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Explaining regional dynamics of marketing strategies: the experience of the Tuscan wine producers.

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Abstract

In a traditional wine region such as Tuscany (Italy), the wine production is perceived by several industry players as weak and fragmented because it is mainly managed by small and medium-sized wineries that have limited market power compared to large companies and distributors. In this paper, we hypothesise that this problem was influenced - in a period of strong market growth - by producers' choices that underestimated the impact of several external forces (e.g. competition, changes in demand and regulation) and promoted strategies without considering their combination with key context-specific physical, structural and socio-cultural factors. The study investigates the origin of these marketing strategies confronted with the contested fragmentation, exploring both current and future trends of the wine market in Tuscany. The objective is to provide a better understanding on how the combinations between these factors and firm's activities define regional settings in which the different strategies are developed and how these settings can be used to promote more effective and calibrated strategies towards greater economic sustainability of the sector. The focus is to understand the nature and the dynamics of interlinkages between the adoption of quality-based differentiation strategies, the diversification of marketing channels, and their regional and local determinants. We adopt a mixed quantitative and qualitative research approach composed of an analytical framework, an econometric analysis, and interviews with wine producers. First, the method provides a conceptual framework to understand the interlinkages between producers' strategies and local and regional determinants. Then, the winery decision-making process is modelled through a two-by-two differentiation strategy model that represents the wineries' decision towards the adoption of PDO/PGI appellation or organic certification in relation with the choice of distribution channels. Through the reciprocal of the Herfindahl-Hirschman Index (HHI^{-1}) - calculated on alternative marketing strategies – we verified the extent of diversification of sale channels under the different quality choices (i.e. PDO/PGI and organic or without them). Then, the determinants of the choice of distribution channels were quantified by applying a censored regression model and the results were elaborated and discussed in the light of 32 producers' interviews. The main trend highlights the fragmentation of wine production that has been determined by the differentiation model adopted by the regional producers. The results confirm a great divide in strategies between those producing quality wines and those who do not: on the one hand being mainly involved in PDO/PGI or organic certification positively affects the choice of multiple distribution channels; on the other hand, those who are not involved in quality labels have concentrated their production in a restricted number of marketing channels. The analysis shows that different producers' strategies have been influenced by the interaction between structural factors, farm characteristics and *terroir* in response to external changes. It also reveals a transformation process in progress that involves the concentration of the supply chain. Producers are promoting greater consolidation and reassembling of the production through new producer networks and associations that aim to reduce the fragmentation and related weakness with new common strategies.

Keywords Marketing strategies, Wine Industry, HHI Index, Geographical Indication of Origin, Mixed method research

1 Background

In traditional and mature markets like wine, the search for a unique competitive advantage based on resources capabilities and quality (Edelman et al., 2005; Gimeno-Gascon et al., 1997) is considered no longer enough to secure financial sustainability (Newton et al., 2015). Today, the competition between wine producers depends on several factors (i.e. price, quality, innovation, etc.) including the ability to create more stable relationships with global distributors and supply networks (Visser and Langen, 2006). To be competitive, firms need to develop innovative products and processes that can improve the efficiency and the ability to adapt to the demand changes, facilitating the access and growth on new markets (Chang et al., 2011): in other words, firms need to differentiate (Porter, 1985) to reduce market risks and increase the access to new sale opportunities. Porter (1985) opined that the success of a differentiation strategy depends on the product’s role in the buyer’s value chain, which corresponds to the ability of the product to satisfy or determine buyer’s needs. Banker et al. (2014) confirm that firms with a proactive differentiation strategy obtain better results than those with a cost leadership strategy (i.e. firms that develop the lowest cost of operation in the sector). Therefore, if the increasing market concentration of retailers and suppliers (Santiago and Sykuta, 2016) creates bottlenecks for small and medium-size producers, the choices to differentiate products and adopt multiple sale channels on a regional basis (Ilbery et al., 2016) can reduce the risks associated with large distributors and increase the opportunities to achieve better returns.

Nevertheless, to foster the economic sustainability in the long run producers need a wider strategic approach calibrated to the different local factors that can play a key role in determining the success or failure of a specific strategy. Against this background, the differentiation can be made either with a better ability to use the available resources (Barney, 1991) or even through greater knowledge of structural factors and physical and socio-cultural characteristics of the territories (Gabriel et al., 2009) that have a significant impact on firms' investment and quality choices.

Because of the importance of origin in wine consumption choices (Bernabeu et al., 2008), the adoption of a Geographical indication (GI)[1] - such as Protected Designation of Origin (PDO) or Protected Geographical Indication (PGI) as established by Regulation (EC) No.479/2008 and Regulation (EU) No.203/2012) - in a production area characterized by the presence of a rich and well-known *terroir* can increase the firms' ability to differentiate successfully. According to Charters (2010) the marketing strategy associated with the *terroir* produces a comparative advantage that is characterised by inimitable natural resources endowed with local history and culture, specific knowledge, organizational and institutional connections between producers and barriers to entry. Differently, a low presence of these factors can limit the range of viable strategic alternatives to differentiate successfully (Newton et al., 2015). In addition to the origin and *terroir*, there are also other factors (e.g. the introduction of new grape variety, the organic elaboration, etc.) that can help wineries in communicating complex marketing messages and produce new strategies to achieve competitive advantages. These factors are linked with the territorial system where the winery operates. Whether these assets are embedded in the territory or introduced by the firm activities, producer’s ability is crucial to combine them into new narratives that can impact on the wine market. Thus, the dynamic combinations between these assets of the rural space and firm’s activities define the regional setting in which the different strategies are developed (Ilbery et al., 2016). Despite the importance of these characteristics and their interaction on the territory with the firm's activities and relationships, the literature provides only a partial view of their implication on

[1] A GI is a label used on products to indicate consumers the specific geographical origin and quality attributes (or reputation) that are intimately connected with the origin (i.e. the label identifies a product as originating in a given place). The Designation of origin (DO), such as PDO or PGI, is a category of GI. Both require a qualitative link between the product to which they refer and its place of origin. Both inform consumers about the geographical origin and the product's quality or specific characteristic of the product connected to its place of origin. In the case of a PDO, the link between quality and origin must be stronger than the PGI.

the management choices (Porter, 1980; Rastoin and Ghersi, 2010) or on firm's performances (Banker et al., 2014; Newton et al., 2015, Gilinsky et al., 2015).
Though most of these studies only focus on the effectiveness and the success of business models based on quality and denominations of origin (Malorgio and Grazia, 2007; Engelbrecht et al., 2014), while just a few studies analyse in-depth the relationship between these strategies and other regional and local determinants of producers' marketing strategies (Montaigne, 1999; 2001). Ditter and Brouard (2014), using the proximity framework, detail the *terroir-based* strategy of Cahors and Chablis wine producers in order to understand the challenges of the French wine industry. With regard to regional studies and local economic development literature, Ilbery et al. (2016) compare the development of the organic model in specific regions of England and Wales through the analysis of marketing channels and socio-economic factors that affect the geography of organic farming at regional and local scales. Despite these studies, to the best of our knowledge, no attempt has been made to explain the determinants of the wine differentiation model and of the choice of single or multiple sale channels within a regional focus. A deeper study of these regional factors could contribute to improving the knowledge about wineries decision-making processes and consequently to the design of policy measures that support the competitiveness of the sector. Furthermore, it could help wineries to obtain a clearer view of the potential impacts associated with their strategy and, consequently, to a correct formulation of it. Against this background, we assume that the problem of extreme fragmentation of the wine production in Tuscany (i.e. small and medium-sized wineries with limited market power compared to large companies and distributors) was influenced - in a period of strong market growth - by producers' choices that underestimated the impact of several external forces (competition, changes in demand and regulation) and promoted strategies without considering their combination with key context-specific, physical, structural and socio-cultural factors. Thus, the study investigates the origin of these marketing strategies confronted with the contested fragmentation, exploring both current and future trends in Tuscany.
The objective is to provide a better understanding on how the combinations between these factors and firm's activities define regional settings in which the different strategies are developed and how these settings can be used to promote more effective and calibrated strategies towards greater economic sustainability of the sector. The focus is to understand the nature and the dynamics of the interlinkages between the adoption of quality-based differentiation strategies (PDO, PGI, organic), the choice between single or multiple sale channels (i.e. diversification of marketing channels[2]), and their regional and local determinants.
We adopt a mixed quantitative and qualitative research approach composed by an analytical framework, an econometric analysis and producer's interviews. A mixed method enables to describe regional factors that impact investment in firm resources and quality choices and then determine alternative marketing strategies among Tuscan wineries. First, it provides a conceptual framework to understand the interlinkages between producers' strategies and local and regional determinants. Then, the winery decision-making process is modelled through a two-by-two differentiation strategy model that represent the wineries' decision towards the adoption of PDO/PGI appellation or organic certification in relation with the choice of distribution channels. Through the reciprocal of the Herfindahl-Hirschman Index (HHI^{-1}) - calculated on alternative marketing strategies - we verified the extent of diversification of sale channels under the different quality choices (i.e. PDO/PGI and organic or without them). Then, the determinants of the choice of distribution channels were quantified by applying a censored regression model and the results were elaborated and discussed in the light of 32 interviews to producers. The analysis is based on several data sources. The data used for econometric analysis relies on 2010 Tuscany census merged with a Regional database of public payment related to the Rural Development Program 2007-2013, single Farm Payments, and other first pillar payments received by farms in 2010. The interviews were

[2] The reference to "diversification of marketing channels", should not be confused in the analysis with the broader strategies of marketing diversification or farm diversification. Thus, in the analysis with the diversification of marketing channels we refer to the adoption of multiple sale channels.

intended to supplement the empirical analysis and to grasp further insights into the nature and dynamic of marketing strategies through the experience of the Tuscan wineries.

The mixed methodology provides a reliable starting point to understand the current and future wine producers' strategies and contributes to improve the understanding of the sector dynamics in one of the major wine regions of Italy. The analysis provides a systematic view to understand the key issues that affect the wine sector and emphasizes potential strategies to reduce the fragmentation of wine production. The improvement of strategic management can be a key element to boost the wineries economic sustainability. It suggests the importance for policy makers, producers, downstream processor and retailers of addressing an integrated view to analyse the marketing choices in order to understand and plan future governance decisions within the wine supply chain and associated policies.

The paper outline is the following: section 2 introduces the analytical framework developed in this paper, while section 3 presents the case study Region. Section 4 deals with the methodology and section 5 provides the results of the case study followed in section 6 by discussion and concluding remarks.

