

**THE EMERGING BRAZILIAN WINE INDUSTRY:
CHALLENGES AND PROSPECTS FOR THE SERRA GAÚCHA
WINE CLUSTER**

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ABSTRACT

The objective of this paper is to analyse the Brazilian wine industry, focusing particularly the Serra Gaúcha wine cluster, located in the state of Rio Grande do Sul, and responsible for over 80% of the country's wine production. The concern here is with the industry's capacity for sustained development in a competitive environment increasingly internationalized and characterized by a growing global excess supply, falling worldwide consumption and aggressive export strategies on the part of established as well as emergent wine-producing countries. In spite of several weaknesses of the industry and of the challenges posed by an unfavourable international environment, this paper provides both qualitative and quantitative evidences that a series of underlying conditions for the sustainable development of the industry are present in the wine cluster of Serra Gaúcha. Both secondary sources and survey-based data were used and the conceptual base that guided the analysis draws basically on the notion of cluster and its role in the creation of sustainable competitive advantages, with special emphasis on cooperative actions that enhance learning and innovation within the cluster.

1. INTRODUCTION

Brazilian wine history dates back to the Portuguese colonization in the 16th century but its current development is due primarily to the arrival of Italian immigrants, beginning in 1875, to the region of Serra Gaúcha, in Rio Grande do Sul, Brazil's southernmost state. Brazil occupies today the 17th position in the world ranking of wine producers, third in South America (behind Argentina and Chile) with 1.2% of world production. Wine-making is now a consolidated activity in several producing areas, with the Serra Gaúcha cluster being responsible for over 80% of the national wine production. But, as is the case with most wine-producing countries, the exception being some of the "New World" producers, Brazilian wine industry is suffering the effects of the globalization process combined with a growing global excess supply and falling worldwide consumption; it does not yet occupy a position in the world market worth entering the wine trade statistics and has over the last few years systematically lost market share to imported wine in its own domestic market. This unfavourable competitive environment raises questions concerning not just the future development of the Brazilian wine industry and its place in the wine world, but also its very capacity to survive as a domestic industry.

Can the Brazilian wine industry succeed, when even traditional wine-producing countries are going through severe difficulties, both at home and in the international markets? In addition to an unfavourable world scenario with intensified global competition, where established wine-producing countries are aggressively implementing strategic actions to increase wine exports, there are several internal (domestic) conditions that adversely affect the Brazilian wine industry, namely: low *per capita* wine consumption (1.8 litre, compared with around 30 litres for Argentina and Uruguay, its neighbours and Mercosur partners); absence of a culture of regular and moderate wine consumption during meals; lack of image as a wine-producing country; low importance of the sector for the national economy (although it is economically important for Rio Grande do Sul, where it is concentrated); and a high incidence of taxes (they represent over 42%

of the consumer price, compared with approximately half of that for Argentina and even less for Chile, currently the two largest wine exporters to Brazil).

The concern in this paper is thus with the future of the Brazilian wine industry, not only with its survival as a domestic industry but, most importantly, with its possibilities of finding a place in the increasingly internationalized wine business. According to Rabobank (2003), the participation of exports in world consumption increased from 15% to 27% in less than a decade. In the current stage of development of the Brazilian wine industry, and given the aggressive export efforts by the established producing countries, to be able to enter the international market may hence be an imperative for survival in its own domestic market.

The challenges faced by the Brazilian wine industry are certainly formidable, but in this paper we provide both qualitative and quantitative evidences that they are not insurmountable. The qualitative evidences are set forth by showing that a series of underlying conditions for the sustainable development of the sector are present in the regional cluster of Serra Gaúcha, which, additionally, has positive spillover effects on other recently developed viticultural areas of Rio Grande do Sul and elsewhere. The quantitative evidences are drawn from data on the recent performance of the sector.

The paper is structured as follows. Section 2 succinctly presents the conceptual base that guided the analysis of the cluster. Section 3 describes, based on secondary sources of data and information, the wine cluster of Serra Gaúcha, the object of study, and some recent trends in wine commercialization. In the description of the cluster (Subsection 3.1) emphasis is placed on its distinctive characteristics that put in evidence its degree of organization and hence its role as a sustainable basis for the cluster's development. The recent trends in commercialization (Subsection 3.2) are analyzed with the aim of identifying evidences of a sustainable recovery of the local wine industry. Section 4 presents the results of a survey research concerning a restructuring process that occurred in the 1990s, the strategic orientation adopted by the wineries, the evolution of cooperative relations in the cluster and perceptions concerning its international competitiveness; this section provides additional evidences on the existence of conditions leading to a sustainable development of the wine business. Finally, Section 5 synthesizes the main conclusions of the study.

2. CONCEPTUAL BASE: CLUSTERS, NETWORKS, COOPERATION, SOCIAL CAPITAL AND SUSTAINABLE COMPETITIVE ADVANTAGES

The conceptual base that underlies the analysis presented here draws basically on the notion of cluster and its role in the creation of sustainable competitive advantages. Special emphasis is given to cooperative actions that enhance learning and innovation within the cluster.

A cluster can be defined as a geographical concentration of inter-related firms in a particular field, suppliers of specialized inputs, machinery and services, financial institutions, firms in related industries, universities, research centres and trade associations (Porter, 1998). Another definition, which is also pertinent for the analysis of the Serra Gaúcha cluster, is that of Becattini (1990, p.39), who defines an industrial district as "a socio-economic entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area". A clearly identifiable *community*, according to Lazerson and Lorenzoni, 1999, *apud* Molina-Morales and Martínez-Fernández, 2003, p.156), "implies a cultural homogeneity that gives rise to an atmosphere of cooperative and trusting behaviour in which economic action is regulated by implicit and explicit rules". And *cooperation* and *trust* are essential elements of the related concept of *social capital* of a community, which includes the institutions, attitudes and values that guide the interactions between its members and contribute to its social and economic development (Portes, 1998, PRODUCTIVITY

COMMISSION, 2003). Social capital relates thus to social norms and creates an environment of trust and cooperation that the undertaking of collective actions in a cluster requires.

