

João REBELO* and Dorli MUHR**

Innovation in wine SMEs: the Douro Boys informal network

Globalisation needs to be perceived by wine small and medium enterprises (SMEs) located in wine regions characterised by a terroir model as a challenge and an opportunity to innovate. The aim of this paper is to present a business strategy that can be adopted by wine SMEs located in regions with high production costs and where tradition and innovation are relevant factors to be introduced in the decision process. To achieve this goal, the case of five small wine producers (Douro Boys), located in the Portuguese conservative Douro Demarcated Region (DDR), that are adopting an informal horizontal network is presented. The conducted analysis allows us to conclude that Douro Boys is a very simple and informal structure of prospectors, with a high culture of innovation, searching for niches in international wine markets.

Keywords: Douro, wine, small and medium enterprises, organisational strategies

* Corresponding author. University of Trás-os-Montes and Alto Douro, Avenida Almeida Lucena 1, 5000 - 911 Vila Real, Portugal. e-mail: jrebelo@utad.pt

** Wine & Partners, Wien, Austria

Introduction

Since the beginning of the 1990s, as a consequence of the astonishing export performance of the New World countries (NWC), i.e. Australia, New Zealand, Chile, Argentina and South Africa, the long dominant and established market position of the traditional wine producing countries (France, Italy, Spain and Portugal) has been under threat. Indeed, while for the four European countries the growth in volume of exports, as a percentage of world wine production, rose from 15 to 32% between 1988-1990 and 2001-2009, an impressive growth rate, by historical standards, for the NWC this ratio rose from 3% in the late 1980s to 37% by 2009 (Anderson and Nelgen, 2011). These new countries increased the competitiveness based not only on large investments in vines, wineries and wine marketing, but also by building and disseminating knowledge among players, through close collaborative networks among businesses and including the development of supportive industry-wide institutions to create public goods in the form of generic promotion and research and development (Anderson, 2010).

The organisational strategies adopted by NWC, such as Australia and the United States (Napa Valley), to foster innovation and competitiveness in the wine industry have been used as benchmarks by the traditional European wine regions. However, due to differences in historical and cultural behaviour and production structure, the issue of adopting these strategies in Europe calls in favour of case studies. A typical example is Portugal, a small country with 11 demarcated wine regions, shared by 26 sub-regions. The oldest (created in 1756) and best known is the Demarcated Douro Region (DDR), located in the northern interior of Portugal, where the famous Port wine is produced, and based on a *terroir*¹ model (Rebelo and Caldas, 2011).

In traditional wine producing countries, it is common to debate between conservative and liberal positions (Touzard, 2010). While the conservative side emphasises a tradition and *terroir* orientation (a focus on the grape growing site and wine practices of the region), trying to restrain the legal use

of technical innovations which can harm the cultural image of wine (e.g. no chips, no genetically modified wines), the liberal side, using terms such as modernity, and new technologies and brands, proposes an open use of innovations, as in other commodities, arguing that conservative positions are the source of the wine crisis. These two perspectives raise questions about the role of regulatory institutions as well as research and business strategies adopted by wine SMEs. Another question that has been highlighted is the high transaction costs associated to the top-down complementarity between grape growers, wine makers and wine traders. In fact, while the perspective of getting an *Appellation d'Origine Contrôlée* (AOC) label encourages players to enhance production quality, it may lead to a reduction of efforts to maintain product quality once the label has been obtained, interfering with the overall image of the *terroir* and raising suspicion amongst consumers regarding product quality.

The main aim of this paper is to present a business strategy that can be adopted by wine SMEs located in regions with high production costs and where tradition and *terroir* are relevant factors to be introduced in the decision making process. To achieve this goal, the paper presents the case of five small wine producers located in the DDR that are adopting an informal horizontal network.

Innovation and networks in the wine industry: an overview

The economic development of a country or a region is strictly linked to the innovation process. OECD (1995) considers four types of innovation: product innovation (which involves a good or service that is new or significantly improved); process innovation (which involves a new or improved production or delivery method); marketing innovation (which involves a new marketing method, including significant changes in product design or packaging, product placement, product promotion or pricing); and organisational innovation (introducing a new method in the firm's business practices, workplace organisation or external relations). These types of innovation can be new to the organisation or industry.

¹ *Terroir* is defined as a clearly identified and homogeneous territory endowed with a strong identity which is characterised by all of the natural and cultural resources (Rastoin and Vissac-Charles, 1999), generally backed up by a certificate of guaranteed origin label (Ditter, 2005).