2 An analytical framework to understand the wine producers' strategic approach and regional and local determinants

The competitive advantage in the wine industry, such as in other food sectors, is pursued by increasing purchasing capacity, privileged access to scarce rural productive factors (i.e. land, cheaper or rare grape) and management specifications. These strategies limit productivity factors generating a 'managed scarcity' that in turn helps to maintain higher prices (Ditter and Brouard, 2014), cost leadership through economies of scale (Delord et al., 2015), economies of scope (Porter, 1985), quality differentiation (Corade and Delhomme, 2008), and product/process innovation (Jarrosson, 2004). Global competition is forcing regional and local firms to expand their distinctive competencies - and thus increasing differentiation - in order to overcome any location specific advantages produced by their rivals (Wiersema and Bowen, 2006). According to Duquesnois et al. (2010) and more recently Hammervoll et al. (2014), only few larger French wine producers choose a cost leadership strategy, while the majority of small and medium-sized firms pursue a niche or differentiation strategy. Against this background, the development of core competencies includes the control over quality via vertical integration and the capacity to reach consumer through different sale channels. These abilities are both influenced by context-specific rural assets (Leloup et al., 2005). For example, the cost of land - as a key driver of returns on capital (Coelho and Couderc, 2006) - becomes a crucial element for the vertical integration in grape growing, especially in regions characterised by the presence of GIs and where vineyards are a relatively costly and scarce resource. According with Ilbery et al. (2016) and Lobley et al. (2013), the choice of a particular form of investment and quality strategy (e.g. organic) may vary from one region to another depending on the different regional and local settings.

The existence of specific settings at the regional scale represents the first key concept of our theoretical framework. According to the literature (Gabriel et al., 2009; Ilbery et al., 2016), the regional setting represents the dynamic combinations between the resources of the rural space and firms and other local actors' activities. The resources include physical factors, agro-ecological conditions, as well as regulation, standards, other firm resource and socio-cultural factors belonging to the *terroir*[3] characteristics. In turn, a specific setting in response to external pressures can influence the factors from which it originated (thanks to the expression of specific strategies) and it

[3] According to Charters (2010) the *terroir* definition in the literature is very ambiguous, in our framework it represents an additional resource defining a set of characteristics that contribute to develop the regional setting. It explains how the *terroir* operates in relation to the other sets of firm resource and factor endowment in their interaction with the analysed marketing strategies.

becomes a driver of change[4], defining different dynamics that can vary from one region to another. Thus, we can analyse the wine supply chain dynamics according to the combination of regional and local factors that currently influence farmers' decision-making process. First, we explain how a specific setting can contribute to different strategies (the dynamics) and then we deepen the factors that can be part of the regional setting for Tuscan wine (for an extended review on these factors see Ilbery et al., 2016). But before going into detail with the conceptualisation of the setting for the Tuscan wine industry and of its relationships with producers' strategies, it is useful to introduce a map of the Regional wine supply chain (Figure 1) to analyse the most important source of differentiation for wine producers. Thus, the supply chain map can help to distinguish three strategic decision-making steps of wine producers that are relevant to understand the whole decision-making process and, therefore, the focus of our analysis. Although these different strategic approaches are not the sole sources of differentiation among wineries, according to Newton et al.'s literature review (2015) they are considered the three main sources of differentiation.

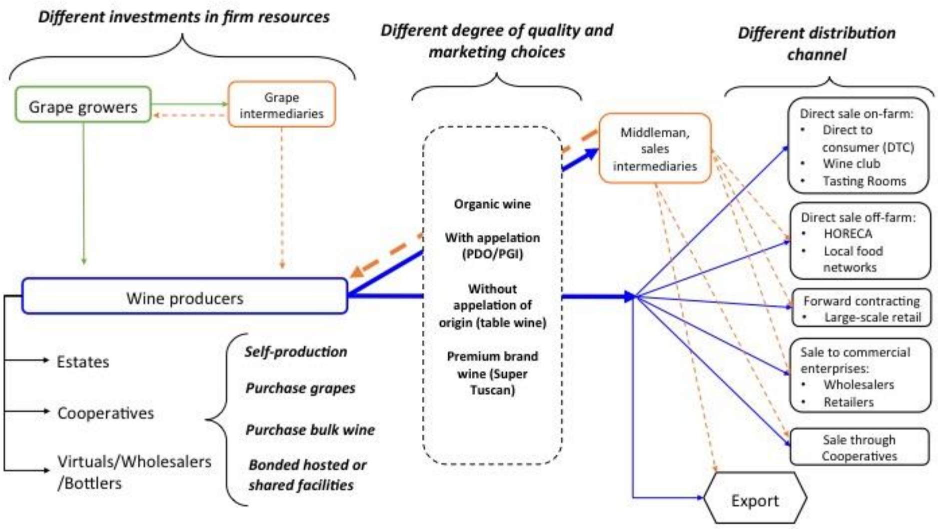

Figure 1. The wine supply chain of Tuscany in relation with the primary sources of differentiation

In the regional wine supply chain, one can distinguish the fully integrated estate that maintains the control over every aspect including the agricultural (i.e. growing grapes), industrial (i.e. processing via fermentation, blending, aging and bottling) and service phases (i.e. marketing and distribution). Cooperatives purchase grape or bulk wine and carry out the processing stage with the aim to sell the end product (wine) under their own label. The "virtual" wineries (i.e. those wineries that virtually possess the production factors necessary to make the finished product) outsource all these passages and produce wine at bonded hosted or shared facilities (for an extended definition see Newton et al., 2015). This first classification reflects the different investments in firm resources as main strategic decisions of a winery. Those decisions rely on the choice between developing entirely and

[4] To explain when a particular setting becomes a driver of change, we use an example from the recent evolution of the PDO for Chianti Classico. We know that the application of the standards established in the appellation for Chianti Classico constrains producers into a particular setting. For the sake of clarity, we assume that the setting in our example has been originated by the interaction between the evolution of the agricultural practices of the Chianti Area, the characteristics of the *terroir* and the market recognition for the Chianti Classico brand. Yet, this setting is not static, but in turn, it can drive producers to add new practices in the production protocol for Chianti Classico, from which again a new setting can be created. In the Supertuscans' case, when during the '80 several innovative producers start to blend the Sangiovese with international grape varieties (i.e. Cabernet Sauvignon and Merlot) it was first branded as table wine because it was impossible to blend Sangiovese with non-native varieties (i.e. Malvasia e del Canaiolo). After that, there has been a gradual transformation of the appellation for Chianti. Since 1994, the Supertuscans become PGI wines and the Chianti appellation allowed to blend Sangiovese to a maximum of 20% of grapes from international varieties, which is one of the key aspects of the Supertuscans' success in the world market.

internally the whole production process or outsourcing some of the agricultural and industrial stages. This strategic choice is also related to the winery's grape sourcing decision, one of the most important firm's resources. The fully integrated estate generally produces wine with its own grape production, but depending on the vintage, it may also purchase grapes from grape growers within a long and stable supply relationship. Conversely, Cooperatives and virtual wineries generally source their grapes from grape growers or purchased bulk wine. Though their action differs from the integrated companies, their strategies appear to be more related to financial leverage. According to Goodhue et al. (2013) the competitive advantage of a fully integrated firm is more related to the decision toward vertical integration or supply chain choices that can increase the control over transaction costs, branding and differentiation, which are narrowly linked to the different characteristics of the territories.
The second decision that is dynamically related to the first one, regards the degree of the wine quality and of the relative market segments for that type. The wine quality expressed by the GIs is a fundamental territorial asset (Ditter and Brouard, 2014), expression of a specific *terroir* that can have a great influence on competitiveness and firm’s resources investment decisions. The strategic view of *terroir* (Charters, 2010) is intimately linked to the place of production and is expressed using PDO/PGI labels and other territorial or civic standards (i.e. organic wine) or company premium brands (i.e. Supertuscans[5]). In this vein, the strategic choice of quality is related to an organized proximity (Porter, 1998) through a territorial institutional setting (Ditter and Brouard, 2014) that assembles the identity of the place and of its product. The *terroir* strategy, which is a collective one (Loubaresse and Pestre, 2012), produce inimitable natural resources, specific competencies, barriers to entry and a territorial ‘Ricardian’ rent (Ditter and Brouard, 2014). This strategy allows firms to develop unique and high-quality wines that may increase the consumer’s willingness to pay a premium for wine as a result of the perceived ‘territorial’ quality.
The third strategic decision for a winery is related to the choice of one or multiple marketing channels. The ability to reach new consumers is key to survive against the power of large distributors and the competition of high-volume and large-scale wineries (Delord et al., 2015; Newton et al., 2015). This can be achieved through the decision to distribute Direct To Consumer (DTC) via direct sale on-farm (i.e. tasting rooms, wine clubs, farm shops) or to distribute via direct sale off-farm through HO.RE.CA (i.e. local restaurants, wine shop, hotels) as well as other local channels (Brunori, 2012). According to Coppola (2000) and Gurau and Duquesnois (2008), since the price strategy with DTC channels leads to higher returns, producers should adopt different direct and local channels. As well as for the quality choice, the choice of a specific marketing channel relies on a complex interaction between the firm characteristics and its environment or territory. Changes in the regional and local setting as well as firm resource capabilities and behavioural attitudes, such as risk aversion, can have a relevant impact on the decision-making process. Even the large companies that - due to their size and structure - could only rely on economies of scale (Delord et al., 2015) prefer to reduce market risks by forming stable contacts with only a few selected distributors which sell their products to wholesalers, retailers, and bottlers. Furthermore, when large quantities are involved and the relationships are not defined through trust and experience, these wineries can adopt more formalized relationships through contracts, as in the case of sales to large-scale distribution. Another way to reduce market risks and overcome the bottlenecks in the distribution stage, due to the concentration operated by large actors, can be through sale intermediaries that constitute a link between the production and the distribution phase (Stern and El-Ansary, 1992). According with Baritaux et al. (2006), wine brokers generally act as intermediaries in wine exchanges between wine producers and distributors. They can act as

[5] The term coined around the mid-80s refers to a new style of high-quality wine that has innovated the traditional way in which Sangiovese variety was used at a regional level, introducing the possibility of blending Sangiovese grapes with Merlot, Cabernet Franc, Cabernet Sauvignon and Syrah. “Supertuscan” identifies a regional product of high price range with a style of winemaking that makes it unique and recognizable for its structural characteristics and its propensity for ageing.

representatives on behalf of the winery by connecting it with all the channels outlined above, or as agents who purchase and resell wine through the various distribution channels depending on the type of products they manage and network they work in. Also called "middlemen", they are crucial for export sales, which is a key channel for all kinds of producers.
Since this research focuses on those wine producers that have already made the first choice on investment in firm resources, the rest of the paper will focus on the relationship between the remaining two primary sources of differentiation: the choice of quality and the mix of marketing channels. According to the conceptualisation of Ilbery et al. (2016), in our theoretical framework these strategies are part of the regional setting that originate from the dynamic interaction with the other regional and local key factors that we grouped in three set of physical, structural, and socio-cultural factors (Figure 2). Thus, we define the agro-ecological conditions, the farm localization in less-favoured rural areas, as well as the population density and distance from the major urban centres (Gabriel et al., 2009). Lobley et al. (2013) included the farm type and size, and the access to processing and distributional infrastructures. Focusing on organic production, Ilbery et al. (2010) considered also the role of socio-cultural factors and the degree of marketing orientations.

