

Preprint version

To cite:

Vergamini, D., Bartolini, F., Prosperi, P., Brunori, G. (2019). Explaining regional dynamics of marketing strategies: The experience of the Tuscan wine producers, *Journal of Rural Studies*, (in press)

<https://doi.org/10.1016/j.jrurstud.2019.10.006>.

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

Abstract

In traditional wine region such as Tuscany (Italy), the wine production is perceived by several industry players as weak and fragmented because it is mainly controlled by small and medium-sized wineries that have limited market power compared to large companies and distributors. 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 (competition, changes in demand and regulation) and promoted strategies without considering their combination with key context-specific, physical, structural and socio-cultural regional factors. 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 dynamic of interlinkages between the adoption of differentiation strategies based on quality and 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 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, 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 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. According to our theoretical framework, 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. The interviews captured the dynamics of these interactions unexpectedly revealing the presence of 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

51 1 Background

52 In traditional and mature markets like wine, the search for a unique competitive advantage based on
53 resources capabilities and quality (Edelman et al., 2005; Gimeno-Gascon et al., 1997) is considered
54 no longer enough to secure financial sustainability (Newton et al., 2015). Today, the competition
55 between wine producers depends on several factors (i.e. price, quality, innovations etc.) including the
56 ability to create more stable relationships with global distributors and supply networks (Visser and
57 Langen, 2006). To be competitive, firms need to develop innovative products and processes that can
58 improve the efficiency and the ability to adapt to the demand changes, facilitating the access and
59 growth on new markets (Chang et al., 2011): in other words, firms need to differentiate (Porter, 1985)
60 to reduce market risks and increase the access to new sale opportunities. Porter (1985) opined that
61 the success of a differentiation strategy depends on the product's role in the buyer's value chain,
62 which corresponds to the ability of the product to satisfy or determine buyer's needs. Banker et al.
63 (2014) confirm that firms with a proactive differentiation strategy obtain better results than those with
64 a cost leadership strategy (i.e. firms that developed the lowest cost of operation in the sector). If the
65 increasing market concentration of retailers and suppliers (Santiago and Sykuta, 2016) creates
66 bottlenecks for small and medium-size producers, the choices to differentiate products and adopt
67 multiple sale channels on a regional basis (Ilbery et al., 2016) can reduce the risks associated with
68 large distributors and increase the opportunities to achieve better returns.
69 Nevertheless, to foster the economic sustainability - in the long run - producers need a wider strategic
70 approach calibrated to the different local factors that can play a key role in determining the success
71 or failure of a specific strategy. Against this background, the differentiation can be made either with
72 a better ability to use the available resources (Barney, 1991) or even through greater knowledge of
73 structural factors, as well as the physical and socio-cultural characteristics of the territories (Gabriel
74 et al., 2009) that have a significant impact on firms' investment and quality choices.
75 Because of the importance of origin in wine consumption choices (Bernabeu et al., 2008), the
76 adoption of a Geographical indication (GI)¹, such as Protected Designation of Origin (PDO) or
77 Protected Geographical Indication (PGI) as established by Regulation (EC) No.479/2008 and
78 Regulation (EU) No.203/2012, in a production area characterized by the presence of a rich and well-
79 known *terroir* can increase the firms' ability to differentiate successfully. According to Charters
80 (2010) the marketing strategy associated with the *terroir* produces a comparative advantage that is
81 characterised by inimitable natural resources endowed with local history and culture, specific
82 knowledge, organizational and institutional connections between producers and barriers to entry.
83 Differently, a low presence of these factors can limit the range of viable strategic alternatives to
84 differentiate successfully (Newton et al., 2015). In addition to the origin and *terroir*, there are also
85 other factors (i.e. the introduction of new grape variety and the organic elaboration) that can help
86 wineries in communicating complex marketing messages and produce new strategies to achieve
87 competitive advantages. These factors are linked with the territorial system where the winery
88 operates. Whether these assets are embedded in the territory or introduced by the firm activities, is
89 the producer's ability to combine them into new narratives that can impact on wine market. Thus, the
90 dynamic combinations between these assets of the rural space and firm's activities define the regional
91 setting in which the different strategies are developed (Ilbery et al., 2016). Despite the importance of
92 these characteristics and their interaction on the territory with the firm's activities and relationships,
93 the literature provides only a partial view of their implication on the management choices (Porter,

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.