From an economic perspective, research on innovation in the wine industry has followed two main approaches (Touzard, 2010): (a) the institutional analysis pointing out the influence of technology and institutions on economic changes in the industry, contributing to build economic regimes and major conventions of quality (e.g. table wine vs. AOC wine); and (b) the analysis on innovation project, such as launching a new wine, adopting a new technology or process by grape growers or wineries. The predominance of research has been the analysis of one component of the whole process of innovation, and especially on topics related with technology and product, the research on organisational models being scarce.

Together with the growth of the wine industry, in the NWC a systemic research on innovation appeared. This research was initiated by Porter (1998) in the California wine cluster and followed by studies in Australia (Alyward, 2004, 2006), Argentina (McDermott, 2007), Canada (Wolfe *et al.*, 2005) and Chile (Gwynne, 2008). Most of these works (a) show that the characteristics of the wine clusters vary across countries and regions in each country; (b) underline the role of innovation systems in the emergence and high performance of these countries in the international wine market, highlighting the relationships between firms and public research centres; and (c) use the notion of cluster in order to assess the relationship between economic players (grape growers, wineries, traders etc.), research and development, government and professional organisations.

Following the example of the NWC, the European Union (EU) also developed research using the cluster approach, examples being in France (Ditter, 2005; Rемаud and Couderc, 2006), Spain (Larreina and Aguado, 2008), Italy (Morrison and Rabelotti, 2010) and Portugal (Rebelo and Caldas, 2011). The generality of these studies are mainly concerned with the analysis of the regional innovation systems, paying little attention to the networks between SMEs as a winning strategy in a globalised wine market.

The literature suggests that it is relevant to know more about the innovative behaviour of SMEs, specifically for those located in traditional wine regions, where the connection between tradition and innovation is crucial for international competitiveness. Generally, innovation is framed and fostered at a higher level but occurs at the firm level within networks (Caffagi and Imacieli, 2010), in the sense that it is characterised by a common collective interest that can, or not, coincide with individual ones, and a contractual design (formal or informal) that needs to solve conflicts of interests concerning both the means and ends of the coalition. Distributional conflicts concerning the allocation of benefits, costs and risks among the partners may also arise, influencing the incentives to integrate the network. In terms of structures and governance the networks need to be adapted to the external and internal environments that shape the observed activity of the main players and above all the trustiness between them.

In the wine industry the networks, either vertical or horizontal, are more frequent in the upper part of the chain, linking grape growers and wine makers, i.e. production networks, but are also found in stages of distribution and supply of services (Caffagi and Imacieli, 2010). The wine networks can be contractual, organisational (e.g. cooperatives, for

profit and not-for profit enterprises) and mixed. Contractual relationships tend to be relatively more informal than organisational, using not highly detailed contracts. Contracts, even oral, are generally enforceable, litigation is low and disputes are normally solved through negotiations and not through the judicial process, reducing the transaction costs.

As a business strategy, the adoption of a specific network depends on the characteristics and profile of its members. Based on a theoretical review, Rемаud and Couderc (2006) characterised the wine SMEs profile according the firms' behaviour as (a) *defenders*, firms that strive to protect their mature markets and their main objective is to improve competitiveness; (b) *prospectors* or searchers for new market opportunities, improving constantly the product portfolio and basing their activity on a strong culture of innovation and entrepreneurial orientation; (c) *analysers*, firms that search for stability of their offer, preferring to stay and compete in low competitive markets and being well prepared to respond to unexpected market changes; and (d) *reactors* or firms that show passive behaviour and a complete lack of strategy for searching for new markets. They conclude that a differentiation strategy based on prospector behaviour and on product quality image is more profitable than the one based on defender, analyser or reactor behaviour.

The Demarcated Douro Region

Archaeological records indicate the presence of vineyards in the Douro region since Roman times. However, the emergence of the present DDR dates from 1756, when it was recognised as one of the first demarcated regions in the world, already applying a legislative framework similar to that currently used in the most famous traditional wine regions. The DDR is a region where the *terroir* characteristics are present, as clearly expressed by UNESCO which classified part of this region as a cultural evolving landscape and a world heritage site, according to the following criteria: (iii) *The Alto Douro Region has been producing wine for nearly two thousand years and its landscape has been moulded by human activities*; (iv) *The components of the Alto Douro landscape are representative of the full range of activities associated with winemaking - terraces, quintas (wine-producing farm complexes), villages, chapels, and roads*; (v) *The cultural landscape of the Alto Douro is an outstanding example of a traditional European wine-producing region, reflecting the evolution of this human activity over time*.

The DDR covers an area of 250,000 hectares, of which about 18% is occupied with vines. According to the Centre for the Research, Study and Advancement of Mountain Viticulture, the DDR is the largest and most heterogeneous mountain wine region in the world, characterised by valleys strongly embedded by steep high slopes along the Douro river and its tributaries, dominated by shale and cold winters, hot summers and low rainfall. We are in the presence of hillside vineyards, more than 40% of the vines being in plots with a slope steeper than 40% (Quatenaire Portugal/UCP, 2007), which makes mechanisation very difficult and requires manual labour, consequently leading to high production costs. As with the oldest wine regions of Europe, the

Table 1: Wine production in the Douro Demarcated Region, 2005-2009.