A large and growing body of literature, from different theoretical currents, exists that discusses and provides both theoretical and empirical evidences of the benefits derived by firms belonging to a cluster or an industrial district. These benefits range from the positive externalities resulting from industrial agglomeration (Marshall, 1925) to the more recent ones, more akin to the current competitive imperatives, such as its positive impact on learning and innovation and, consequently, in the upgrading of capabilities leading to the development of sustainable competitive advantages (*e.g.*, Lundvall, 1992; Porter, 1998; Molina-Morales and Martínez-Fernández, 2003) and to the stimulation of regional economic development (OECD, 1999).

The interaction of firms in cooperative actions for strategic purposes, such as collective (sector wide) actions, resource sharing, joint development or experimentation, co-production, economies of scale and scope, is an important characteristic of the more developed clusters. These strategic interactions generally give rise to the formation of *networks* within the cluster, with quite different and varied purposes, but where learning, innovation and the creation of competitive advantages are generally of central importance. While there are many kinds of *informal* interactions among firms and other organizations within a cluster, which are very important for the diffusion of innovations, the term *network* in this paper refers to purposeful, strategic and formal interactions among firms, involving or not other organizations and entities.

Both Porter's and Becattini's definitions will be explored in the description of the Serra Gaúcha cluster, and the ensuing analysis carried out in this paper follows the research current that relates the competitive factors of a cluster to firm strategy, but draws on social factors as well, in line with Becattini's definition of a cluster as a socio-economic entity, and the concept of social capital, where trust and cooperation play a central role.

3. THE SERRA GAÚCHA CLUSTER AND RECENT TRENDS IN WINE COMMERCIALIZATION

Before proceeding to the description of the cluster, a few antecedents of the wine sector are necessary, starting with the arrival of Italian immigrants to the Serra Gaúcha region 130 years ago, which marks the beginning of the expansion of the Brazilian wine industry. The varieties of grape cultivated by the immigrants were basically American and hybrid; being more robust than the *vinifera* varieties, they adapted quite well to the climatic conditions of the Serra Gaúcha. A second important period in the development of the wine industry occurred with the arrival of multinational wine producers to Rio Grande do Sul in the 1970s, resulting in the dissemination of European varieties of grapes and modern wine-making technologies. Although non-*vinifera* wines still represent well over 80% of the total wine commercialization in Brazil, practically all the new vineyards implanted in the last few years are of *vinifera* varieties.

Besides Serra Gaúcha, new grape growing regions with *vinifera* varieties are being developed in several other areas, the most notorious ones being in the "Southern Half" region of Rio Grande do Sul, in the state of Santa Catarina and in the Valley of São Francisco, in the Northeast of Brazil. These new developments, combined with a gradual increase in the utilization of the American and hybrid varieties (predominantly *Isabella*) for the production of juice (an increasingly important export product) and other derived products, point to a gradual and consistent change in the mix "*vinifera vs non-vinifera*" wine in the coming years. It should be clarified at this point that the denomination *table wine* in Brazil still refers to non-*vinifera* wine, also called *common wine*, whereas *fine wine* refers to *vinifera* wine (of all quality levels). This is the terminology that will be adopted here, the focus of this paper being on *fine wine*.

The national production of wine in recent years has averaged 330 million litres/year, and is heavily concentrated in the state Rio Grande do Sul, responsible for 93% of the national production, and particularly in the Serra Gaúcha cluster, responsible for over 90% of the state's production.

3.1 The Serra Gaúcha Cluster: the basis for sustainability of the Brazilian wine industry?

The Serra Gaúcha wine cluster is located in the northeast region of Rio Grande do Sul, distancing about 120 Km from the capital city of Porto Alegre. It comprises over 600 wineries and family canteens and 13,000 families of grape growers. It constitutes the largest viticultural area of Brazil, with approximately 34,000 ha of vineyards. Grape production takes place in small properties, each grower owning around 15 ha, with 2.5 ha, on the average, dedicated to grape production. The altitude of the region varies from 600 to 800 meters and the topography is mountainous, which, if on the one hand renders mechanization difficult, on the other it provides a synergistic effect with two other important activities of the region: tourism and gastronomy.

The wine cluster of Serra Gaúcha is shown in the diagram of Figure 1. Around the core of the cluster, formed by grape producers and wine-makers, are suppliers of production inputs, machinery and equipment, and a host of local, regional and national institutions dealing directly or indirectly with grape and wine. At the top of the diagram are the government (left box) and trade and professional (right box) institutions; they are partners in the control, regulation, coordination and promotion of the activities related to grape and wine business. At the bottom of the diagram are the educational and research organizations, including several universities involved in grape and wine research (UCS, UFRGS, UFSM, Unisinos), a Technological School specialized in viticulture and enology (CEFET-BG), a federal grape and wine research institute (EMBRAPA) and two state agricultural institutions, one focused in research (FEPAGRO) and the other in technical assistance (EMATER). Finally, the wine cluster interacts with three other clusters in the region, shown in the dotted boxes at the bottom part of the diagram: the agricultural cluster and the tourism and food and restaurants clusters, giving rise to the already economically important and fast growing "enogastrotourism". The specificities and salient characteristics of the cluster are described next.