94 1980; Rastoin and Gherzi, 2010) or on firm's performances (Banker et al., 2014; Newton et al., 2015,
95 Gilinsky et al., 2015).
96 Tough most of these studies just focus on the effectiveness and the success of business models based
97 on quality and denominations of origin (Malorgio and Grazia, 2007; Engelbrecht et al., 2014), while
98 just a few studies analyse in-depth the relationship between these strategies and the other regional
99 and local determinants of producers' marketing strategies (Montaigne, 1999; 2001). Ditter and
100 Brouard (2014), using the proximity framework, detail the *terroir-based* strategy of Cahors and
101 Chablis wine producers in order to understand the challenges of the French wine industry. With regard
102 to regional studies and local economic development literature, Ilbery et al. (2016) compare the
103 development of the organic model in specific regions of England and Wales through the analysis of
104 marketing channels and socio-economic factors that affect the geography of organic farming at
105 regional and local scales. Despite these studies, to the best knowledge of the authors no attempt has
106 been made to explain - within a regional focus - the determinants of the wine differentiation model
107 and of the choice of single or multiple sale channels. A deeper study of these regional factors could
108 contribute to the improvement of the knowledge about wineries decision-making processes and
109 consequently to the design of policy measures that support the competitiveness of the sector.
110 Furthermore, it could help wineries to obtain a more clear view of the potential impacts associated
111 with their strategy and consequently to a correct formulation of it. Against this background, we
112 hypothesise that the problem of extreme fragmentation of the wine production in Tuscany (i.e. small
113 and medium-sized wineries with limited market power compared to large companies and distributors)
114 was influenced - in a period of strong market growth - by producers' choices that underestimated the
115 impact of several external forces (competition, changes in demand and regulation) and promoted
116 strategies without considering their combination with key context-specific, physical, structural and
117 socio-cultural regional factors. Thus, the study investigates the origin of these marketing strategies
118 confronted with the contested fragmentation, exploring both current and future trends in Tuscany.
119 The objective is to provide a better understanding on how the combinations between these factors and
120 firm's activities define regional settings in which the different strategies are developed and how these
121 settings can be used to promote more effective and calibrated strategies towards greater economic
122 sustainability of the sector. The focus is to understand the nature and the dynamic of interlinkages
123 between the adoption of differentiation strategies based on quality (PDO, PGI, organic) and the choice
124 between single or multiple sale channels (i.e. diversification of marketing channels²) and their
125 regional and local determinants.
126 We adopt a mixed quantitative and qualitative research approach composed by an analytical
127 framework, an econometric analysis and producer's interviews. A mixed method enables to describe
128 regional factors that impact investment in firm resources and quality choices and then determine
129 alternative marketing strategies among Tuscan wineries. First, it provides a conceptual framework to
130 understand the interlinkages between producers' strategies and local and regional determinants. Then,
131 the winery decision-making process is modelled through a two-by-two differentiation strategy model
132 that represent the wineries' decision towards the adoption of PDO/PGI appellation or organic
133 certification in relation with the choice of distribution channels. Through the reciprocal of the
134 Herfindahl-Hirschman Index (HHI₋₁) - calculated on alternative marketing strategies - we verified the
135 extent of diversification of sale channels under the different quality choices (i.e. PDO/PGI and
136 organic or without them). Then, the determinants of the choice of distribution channels were
137 quantified by applying censored regression model and the results were elaborated and discussed in
138 the light of 32 producers' interviews. The analysis is based on several data sources. The data used for
139 econometric analysis relies on 2010 Tuscany census merged with a Regional database of public
140 payment related to the Rural Development Program 2007-2013. The interviews were intended to

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.

141 supplement the empirical analysis and to grasp further insight into the nature and dynamic of
142 marketing strategies through the experience of the Tuscan wineries.

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

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

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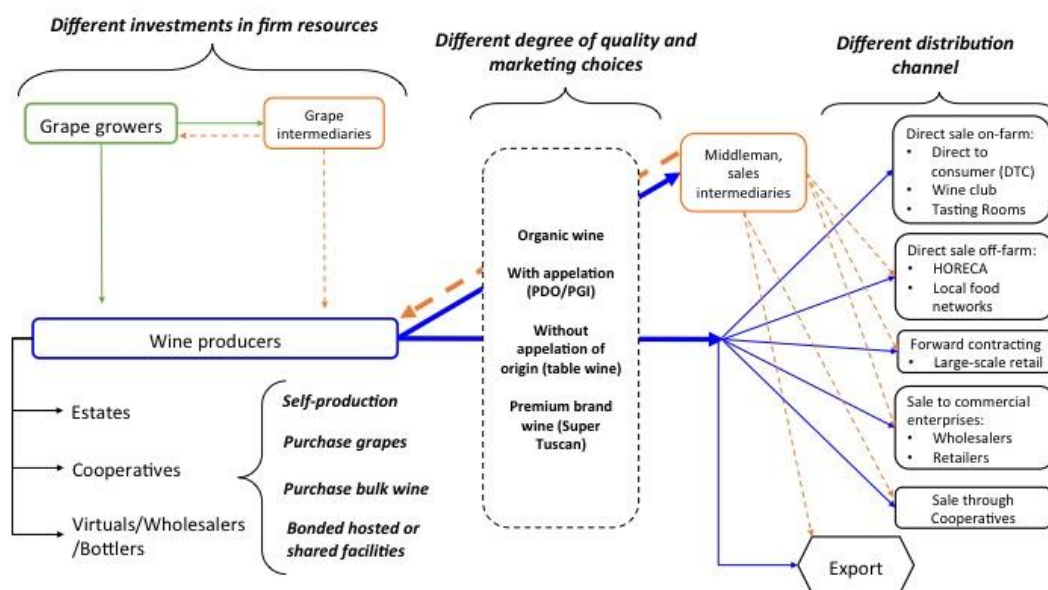
158 **2 An analytical framework to understand the wine producers' strategic** 159 **approach and regional and local determinants**