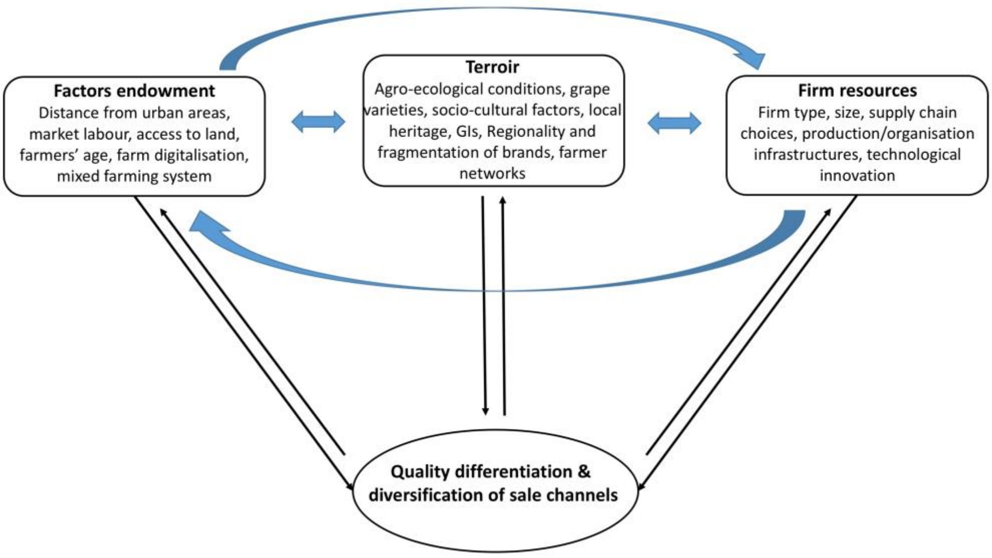

Figure 2. The setting of regional and local factors that influence farmers' decision-making process

The set of factors endowment includes physical factors, such as the distance from urban areas, the access to land as well as the distance from market labour, the farmers' age, the digitalisation pattern and the eventual environmental friendly practices adopted within a mixed farming system. The characteristics of the local *terroir* define the second set that includes the agro-ecological conditions, the type of grape and other regional socio-cultural factors, as well as regional brands, GIs, and the presence of farmers networks with a proactive role in the development and promotion of the territory. Finally, the final set is relative to firm resources, which includes firms' characteristics such as type and size, the type of supply chain (i.e. from fully integrated estates to virtual ones), as well as the access to production, organisation infrastructures and technological innovation. According with Ilbery et al. (2016) and Paasi (2010), the influence of these factors on the firm's strategic choices are not uniformly distributed and vary regionally in accordance with the different local assemblage and farmers' networks. Thus, the conceptualisation highlights the relevance of a qualitative and quantitative approach to understand the different wineries' decision-making process with regard to quality and marketing channels and their dynamic interaction with the regional and local characteristics.

3 The case study region

The Tuscany region is located in central Italy and borders Liguria to the northwest, Emilia-Romagna to the north and east, Umbria to the east and Lazio to the southeast (Figure 3). On the western part, it borders the Tyrrhenian Sea and the Tuscan Archipelago. According to the 6th Agricultural Census by the Italian National Institute of Statistics (ISTAT, 2010), the regional surface is 2,298,704 hectares, of which the total agricultural area is 1,295,120 hectares and the utilised agricultural area is 754.345 hectares. The total grape area of the Region is around 59,838.88 ha (almost 8% of the regional utilised agricultural area and 14% of the national grape area).

Figure 3. Map of the case study region

Tuscany is dominated by hills (66.5%) with few plains (8.4%) and it is surrounded and crossed by mountain chains (25%). The beneficial influence of the Tyrrhenian Sea on the coast contributes to a mild climate, whereas on the interior is more rainy and harsher with considerable fluctuations in temperature between winter and summer. Over the centuries, these environmental conditions together with social, economic and historical factors - which offer an important artistic legacy - have favoured the development of the Tuscan viticulture, contributing to develop a rich and well-known *terroir* that is globally recognized as a brand by itself (i.e. made in Tuscany or "Toscana"). In this system, the production of wine represents an important part of territorial identity. Despite the steady decline of the domestic demand and the relative reduction in the area planted with vines (i.e. between 1982 and 2010, the Tuscan area planted with vines decreased by 37% compared to 45% at national level), according to ISTAT data the Tuscan production maintained a positive growth rate (i.e. about 8% over the average production of 2009-2013) reaching 2.8 million hectolitres in 2015. Red wines, such as Chianti, Brunello di Montalcino and Vino Nobile di Montepulciano have marked the greater growth, about 12% compared to 5% of the total, reaching nearly 90% of regional production and thus confirming the popularity of black grapes in Tuscany (i.e. Sangiovese, Cabernet Sauvignon, Merlot and local Canaiolo, Colorino and Ciliegiolo). Despite the high value of Tuscan PDO wines (i.e. Chianti Classico, Brunello di Montalcino, Morellino di Scansano, Nobile di Montepulciano, Bolgheri, Vernaccia di San Gimignano), which form the 67% of the regional production, and other classic Tuscan brands such as "Supertuscans", recently there has also been a strong growth of the PGI and organic production. The quality chain in Tuscany has reached in 2018 a value in the order of a billion euros, 11% of the total value estimated by the Italian Institute of Services for the Agricultural Food Market (ISMEA) of 8.2 billion euros. While the growth of the former benefited from less bureaucracy and more production freedom associated with product

specification for PGI wines, the latter benefited from the recent recognition at EU level of the "organic" label through the Commission Implementing Regulation (EU) No 203/2012. The success of Tuscan wines is certainly also based on the specific structure of the production system.
In Tuscany, the number of companies with vines is over 22 thousand with an average size of 2 hectares. The market is mainly dominated by small and medium-sized companies, although there are some companies of considerable size. The majority are small sole traders (82%), whereas the rest is composed of a lower presence of partnerships (10%) and corporation (5%) and other types of farms (0.5%) - including cooperatives and associations (Infocamere, 2008).
According to the last census, in economic terms (i.e. the value produced) most Tuscan producers identify in wine production the core activity (i.e. as estates in the regional supply chain map), while the others are grape growers who sell their grapes to cooperatives or virtual wineries (though in terms of volume, grape producers represent a substantial share). Among the former, we find those vertically integrated firms that produce in-house (Pomarici and Sardone, 2001), i.e. from the cultivation of the vines to the harvest of the grapes, through all stages of processing - including the subsequent steps of ageing and conditioning - and finally marketing of the wine. Only 3,4% of those wineries are specialised in the bottling phase. Thus, in most cases there are third parties that perform the bottling service. Furthermore, there are also other actors (i.e. wholesalers) that can collect the wine in order to trade it to retailers after some final processing steps. What we assume in our analysis is that this configuration of the production system is related with the different investment, quality and marketing choices made at regional level. According to the regional supply chain map (Figure 1), it results in a differentiation model that - if compared to other regions of Italy (i.e. Emilia-Romagna and Veneto) – is strongly characterised by an extreme fragmentation of the offer. The fragmentation results from the massive presence of small and medium-sized vertically integrated family firms that control the majority of the value of the regional production[6] (Pomarici and Sardone, 2001). Whereas in other Italian regions where the wine sector is characterised by a cost-leadership strategy with more standard quality, the cooperative model has found more diffusion. In these regions, a higher number of producers are specialised in grape growing. Thus producers sell their grapes to large cooperatives, bottlers or wholesalers, which then carry out the processing steps and distribute the wine. Therefore, according with this model, few key players control the market, defining a regional offer that is consequently more concentrated.
In Tuscany, the same structure is confirmed by analysing the trend of the regional GIs that over the past 30 years have grown steadily more than other Italian regions. Thus, the presence of 57 GIs (shown in figures A.7 and A.8 in the Appendix A) as well as regional premium or super/ultra-premium brands (i.e. Supertuscans) and organic wine productions, can contribute to explain the extremely differentiated and competitive supply chain. In such competitive environment, the small and medium-sized firms, which aim to increase their profitability and to overcome the bottlenecks created by large producers and retailers, need to access different types of markets (i.e. mainly niche or export market) through several sale channels for achieving above-average (better) sale performance that can guarantee the financial sustainability (Leitner and Guldenberg, 2010). On the one hand, the choice of differentiation through the several GIs and other regional brands as a response to the increasing global competition and associated risks, in Tuscany has found a remarkable diffusion[7] compared to other regions. On the other hand, due to the transformation of the wine industry, the differentiation model has also brought several disadvantages among which

[6] The cooperative model in Tuscany has found limited development. Only in the Chianti area and above all in Montalcino we can find large cooperatives that concentrate most of the production and have a significant economic impact at the regional level.
[7] In accordance with the data published by the Italian Ministry of Agricultural, Food and Forestry Policies, Italy is the European country with the highest number of agri-food products with designation of origin and geographical indication recognized by the European Union (EU) and Tuscany holds the national record for the number of GIs in the wine sector.

the most important, the extreme market fragmentation[8]. The presence of a myriad of micro-brands and small firms (i.e. wineries that produce with less than 3 ha according to the last agricultural census), that often fail to find secure market access, is perceived by several industry players as a problem (Calabrese and Bosco, 2015; Scarso, 2017). If apparently it seems easy to enter the wine industry through price and quality differentiation, in reality, wine producers face huge entry barriers (e.g. high investment in land, technologies, and quality), as well as the pressure from international competition from large players and new producing regions. Against this background the high-fragmentation leads wineries to compete against each other with a reduced bargaining power compared to large players and only those companies that have an active and well-established connection with distributors can successfully reach the markets.
Finally, the product differentiation strategy and the search for both horizontal and vertical coordination also benefited from the positive role played by the export. According to ISTAT data, in 2015 the Tuscany region holds 17% of national exports of bottled wine. Thanks to the prominent role of the export, the Tuscan producers have encountered fewer obstacles to find the necessary resources to maintain investments and innovation, despite the recent general crisis and the related lack of liquidity in the industry. In 2015 the value of the export was about 902 million of Euros with a growth of 19% from 2009, which is above the average national growth of 5%, and the red PDO category gave its greatest contribution to this trend (about 504 million of Euros).