Year	Port wine (hl)	Still wines (hl)	DDR Production (hl)	Port wine / DDR production (%)	Port wine / Portuguese production (%)	DDR production / Portuguese production (%)
2005	845,169	873,604	1,718,773	49.2	11.6	23.7
2006	867,107	850,766	1,717,873	50.5	11.5	22.8
2007	877,405	562,786	1,440,191	60.9	14.5	23.7
2008	871,864	502,047	1,373,911	63.5	15.3	24.2
2009	773,718	552,657	1,326,375	58.3	13.2	22.6

Source: Authors' computation from data collected by the *Instituto de Vinho do Douro e Porto* and the *Instituto da Vinha e do Vinho*.

property structure in the DDR is skewed. The 45,160 ha of vineyards are distributed amongst 39,506 viticulturists, an average farm size of 1.14 ha. However, roughly 35% of the DDR area is owned by just 810 viticulturists, an average of 19.7 ha. Most of these farms belong to wine producers and traders of Port wine. In contrast, most small and medium size viticulturists are members of wine cooperatives (Rebelo *et al.*, 2010).

Two categories of wines are produced in the DDR: Porto wine and still wines. The regulatory entity (*Instituto de Vinhos do Douro e Porto - IVDP*) supervises the production and commercialisation of both wines. Historically the main production of the region is Port wine, a product highly regulated² since the creation of the DDR. In recent years the total annual DDR production has averaged 1,515,425 hl (an average of 34.6 hl ha⁻¹), around 24% of the Portuguese wine production (Table 1). Port wine represents 55% of the DDR production and 13% of the domestic production.

Port wine and still wines have different market positions. The Port wine has a story of more than two centuries of being exported, albeit with cyclical movements. Recent data (Table 2) shows that presently the Port wine is witnessing a negative phase, expressed by a 11% sales decrease in volume and 13% in value between 2009 and 2005 (Rebelo and Caldas, 2011). The domestic demand remained relatively stable, around 13-14%, in quantity and 15-16% in value. Unquestionably, it is a globalised product, sold around the world, although the main market is the EU followed by the United States and Canada.

Regarding still wines, only a part of the total production is sold as AOC wines (Table 3). In the 2005-2009 production period, the share of AOC in still wines increased, reaching the maximum (71%) in 2008. The remaining production (table wine) is essentially vinified by cooperatives (Quaternaire Portugal/UCP, 2007). In 2009, the exports of the DDR's AOC wines represented around 26% in volume and 30% in value, with an average price per litre of EUR 2.97 in the domestic market and EUR 3.59 in external markets, averaging EUR 3.13.

Over the last five decades, important structural changes have occurred in the DDR wine industry, making it more horizontally/vertically integrated. In the 1960s, the formation of cooperatives introduced significant changes in the supply chain, becoming intermediaries between viticultur-

Table 2: Sales of Port wine, 2005-2009.

	2005	2006	2007	2008	2009
Domestic market					
Volume (hl)	129,330	130,860	128,430	125,100	110,160
Value (10 ³ EUR)	63,029	64,224	61,704	59,578	51,874
EUR litre ⁻¹	4.87	4.91	4.80	4.76	4.71
Exports					
Volume (hl)	807,750	785,250	814,050	767,070	725,940
Value (10 ³ EUR)	341,930	331,685	342,550	316,222	300,266
EUR litre ⁻¹	4.23	4.22	4.21	4.12	4.14
Total					
Volume (hl)	937,080	916,110	942,480	892,170	836,100
Value (10 ³ EUR)	404,959	395,909	404,254	375,800	352,100
EUR litre ⁻¹	4.32	4.32	4.29	4.21	4.21

Source: IVDP (www.ivdp.pt)

Table 3: Sales of in the Douro Demarcated Region, 2005-2009.