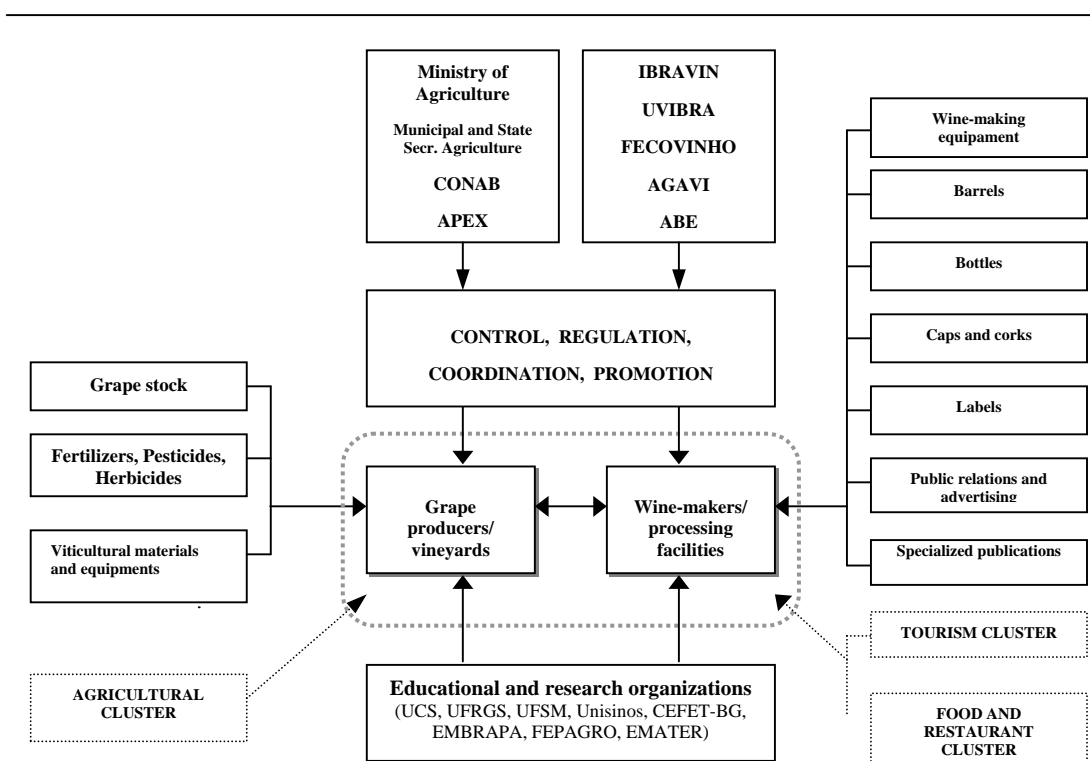


Figure 1. The Serra Gaúcha Wine Cluster

Source: Adapted from Porter (1998) and Fensterseifer *et al.* (2002).

Grape prices are regulated by the Ministry of Agriculture through a *minimum price* system, which is set annually by negotiation among several representative entities of the various actors (government, grape growers and wine-makers). Several cooperative arrangements also exist between grape growers and wine-makers, involving technical assistance and other services aimed at grape quality assurance, resulting in largely non-market pricing mechanisms (Miele, 2000).

The cluster contains two types of wine-makers *networks*, in the sense described in Section 2 (not shown in Figure 1), that are of utmost importance for its future development: one type consists of associations created with the objective of developing particular subregions within the cluster; the other consists of an export consortium, called “Wines from Brazil”. This latter type represents a *collective* effort with the aim of placing Brazilian wine in the international market. The term *collective* must be stressed here, firstly because it constitutes a solution, at least in the current stage of development of the cluster, to surmount problems of lack of scale and scope by individual wineries, a necessary condition for successful entry and sustainability in the international wine market; and secondly, because it represents a depart from *individualistic* initiatives that were not uncommon in the recent past. It represents, thus, a collective embarkment in the learning curve of the internationalization process. This consortium, created in 2002 by 6 wineries, comprises today 16 wineries (which accounted for 55.8% of Brazilian fine wine sales in the domestic market in 2005) and has recently obtained support from the national government agency for the promotion of exports (APEX). Concerning the first type of network association, four initiatives are currently under way, one of them being already at an advanced stage of development, called APROVALE – Association of Wine-makers of the *Vale dos Vinhedos*, a subregion within the cluster. APROVALE obtained recently the Denomination of Origin *Vale dos Vinhedos* (a Geographic Denomination). Recognition of the distinctive characteristics of the *terroir* is only one among several strategic objectives of APROVALE, as well as of the three other associations of this type being developed in different subregions of the cluster

Finally, strategic coordination, not only of the cluster but of Brazil’s grape and wine sector as a whole, is the responsibility of the *Brazilian Wine Institute* (IBRAVIN); it is located in the cluster and articulates the main collective actions of the wine sector. It congregates several trade and professional associations, being thus a meta-institution. Among the important collective actions coordinated by IBRAVIN was the formulation of the “Strategic Development Program for the Wine Sector of Rio Grande do Sul”, known as *Vision 2025*. It is a 20-year horizon strategic plan that was formulated through a participatory process involving representatives of all actors and agents of the cluster; it was concluded and approved by the sector in 2005, its implementation being already in course. It is necessary to stress here the *participatory* nature of the planning process, as it is a distinctive characteristic of *Vision 2025* relatively to similar plans developed by other countries; its paramount significance lies in the fact that the sector rediscovered that it is capable of collectively and cooperatively formulating and putting in practice strategic actions leading to the enhancement of the cluster’s possibilities for a sustained development.

3.2 Recent Trends in Wine Commercialization: the beginning of an upturn?

An analysis of recent commercialization data (from 2000 to 2005) for Brazilian wine reveals the following: commercialization of table wines has remained stable until 2004 and

significantly increased in 2005, while that of fine wine has systematically decreased until 2004 followed by an increase in 2005; fine sparkling wine commercialization has steadily increased over the period, but more significantly in 2005; and that total wine commercialization remained stable until 2004 and significantly increased in 2005 (mainly due to the increase in the commercialization of table wines).

Of great concern for the future development of the Brazilian wine industry is the systematic decrease in commercialization of Brazilian fine wines in the local market, accompanied by a significant and persistent market share loss until 2004. In order to understand this downward trend it is necessary to examine wine import data, as it was in the fine wine segment that competition with imported wines took place. The following two tables show, respectively, import data for still wine (Table 1) and for sparkling wine (Table 2) for the period 2000-2005, compared with Brazilian fine wine sales; the data are shown separately as the performance of the Brazilian wine industry is quite distinct in these two segments, and distinct in future prospects as well.