4 Methodology

The research foci are the two primary differences between wine producers: a) the choice of a specific degree of quality (i.e. PDO/PGI or organic), and b) the choice of distribution channel, considering also their respective regional/local determinants. According to the literature, these two strategic approaches could be a source of competitive advantage for wine producers and following Newton et al. (2015) we can represent their relationship with a simple two-by-two strategic model (Figure 4).

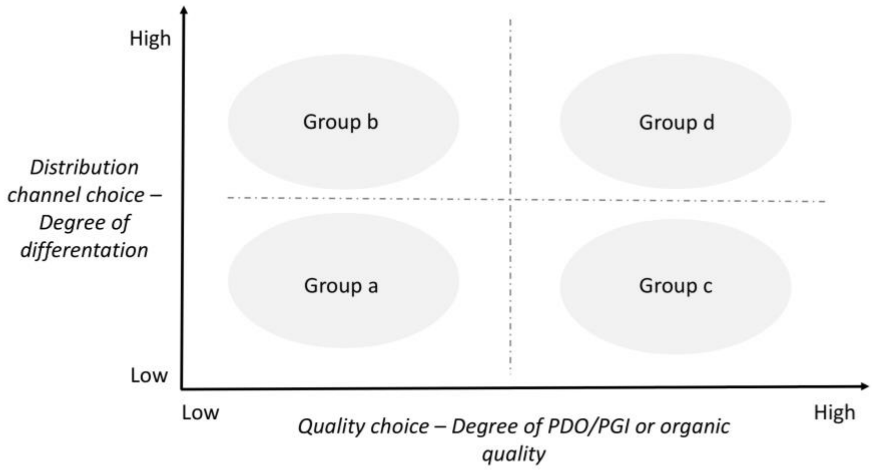

Figure 4. Two-by-two differentiation strategy model (Newton et al., 2015)

The model helps to visualize the full spectrum between the adoption of specific quality strategies (e.g. PDO, PGI, organic) and the choice of marketing channels, classifying wine producers into several groups. Clearly there are an infinite number of possible classifications and between one classification and the other there a gradient of potential mixed situations (i.e. the four quadrants of

[8] The existence of 22 thousand companies that own one, two, or at most three brands each, corresponds to the definition of a fragmented market. Given the plethora of wine varieties, if we look at the corporate structure, the majority of Tuscan producers own these brands unlike other countries, such as the United States where just a few companies own the majority of brands that represent over 80% of the domestic wine sold.

Figure 4 are separated by dashed lines to represent potential intermediate situations), but for the sake of clarity we define four distinct groups, which correspond to four main strategic orientations.
Group "a" represents wineries that produce a low percentage of PDO/PGI and/or organic wine, and that sell through few specialised distribution channels. Group "b" is composed of wineries that produce a low percentage of PDO/PGI and/or organic wine but rely on several diversified distribution channels. Then in group "c" there are those wineries that produce a high percentage of quality wine but use a few specialised distribution channels, while in group "d" there are the more diversified wineries that produce a high percentage of quality wine and sell it through several diversified distribution channels.
In accordance with the result of Newton et al. (2015), we can suppose that between the group "a" and "d" there is a positive relationship, thus in order to be more profitable or to gain a distinctive competitive advantage, producers who invest more in quality tend to differentiate their sales channels more effectively. To verify such relationship and to understand the nature and significance of the physical, structural and socio-cultural factors that influence the choice between single or multiple sale channels – by focusing on those firms that belongs to the groups "a" and "d" - we calculate the reciprocal of the Herfindahl-Hirschman Index (HHI^{-1}). Then, the determinants of diversification of marketing channels were quantified by applying censored regression model on a sample of 4,050 wine producers obtained from 2010 Tuscany census. The results have been then discussed and expanded through the additional information gathered through 32 in depth interviews that we have carried out between 2016 and 2017 on a random and heterogeneous sample of regional producers who have given their availability to be interviewed among those belonging to the census.

4.1 Using the HHI index to explore the degree of diversification of sales channels

The extent of diversification of sale channels is assessed through the Herfindahl-Hirschman Index (HHI) calculated on alternative marketing strategies (Lobley et al., 2013; Ilberly et al., 2010). While the HHI is commonly used for measures of market concentration (Djolov, 2013), at farm level it can also deliver a measure of the choice between single or multiple sale channels (e.g. see Lobley et al, 2013; Ilberly et al., 2010), making relatively easier to analyse differences in marketing choice within the study area. The choice of sale channels is measured as a percentage of production sold through each specific channel, considering the marketing strategies enumerated below: i) direct sale on-farm; ii) direct sale off-farm; iii) forward contracting; iv) sale to commercial enterprises; v) sale through cooperatives. Then, the determinants of marketing choice are quantified by applying censored regression model.
Following the specification of Ilbery et al. (2010) to measure concentration with HHI, we calculate the reciprocal function of HHI to obtain a diversification index (D) that measures the proportion of outputs sold through each marketing channel by applying the following formula:

$$D= HHI^{-1}= \left(\sum_{i=1}^{N} S_i^2\right)^{-1} \qquad \text{for N>=1 and D=1 for N=1} \qquad (1)$$

where S_i refers to the percentage of product sold for each sale channel i, and N represents the number of sale channels. If the HHI index illustrates the concentration of sale channels, then when HHI is equal to 1 it means that 100% of the product is sold via a single channel, while results close to 0 indicate that an equal proportion of product is sold through each considered marketing channel (Ilbery et al., 2016). Otherwise, if the diversification index measures the degree on which farms diversify marketing strategies, in case of a farmer who sells all his/her wine production through a single marketing channel the index is 1, while when all available marketing channels have the same share, the index reaches the maximum value (i.e. equal to N). Consequently, the closer to 1 is the index, the lower is the degree of diversification of marketing channels; vice versa, values from >1 up to N proportionally indicate the degree of diversification of the sale channels. Through the reciprocal of the HHI, the maximum diversification is proportional to the number of sale channels

analysed and more emphasis is placed on the tendencies towards a relatively small number of outlets, where the choice of multiple sale channels occurs.
As our theoretical model refers to diversification of marketing channels, the dependent variable in the regression model is (D), which measures the degree of diversification. The regional determinants of diversification are then tested by applying a censored regression (0-1); tested covariates belong to four mainly categories: a) factor endowment; b) *terroir*; c) firm resources; d) policies and regulations. While the first three are coherent with the above-mentioned theoretical model, the latter represents an additional external driver that enables farmers to changes attitude toward marketing channels diversification (Bartolini et. al., 2014), and that provides insights on policy and regulations' role in order to answer to our research questions. Table A.3 in Appendix A presents the explanatory variables used, grouped against the above-mentioned categories.

4.2 Producer interviews

The study adopted semi-structured interviews to obtain producers' diverse experience data in order to support the hypotheses tested through the empirical analysis. They were also fundamental to obtain additional information in order to describe the current and future trends of the wine sector (dynamics).
We have interviewed 32 small, medium-sized and large wine producers. Despite the small number of respondents may not represent all wine producers in Tuscany, the sample is descriptive and diverse in terms of farm size, type of productions, strategies and performances. Their production covers 5 DOCGs, 10 DOCs and the 6 IGPs (i.e. almost all Tuscan PDO and PGI denominations were covered). More in detail, around 50% of the interviewees produce organic and biodynamic wine, of which the majority is certified. The range in farm size of the vineyard size spans from 2 ha to 1500 ha out of the total farm size. According to the last 5 vintages, the average annual production is between 15 thousand bottles per year to over 2 million bottles per year, with an annual turnover that ranges between 100 thousand euros to 45 million euros. The number of employees of the sample ranges from 1 to 80. The sample well reflects the different kinds of Tuscan wine producers and the characteristics observed cover a wide and diverse spectrum of producers that includes classic brands as well as small independent wineries, and also organic and biodynamic producers.
The interviews were designed to explore the producers' strategies (quality differentiation and diversification of sale channels) as well as the significance of several conditions and local factors (i.e. see Fig. 2) in the development of those strategies. First, a short questionnaire was used to seek information about general production data and firm's characteristics. Then, information was elicited about the following dimensions: the strategies implemented; the marketing channels adopted; the degree of quality produced; the source of grape input; the factors that hinder or facilitate (or have hindered/facilitated) the development of their activities, as well as the perceived threats and opportunities that influenced or could influence the wine sector in Tuscany. This part of the interview focused on producers' strategies in response to emerging trends. Then, we have analysed the approaches of the firm to sustainability (i.e. survival, resilience and adaptability of the company). Finally, special emphasis was placed on quality and how producers are oriented towards quality goals.

5 Results

The quantitative analysis relies on data from the 2010 Tuscany census, merged with a Regional database of payments for both CAP pillars received by farms in 2010 (i.e. payments for Rural Development Programme 2007-2013, Single Farm Payments, and other first pillar payments). The database contains a large sample of individual farms representative of the entire population of wine producers, allowing to grasp both the heterogeneity and distribution of farm types and strategies.

While the database comprises about 80,000 farms, we have focused the analysis only on farms that produce and commercialise wine (about 4,050 farms)[9]. Among these farms, our analysis is not able (given the lack of data[10]) to discriminate between those wineries that produce and market bottled wine from those that market bulk wine. However, the lack of specification on data related to the sale of bulk wine is not binding for the scope of the analysis. First, because we assume the quality orientation (PDO/PGI and organic) as a main driver of the choice of sale channels and second because the sale of bulk wine does not significantly affect[11] the diversification of sales channels.
As explained in the methodology, using census data allowed to compute an index measuring the degree of diversification of sale channels among five different channels: direct to consumer at farm gate, direct to consumers outside farm gate, forward contract, sale to intermediaries, and sale to cooperatives. The analysis of the sale channels shows a positive relationship between the degree of quality produced and the choice of diversification of sale channels (table 1).