	2005	2006	2007	2008	2009
Domestic market					
Volume (hl)	230,481	268,956	308,520	279,369	222,453
Value (10 ³ EUR)	51,866	62,374	70,070	70,645	66,156
EUR litre ⁻¹	2.25	2.32	2.27	2.53	2.97
Exports					
Volume (hl)	49,545	58,140	69,822	74,646	77,202
Value (10 ³ EUR)	16,853	20,717	25,243	26,977	27,680
EUR litre ⁻¹	3.40	3.56	3.61	3.61	3.59
Total					
Volume (hl)	280,026	327,096	378,342	354,015	299,655
Value (10 ³ EUR)	68,719	83,091	95,313	97,622	93,836
EUR litre ⁻¹	2.45	2.54	2.52	2.76	3.13
Sales of still wines / Production of year					
	0.32	0.38	0.67	0.71	0.54

Source: IVDP (www.ivdp.pt)

ists and traders. Until the mid 1980s these cooperatives were mainly focused on vinification and storage activities, selling almost all of their wine production in bulk to traders. After the entry of Portugal into the EU in 1986, cooperatives began to sell in bottles, especially still wines. Moreover, firm concentration accelerated in the Port wine sector (Rebelo and Correia, 2008) along with the upstream integration of traders, who planted new vineyards and built new wine facilities. At the same time the still wines witnessed a phase of downstream vertical integration, since the larger grape growers also became wine producers, yielding the so-called wines of *quinta* (farm).

Following the complex nomenclature adopted in the DDR, the IVDP registers 81 entities with economic status in the Port wine subsector and 269 in the still wines subsector (Quaternaire Portugal/UCP, 2007). Concerning Port wine,

² The grapes used to produce Port wine are selected according to quality criteria based on a scoring method that considers soil, climatic and other agricultural parameters. Based on sales, stocks, yields forecasts and commercialisation expectations, every year the IVDP issues the 'statement of grape harvest' or *Comunicado de Vindima*, defining the amount of must that can be used in Port wine production (*beneficio*) and how it is distributed by plots.

31 are traders (firm or group of firms that trade wine products, including grapes to process, in bulk or retail), and 50 are wine producers (firms that make and bottle wines from fresh grapes from its own farm or bought from other grape growers, but assuming the exclusive responsibility for the final product, the bottled wine). In the case of still wines, 196 are wine producers, 42 are traders and 31 are wholesalers (firms or groups of firms whose activity include the whole-sale of wine and by-products of wine, in bulk or bottled). Some players have simultaneously more than one statute.

Rebello and Caldas (2011) concluded that, as with other traditional European wine regions, the DDR shows a typical *terroir* model where (a) the number of critical actors is low and the firm size is dominated by micro and SMEs; (b) there is some innovation, albeit not continuously, classified between low and high, that can be fostered through an increase in the level of trust; (c) the levels of skills and technology are medium-high; (d) there are some links between the players of the cluster, but the knowledge transfer circuits can be improved and more extensive; (e) there is some cooperation between the players; (f) during recent decades the segment of still wines suffered important changes and the exports are inserted in the medium-high segment; and (g) cooperation through networks between the different cluster players needs to be amplified for a generalised and improved diffusion of knowledge and skills.

The Douro Boys informal network³

With Portugal’s entry into the EU in 1986, a high number of DDR grape growers started to develop their own labels and bottle their wines rather than selling the grapes to Port wine shippers as they had done for nearly two centuries. These new start-ups produced predominately red still wines. While these new brands made by well known Portuguese consumers found heavy demand in Portugal, the entry into international markets became quite difficult, as the Douro wine region was not known at all, and therefore did not represent a category to be included in the wine lists and shelves.

In 2003, five top-quality wine producers of the Douro region (Table 4) discussed how they could pool their efforts to gain more weight and importance in the international market. The decision was taken to concentrate on public relations (PR) only: events, press releases and communication for wine experts (such as media, trade and gastronomy) in the target markets. The group also decided not to build an association or formal organisation – the Douro Boys were and are an informal network: just five firms that on some occasions show their wines together, and in many others work individually and even compete against each other to gain market share.

Table 4: Main economic characteristics of Douro Boys’ members.