160 The competitive advantage in the wine industry, such as in other food sectors, is pursued by increasing
161 purchasing capacity, privileged access to scarce rural productive factors (i.e. land, cheaper or rare
162 grape) and management specifications. These strategies limit productivity factors generating a
163 'managed scarcity' that in turn helps to maintain higher prices (Ditter and Brouard, 2014), cost
164 leadership through economies of scale (Delord et al., 2015), economies of scope (Porter, 1985),
165 quality differentiation (Corade and Delhomme, 2008) and product/process innovation (Jarrosson,
166 2004). Global competition is forcing regional and local firms to expand their distinctive competencies
167 - and thus increasing differentiation - in order to overcome any location specific advantages produced
168 by their rivals (Wiersema and Bowen, 2006). According to Duquesnois et al. (2010) and more
169 recently Hammervoll et al. (2014), only few larger French wine producers choose a cost leadership
170 strategy, while the majority of small and medium-sized firms pursue a niche or differentiation
171 strategy. Against this background, the development of core competencies includes the control over
172 quality via vertical integration and the capacity to reach consumer through different sale channels.
173 These abilities are both influenced by context-specific rural assets (Leloup et al., 2005). For example,
174 the cost of land - as a key driver of returns on capital (Coelho and Couderc, 2006) - becomes a crucial
175 element for the vertical integration in grape growing, especially in regions characterised by the
176 presence of GIs and where vineyards are a relatively costly and scarce resource. According with
177 Ilbery et al. (2016) and Lobley et al. (2013), the choice of a particular form of investment and quality
178 strategy (i.e. organic) may vary from one region to another depending on the different regional and
179 local settings.

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

³ According to Charters (2010) the *terroir* whose definition in the literature is very ambiguous, in our framework represents an additional resource defining a set of characteristics that contribute to develop the regional setting and 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.

187 change⁴, defining different dynamics that can vary from one region to another. Thus, we can analyse
 188 the wine supply chain dynamics according to the combination of regional and local factors that
 189 currently influence farmers' decision-making process. First, we explain how a specific setting can
 190 contribute to different strategies (the dynamics) and then we deepen the factors that can be part of the
 191 regional setting for Tuscan wine (for an extended review see Ilbery et al., 2016). But before going
 192 into detail with the conceptualisation of the setting for the Tuscan wine industry and of its
 193 relationships with the producers' strategies, it is useful to introduce a map of the Regional wine supply
 194 chain (Figure 1) to analyse the most important source of differentiation for wine producers. Thus, the
 195 supply chain map can help to distinguish three strategic decision-making steps of wine producers that
 196 are relevant to understand the producer decision-making process and hence the focus of our analysis.
 197 Although these different strategic approaches are not the sole sources of differentiation among
 198 wineries, according to Newton et al.'s literature review (2015), they are considered the three main
 199 sources of differentiation.
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 201



202
 203 **Figure 1.** The wine supply chain of Tuscany in relation with the primary sources of differentiation
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205 In the Regional supply chain, one can distinguish the fully integrated estate that maintains the control
 206 over every aspect including the agricultural (i.e. growing grapes), industrial (i.e. processing via
 207 fermentation, blending, aging and bottling) and service phases (i.e. marketing and distribution).
 208 Cooperatives purchase grape or bulk wine and carry out the processing stage with the aim to sell the
 209 end product (wine) under their own label. The "virtual" wineries that defines those wineries that only
 210 virtually possess the production factors necessary to make the finished product outsource all these
 211 passages and produce wine at bonded hosted or shared facilities (for an extended definition see