Table 1. Distribution of the degree of diversification of sale channels according with farm specialisation and quality production (the percentages are in brackets)

Degree of diversification of marketing channels	***Specialisation in wine production***		***PDO/PGI***		***Organic***		
	no	***yes***	***no***	***yes***	***no***	***yes***	***TOTAL***
Full concentration (D<0.1)	*982*	*1475*	*1293*	*1164*	*2260*	*197*	*2457*
	(70.29)	*(55.51)*	*(82.3)*	*(46.88)*	*(62.8)*	*(43.3)*	*(60.61)*
Low diversification (0.1<D<0.4)	*162*	*638*	*115*	*685*	*677*	*123*	*800*
	(11.6)	*(24.01)*	*(7.32)*	*(27.59)*	*(18.81)*	*(27.03)*	*(19.73)*
Medium diversification (0.4<D<0.7)	*141*	*333*	*93*	*381*	*399*	*75*	*474*
	(10.09)	*(12.53)*	*(5.92)*	*(15.34)*	*(11.09)*	*(16.48)*	*(11.69)*
high diversification (D>0.7)	*112*	*211*	*70*	*253*	*263*	*60*	*323*
	(8.01)	*(7.94)*	*(4.46)*	*(10.19)*	*(7.31)*	*(13.19)*	*(7.97)*
Total	*1397*	*2657*	*1571*	*2483*	*3599*	*455*	*4054*
	(100)	*(100)*	*(100)*	*(100)*	*(100)*	*(100)*	*(100)*

Source: Authors elaboration.

[9] These farms include all wine producers even those who are not specialised. The wine category is defined by specialist permanent crops and includes specialist vineyards, specialist quality wine, specialist wine other than quality wine, specialist table grapes and other vineyards. This classification and the specialization refers to the types of farming defined in the Annex I, Part C to Commission Regulation (EC) No 1242/2008 of 8 December 2008 and is calculated using expected income from the land use. For example, wine producers may have only a limited portion of grapevine and the majority of farm allocated to arable or other crops. For a complete definition of the types of farming see (http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32008R1242)

[10] The data on bulk wine differs from region to region depending on the vintage conditions, as well as the type of wine and type of winery. For these reasons, it is not easy to derive an exact percentage. In some regions, the sale of bulk wine could be more relevant (30%-50%), while in others less (lower than 10%). According to the report on Italian PDO and PGI wines of 2014 released by the Institute of Services for the Agricultural Food Market (ISMEA, 2014), with regard to PDO wine in bulk and marketed in bag-in-box, the data show in 2013 an amount slightly over 0.5% of the bottled PDO wine. For some PDO products such as Chianti, the estimate of the wine marketed as bulk and exported is around 10%, while for other types of wine the percentage is really low (i.e. less than 0.5%).

[11] It is acknowledged that the wineries sell more than 85% of the bulk wines via direct sale (Federvini, 2001). According to BMTI (2009), the incidence of the commercialised bulk wine on the export value decreased from 25% in 1993 to 8% in 2006, whereas bottled wines increased from 60% to 82% in same period. Against this background, we assume that the sale of bulk wine is significant for large companies that produce industrial wines and for those wineries who sell most locally (with a lower level of export). Both these types of firms are specialised only on a small number of distribution channels - such as wine cooperatives, or wine merchants or towards direct sales. As a consequence, for other types of companies, the sale of bulk wines is not significant (i.e. companies that diversify the sales channels).

Both quality of production and diversification of marketing channels are here presented as categorical variables. The degree of classification is disentangled in four categories moving from the choice of a single sale channel (D index proximal to zero) to three incremental categories qualified by increasing the range of 0.3. The choice of a binary representation - between the choice of adoption of a specific quality strategy or not (e.g. PDO or not PDO, organic or not organic) - exactly reflects the only possible choice that is in agreement with the current legislation and it is recognised by the market[12]. According with the types of farming defined by Commission Regulation (EC) No 1242/2008, Tuscan producers, including those specializing in wine, show a very high relevance of farms with commercialisation through only one marketing channel (about 61%). Thus, the majority of producers reveal a high concentration of sale channels. At the other end of the spectrum, among 40% of producers who rely on diverse marketing channels, only a few shows a high diversification index (8%). The degree of diversification is quite heterogeneous across quality productions. In fact, both PDO/PGI and organic producers have a higher attitude to diversify the marketing channels. 53% of Tuscan wine producers that adopted a PDO/PGI denomination use multiple sales channels - with 10% highly diversified - while 47% report to use a single channel. Among organic wine producers, 57% shows the choice of diversifying the sale channels – with 13% highly diversified - whereas the remaining 43% report the choice of a single channel. The relationship between the differentiation of quality (i.e. PDO/PGI and organic) and the choice of marketing channels can be further deepened analysing the spatial distribution of the diversification index for PDO/PGI wine producers (Figure 5).

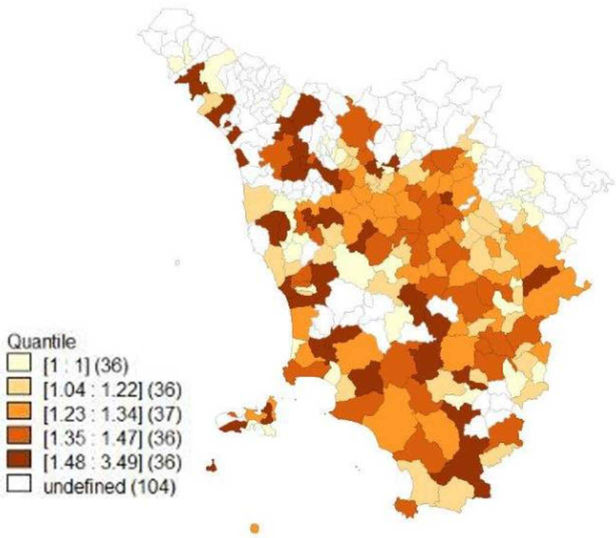

Figure 5. D=HHI^{-1} distribution for PDO/PGI wine producers
Source: Authors elaboration.

[12] Nowadays, following the recent reforms of the wine sector - Regulation (EC) No. 491 / 2009 - the market distinguishes only and exclusively between quality wines (PDO / PGI) and non-quality wines. Nevertheless, there are cases in which winery decides to produce an excellent wine (e.g. Supertuscans), but without resorting to the designation of origin, as well as producers who produce wine according to the organic method without being certified. In addition, these producers cannot use the standard brands to communicate their quality to consumers. Their wines will be classified by the market according to the regulation as table wines or not quality wines. Thus, they have to exploit other factors to communicate the specific quality of their wines (e.g. the signature of a popular winemaker, the focus on tradition through a family brand, the success obtained by the critics, the naturalness of the wine and historical and cultural elements of the territory etc.). Given the qualitative nature of this type of information, we will explore some of these strategies in the discussion of results through the experience data collected with interviews.

As expected, thanks to the 57 designations of origin in its territory, the Tuscany region shows a clear attitude for the diversification of sales channels. By contrast, for producers who do not choose PDO/PGI labels, the results show a greater specialisation of the sales channels (Figure 6).

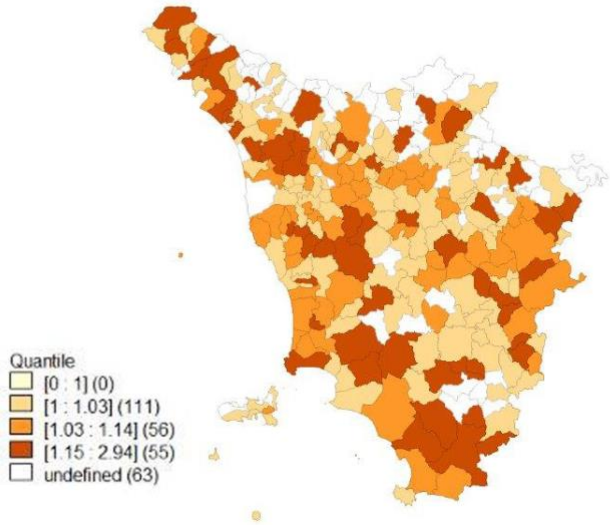

Figure 6. HHI^{-1} distribution for Not PDO wine producers
Source: Authors elaboration.

The qualitative information gathered through the interviews support these results. On the one hand, small and medium-sized wineries that produce a relatively small quantity of wine per year (i.e. approximately less than 130 thousand bottles per year) with PDO/PGI or organic labels stated that they sell their products through several marketing channels (e.g. direct sale at farm gate via tasting rooms, local wine fairs, local retailers). Among these wineries, we find some who decided to exit from the organic certification scheme, but they continued to apply the organic method. These producers, aware of the quality of their products or the strength of their own brand, continued to sell their products on different sale channels without using the organic brand. In some cases, they shifted to the "Toscana" PGI brand, while in other cases they elaborated a new marketing message using new quality attributes such as "natural wine". Furthermore, the search for multiple sales channels to reduce market risks - especially at the local level - has been repeatedly confirmed by the interviews. Among these producers, the trend towards export is one of the main strategies for diversifying sales channels. Within export strategies, the search for emerging markets with competitive prices is the most discussed one. Differently, among cooperatives, bottlers and merchants specialised in the commercialisation of large quantities of wine per year - i.e. the larger producers declared to sell more than 2 million bottles per year, which include both premium and standard wines - it emerged their decision to specialise through few distribution channels, mainly supermarkets and large retailers.

> We focus on few large distributors that assure us the sale of at least 80% of our products. We also have a small organic production, but we prefer to sell it through other local channels, mostly restaurants and on-site through our tasting room in our direct sale outlet.
>
> (COOP002)

These large producers have also stated - although to a lesser extent - to use some local sale channels. For example, some provide direct catering services at the farm gate. On the contrary, among those who have a long-term relationship with HO.RE.CA (i.e. hotels, restaurants, etc.), some have complained about the considerable delay in payments (sometimes later than 160 days after the

delivery) and the related lack-of-liquidity risk. Consequently, they reported their need to find more timely sale channels and their preference towards fewer but more secure sale channels. The large wine players who decided to be on the market with a cost leadership (i.e. producing with the lowest cost in the sector), according with the different vintages, prefer to focus on specialisation in order to minimize risks and to be able to sell the product at a price that "at least" covers the operating costs. The choice of few or a single sale channel in this case is driven by the long-term relationship that these wineries hold with few large buyers with strong buying capacity. Most respondents have cited on several occasions the importance for them of a greater contractual stability as well as timely and secure payments. Producers also declared to distribute through intermediaries and export brokers who secure sales with large buyers, both for the domestic and foreign markets.
In other cases, the choice to focus on few large sale channels is also linked to the opportunity to find more favourable sale prices:

> In order to minimize the risks associated with a low sale price due to price volatility from one vintage to another, we made a large investment in infrastructures for the long-term preservation of all the wine produced, thanks to the grapes supplied by our members. Thus, we are now able to wait the moment the market provides a more profitable price. Generally, it could happen that the product in a bad vintage is scarce, in that case, we are the only ones to have the required quantities and thus we can get a better price.
>
> (COOP001)