Name	Description
Quinta do Vallado	Quinta do Vallado was first mentioned in 1716. Since its foundation and until 1987, the main activity was the production of Port wines (Ferreira). After 1990 the main activity became the production and commercialisation of still wines, under the brand ‘Quinta do Vallado’. When starting with the Douro Boys project in 2003, Quinta do Vallado was cultivating a total wine growing area of 63 ha. In 2011, 105 ha of vines are cultivated. In 2009, the winery was increased and a new fermentation warehouse and aging warehouse, with a capacity to hold up to 1,200 barriques, were built. In 2005 Quinta do Vallado inaugurated a ‘Country Hotel’ in the historic main Quinta building. In 2012 more guest rooms will be added.
Niepoort	Niepoort was established in 1842 and was a classic port wine shipper until the late 1980s when it opened a still wine range. In 1987 Niepoort started to have vineyards on its own (25 ha of old and new planted vineyards). The first red wine ‘Robustus’ was vinified in 1990. Redoma, Batuta, Charme and Vertente followed in the upcoming year. Now the vineyard area is 70 hectares. The wines of Niepoort were already known in international markets before the foundation of the Douro Boys. Niepoort itself has created a new table wine with exciting labels for each different market, Diálogo in Portugal, and set the base for an export success with this typical Douro wine. Since the 2007 harvest, the wines are vinified in a new and luxurious winery in terms of space: throughout 5,000 m ² of space, there is plenty of room for many small details that function perfectly and are remarkable in quality.
Quinta do Crasto	Quinta do Crasto was first mentioned in 1615. Since 1994 it has been an independent self-marketing quinta and, apart from the Port wine, for every Douro quinta, started with red wine vinification. Now, only the very best Port wines are bottled under the label of Quinta do Crasto, the remaining wines are sold in bulk to Port shippers. In 2002 the vineyard area was 70 ha, now it has increased to 230 ha. Besides the winery, Quinta do Crasto is also investing in wine tourism, in 2011 opening a wine shop.
Quinta Vale D. Maria	The history of the brand ‘Quinta Vale D. Maria’ started in 1995, when Cristiano van Zeller purchased his first vineyard ‘Quinta de Vale de Mina’, to which he added Quinta do Vale Dona Maria in 1996. In 2002 he had 15 ha of vineyards. Now he produces wines from 40 ha. In 2010 a guesthouse was constructed and the old lagares remodeled along with the construction of a new press house and a maturing cellar.
Quinta do Vale Meão	The history of Quinta do Vale Meão dates back to 1877. In 1998 Francisco Javier de Olazabal, former president of A. A. Ferreira, and his son developed the project ‘Quinta do Vale Meão’ and launched the first wines in 1999. The area of vineyards increased from 50 ha in 2002 to 81 ha presently. The winery is also modernised.

Public relations strategy

The fact that the Douro region was not known for the production of still quality wines can be considered an advantage: the image and positioning of the region was not set. Port wine is connected mostly with the big traders (or shippers), not to the *terroir*, who dominate the world market and very often led to heavy price competing wars. From the very beginning it was clear that the group would focus on (red) AOC wines and adopt a ‘top down’ strategy: positioning the Douro as a high-end wine region and as a new discovery for wine experts and wine lovers.

The PR strategy was split in two chapters: All ‘theory’ (communication about the wines themselves) has to be very serious, rather technical, trying to explain the natural and scientific background conditions of the very individual character of Douro wines. In contrast, the ‘praxis’ (moments of

³ The contents of this section is mainly based on knowledge that the co-author Dorli Muhr gathered as a consultant in the conception, design and implementation of the Douro Boys project and also in unstructured oral and written information provided by each firm of the group.

where and when the wines are consumed) will be relaxed, informal and driven by friendship. The ‘informal’ praxis was an important differentiating decision. The ‘serious’ and more scientific approach to wine is usually adopted by French châteaux or big companies that serve and consume wines (black tie dinners, elegant cocktail receptions). The five wine producers wanted to highlight their small family-owned structures and their direct connection to the earth by a more relaxed and distinctive attitude. It was agreed that no artificial title should be created for the group. As the main goal was to ‘put the Douro on the map’ it was clear that ‘Douro’ should be the focus of their title. Adding ‘Boys’ to the Douro was the way to highlight the informal attitude.

Douro wines are not ‘easy drinking’ ones. Due to their high acidity and tannin contents they are mostly appreciated by experienced wine lovers. Therefore it was agreed that PR efforts should focus primarily on mature markets (Western Europe, United States) as well as on Portuguese speaking countries/territories (Brazil, Angola, Macau), where the character of Douro wines is already known. Within those markets ‘generation treaters’ (experienced wine lovers with high knowledge and regular consumption of rather expensive wines) are the chosen target group.

Public relations activities and outputs

Activities and outputs consist of ‘theory’, ‘praxis’ and ‘press support’, as follows.

‘Theory’: an in-depth presentation was created that explains the very special climate and soils of the Douro, the great potential of the original varietals, the historical development of the Douro wine industry, as well as the individual manners of wine making in Douro. This presentation is shown to the trade, to the press and to the sophisticated sommeliers in seminars and workshops around the world in order to provide them with sales support, stories and background data. Wine professionals in all leading markets attended seminars in Germany (Hamburg, Munich, Frankfurt, Düsseldorf), Switzerland (Zurich), UK (London), the United States (New York, Washington, Chicago) and Denmark as well as in Angola, Macau, Japan, Hong-Kong and Shanghai.

‘Praxis’: the Douro Boys have become famous for their parties and unconventional events. Legendary is a ‘pool party’ organised regularly during the Vinexpo in Bordeaux. While most companies with high-end wines focus on high-end events, the Douro Boys invite their customers to jump into the refreshing water and have a relaxed garden party in swimming trunks instead of wearing white ties and formal dresses.