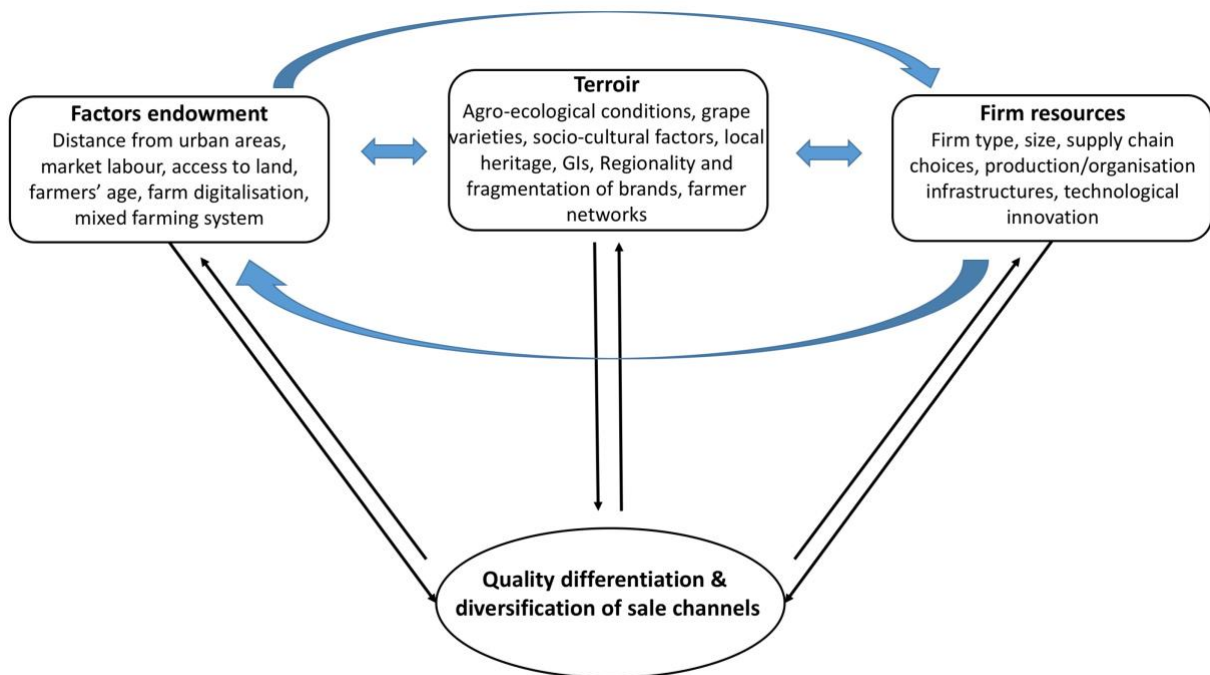
⁴ To explain when a particular setting becomes a driver of change, we use an example from the recent evolution of the PDO for Chianti Classico. We know that the application of the standards established in the appellation for Chianti Classico constrains producers into a particular setting. For clarity and easiness of the explanation, 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. Yet, this setting is not static, but in turn, it can drive producers to adopt new practices in the production protocol for Chianti Classico, from which again a new setting can be created. In the Supertuscan 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 the gradual transformation of the appellation for Chianti. After the 1994 and 1996, the Supertuscan become PGI wines and the appellation for Chianti 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.

212 Newton et al., 2015). This first classification reflects the different investments in firm resources as
213 main strategic decisions of a winery. Those decisions rely on the choice between developing entirely
214 and internally the whole production process or outsourcing some of the agricultural and industrial
215 stages. This strategic choice is also related to the winery's grape sourcing decision, one of the most
216 important firm's resources. The fully integrated estate generally produces wine with its own grape
217 production; but depending on the vintage, it may also purchase grapes from grape growers within a
218 long and stable supply relationship. Conversely Cooperatives and virtual wineries generally source
219 their grapes from grape growers or purchased bulk wine. Though their action differs from the
220 integrated companies and their strategies, albeit differentiation, appear to be more related to financial
221 leverage. According to Goodhue et al. (2013) the competitive advantage of a fully integrated firm is
222 more related to the decision toward vertical integration or supply chain choices that can increase the
223 control over transaction costs, branding and differentiation, which are narrowly linked to the different
224 characteristics of the territories.

225 The second decision that is dynamically related to the first one, regards the degree of the wine quality
226 and of the relative market segments for that type. The wine quality expressed by the GIs is a
227 fundamental territorial asset (Ditter and Brouard, 2014), expression of a specific *terroir* that can have
228 a great influence on competitiveness and firm's resources investment decisions. The strategic view
229 of *terroir* (Charters, 2010) is intimately linked to the place of production and is expressed using
230 PDO/PGI labels and other territorial or civic standards (i.e. organic wine) or company premium
231 brands (i.e. Supertuscan). In this vein, the strategic choice of quality is related to an organized
232 proximity (Porter, 1998) through a territorial institutional setting (Ditter and Brouard, 2014) that
233 assembles the identity of the place and of its product. The *terroir* strategy, which is a collective one
234 (Loubaresse and Pestre, 2012), produce inimitable natural resources, specific competencies, barriers
235 to entry and a territorial 'Ricardian' rent (Ditter and Brouard, 2014), allowing firms to develop unique
236 and high-quality wines that may increase a consumer's willingness to pay a premium for a wine as
237 result of the perceived 'territorial' quality.

