Carta Nevada, his most famous sparkling wine. As regards marketing, he exploited television advertising (a new media in Spain) to the full; in fact, within a few years, his innovative Christmas advertisement became a classic. Both strategies had been adopted to exert a commercial influence on the domestic market. However, Codorniu still hung on to its position; so in the late 1960s Ferrer's nephew, Josep Lluís Bonet, decided that the only way of competing with Codorniu was to focus on international market. This last strategy, as we saw in the previous chapter, was a total success[44].

The study of commercial strategies allows a reappraisal of Porter's theories referring to clusters[45]. The *cava* cluster, which emerged around the exceptional firm launched by Manuel Raventós Domènech, shows how strong competitiveness was positive for the firms in Sant Sadurní and its surrounding area. Some of these firms, which initially did little more than imitate Codorniu, became competitive when they introduced innovative commercial strategies. Focusing on international markets, they achieved a comparative advantage which would be the mark of the sector's success in recent decades.

[44] F. Valls (2006).
[45] M. Porter (2003), p. 218.

6. Conclusions

In the first chapter of this paper we explained why the evolution of *cava* sector is regarded as a success. The steady economic growth, greater than the rate of growth of French champagne and in clear contrast to the stagnation in the sales of *spumanti* in the last two decades, shows that this belief is justified. The success of *cava* is even more remarkable in terms of its exports since its entry into the international market in 1970: its proportion of exports is higher than that of French champagne and is similar to that of Italian *spumanti*.

Since Freixenet is the sector's largest exporter (accounting for three-quarters of the total exports), one might conclude that this success can be largely attributed to this firm. However, the competitive advantage achieved is a consequence of the organization of the whole sector as a cluster, in accordance with Porter's definition.

The Spanish *cava* industry failed twice, in Reus and in Badalona. The *cava* cluster was finally sited in Sant Sadurní as many firms sought to emulate Codorniu just before the First World War. Codorniu became a champagne school where skilled workers learnt complicated processes of champagne production such as shaking and disgorging. Manuel Raventós had the most modern machinery at his disposal and was never slow to introduce high technology both to improve productivity and to reduce expenses. It was mainly due to him that the industrial district was finally sited in Sant Sadurní.

Competitiveness was the result of the eagerness of some producers to imitate Codorniu. Freixenet, run by another enterprising producer (Josep Ferrer Sala), managed to obtain an international competitive advantage for the whole sector.

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