Table 1 shows the inroad that imported still wine made on the Brazilian market and local wines' consequent loss of market share (imports share grew from 46.2% in 2000 to 63.1% in 2005), a process that started with the opening of the Brazilian economy to imports in the beginning of the 1990s (in 1990 the imports share of the market was only 18.8%). But the data also show that the local product's market share reached the bottom in 2004, when it fell to 35.4%, and had a small (1.5%) increase in 2005. It can be argued that the 2005 performance is more likely to represent the end of the downward trend, or even a trend reversal, than an outlier in the data. One evidence for this is that the increase of fine wine total sales in 2005 relatively to 2004 was 60.3% accounted for by Brazilian wines against 39.7% by imported wines. This is particularly important considering that in 2005 the local currency (Real) had a significant appreciation *vis-à-vis* the Dollar (11.7%) and the Euro (23.5%), a situation that would favour imports. But there are arguments of qualitative nature as well that reinforce the likelihood of the end of the downward trend, if not a trend reversal: the recent initiatives and changes that the sector has undergone and that are just beginning to show their effectiveness. Some of these are the collective actions highlighted in Subsection 3.1; others, both collective and firm-level, will be discussed in Section 4.

Table 1: Still wine imports and comparison with Brazilian fine wine sales (2000-2005)

Countries	2000		2001		2002		2003		2004		2005	
	Litres	%	Litres	%	Litres	%	Litres	%	Litres	%	Litres	%
Italy	8,261,190	28.2	8,113,437	28.2	5,878,763	24.3	5,237,027	19.5	6,190,395	17.2	6,010,760	16.0
Chile	5,559,316	19.0	5,160,203	18.4	6,200,375	25.6	7,955,549	29.7	11,134,141	30.9	11,647,128	31.1
Portugal	5,011,047	17.1	5,225,372	18.6	3,047,860	12.6	3,344,190	12.5	4,151,101	11.5	5,182,827	13.8
France	3,431,637	11.7	3,118,460	11.1	2,355,088	9.7	1,958,362	7.3	2,092,261	5.8	1,671,209	4.4
Argentina	2,724,939	9.3	2,585,537	9.2	3,867,336	16.0	5,720,024	21.3	10,202,602	28.3	10,845,213	28.9
Uruguay	1,961,730	6.7	1,668,697	5.9	1,247,891	5.2	1,096,094	4.1	660,522	1.8	512,973	1.4
Germany	1,164,726	4.0	909,077	3.2	759,712	3.1	573,198	2.1	420,075	1.2	253,685	0.7
Spain	531,423	1.8	624,644	2.2	435,422	1.8	410,133	1.5	603,666	1.7	508,494	1.4
U.S.A.	426,438	1.5	374,590	1.3	139,693	0.6	173,327	0.6	79,531	0.2	53,043	0.1
Others	216,000	0.7	278,097	1.0	251,713	1.2	331,036	1.2	536,167	1.5	809,995	2.2
Tot.Imports	29,288,448	46.2	28,058,114	49.5	24,183,853	48.8	26,798,940	53.5	36,070,461	64.6	37,495,327	63.1
Brazil	34,108,895	53.8	28,652,875	50.5	25,375,559	51.2	23,271,496	46.5	19,747,341	35.4	21,913,837	36.9
TOTAL	63,397,343	100	56,710,989	100	49,559,412	100	50,070,436	100	55,817,802	100	59,409,164	100

Source: UVIBRA (2006), elaboration by the author.

Fine sparkling wines sales, contrarily to the still wine case, increased consistently in the period (Table 2), with both the locally produced and the imported products having significantly increased sales. Another salient aspect in the comparison with still wine is that the market shares in this segment are practically the inverse of those of still wine, with the local product's share being approximately two-thirds of the market. For the increase in 2005 total sales relatively to

2004 the performance of the local product was even better: it accounted for 78.0% of the increase against only 22.0% for imports, reinforcing the improvement in performance in 2005 for all types of wines. It should be noted, as happened in the case of still wine, the penetration of Argentine sparkling wine in Brazil; from a marginal participant in this market in 2000 it became the largest exporter in 2005.

Table 2: Fine sparkling wine imports and comparison with Brazil's sales (2000-2005)

Countries	2000		2001		2002		2003		2004		2005	
	Litres	%	Litres	%	Litres	%	Litres	%	Litres	%	Litres	%
France	979,713	53.2	702,000	35.9	669,778	28.3	965,033	38.1	746,383	24.2	931,767	27.1
Italy	488,817	26.5	1,028,655	52.5	1,484,899	62.6	1,209,558	47.8	1,033,793	33.5	1,092,021	31.7
Spain	230,328	12.5	142,236	7.3	166,433	7.0	164,545	6.5	209,973	6.8	213,074	6.2
Argentina	114,507	6.2	32,463	1.7	17,096	0.7	143,659	5.7	1,008,169	32.7	1,135,922	33.0
Portugal	12,618	0.7	19,935	1.0	14,033	0.6	17,170	0.7	30,305	1.0	10,588	0.3
Chile	11,250	0.6	15,696	0.8	6,300	0.3	16,200	0.6	25,920	0.8	38,290	1.1
Uruguay	1,746	0.1	9,414	0.5	887	0.0	1,722	0.1	180	0.0	193	0.0
Germany	1,134	0.1	0	0.0	7,034	0.3	3,114	0.1	22,785	0.7	888	0.0
S. Africa	999	0.1	6,516	0.3	0	0.0	5,546	0.2	59	0.0	520	0.0
U.S.A.	135	0.0	0	0.0	990	0.0	1,575	0.1	0	0.0	2,808	0.0
Others	1,440	0.1	900	0.0	2,963	0.1	2,277	0.1	9,259	0.3	16,937	0.5
Tot. Imports	1,842,687	29.9	1,957,815	30.4	2,370,413	35.7	2,530,399	34.5	3,086,826	36.0	3,443,008	33.8
Brazil	4,329,517	70.1	4,492,615	69.6	4,267,542	64.3	4,798,252	65.5	5,477,555	64.0	6,743,618	66.2
TOTAL	6,172,204	100	6,450,430	100	6,637,955	100	7,328,651	100	8,564,381	100	10,186,626	100

Source: UVIBRA (2006), elaboration by the author.