Consequently, it is not surprising that the analysed data show highly heterogeneous and quite complex strategies between those who produce and those who do not produce quality wines in relation to available wineries resources (i.e. farm type, size etc.). Farm size has prominent role in explaining the diversification attitude towards multiple sale channels. According to Delord et al. (2015) economic efficiency increases with the extension of the vineyard area thanks to the presence of economies of scale. Therefore, the opportunity to increase farm size and consequently the cultivation of the most profitable grape varieties can be a strategic choice to increase the profitability. In addition, to guarantee profit the winery should also reduce market risks associated with market inefficiencies. Therefore, as the size and production capacities increase, wineries also tend to diversify market risks by differentiating sale channels. Against this background, the results seem to confirm existing literature on scale economy in explaining the adoption of multiple channels (Bartolini et al., 2014). Nevertheless, in the case of wine, the interpretation is not straightforward, given the complex interaction of this choice with several other factors such as farm type, location and presence of distinctive resource such as *terroir*. The presence of these resources is closely connected with the idea of 'terroir as identity' and 'uniqueness' (Charters, 2010). The distinctive resources of the territory, which are physical, as well as linked to agricultural practices and socio-cultural factors determine the wine's character distinguishing it from one vintage to another and from other type of products. The idea of what ultimately makes a wine unique and inimitable comes from its *terroir* and from the interaction between key resources at the winemaking, cultural and business levels. Consequently, in some cases the resources can be distinctive as they are scarce (the *terroir* operating as a means of protecting the intellectual property of territory). In other cases, they can be produced locally thanks to the capacity and knowledge of the territory. Finally, the resources can be valorised through the marketing that creates distinctive character and narratives thanks to the success obtained in the market.
According to this view, in some territory, the expansion may take place on a land poorly adapted for developing quality wines and therefore to the differentiation of the product. Thus, the increase in farm size could be linked to a volume strategy that provides to increase the quantity of an industrial wine that is distributed with a few or only a single sale channel (i.e. through cooperatives). In other cases, when the expansion of the vineyard does take place on land belonging to a GI, the most natural strategy will be to look for sales channels that are suitable for the type of quality produced.

Thus, when producers choose to diversify through several brands they need to find an access to different markets that can take place through different sales channels. According with this background, our results show that farmers with large amount of land have positive attitude toward diversification of sale channels, but this choice, as we have seen above in detail, can be only partially explained through the size or the volume.
For those wineries that commercialise PDO/PGI and organic wines, the choice of diversification of sale channels is also confirmed by the positive value taken by the regressors "doc_all" and “d_bio”, which identify those producers who commercialise wines with a certified designation of origin and an organic label (Table 2). The two explanatory variables show that being involved in quality labels positively influences the choice of diversification of sale channels, confirming our hypothesis that quality is linked with the choice of multiple sale channels.

Table 2. Truncated Regression model results (non-significant variables have been omitted)[13]

Variable	*Variable code*	*Type*	*Coef.*
Commercialisation of PDO/GPI wine	doc_all	Dummy	**0.1365**
Share of grape on UAA	share_grape	Share	**0.1275**
Commercialisation of Organic wine	d_bio	Dummy	**0.0781**
Farm localised in urban areas	poli_urb	Dummy	**0.1313**
Farm location in marginal areas	rur_probsv	Dummy	**-0.7213**
HH lives on farm	live_on	Dummy	**0.0577**
Amount of total labour	lav_FTEall	Cont.	**0.0031**
Amount of HH labour	lav_FTEfam	Cont.	**0.0251**
Less than 40 years old	d_young	Dummy	**0.0384**
More than 65 years old	d_old	Dummy	**-0.0431**
High education	edu_high	Dummy	**0.0353**
Very Small farm (first quartile)	uaa_vs	Dummy	**-0.2341**
Large farm (third quartile)	uaa_l	Dummy	**0.0486**
Very large farm (fourth quartile)	uaa_vl	Dummy	**0.0983**

Source: Authors elaboration.

The analysis of the regional and local determinants of the choice of diversification of sale channels confirms the significance of some variables hypothesized in the conceptual model (Figure 2). From the set of factors endowment, results show that the farm localisation in urban areas has a positive influence on the choices of diversification (positive coefficient with a value of 0.13); while, on the contrary, the localisation in a marginal area returns a higher value of specialisation (the value of the coefficient is significant but negative -0.72). The results can be interpreted in the light of higher transaction and transport costs that farmers located in marginal areas have to endure in order to implement new and diversified marketing strategies.
From this point of view, the interviews brought at least one additional cognitive element. According to some respondents, the level of proximity to large urban centres in some cases can affect the choice of diversification rather than the specialization of marketing channels. For instance, wineries that are distant from the major urban centres but close or embedded in highly relevant touristic areas, they have opted to diversify their sale channels by taking advantage of the popularity of such places and of the relative economic opportunities through wine tastings, catering services for

[13] The log likelihood is equal to -1884.57 and AIC to 3823.14 and BIC to 3993.44.

wedding, HO.RE.CA channels, local historic celebrations, wine roads, wine and bike, wine trekking and small country fairs.

> For us, the tourist presence, especially in the summer season, is a very important condition. Thanks to tourism we are able to sell all the wine - with no stocks left in the off-season periods - through several local channels.
>
> (ORGANIC004)

In this case, the distance can be seen as driving factor in finding multiple sale channels, or a specific factor that contributes to create the exclusivity and uniqueness of the product associated with a specific *terroir*. Here, isolation creates an advantage in terms of inimitability and thus wineries can take advantage of tourist presences to sell wine.

Furthermore, according to Figure 2, the analysis shows how the determinants of the different marketing strategies are related with different intensity to firm resources (e.g. type of production, farm size), and *terroir*. As mentioned above, the choice of a specific quality positively affects the diversification of sale channels (coefficient for the choice of PDO/PGI is positive, with a value of 0.13, for organic is still positive but lower, with a value of 0.07). While the organic label is in general growing considerably in Italy, specifically for the wine market it has not reached such popularity yet. Therefore, wine producers who adopt the organic label choose to position themselves on a market niche that leads them to search for different sale channels, as it has been confirmed through the interviews. The organic producers reported that they preferably refer to several marketing channels; their focus is mainly on local food networks, through which they can promote the territory and communicate the true value of their organic products. This choice, therefore, is also intimately linked with intangible factors such as trust and local relationships that these producers have activated and maintained over time, with a sense of belonging to the local community.

Young and well-educated wine producers (less than 40 years old) show higher attitude towards diversification of marketing channels (positive coefficient with a value of 0.03). At the opposite end of the spectrum, old farmers, at least 65 years old, do not believe that diversification of sale channels has a positive impact (significant but negative with a value of -0.04). Beyond a certain threshold, the effort required by distribution strategies and related transaction costs may discourage the adoption. Thus, producers who have more than 65 years prefer to exploit the relational capital acquired and simplify the organizational choices by rewarding specialisation of marketing channels. Beyond a certain age, the strategies that can be adopted appear as adaptation or conservation strategies.

> We have had our sale agents for more than 20 years and we are confident of their value and of the results they can guarantee. In the past I personally travelled to many wine fairs, but today I do not have the same energy or time and often I find them not very useful and this is the reason why I prefer to rely on other consolidated channels and intermediaries.
>
> (WP001)

Education has a positive influence on the diversification of the sale channels (significant but with a small value of 0.03). The increase in knowledge, through an improved acquisition of information, may lead to a reduction in transaction costs and thus facilitate the distribution choices. One of the interviewees - a young entrepreneur of a 100-year-old company - with respect to its predecessors has brought sensible innovation by developing new brands and strategies. His company, which deals mainly with commerce like a "virtual" winery, follows a network strategy, coupled with organic diversification and a strong financialisation of the sales. With regard to the latter, he explained how his firm searches in foreign markets young technology start-ups and ICTs companies who mainly work on the online market. When he finds a promising business (characterized by high potential growth rates), stipulates a contract that provides to the company the financial liquidity required to develop the business (through a sort of credit line) in exchange for a part of the autonomy and control. For the company, the greater liquidity is necessary, especially in the first years of start-up and for the winery greater control means being able to use the capabilities of the start-up without acquiring it, thus saving the costs related to the acquisition and direct control. In the end, the return of this strategy is to achieve a higher presence on international markets by increasing direct control on commercial networks using the financial leverage.

Another point to discuss is the producer's choice to live on farm as it positively affects the choice of diversification of the sale channels (the coefficients is positive with a value of 0.05). According to the interviewees, those who combine production with their lifestyle tend to be more motivated to search new and more profitable sale channels through the diversification of the farm activities, particularly thanks to the rural tourism with on-site catering and direct sale through tasting rooms.

It is worth to notice here two common additional strategies reported by all respondents that - although not specifically addressed in the model - are key for producers. The first one concerns the export: all respondents have stated that they rely primarily on the export. The wineries need to find new outlets in order to cope with the decline of the domestic demand and the increased pressure on sale prices due to the increasing competition from other regions of Italy and foreign countries. The second common feature observed among all respondents has been the need to search and develop direct contact with consumers:

> One opportunity that we have in the future in order to raise our sale prices and to escape from the pressure that the large retailers and distributors exercise on us is to develop a greater direct contact with the final consumer.
>
> (WP015)

The interviews from this point of view provided also further elements on the influence of the regional setting in the choices of the Tuscan producers. In some cases, the *terroir* combined with relatively accessible factor endowment allocation (land) and a good market reputation (set of *terroir*) and favourable regulation (set of firm resource) have allowed the differentiation strategies to succeed; in other cases when the allocation of factor endowment has started to be scarce or there was a shift in the regulation, with the same previous combination the producers did not get the same advantage.

> About 10 years ago, in a context of growing competition and declining demand, we decided through some acquisitions to differentiate our products, before our wineries focused on Chianti. Thus, we moved to produce in other areas of Tuscany where at that time thanks to the work of some wineries the *terroir* of those areas had become popular (i.e. Bolgheri). After we observed that over the years other wineries arrived, attracted by this prestigious *terroir* and in an attempt to emulate our strategy. Nevertheless, we were among the first to acquire this advantage, many have then disappeared over the years. Today the cost of land is too high (200 thousand euros per hectare) and it is not easy to plant new vines due to the changes in the system of planting rights according to the EU regulation, so we are evaluating new strategies to further differentiate ourselves.
>
> (WP023)

In other cases, the producers have revealed how the combination of *terroir*, factor endowment and firm resources no longer guarantees the market success previously obtained by the differentiation strategy.