‘Press Support’: little was known about the Douro and only a few people have visited this spectacular and world heritage region. Therefore the most important duty was to deliver tailor-made information to the press and, most of all, impressive pictures. When the Douro Boys started their press relations, in 2003, from the very beginning they achieved a sensational media output due to PR material that was perfectly adapted to the requirement of wine and travel journalists. In the past eight years the wines of the Douro Boys members have been highly rated in national and international magazines and newspapers, and have won many awards (Muhr and Rebelo, 2011).

Economic evolution and self assessment

Closely related to the Douro Boys PR strategy and inherent increase in wine sales, its members have been expanding their production capacity, both in terms of grapes and winemaking facilities. Until 2010 the Douro Boys together have grown from 240 to 526 ha of vineyards, and from 460,000 to 2,300,000 of bottles of still wines.

In terms of market, in 2002 the domestic and export markets had almost the same weight and the average ex-cellar price per bottle was almost the same in both. Comparing 2010 with 2002, the average ex-cellar price per litre for export has fallen from EUR 6.42 to EUR 4.68 (to the DDR, this price is EUR 3.13). But the exports in bottles increased from 200,000 to 1,450,000 and in value from EUR 1,300,000 to EUR 7,000,000. In 2002 the exporting destination was Europe (UK, Germany, Switzerland and the Netherlands) and the United States. Until 2010 the Douro Boys increased the range of exporting countries mostly to Europe, Brazil, China and the United States. Otherwise, some of the Douro Boys created special brands for the world market with a slightly lower export price, assuming a clear top-down strategy, i.e. they started to increase their image in the exporting countries and sold mostly high-priced wines, than sold wines with lower ex-cellar prices, and increased both bottle units and value. Some of them have ‘only’ doubled their sales in bottles since 2002, but ex-cellar prices have increased as well. Relative to the domestic market, while the production has increased by 227%, the average price per litre is almost the same (2002: EUR 7.17; 2010: EUR 6.91, 2.2 times the average DDR price).

As nine years have elapsed since the beginning of the network and the size of the firms has increased significantly, each firm was asked to make a brief, critical analysis of the coalition, highlighting most relevant aspects as well what should be the path and future developments, taking into account the present international wine environment. The opinions expressed are as follows:

- **Quinta do Vallado:** *“Although built in 1716, and belonging to the same family for many generations, the first real challenge, in terms of the marketing of our wines, only happened approximately 20 years ago. In fact, until then, our activity was limited to the production of Port wines, which were sold ‘in bulk’ to our family’s Port House- Ferreira. But when we decided, in the 1990s, to start a new project, involving not only the production, but also the bottling, and marketing of our wines, focusing on dry wines, and with a new brand, we soon found out that we were too small, and with limited means, to show to the world a new brand, from a region which was not ‘on the map’ for still wines. By chance, we found out that, at the same time, a few other producers, with similar size, and ‘business culture’, were facing similar challenges. Therefore we joined our forces. The idea was good, we made a plan, and it was successfully implemented, namely: access to the most influential wine experts and ratters, travel and generalist media in the world; great exposition in these media; great ratings to our wines, result of the quality, but also of the public ‘exposition’; strong contribution to*

the image of the 'Douro Valley'; strong impact in the recognition, and image, of our brands. And all this was achieved with 'limited and affordable' means". (João Alvares Ribeiro, Quinta do Vallado).

- **Niepoort:** *"Niepoort was always a small company that did not own any real estates (not even the lodge in Vila Nova de Gaia). The change started by buying the Quinta de Napoles in 1987 to produce ports and still wines. In the first phase (1987 to 1999) Niepoort had no financial resources and made everything under bad conditions. Phase 2 (until 2004) created better conditions for making and aging the wines. Phase 3 started with the entrance of a fine oenologist, Luis Seabra, and going more and more natural and making better, finer more distinctive wines. Phase 4 consists in building a new winery at Quinta de Napoles and buying the Osborne Cellar in Villa Nova de Gaia, both, giving space, capacity and logistic capacity to grow. Creating the group of Douro Boys was important for the Douro, for Portugal and for Niepoort in helping the Momentum of phase 3 and phase 4. Niepoort more than doubled turnover from 2002 to today and is about 4 times the size in turnover from 1987. The Douro Boys have done more for Douro and Portugal in seven years than all the other producers together in 20 years. The great thing about the Douro Boys is the fact that we are not too many. We have five fantastic wine producers each with a different style, which is important and healthy. We got a driving force that keeps the 'organised' and working in the right direction with meticulous work and creative actions".* (Dirk van der Niepoort, Niepoort Vinhos).
- **Quinta do Crasto:** *"The new marketing project of Quinta do Crasto started in 1994, with the first production of a still wine and selling older stocks of Vintage and Late Bottled Vintage Ports. Until 2002 we had great challenge and tremendous efforts to succeed in the international market, once Portuguese and Douro wines were practically unknown. With the creation of the Douro Boys new opportunities came along and we were able for the first time to gain access to key media and opinion makers in the wine world. With the recognised high quality of the Douro Boys wines, although some wines are produced in very small volumes, we were able to create a critical mass for Douro wines around the world and today we can clearly see very positive results, although there is still a great deal of work to be done. With the unique natural conditions of the Douro Valley, our indigenous native varieties and historical background of each of our family Quintas, we can certainly aim for higher goals in the future and the potential is enormous".* (Miguel Roquette, Quinta do Crasto).
- **Quinta Vale D. Maria:** *"At the end of 1993, when leaving do Port producer Quinta do Noval, it was my ambition to contribute to the development of independent producers in the Douro, thus not only contributing to the establishment of a new and strong wave of innovation in the region, but also complementing, and at the same time diminishing, the*