Concerning the dispute "Traditional" *versus* "New-World" wine producers, it is noteworthy the fact that in 2000 fine **still wine** imports from Italy, Portugal and France represented 57.0% of total fine wine imports (Table 1), compared with 28.3% for Chile and Argentina, while in 2005 the corresponding figures were 34.2% for Italy, Portugal and France and 60.0% for Chile and Argentina. Regarding the fine **sparkling wine** imports (Table 2), it can be observed a similar movement, although this time not of displacement of the traditional producers by New-World producers, but of a loss in market share by the former in a growing market; traditional countries basically maintained the same level of sales while Argentina, and also Brazil in this case, were the ones to benefit from the increase in consumption.

A final quantitative evidence of an upturn prospect is provided by the export performance of Brazilian wine (Table 3). Although the export figures shown are extremely low by any standards, it is the *trend* that has significance, particularly considering that the export effort is very recent (the consortium "Wines from Brazil" was created in 2002): as it is shown in Table 3, exports increased from less than 1.5 million litres in 2003 to over 3.6 millions in 2005, and in Dollar value the rate of increase was even higher. Additionally, the number of countries of destination increased from 16 in 2003 to 31 in 2005.

Table 3: Brazilian exports of wine and derived products (2003-2005)

Countries	2003 (Litres)	2004 (Litres)	2005 (Litres)	2003 (US\$)	2004 (US\$)	2005 (US\$)
Paraguay	1,123,342	2,117,000	1,998,042	398,595	768,372	743,517
U.S.A.	25,474	105,275	372,438	72,292	317,058	697,461
Japan	173,948	428,282	563,661	98,816	222,472	257,682
France	0	1,497	91,216	0	7,788	241,004
Czech Republic	7,370	12,587	65,896	31,791	67,669	131,275
Germany	0	14,319	57,942	0	31,185	109,372
Italy	0	503	54,953	0	1,433	79,397
Russia	0	0	177,600	0	0	71,988
United Kingdom	0	0	10,780	0	0	58,446
Switzerland	10,669	5,305	23,073	41,609	18,715	51,090
Others	115,285	316,132	225,593	145,650	393,409	359,455
Total Global	1,456,088	3,000,900	3,641,194	788,753	1,828,101	2,800,687

Source: IBRAVIN (2006). Cadastro Vinícola. IBRAVIN/MAPA/SAA.

4. RESTRUCTURING, STRATEGIC OPTIONS, COOPERATIVE RELATIONS AND PERCEPTIONS ON INTERNATIONAL COMPETITIVENESS

Important aspects concerning the trajectory and future possibilities of the Brazilian wine industry are treated in this section. The results presented here are based on a survey, conducted from July to December of 2003, with 58 wineries that produced at least 10,000 litres per year of fine wine, still or sparkling, for commercialization under their own brands in bottles of up to 750 ml. This sample represents over 85% of the wineries that satisfied these criteria and over 95% of the cluster's fine wine production in 2002.

The analysis of Subsection 4.1 refers to actions that were undertaken in the 1990s as a response to the opening of the Brazilian market to imported wines, whereas that of the remaining subsections refer to the time of the survey (2003). They contemplate two quite distinct moments in the industry's trajectory in the fine wine segment: while in 1990 market share was 81.2%, in 2003 it had fallen to 46.5%, with sales volume approximately 14% below the 1990 level.

4.1 The Restructuring of the 1990s: the beginning of a new wine industry

The opening of the Brazilian market to international competition in the beginning of the 1990's created strong competitive pressures on the domestic wine industry and provoked important restructuring in all segments of the industry. Table 4 shows the main actions undertaken to adjust to this international exposure and their degree of importance. These actions were both **internal** to the firm (the first 4 in Table 4) and **external** (the last 4), involving cooperative arrangements with other actors.

Table 4: Degree of importance of the actions undertaken in order to adjust to the exposure to international competition during the 1990s

Actions Undertaken	No. of Wineries	(1) Not important		(2) Of little importance		(3) Important		(4) Very important		Avg.
		No.	%	No.	%	No.	%	No.	%	
1. Promotion of improvements in processes and equipment	55	0	0.0	0	0.0	17	30.9	38	69.1	3.7
2. Promotion of organizational changes	55	7	12.7	12	21.8	21	38.2	15	27.3	2.8
3. Introduction of product innovations	53	1	1.8	5	9.1	16	29.1	33	60.0	3.5
4. Investment in education and training	53	6	11.3	9	17.0	25	47.2	13	24.5	2.8
5. Changes in the relations with grape producers	53	10	18.9	8	15.1	19	35.8	16	30.2	2.8
6. Development of cooperative arrangements with competitors	53	28	52.8	8	15.1	10	18.9	7	13.2	1.9
7. Development of cooperative arrangements with clients	52	13	25.0	13	25.0	17	32.7	9	17.3	2.4
8. Development of cooperative arrangements with universities and research institutions	54	24	44.4	9	16.7	17	31.5	4	7.4	2.0

It can be seen in Table 4 that the main **internal** actions were "promotion of improvements in processes and equipment" (considered *very important* by 69.1% of the wineries and *important* by the remaining 30.9%) and "introduction of product innovations" (considered *very important* by 60% of the wineries and *important* by 29.1%). The other two internal actions can also be considered important in the restructuring process: "investment in education and training", considered *important* or *very important* by 71.7% of the wineries, and "promotion of organizational changes", considered *important* or *very important* by 65.7% of the wineries.