> When the most important winery of our PDO dropped out from the activity, we have suffered a lot from this change even though our area remains a very important *terroir* in

> Tuscany. That firm ensured contact with markets, and when it was stopped a period of decline for the popularity of our wines outside the island has begun. In contrast, we reacted by implementing the activities of promotion of the PDO consortium trying to substitute the key role previously occupied by that company. We implemented a greater coordination between the remaining wineries and we focused a lot on innovation on new grape varieties and traditional ones in order to develop new products capable to play a major role for the island.
>
> (WP030)

Finally, with respect to the information that we have collected through the empirical analysis and the interviews, some noteworthy trends also emerged. One example regards the recent attempt to overcome the fragmentation of the sector through a greater coordination effort and reassembling new producer networks that represent the sector on the markets. This strategy aims to increase the concentration of the offer and the bargaining power of the individual producers. Two concrete and opposite examples of this mixed public and private initiatives are the hyper consortia “AVITO” and the network of organic producers "Lucca Biodinamica". AVITO unites sixteen consortia of protected denominations of origin with five thousand producers, more than twenty thousand employees and the 70% of Tuscan wine production (1.8 million hectolitres out of a total 2.6 million), with a turnover of euros 1.2 billion of which 70% is generated by export. Lucca Biodinamica is a new association of organic producers that want to promote the true value of organic wines produced in the countryside of Lucca. Both joint initiatives are adopting, to different scales, a consolidation strategy by networking to gain more bargaining power within the supply chain and with markets and public institutions. Alternatively, according to some respondents, it emerged also the trend of a greater concentration with vertical integration operated by large distributors that can easily access to financial resources in order to maintain control over the supply chain.

Some of these interpretations suggest that despite observing a high fragmentation of the supply chain due to the differentiation strategies based on quality and the diversification of the marketing channels, the sector is moving towards consolidation (i.e. examples are AVITO and the other producer associations) and a greater concentration of distribution channels. The aim of this new dynamics is to strengthen the regional supply chain and, consequently, foster the position occupied by the different producers in relation to their bargaining power on the markets against international producers and distributors.

6 Discussion

The paper aims to explain the relationship between the adoption of differentiation strategies based on quality and the choice of diversification of marketing channels and their regional and local determinants. Such objectives are pursued by developing a theoretical framework as well as an empirical analysis in Tuscany region.

The theoretical framework provides a conceptualisation of the regional wine supply chain in relation to the key sources of differentiation of wine producers and in relation to what we defined as main sets of regional factors (i.e. factors endowment, *terroir* and firm resources). The combination of these factors may determine a competitive advantage which influence farmers’ decision-making process towards differentiation with respect the choice of quality (i.e. PDO/PGI or organic) and of the marketing channels.

Our conceptual model uses extensively the concept of *terroir* to define one of the relevant sets of physical, socio-economic and cultural resources that characterize the regional setting that we hypothesize for the wine sector. We revise Charters et al. (2010) with the aim to introduce the opportunity to model *terroir* as a set that dynamically interacts with firm resources and factor endowment in the definition of the marketing strategies. Against this background, we consider *terroir* as a key set of factors that, like the others, can be combined to define new strategies at the regional level. In other words, the analysis contributes to explain the way in which *terroir* operates at the regional level and its influence on the marketing strategies for the wine sector.

Through the empirical analysis we have observed a positive relationship between the degree of quality produced and the choice of diversification of sale channels. The degree of diversification is quite heterogeneous across quality productions. In fact, both PDO/PGI and organic producers have a higher attitude to diversify the marketing channels. The focus on those PDO/PGI and organic wine producers shows that 53% of Tuscan wine producers that adopted a PDO/PGI label use multiple sale channels and the same for the 57% of organic producers. The qualitative information gathered through the interviews supports these results. Among the small and medium-sized wineries that have been interviewed the majority report to diversify their quality and to use several marketing channels (e.g. direct sale at farm gate via tasting rooms, local wine fairs, local retailers).

The qualitative approach of our mixed method allows us to verify how the differentiation model is used also among those companies that operate outside of our definition of degree of quality (i.e. they are not certified organic but produce wine with the organic method). These wineries use a new marketing message and new attributes such as "natural wine" to differentiate their quality. At the opposite, the large companies showed a greater preference for a few, reliable and privileged sales channels. Noticeable, among the interviewees many rely on intermediaries to secure the sales channels linked to exports.

The quantitative approach provides an explanation of the determinants of the producers' strategic behaviour. Through a truncated regression analysis, we verify the assumption that the adoption of a quality label can affect the choice of diversification of sale channels. In accordance with the Two-by-two differentiation strategy model (Newton et al., 2015), our results show that there is a fairly clear positive relationship between the two strategies. Wine producers that commercialise wine with a designation of origin and/or an organic label confirm a strong diversification of sale channels that is confirmed by the positive and significant sign of the coefficients. At the opposite, producers who do not invest in quality seem to be more oriented towards specialisation. In addition, the qualitative interviews report that the marketing orientation of many wineries is quite complex, individualised, and it also depends on factors related to market risks - such as increased need for timely payments, trust or privileged channels in the distribution chain - and in some cases also the ability to exploit the economic leverage generated by other sectors such as tourism. Furthermore, the analysis confirms that the determinants of different intensity of involvement in each marketing strategy are connected with firm resources, *terroir* and factors endowment according with the harvested literature (Gabriel et al., 2009; Paasi, 2010; Ilbery et al., 2016). First, the type of marketing channel used in the case study region is influenced by the farm location. The results show that farmer's location in urban areas positively affects the choice of multiple marketing channels, while the location in marginal areas influence the choice of few or single channel. While the former may be a consequence of the different demand by alternative marketing strategies (i.e. DTC, HO.RE.CA, local wine fairs and markets), the latter seems related to higher transaction costs for farmers located in marginal areas to enter in a new marketing strategy. Building on the experience data gathered through the interviews it has emerged that the distance does not always entail the choice of few sale channels. Moreover, where tourism promotes marginal locations the producers develop hybrid strategies to increase local sale channels. Second, the analysis confirm that farm size has a prominent role in explaining the diversification of sale channels and also other factors already mentioned such as geographical location, farmer education and age and the choice to live on farm influence the choice of distribution channels. When the size and production capacity increase, wineries also tend to diversify market risks diversifying sale channels. Against this background, the results seem to confirm existing literature on scale economy (Delord et al., 2015) in explaining the adoption of multiple channels (Bartolini et al., 2014). Nevertheless, in the case of wine, the interpretation is not straightforward, given the main interaction of this choice with *terroir*.

According to our definition of *terroir*, the expansion of farm size may take place on a poor land adapted for producing industrial wines. In that case to the increase on farm size may correspond the decision to distribute the undifferentiated and standard wine with a few or just a single sale channel (i.e. through cooperatives or virtuals). The interviews provide also further elements of discussion on the influence of the regional setting in the choices of the Tuscan producers. The interviewees confirm the positive role of *terroir* to provide additional advantage through the differentiation strategies when combined with the other sets of firm resources and factor endowment and the allocation of these factors is optimal. At the opposite, the same combination when is based on scarce factors did not get the same advantage for producers.
Finally, the analysis provides noteworthy trends, among which the recent attempt of increasing concentration and consequently bargaining power from several producers and consortia for protected denomination of origin through a greater coordination effort and reassembling of new producer networks (i.e. the case of the hyper-consortia AVITO). The objective is to create subjects that have greater weight on the sector in terms of production, ability to realise investments, promotion activities, as well as the ability to dialogue with institutions and global distribution networks. From these features, it emerges their greater bargaining power compared with the single wineries. This trend, which goes in the opposite direction of our findings, in reality it can be seen as a change in the producers' strategies to cope with external pressure (competition, decline of domestic demand, etc.). From this point of view, the analysis highlights the importance for the wineries decision-making process to understand the relationships between marketing strategies and the combination of regional factors. The analysis of these dynamics shows how the strategies do not exclusively depend on market. The analysis at the regional level reveals the presence of factors whose combination can determine the success or failure of the strategies and from which the evolution of the sector may depend. Outside the context of Tuscany, a similar conceptualisation suggests an in-depth analysis of these factors and of their interactions. Then the development of calibrated strategies within the specific territorial context in order to generate value to the whole system. Besides some fundamental characteristics for the wine sector that emerged during the analysis, this is the main message that could be transferred to other production contexts.

7 Conclusion

The study aimed to improve the knowledge of some key relationships in the decision-making process of Tuscan wineries through an analysis that deepens the linkages between the quality differentiation strategies, the diversification of sale channels, and their regional and local determinants. According to previous literature (Ilbery et. Al, 2016), the paper hypothesises that the link between the regional differentiation strategies and the diversification of marketing channels is due to the interaction of different combination of three sets of regional factors (*terroir*, factor endowment and firm resources). The presence of specific settings at the regional level influences farmers' decision-making process and leads to changes in the producer's organisation models.
This conceptualisation has been examined empirically through a quantitative and qualitative research method focused on a case study for Tuscan Wine sector. The analysis allowed to understand several decision-making outcomes that corroborate our main hypothesis: the choices of differentiation of quality, although in a first moment has played in favour of the sector, subsequently had negative repercussions on the capacity of the sector to cope with the new competitive scenario.
If at the beginning of the 80s with an increasing demand for Tuscan wines, the regional producers were able to differentiate successfully towards products of a higher quality (the PDO for Chianti Classico was established in 1984). Over the last 30 years following the changes in the sets of regional factors - and consequently of the sector - the opportunities arising from the differentiation were reduced and the weaknesses related to this approach emerged.