238 The third strategic decision for a winery is related to the choice of one or multiple marketing channels.
239 The ability to reach new consumers is key to survive against the power of large distributors and the
240 competition of high-volume and large-scale wineries (Delord et al., 2015; Newton et al., 2015). This
241 can be achieved through the decision to distribute Direct To Consumer (DTC) via direct sale on-farm
242 (i.e. tasting rooms, wine clubs, farm shops) or to distribute via direct sale off-farm through HO.RE.CA
243 (i.e. local restaurants, wine shop, hotels) as well as other local channels (Brunori, 2012). According
244 to Coppola (2000) and Gurau and Duquesnois (2008), since the price strategy with DTC channels
245 leads to higher returns, producers should adopt different direct and local channels. As well as for the
246 quality choice, the choice of a specific marketing channel relies on a complex interaction between the
247 firm characteristics and its environment or territory. Changes in the regional and local setting as well
248 as firm resource capabilities and behavioural attitudes such as risk aversion can have a big influence
249 on the decision-making process. Even the large companies that - due to their size and structure - could
250 only rely on economies of scale (Delord et al., 2015) prefer to reduce market risks by forming stable
251 contacts with only a few selected distributors, which sell their products to wholesalers, retailers, and
252 bottlers. Furthermore, when large quantities are involved and the relationships are not defined through
253 trust and experience, these wineries can adopt more formalized relationships through contracts, as in
254 the case of sales to large-scale distribution. Another way to reduce market risks and overcome the
255 bottlenecks in the distribution stage, due to the concentration operated by large actors, can be through
256 sale intermediaries that constitute a link between the production and the distribution phase (Stern and
257 El-Ansary, 1992). According with Baritoux et al. (2006), wine brokers generally act as intermediaries
258 in wine exchanges between wine producers and distributors. They can act as representatives on behalf
259 of the winery by connecting it with all the channels outlined above, or as agents who purchase and
260 resell wine through the various distribution channels depending on the type of products they manage
261 and network they work in. Also called "middlemen", they are also crucial for export sales, which is
262 a key channel for all kinds of producers.

263 Since this research focuses on those wine producers that have already made the first choice on
 264 investment in firm resources, the rest of the paper will focus on the relationship between the remaining
 265 two primary sources of differentiation: the choice of quality and the mix of marketing channels.
 266 According to the conceptualisation of Ilbery et al. (2016) in our theoretical framework these strategies
 267 are part of the regional setting that originate from the dynamic interaction with the other regional and
 268 local key factors that we grouped in three set of physical, structural and socio-cultural factors (Figure
 269 2). Thus, we define the agro-ecological conditions, the farm localization in less-favoured rural areas,
 270 as well as the population density and distance from the major urban centres (Gabriel et al., 2009).
 271 Lobley et al. (2013) included the farm type and size, and the access to processing and distributional
 272 infrastructures. Focusing on organic production, Ilbery et al. (2010) considered also the role of socio-
 273 cultural factors and the degree of marketing orientations.



276 **Figure 2. The setting of regional and local factors that influence farmers' decision-making process**
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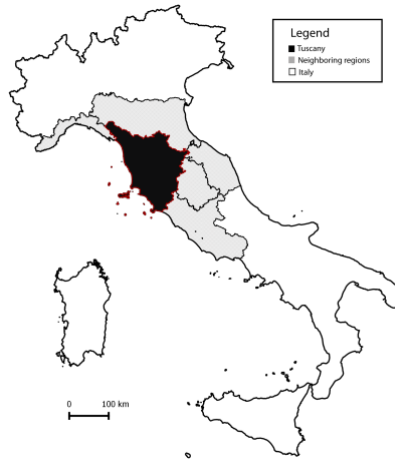
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 279 The set of factors endowment includes physical factors, such as the distance from urban areas, the
 280 access to land as well as the distance from market labour, the farmers' age, the digitalisation pattern
 281 and the eventual environmental friendly practices adopted within a mixed farming system. The
 282 characteristics of the local *terroir* define the second set that includes the agro-ecological conditions,
 283 the type of grape and other regional socio-cultural factors, as well as the regional brand, GIs, and the
 284 presence of farmers networks with a proactive role in the development and promotion of the territory
 285 and of its products. Finally, the final set is relative to firm resources, which includes firms'
 286 characteristics such as type and size, the type of supply chain (i.e. from fully integrated estate to
 287 virtual), as well as the access to production, organisation infrastructures and technological innovation.
 288 According with Ilbery et al. (2016) and Paasi (2010), the influence of these factors on the firm's
 289 strategic choices are not uniformly distributed and vary regionally in accordance with the different
 290 local assemblage and farmers' networks. Thus, the conceptualisation highlights the relevance of a
 291 qualitative and quantitative approach to understand the different wineries' decision-making process
 292 with regard to quality and marketing channels and their dynamic interaction with the regional and
 293 local characteristics.