region's dependence on Port wine. The richness of the Douro Region and its promotion could be developed into new fields using the different characteristics that make it unique in the world - its geography, soil and microclimate; the numerous different high quality native grape varieties; the different style of wines those grapes can produce, from all styles of Port and other fortified wines (Muscatels) to white and red still wines; all the different Quintas and their ancient history. All serve to accentuate and enhance the uniqueness of the region.

Following these guidelines, I started to develop different wines and Ports produced exclusively from grapes grown in different Quintas. After having started, in 1994, helping projects owned by different wine producers, namely Quinta do Crasto and Quinta do Vallado, it was natural to start looking at having my own vineyards. Quinta do Vale D. Maria was acquired from my wife's family in 1996. Here, with its old vineyards full of an extraordinary diversity of grape varieties, I was able to consolidate the idea of the Douro's uniqueness in producing completely differentiated wines of a world class quality. This was achieved also by complementing the most modern oenological technology with the most traditional way of making wines in the Douro: using lagares and foot treading. Both at Quinta Vale D. Maria and at the other projects I was working with back then, it was very clear to me and the rest of all our friends that only a full cooperation between all of those in full motion in the Douro, Niepoort and later in 2001 Quinta do Vale Meão, would enable the region and all of us to create the sufficient critical mass to present ourselves into the world of wine with the maximum strength.

The birth of the Douro Boys came as the natural step by turning the original very informal cooperation between all of us into a more formal, organised and thus effective group of producers. As a group we were able to spread our actions across the wine world, both together and in our different individual travels. We were also able to show around that the Douro wines' quality was not just a matter of luck or individual achievement but a real movement across the region, with a capacity to extend many different quality brands around the world". (Cristiano van Zeller, Quinta Vale D. Maria/Van Zellers & Co).

- **Quinta do Vale Meão:** *"When the Douro Boys project started we had just launched our first wines one year before, so practically for us there is no 'before and after'. Wine is probably the most scrutinised product in the world. When you aim at the high end of the market you must gain access to the different media that deal with wine in order to have your wines favourably reviewed, and this implies not only a total commitment towards quality but also to attract the attention of those media. The Douro Boys formula has proved to be very effective since we obtained coverage in the media that would be unthinkable if each of us would act individually and definitely contributed to 'put the Douro on the map'. Our main strengths are*

the quality and originality of our wines but also the historical background of our Quintas and our families, the attractiveness of the Douro landscape, and the fact that our visitors are welcomed by the very owners of the estate. I see the use of social networks and the promotion in the emerging markets (Far East, South America and Eastern Europe) as the main opportunities we should exploit". (Francisco Javier Olazabal, Quinta do Vale Meão).

Conclusions

Globalisation is a challenge but also an opportunity for the wine SMEs located in regions characterised by a *terroir* model. The literature review shows that inter-firm networks are able to take advantage from knowledge-based interdependence, connecting the several enterprises as knots of the networks. This normally creates an environment in which participants are prone to cooperate and discouraged from exiting or defecting. For it to be profitable and enforceable is necessary to adopt an adequate governance model.

The Douro Boys case shows how a very simple and informal network can be the engine of a sustainable development

of small wine producers located in an old, traditional and unknown wine region. This informal association has been active in the international wine market through collective presentation of its wines in tastings, fairs and other events. A coordinated strategy for the distribution of wine abroad is not an objective and has appeared only by chance. The possibility of more formal coordination has been discussed, but not advanced, due to the difficulties in defining and sharing reciprocal obligations, both in terms of costs and benefits.

The positive economic results of the initiative can be associated with (a) a clear objective (concentration only on public relations, essentially in marketing differentiation) and an adequate model of governance (simple and informal network); and (b) members that are prospectors (looking for new market opportunities), having a strong export orientation and a high culture of innovation on product, process and marketing.