First of all, the possibility of planting new vine and extending production has been progressively reduced by changes in wine regulation (EU Regulation No. 1234/07 and Commission implementing Regulation No.561/2015). As a consequence, the land factor has become increasingly scarce and expensive. At the same time, the system of designations of origin has progressively revealed its rigidity in the face of changes in consumption patterns (Malorgio and Grazia, 2007), but it has continued to increase its popularity and the denominations of origin have raised in Tuscany. The producers' partial view of these elements and of their combination has led their decision to the search for differentiation at any costs in order to reach an increasing quality. Nevertheless, to cope with the increasing difficulties (increasing competition, demand changes, change in regulation, environmental issues), the search for diversification of sales channels has curbed these problems and guaranteed the maintenance of the sector through exports. Thus, the marketing choices made in relation to only some of the analysed regional sets (e.g. firm resources or terroir) and not to their possible interactions did not allow producer to identify the potential negative outcomes, which led the sector to a weak condition linked to extreme fragmentation, such as to be unable to guarantee the continuity and existence to the whole wineries. Many wineries become very small businesses and with the prices they receive they cannot cope with high production costs. Their market power is very low against large players but they try to resist, continuing to differentiate with a sale strategy that aims to secure exports through new market niches.
Nevertheless, analysing the dynamics of the relationships between the regional factors that influenced the producers' marketing strategies, we found new and promising strategies that are emerging to cope with these problems. The interviews revealed the producers' effort to coordinate within the supply chain in a process of reorganization and consolidation of the sector in order to reduce supply fragmentation. The analysis suggests that a transformation of the regional setting is taking place, and in addition to strategies for differentiating the quality and the marketing channels, the new setting also combines strategies for coordinating the supply chain towards the creation of new producers' associations and hyper-consortia (AVITO) oriented not only towards promotion (as the traditional role of PDO consortia) but also to the sale. This new strategy is aimed at increasing producer prices and the bargaining power of producers by trying to strengthen cooperation and aggregation in the supply side.
These findings call into question the view that the complex nature of marketing strategies is mainly driven by the condition of the national and global market, while according to Ilbery et al. (2016) they open the debate to the opportunity to consider specific sets of factors that assemble and combine in specific ways the regional conditions. In the case of wine, the overriding importance of demand during the 80s provided a relevant justification for adopting regional differentiation model, but nowadays it may seem a less viable strategy within a transformed global scenario. Yet, if we read the regional differentiation model in combination with other factors, we can provide a clearer explanation of the evolution of the system and of the new patterns for the marketing of wine.
Thus, the main novelty and contribution of the paper is to provide an integrated and regional view of producers decision-making process that is linked to the key factors of a territory and to their dynamics. The overall message is related to the ability of the decision-maker to understand how the external pressures influence local factors and how the local factors can combine to generate strategies that can effectively ensure the sustainability of the sector.
There are implications here too for debates on the regionalisation of firm's strategic management. In other words, the firms need to strengthen their decision-making capacity, increasing awareness and understanding of the key factors that define their local setting in order to implement more effective and relational strategies. Against the pursuit of a unique strategy that provides the differentiation of quality and the search for niche markets, the wineries should carefully plan their strategies and not overestimate the real size and potential of these markets. For these firms, the preparation towards the future challenges could be to strengthen their position in the global retail networks, trying to exploit the relational capital and the consolidation process that they are developing at the regional level.

With regard to the Tuscany region, there is an increasing awareness that it is necessary to incentivize policy measures aimed at improving promotion and marketing capacity of regional producers through the support of training and/or through measures that aim to promote cooperation between farmers. Indeed, the new Rural Development Program (RDP 2014-2020) provides support to this kind of measures and particularly aims to promote producer organizations, new business networks and partnerships in order to deliver innovation in the agricultural sector, as well as new processed products and the optimization of organization systems for preserving natural capital. The natural capital and the conservation of the territories are strategic assets for the valorisation of the productions and therefore the regional policies should be designed in a coherent and holistic way taking into consideration eventual feedback loops between measures (i.e. innovation, cooperation, organic production, commercialization and diversification).

While this analysis provides a systematization of the main industry issues and decision-making outcomes at regional level, overcoming the limitations of the individual methods through the choice of a mixed methodology, the main limitations of our work derive from the lack of additional data to describe the different and complex types of wine productions as well as the consideration of other relevant variables for the firms decision-making process (e.g. detail of production costs, type of wines produced and relative volumes, distinguishing PDOs and PGIs, grapes purchased and marketed, sales prices etc.). To provide a more comprehensive analysis, the decision to limit the decision-making process to two key strategies should be extended to further strategies such as contracting, risk management and financialisation that are increasingly present in the wineries decision-making processes. Finally, the lack of time series prevented to verify the observed dynamics, limiting the analysis to the producers' experience data that we have obtained through the interviews.

To conclude this analysis cannot be interpreted as an end in itself, but rather as a mean to improve the knowledge of the regional factors and key dynamics that influence the decision-making process of wine sector at regional level.

Some fruitful questions for further research should address more in detail the regional differentiation of producers marketing strategies and their relationship with the export, including questions associated with the increasing adoption of contracts and other form of institutional arrangements along the wine supply chain as well as the influence of risk management. These elements could help to unravel the regional differences of marketing models and introduce new factors in the definition of the decision-making process, leading to the understanding of the elements that link different regional settings.

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Appendix A

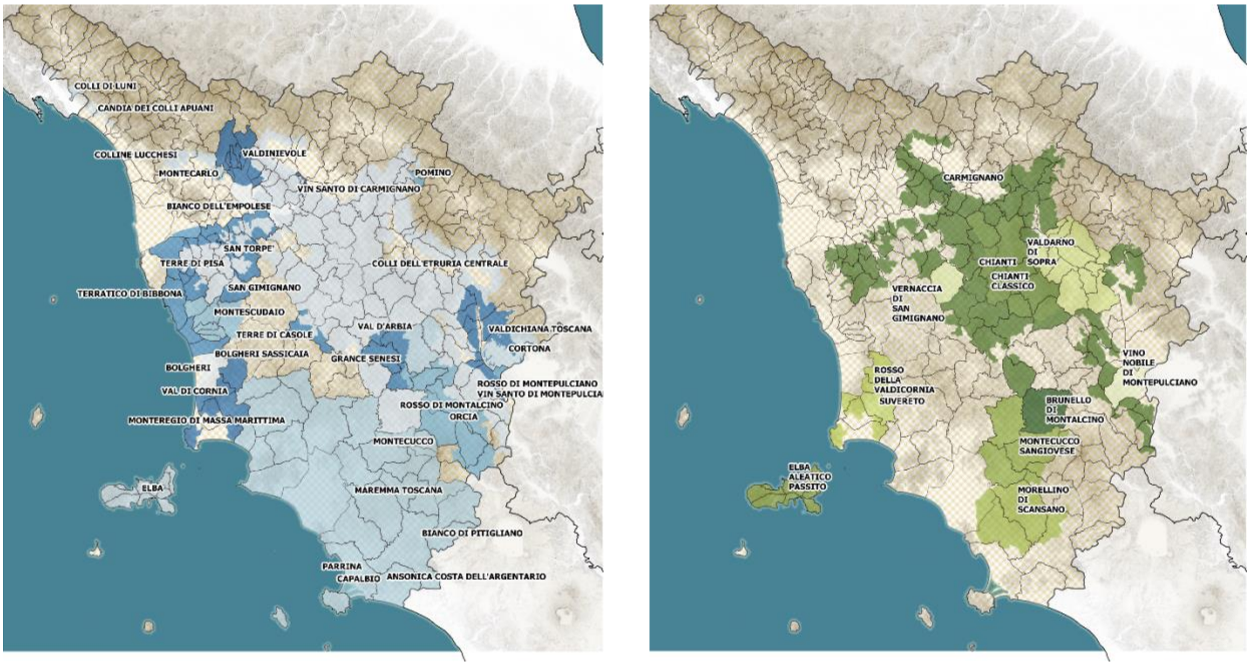

Figure A.7. Maps of the PDO (DOC, DOCG) wines in Tuscany (authors elaboration)

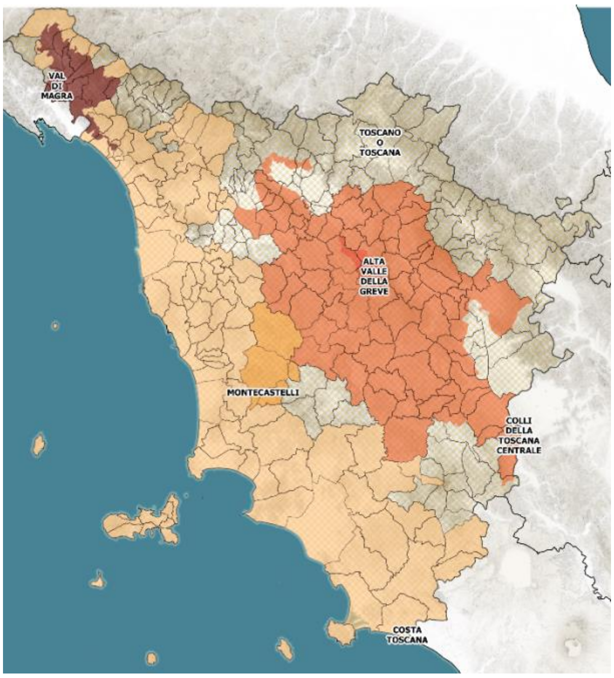

Figure A.8. Map of the PGI wines in Tuscany (authors elaboration)

Table A.3. HHI model variables and descriptive measures

Variable	Descriptions	Obs	Mean	Std. Dev.	Min	Max
D_index	Dependent variable: diversification index	4054	1.24	0.40	1	5
doc_all	Comercialise PDO wine	4054	0.61	0.48	0	1
d_bio	Organic wine production	4054	0.11	0.31	0	1
spec_wine	Specialisation in wine production	4054	0.65	0.47	0	1
poli_urb	Farm localised in urban area	4054	0.10	0.30	0	1
rur_int	Farm localization in intermediate rural area	4054	0.07	0.26	0	1
rur_trans	Farm localization in transition rural area	4054	0.45	0.49	0	1
rur_decl	Farm localization in decline in rural area	4054	0.31	0.46	0	1
rur_probsv	Farm localization in underdeveloped area	4054	0.05	0.22	0	1
d_protected	Localisation ZPV or SIC	4054	0.29	0.45	0	1
live_on	HH lives on farm	4054	0.86	0.34	0	1
d_rearing	If producers run breeding activities	4054	0.11	0.32	0	1
lav_FTEall	HH Full time equivalent +	4054	2.81	3.81	0.004	90.81
lav_FTEfam	HH Full time equivalent	4054	1.49	1.26	0	11.44
d_young	Less	4054	0.16	0.37	0	1
d_old	More than 65 years old	4054	0.34	0.47	0	1
age2	Square age	4054	3494.45	1790.65	289	9216
edu_low	Lower education	4054	0.51	0.49	0	1
edu_high	High education	4054	0.48	0.49	0	1
edu_agr	Agricultural education	4054	0.09	0.29	0	1
inform_d	If producer uses internet for activities	4054	0.28	0.44	0	1
p_asse1	If recieved payment from Axis 1	4054	3732.87	20964.37	0	498307
p_asse2	If recieved payment from Axis 2	4054	2419.85	9168.02	0	216567
p_asse3	If recieved payment from Axis 3	4054	465.28	6395.88	0	200000
p_disacc	If recieved decoupled payment	4054	9770.20	32203.68	0	640058
sau_vs	Very Small farms (first quartile)	4054	0.25	0.50	0	1
sua_s	Small farms (second quartile)	4054	0.25	0.50	0	1
sau_l	Large farms (third quartile)	4054	0.25	0.50	0	1
sau_vl	Very large farms (fourth quartile)	4054	0.25	0.50	0	1

Source: Authors elaboration