294

295 **3 The case study Region**

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

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320 **Figure 3.** Map of the case study region

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323 Tuscany is dominated by hills (66.5%) with few plains (8.4%) and it is surrounded and crossed by
324 mountain chains (25%), of which the highest are the Apennines. The beneficial influence of the
325 Tyrrhenian Sea on the coast contributes to a mild climate, whereas on the interior is more rainy and
326 harsher with considerable fluctuations in temperature between winter and summer. Over the
327 centuries, these environmental conditions together with social, economic and historical factors -
328 which offer an important artistic legacy - have favoured the development of the Tuscan viticulture,
329 contributing to develop a rich and well-known *terroir* that is globally recognized as a brand by itself
330 (i.e. made in Tuscany or “Toscana”). In this system, the production of wine represents an important
331 part of territorial identity. Despite the steady decline of the domestic demand and the relative
332 reduction in the area planted with vines (i.e. between 1982 and 2010, the Tuscan area planted with
333 vines decreased by 37% compared to 45% at national level), according to ISTAT the Tuscan
334 production maintained a positive growth rate (i.e. about 8% over the average production of 2009-
335 2013) reaching 2.8 million hectolitres in 2015. Red wines, such as Chianti, Brunello di Montalcino
336 and Vino Nobile di Montepulciano have marked the greater growth, about 12% compared to 5% of
337 the total, reaching nearly 90% of regional production and thus confirming the popularity of black
338 grapes in Tuscany (i.e. Sangiovese, Cabernet Sauvignon, Merlot and local Canaiolo, Colorino and
339 Ciliegliolo). Despite the high value of Tuscan PDO wines (i.e. Chianti Classico, Brunello di
340 Montalcino, Morellino di Scansano, Nobile di Montepulciano, Bolgheri, Vernaccia di San
341 Gimignano), which form the 67% of the regional production, and other classic Tuscan brands such
342 as “Supertuscan”, recently there has also been a strong growth of the PGI and organic production.
343 The quality chain in Tuscany has reached in 2018 a value in the order of a billion euros, 11% of the
344 total value estimated by ISMEA for Italy of 8.2 billion euros. While the growth of the former
345 benefited from less bureaucracy and more production freedom associated with product specification

346 for PGI wines, the latter benefited from the recent recognition at EU level of the "organic" label
347 through the Commission Implementing Regulation (EU) No 203/2012.
348 The success of Tuscan wines is certainly also based on the specific structure of the production system.
349 In Tuscany, the number of companies with vines is over 22 thousand with an average size of 2
350 hectares. The market is mainly dominated by small and medium-sized companies, although there are
351 some companies of considerable size. The majority are small sole traders (82%), whereas the rest is
352 composed from a lower presence of partnerships (10%) and corporation (5%) and from other types
353 of farms (0.5%) - including cooperatives and associations (Infocamere, 2008).
354 According to the last census, in economic terms (the value produced) most Tuscan producers identify
355 in wine production the core activity (i.e. as estates in the regional supply chain map), while the others
356 are grape growers that sell their grapes to cooperatives or virtuals (though in terms of volume, grape
357 producers represent a substantial share). Among the former, we find those vertically integrated firms
358 that produce in-house (Pomarici and Sardone, 2001), i.e. from the cultivation of the vines to the
359 harvest of the grapes, through all stages of processing - including the subsequent steps of ageing and
360 conditioning - and finally marketing of the wine. Of these, only a small 3,4% is specialised in the
361 bottling phase. Thus, in most cases there are third parties that perform the bottling service.
362 Furthermore, there are also other actors (i.e. wholesalers) that can collect the wine in order to trade it
363 to retailers after some final processing steps. What we assume in our analysis is that this configuration
364 of the production system is related with the different investment, quality and marketing choices made
365 at regional level according to the regional supply chain map (Figure 1). It results in a differentiation
366 model that - if compared to other regions of Italy (i.e. Emilia-Romagna and Veneto) – is strongly
367 characterised by an extreme fragmentation of the offer. The fragmentation results from the massive
368 presence of small and medium-sized vertically integrated family firms that control the majority of the
369 value of the regional productions⁵ (Pomarici and Sardone, 2001). Whereas, in other Italian regions
370 characterised by a cost-leadership strategy with more standard quality, the cooperative model has
371 found more diffusion. In these regions, a higher number of producers are specialised in grape
372 growing. These producers sell their grapes to large cooperatives, bottlers or wholesalers, which then
373 carried out the processing steps and distribute the wine. Thus, according with this model few key
374 players control the market, defining a regional offer that is consequently more concentrated. In
375 Tuscany, the same structure is confirmed by analysing the trend of the regional GIs that over the past
376 30 years have grown steadily more than other Italian regions. Thus, the presence of 57 GIs (shown in
377 figures A.7 and A.8 in the Appendix A) as well as regional premium or super-premium brands (i.e.
378 Supertuscans⁶) and organic productions, can contribute to explain the extremely differentiated and
379 competitive supply chain. In such competitive environment, the small and medium-sized firms that
380 need to increase their profitability, overcoming the bottlenecks created by large producers and
381 retailers, need to access different types of markets (i.e. mainly niche or export market) through several
382 sale channels for achieving above-average (better) sale performance that can guarantee the financial
383 sustainability (Leitner and Guldenberg, 2010). From the one hand, the choice of differentiation
384 through the several GIs and other regional brands as a response to the increasing global competition
385 and associated risks, in Tuscany has found a remarkable diffusion⁷ compared to other regions. On the
386 other hand, due to the transformation of the wine industry, the differentiation model has also brought

⁵ The cooperative model in Tuscany has found limited development. Only in the Chianti area and above all in Montalcino there is the persistence of large cooperatives that concentrate most of the production.