Although the **external** actions, based on cooperative relationships, also had an important role in the restructuring process, it was of a lesser degree than the internal actions. The more

important ones were “changes in the relations with grape producers” and “cooperative arrangements with clients”, considered *important* or *very important* by 66% and 50% of the wineries, respectively. “Cooperative arrangements with universities and research institutes”, on the other hand, was considered *important* or *very important* by only 38.9% of the wineries (44.2% of them considered it *not important*). Finally, the role of “cooperative arrangements with competitors” was considered *important* or *very important* by only 32.1% of the wineries. Cooperative actions will be further explored in Subsection 4.3.

4.2 Strategic Options and Supporting Actions

A restructuring process as the one carried out in the 1990s influences, restricting or enlarging, the set of strategic options that are available for the wineries in the future. For the analysis of the choices concerning these options, we added to the three traditionally encountered in the management literature, *i.e.*, growth, maintenance and disengagement, the option of **downsizing**, term used here in the sense of reduction in the *level* or *scope* of activities; the expectation in 2003 (not confirmed by the data) was that some of the wineries would adopt it within the specified five-year horizon.

Table 5 shows that 72.4% of the wineries opted for a growth strategy and the remaining 27.6% chose a maintenance strategy. Not a single winery envisaged downsizing or disengaging from the fine wine business within the next five years. Next, we describe the supporting actions for each of the manifested strategic orientations.

Table 5: Strategic options (five-year horizon)

Strategic Options	No. Wineries	% Wineries
Growth (expansion of activities)	42	72.4
Maintenance (same size, same activities)	16	27.6
Downsizing (reduction in level or scope of activities)	0	0.0
Disengagement (abandoning fine wine production)	0	0.0

Growth Option

The choice of a strategic option or orientation requires a number supporting actions, both of internal and external nature. Table 6 shows, for the 42 wineries (72.4%) that chose a growth strategy, where the expansion will take place, what the target markets are, and what are the envisaged changes in their operations strategy.

Table 6: Place of expansion, target markets and changes in operations strategy

	No. Wineries	% Wineries
Place of Expansion		
Serra Gaúcha	36	87.8
Other Regions of Rio Grande do Sul	10	24.4
Other States of Brazil	5	12.2
Other Countries	3	7.3
Target Markets		
National	41	100.0
International	14	34.1
Changes in Operations Strategy		
Development of new varieties or <i>Assemblage</i>	36	87.8
Improvements in wine quality	40	97.6
Reduction in production costs	28	68.3
Changes in the relations with grape producers	17	41.5
Adoption of new wine-making technology	31	75.6
Increase in delivery agility through changes in the logistic system	19	46.3
Others	3	7.3

The vast majority of wineries (87.8%) that opted for growth intends to expand its activities at Serra Gaúcha within the next five years. Approximately one fourth of them have expansion plans for other areas of Rio Grande do Sul (“Southern Half”) and only 5 (12.3%) intend to expand in other States (Valley of São Francisco, in most cases) and 3 (7,3%) in other countries. These percentages sum over 100%, indicating that some wineries intend to expand in more than one region. All wineries in this group seek to increase their participation in the domestic market and 14 of them (34.1%) intend to enter or expand their participation in the international market as well. Since at the time of the survey only 6 wineries were engaged in export, this constitutes a significant increase. Note that today the “Wines from Brazil” consortium already involves 16 wineries.

Changes in the operations strategy are shown, for the case of the 42 wineries that chose a growth strategy, in the bottom section of Table 6. “Improvements in wine quality” was appointed by all but one of the wineries (97.6%). For 87.8% of them expansion will be accompanied by the development of new products (varietals or *assemblage*). Approximately three quarters of the wineries will deploy new wine-making technology and two thirds will undertake actions aiming at reducing production costs. Less than half of the wineries intends to make changes concerning the agility of its logistic systems or its relations with grape producers.

Maintenance Option

The 16 wineries (28.1%) that opted for a maintenance strategy had various reasons to justify their choice: some because they had reached the scale of operation considered ideal for their business objectives; others because they decided to stabilize their business before pursuing a growth strategy; and still others because of the impossibility of an expansion of activities (by lack of resources) within a five-year horizon. The most significant changes envisaged in the winery operations (Table 7), as in the case of the growth strategy, is in the area of quality, with all 16 wineries having declared that will undertake actions to improve wine quality. Although they were unanimous concerning this component of their operations strategy, the reasons differed among them: while for some it represented an intention of adding value to their wine in order to compete in higher quality (price) brackets, for others it was a competitive imperative, *i.e.*, a matter of survival in the wine business.

Table 7: Changes in the operations strategy for the maintenance option

	No. Wineries	% Wineries
Development of new varietals or <i>Assemblage</i>	9	56,3
Improvements in wine quality	16	100,0
Reduction in production costs	8	50,0
Changes in the relations with grape producers	5	31,3
Adoption of new wine-making technology	10	62,5
Increase in delivery agility through changes in the logistic system	7	43,8
Others	1	6,3

Among the other elements of the operations strategy (Table 7), three were mentioned by at least half of the wineries adopting a maintenance strategy: adoption of new wine-making technology (62.5%), development of new varietals or *assemblage* (56.3%), and reduction in production costs (50.0%).

Inquired as to whether they are developing or intend to develop strategic alliances or partnerships as part of their maintenance strategy, 11 responded that do not envisage it and the

remaining 5 either already have alliances and partnerships of various sorts with other wineries or envisage to have them in the near future.