The authors are aware that the paper only presents an exploratory analysis of a complex issue that deserves more empirical research, for instance via standardised interviews of actors (grape growers, wine producers, distributors and retailers) with different viewpoints and subsequent statistic and econometric analysis.

References

- Anderson, K. (2010): Contributions of the Innovation System to Australia's Wine Industry Growth. Working paper n° 0310. Adelaide: Wine Economics Research Centre.
- Anderson, K. and Nelgen, S. (2011): Wine's Globalization: New Opportunities, New Challenges. Working paper n° 0111. Adelaide: Wine Economics Research Centre.
- Aylward, D. K. (2004): Innovation-Export Linkages within Different Cluster Models: A case study from the Australian Wine Industry. *Prometheus* **22**, 423-437. <http://dx.doi.org/10.1080/08109020412331311650>
- Aylward, D. K. (2006): Innovation lock-in: unlocking research and development path dependency in the Australian wine industry. *Strategic Change* **15** (7-8), 361-373. <http://dx.doi.org/10.1002/jsc.768>
- Caffagi, F. and Iamicieli, P. (2010): Inter-firm Networks in the European Wine Industry. Working Paper Law 2010/10. San Domenico di Fiesole: European University Institute.
- Ditter, J. G. (2005): Reforming the French Wine Industry: Could Clusters Work? *Cahiers du Ceren* **13**, 39-54.
- Gwynne, R. N. (2008): Firm Creation, Firm Evolution and Cluster in Chile's Dynamic Wine Sector: Evidence from the Colchagua and Casablanca Regions. AAWE working paper n° 20. New York: American Association of Wine Economists.
- Larreina, M. and Aguado, R. (2008): Beyond the Cluster: How Wine Drives Regional Economy to Success: Oenopolis, the case of Rioja. *International Journal of Wine Business Research* **20** (2), 153-170. <http://dx.doi.org/10.1108/17511060810883777>
- McDermott, G. A. (2007): The Politics of Institutional Renovation and Economic Upgrading: Recombining the Vines that Bind in Argentina. *Politics and Society*, **35** (1): 103-143. <http://dx.doi.org/10.1177/0032329206297185>
- Morrison, A. and Rabellotti, R. (2010): Knowledge and Information Networks in an Italian Wine Cluster. *European and Planning Studies* **17** (7), 983-1006. <http://dx.doi.org/10.1080/09654310902949265>
- Muhr, D. and Rebelo, J. (2011): Innovation in Wine SMEs: The Portuguese Douro Boys. AAWE working paper n° 84. New York: American Association of Wine Economists.
- OECD (1995): The Measurement of Scientific and Technological Activities. Proposed Guidelines for Collecting and Interpreting Technological Innovation Data. Oslo Manual, 2nd edition, Brussel: European Commission and Paris: OECD.
- Porter, M. (1998): Clusters and the New Economics of Competition. *Harvard Business Review* **76** (6), 77-90.
- Quatenaire Portugal/UCP (2007): Plano Estratégico para os Vinhos com Denominação de Origem Controlada Douro, Denominação de Origem Porto e Indicação Geográfica Terras Durienses da Região Demarcada do Douro [Strategic Plan for Douro and Porto wines of Demarcated Douro Region]. Porto: IVDP.
- Rastoin, J. L. and Vissac-Charles, V. (1999): Le Group Stratégique des Entreprises de Terroir [The Strategic Group of Enterprises of Terroir]. *Revue Internationale PME* **12**, 171-192.
- Rebelo, J., Caldas, J. and Matulich, S. (2010): Performance of Traditional Cooperatives: the Portuguese Douro Wine Cooperatives. *Economia Agraria e Recursos Naturales* **10** (2), 143-158.
- Rebelo, J. and Caldas, J. (2011): The Douro Wine Region: A Cluster Approach. AAWE working paper n° 83. New York: American Association of Wine Economists.
- Rebelo J. and Correia, L. (2008): Port Wine Dynamics: Production, Trade and Market Structure. *Regional and Sectoral Economic Studies* **8** (1), 99-114.
- Remaud H. and Courdec, J.-P. (2006): Wine Business Practices: A New versus Old Wine World Perspective. *Agribusiness* **22** (3), 405-416. <http://dx.doi.org/10.1002/agr.20094>
- Touzard, J.-M. (2010): Innovation Systems and the Competition between Regional Vineyards. ISDA (Innovation et Développement Durable dans l'Agriculture et Agroalimentaire) 2010, Montpellier, France, 28-30 June 2010.
- Wolf, D. A., Davis, C. and Lucas, M. (2005): Global Networks and Local Linkages: An Introduction, in D. A. Wolfe, and M. Lucas (eds), *Global Networks and Local Linkages: The Paradox of Cluster Development in an Open Economy*. Montreal and Kingston: McGill-Queen's University Press, 1-23.