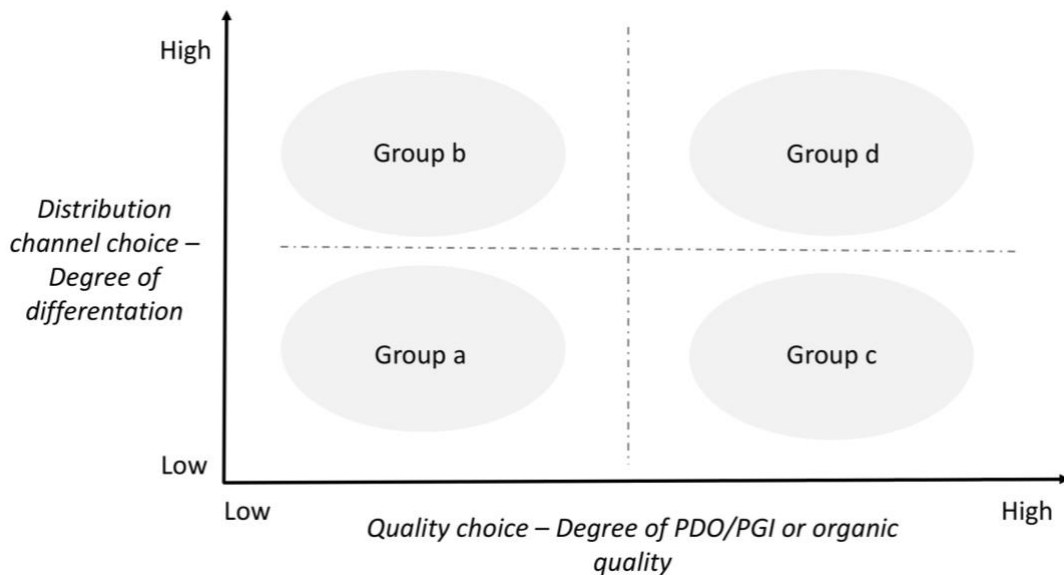
⁶ The term coined around the mid-80s refers to a new style of high-quality wine that has innovated the traditional way in which Sangiovese was used at a regional level, introducing the possibility of blending the Sangiovese grapes with Merlot, Cabernet Franc, Cabernet Sauvignon and Syrah. "Supertuscan" 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.

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.

387 several disadvantages among which the most important, the extreme market fragmentation⁸. The
 388 presence of a myriad of micro-brands and small firms (i.e. wineries that produce with less than 3 ha
 389 according to the last agricultural census) that often fail to find secure market access is perceived by
 390 several industry players as a problem (Calabrese and Bosco, 2015; Scarso, 2017). If apparently to
 391 enter the wine industry appear easy through price and quality differentiation, in reality, wine
 392 producers face huge entry barriers (high investment in land, technologies, and quality) and the
 393 pressure from international competition made by large players and new producing regions. Against
 394 this background the high-fragmentation leads wineries to compete against each other with a reduced
 395 bargaining power compared to large players and just those companies that have an active and well-
 396 established connection with distributors can successfully reach the markets.
 397 Finally, the product differentiation strategy and the search for both horizontal and vertical
 398 coordination also benefited from the positive role played by the export. According to ISTAT data, in
 399 2015 the Tuscany region holds 17% of national exports of bottled wine. Thanks to the prominent role
 400 of the export, the Tuscan producers have encountered fewer obstacles to find the necessary resources
 401 to maintain investments and innovation, despite the recent general crisis and the related lack of
 402 liquidity in the industry. In 2015 the value of the export was about 902 millions of Euros with a
 403 growth of 19% from 2009, which is above the average national growth of 5%, and the red PDO
 404 category gave his greatest contribution to this trend (about 504 millions of Euros).

407 **4 Methodology**

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



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

⁸ The existence of 22 thousand companies that own one, two 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.

436 The model helps to visualize the full spectrum between the adoption of specific quality strategies
437 (PDO, PGI, organic) and the choice of marketing channels, classifying wine producers into several
438 groups. Clearly there are an infinite number of possible classifications and between one classification
439 and the other there a gradient of potential mixed situations (i.e. the four quadrants of are separated by
440 dashed lines to represent potential intermediate situations), but for the sake of clarity we define four
441 distinct groups, which correspond to four main strategic orientations.