4.3 The Evolution of Cooperative Relations

One of the basic assumptions for the development of a cluster is that the competitive advantages created go beyond the mere economies of agglomeration and do not occur by chance; on the contrary, they are the result of constructed trajectories, involving historic, social, cultural and environmental conditions. Cooperation being the central element in the process of trajectory construction, in this subsection we analyse how the cooperative relations of the Serra Gaúcha wineries with the actors or agents they interact with in the cluster are evolving. Moreover, the existence of cooperation, particularly within a regional cluster with the socio-economic characteristics of that of Serra Gaúcha (following Becattini's definition), provides empirical evidence on its *social capital*. Companies in general have increasingly incorporated cooperation with other companies and research and other types of institutions in their strategies as a result of the competitive pressures arising from globalization (Fensterseifer, 2000). This has not been different at the Serra Gaúcha wine cluster, as the results of this subsection will show.

The actors of the cluster considered in this analysis were: suppliers of equipment, grape and other inputs to wine production, clients, competitors, institutes of research and technology, universities, associations (trade and professional) and government agencies. It must be made clear that the analysis contemplated the *evolution* of the relations and not the *intensity* of these relations. For this analysis a period of five years was considered and the results are shown in Table 8.

Table 8: Evolution of cooperative relations in the last five years

Actors / Agents	Strong decrease %	Decrease %	Stable %	Increase %	Strong increase %
Clients	0.0	5.3	28.6	46.4	19.7
Competitors	0.0	7.4	50.0	29.6	13.0
Grape growers	1.9	1.9	29.6	33.3	33.3
Suppliers of other inputs to production	1.8	1.8	36.4	38.2	21.8
Equipment suppliers	0.0	1.8	36.4	41.8	20.0
Institutes of research and technology	0.0	7.3	45.4	36.4	10.9
Universities	0.0	3.8	59.6	34.7	1.9
Associations (trade and professional)	1.8	3.6	18.2	49.1	27.3
Government agencies	0.0	1.8	58.2	30.9	9.1

As the sum of the percentages for *increase* and *strong increase* for each line in Table 8 are significantly higher than the sum corresponding to *decrease* and *strong decrease*, the results indicate that the wineries are intensifying their cooperative relations within the cluster. Of particular significance, considering the sum of *increase* and *strong increase* is the intensification of relations with associations (76.4%), grape growers (66.6%), clients (66.1%) and equipment suppliers (61.8%).

The important increase in relations with equipment suppliers and grape producers are consistent with the efforts to improve production processes and product quality, one of the main objectives pursued by the restructuring of the 1990s. Cooperation with grape producers creates trust and allows wineries to better follow and monitor grape production, thus assuring quality in the supply of the grape, which is essential for the production of quality wine.

The increase in the relations with associations merits a comment apart. These entities are located in the cluster and act directly with wine-makers in an effort to strengthen the links

between the wineries, promote dynamism and provide a collective identity to the cluster. The results indicate that the traditional view of these associations as bureaucratic entities is changing; they are increasingly seen as important channels for the resolution of collective problems and thus as agents for the attainment of collective goals.

High indications for *stability* in the relations of the wineries were found with universities (59.6%), with government agencies (58.2%), with competitors (50.0%) and with institutes of research and technology (45.4%). These results must be analysed with caution; since the question concerns only the *evolution* in the relations in the last five years, an indication of *stability* means simply that the relations did not evolve during the five-year period. In other words, it could mean, for example, that there was a high degree of interaction and it continued high or that the level of interaction was low and continued so. But, considering that the wineries attributed a low degree of importance to precisely these agents in their restructuring efforts of the 1990s (Table 4), one can infer that for these wineries the cooperative relations were of low intensity and continued so. It should be noted as well that although the relations with universities and institutes of research and technology could have been more widespread, given their potential role in the technological development of the wineries, with universities they increased for approximately one third of the wineries and decreased for very few (3.8%), while with institutes of research and technology they increased for nearly half of the wineries and decreased for only 7.3% of them.

The above results reveal, globally, that the cooperative relations among the actors of the cluster are intensifying, meaning that the wineries are increasingly incorporating cooperation in their strategies. Geographic proximity within the cluster contributes to the generation of positive externalities through cooperative relations, which creates competitive advantages and stimulates the wineries in continuing their interactions with the other actors as part of their growth and development trajectory. These interactions occur through time and establish, according to Lundvall (1992), the *rules of the game*; and the establishment of *new* rules of the game signals a cultural change within the geographical space of the cluster, which contributes to improve the competitive performance of the involved wineries.

A question that may be put forward concerning the cultural change evidenced through the increase of cooperative relations is whether this is not just a resurgence of cultural values which existed among the Italian immigrants that developed the Serra Gaúcha region into one of the most prosperous of the country; cooperation was an imperative for survival at the then inhospitable region. Should this be the case, what is being witnessed today can be considered a rediscovery of the benefits of cooperation, this time an imperative for survival in the *marketplace*. And since cooperation stimulates reciprocity, this cultural change constitutes yet another indicator of an increase in the social capital of the cluster.

4.4 Perceptions about the International Competitiveness of the Wine Cluster

The final question of the survey inquired wine-makers about their perceptions on the international competitiveness of the Serra Gaúcha wine cluster. A series of statements was presented concerning factors and conditions that are related to international competitiveness (1 to 6 in Table 9) and three direct statements concerning the competitiveness of white, red and sparkling wines (7 to 9 in Table 9); their perceptions concerning each of the statements was measured on a 5-point scale (1: *totally disagree*; 5: *totally agree*). The results corroborate some of the weaknesses of the Brazilian wine industry pointed out in Section 1, but, on the strengths side, they point to fine sparkling wine as an internationally competitive product of the Serra Gaúcha cluster, a perception that is consistent with the recent performance of this segment.

The first three statements of Table 9 concern the wine-making technology used by the wineries comparatively to international best practice. For 98.2% of the respondents (64.9% *totally agree* plus 33.3% *agree*) there exists *some* wineries in the Serra Gaúcha whose wine-

making technology is comparable to the best available in the world. However, only 29.8% agree (10.5% *totally agree* plus 19.3% *agree*) that this is the case for *most* of the wineries, with almost 60% disagreeing. As to whether wine-making technology constitutes a competitive advantage of the cluster, the perception of the respondents was clearly positive, with 24.5% totally agreeing and 45.6% agreeing that it is an advantage (with only 10.6% disagreeing or totally disagreeing).

A second set of statements (4 to 6) concerns varietal identity, country image and international promotion of Brazilian wine. The results of this block are quite disadvantageous: 59.7% *totally agree* and 22.8% *agree* that that Brazilian wine lacks a varietal identity; 64.9% *totally agree* and 29.8% *agree* that Brazil lacks an image of wine-producing country; and 64.9% *totally agree* and 28.1% *agree* that Brazilian wine lacks international promotion.

The last three statements (7 to 9) concern the international competitiveness of white and red still wines and sparkling wines. The results are quite favourable for the white wines (40.4% totally agreeing and 45.6% agreeing, with only 10.5% disagreeing or totally disagreeing). They are somewhat less favourable for the red wines, with 17.5% totally agreeing and 45.7% agreeing that it is internationally competitive. It was the sparkling wine, however, that obtained the highest percentage of total agreement (59.7%) concerning its international competitiveness and the lowest percentage of disagreement (only 8.7% disagreeing or totally disagreeing).

Table 9: Perceptions related to the international competitiveness of the Serra Gaúcha wine cluster

Statements	No. of Wineries	(1) Totally disagree		(2) Disagree		(3) Do not agree nor disagree		(4) Agree		(5) Totally agree		Average
		No.	%	No.	%	No.	%	No.	%	No.	%	
1. There exists wineries at Serra Gaúcha whose wine-making technology is at the same level of international best practices	57	1	1,8	0	0,0	0	0,0	19	33,3	37	64,9	4,6
2. The wine-making technology utilized by the majority of wineries is at the same level of the international best practices	57	5	8,8	28	49,1	7	12,3	11	19,3	6	10,5	2,7
3. The wine-making technology utilized constitutes a competitive advantage of the fine wines of Serra Gaúcha	57	1	1,8	5	8,8	11	19,3	26	45,6	14	24,5	3,8
4. Brazilian wine lacks a varietal identity	57	0	0,0	6	10,5	4	7,0	13	22,8	34	59,7	4,3
5. Brazil lacks a wine-country identity (country image) abroad	57	0	0,0	1	1,8	2	3,5	17	29,8	37	64,9	4,6
6. Brazilian wine lacks international promotion	57	0	0,0	1	1,8	3	5,2	16	28,1	37	64,9	4,6
7. The white wines of Serra Gaúcha are internationally competitive	57	1	1,8	5	8,7	2	3,5	26	45,6	23	40,4	4,1
8. The red wines of Serra Gaúcha are internationally competitive	57	0	0,0	10	17,5	11	19,3	26	45,7	10	17,5	3,6
9. The sparkling wines of Serra Gaúcha are internationally competitive	57	0	0,0	5	8,7	2	3,5	16	28,1	34	59,7	4,4

Finally, examining the average scores (last column of Table 9), and considering those with average higher than 4.0 (between *agree* (4) and *totally agree* (5)), some of the conclusions about the wine-makers' perceptions on the international competitiveness of the wine cluster discussed above can be highlighted: there exists *some* wineries in the cluster deploying wine-making technology comparable to the international best practice (average 4.6), but this is not the case for *most* of the wineries (average 2.7); Brazil lacks an image associated with wine (average 4.6); Brazilian wine lacks international promotion (average 4.6); and the sparkling wines (average 4.4) and the white still wines (average 4.1) are considered internationally competitive.

5. CONCLUSION

In this article we sought to characterize the Brazilian wine industry with a special concern for its capacity to survive and find a place in the increasingly internationalized and competitive wine business. The challenges are numerous, but the analysis of this paper provided evidences that the industry has been preparing itself to compete. By both individual (firm-level) and collective actions it is creating encouraging prospects for a sustainable position in the wine business.

More specifically, the evidences provided here are both of quantitative and of qualitative nature. The quantitative evidences are based on: (1) a small upturn in commercialization of fine wines in 2005 accompanied by an increase in market share, interrupting a long sequence of persistent market share loss to imported wines (in spite of a significant appreciation of the local currency in 2005); (2) a consistent and significant increase in exports, although they are still very low; and (3) a consistent increase in commercialization of fine sparkling wines, a growing segment where the local product has succeeded in maintaining a two-thirds market share. These quantitative evidences, by themselves, are of course rather weak, as they are based just on recent performance. However, they gain force when combined with the qualitative evidences provided, namely: restructuring of the 1990s (actions that continue and whose results are not immediate); current strategic orientation predominantly to growth; concerted efforts towards upgrading wine quality; investments in new grape growing areas with favourable soil and climatic conditions; change from individualistic to a collective approach to the problems affecting the sector; the synergistic effects and positive externalities arising from the existence of an institutionally developed wine cluster; a 20-year horizon collectively formulated strategic plan; an export consortium involving 16 important wineries; and, finally, the existence of *network* types of associations of wineries within the cluster, an evidence of its attainment of a high degree of development.

The synergistic effects of the above firm-level actions and collective efforts, besides reinforcing the quantitative evidences of an improvement in performance, should counterbalance the weaknesses of the sector in its favour and give sustainability to the emerging Brazilian wine industry.

Concerning the sustainability dimension, it could be added that more than the efforts described in this study, it is the *underlying forces and factors that led to these efforts* that constitute the true evidences that the current development trajectory can be sustained in the long run. It can be hypothesized that these underlying forces and factors (a study concerning this point is being conducted) stem to a large degree from the *social capital* of the cluster, which provides the environment of trust and cooperation that the development of collective strategic actions requires. This may help as well to explain how the wine sector survived the crises of the past and brought, in spite of many adverse conditions, great prosperity to the region. At Serra Gaúcha the attentive observer can easily discover that wine is not just a business; it is a tradition brought by the Italian immigrants and successfully passed on through the generations.

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