442 In group “a” we can find those wineries that produce a low percentage of PDO/PGI and/or organic
443 wine that sell through few specialised distribution channels. In group “b” we have those wineries that
444 produce a low percentage of PDO/PGI and/or organic wine but rely on several diversified distribution
445 channels. Then in group “c” we find those wineries that produce a high percentage of quality wine
446 but use a few specialised distribution channels, while in group “d” we have the more diversified
447 wineries that produce a high percentage of quality wine and sell it through several diversified
448 distribution channels.

449 In accordance with the result of Newton et al. (2015), we can suppose that between the group “a” and
450 “d” there is a positive relationship, thus in order to be more profitable or to gain a distinctive
451 competitive advantage, producers that invest more in quality tend to differentiate their sales channels
452 more effectively. To verify such relationship and to understand the nature and significance of the
453 physical, structural and socio-cultural factors that influence the choice between single or multiple sale
454 channels, focusing on those firms that belongs to the groups “a” and “d”, we calculate the reciprocal
455 of the Herfindahl-Hirschman Index (HHI-1). Then, the determinants of diversification of marketing
456 channels were quantified by applying censored regression model on a sample of 4,050 wine producers
457 obtained from 2010 Tuscany census. The results have been then discussed and expanded through the
458 additional information gathered with 32 in depth interviews that we carried out between 2016 and
459 2017 on a random and heterogeneous sample of regional producers that have given their availability
460 to be interviewed among those belonging to the census.

461

462

463 **4.1 HHI index to explore the degree of diversification of sales channels**

464 The extent of diversification of sale channels is achieved through the Herfindahl-Hirschman Index
465 (HHI) calculated on alternative marketing strategies (Lobley et al., 2013; Ilberly et al., 2010). While
466 the HHI is commonly used for measures of market concentration (Djolov, 2013), at farm level it can
467 also deliver a measure of the choice between single or multiple sale channels (e.g. see Lobley et al,
468 2013; Ilberly et al., 2010), making relatively easier to analyse differences in marketing choice within
469 the study area. The choice of sale channels is measured as a percentage of production sold through
470 each specific channel, considering the marketing strategies enumerated below: i) direct sale on-farm;
471 ii) direct sale off-farm; iii) forward contracting; iv) sale to commercial enterprises; v) sale through
472 cooperatives. Then, the determinants of marketing choice are quantified by applying censored
473 regression model.

474 Following the specification of Ilberly et al. (2010) to measure concentration with HHI, we calculate
475 the reciprocal function of HHI to obtain a diversification index (D) that measures the proportion of
476 outputs sold through each marketing channel by applying the following formula:

477

$$478 \quad D = HHI^{-1} = (\sum_{i=1}^N S_i^2)^{-1} \quad \text{for } N \geq 1 \text{ and } D = 1 \text{ for } N = 1 \quad (1)$$

479

480 where S_i refers to the percentage of product sold for each sale channel i , and N represents the number
481 of sale channels. If the HHI index illustrates the concentration of sale channels, then when is equal to
482 1 it means that 100% of the product is sold via a single channel, while results that range close to 0
483 indicate that an equal proportion of product is sold through each considered marketing channel (Ilberly
484 et al., 2016). If otherwise the diversification index measures the degree on which farms diversify
485 marketing strategies, in case of a farmer that sells all its wine production through a single marketing

486 channel the index is 1, while when all available marketing channels have the same share, the index
487 reach the maximum value (equal to N). Consequently, the closer to 1 is the index, the lower is the
488 degree of diversification of marketing channels; vice versa for values >1 up to N it states the degree
489 of diversification of the sale channels. Through the reciprocal of the HHI, the maximum
490 diversification is proportional to the number of sale channels analysed and more emphasis is placed
491 on the tendencies towards a relatively small number of outlets, where the choice of multiple sale
492 channels occurs.

493 As our theoretical model refers to diversification of marketing channels, the dependent variable in
494 the regression model is (*D*), which measures the degree of diversification. The regional determinants
495 of diversification are then tested by applying censored regression (0-1); tested covariates belong to
496 four mainly categories: a) factor endowment; b) *terroir*; c) firm resources; d) policies and regulations.
497 While the first three are coherent with the above-mentioned theoretical model, the latter represent an
498 additional external driver that enables farmers to changes attitude toward marketing channels
499 diversification (Bartolini et. al., 2014). Table A.3 in the Appendix A presents the explanatory
500 variables used, grouped against the above-mentioned categories.

501

502 **4.2 Producer interviews**

503 The study adopted semi-structured interviews to obtain producers' diverse experience data to support
504 the hypotheses tested through the empirical analysis. They were also fundamental to obtain additional
505 information in order to describe the current and future trend of the sector (dynamics).

506 We interviewed 32 small, medium-sized and large wine producers. Despite the small number of
507 respondents may not represent all wine producers in Tuscany, the sample is descriptive and diverse
508 in terms of farm size, type of productions, strategies and performances. Their production covers 5
509 DOCGs, 10 DOCs and the 6 IGP (i.e. almost all the Tuscan PDOs and PGIs denominations were
510 covered). More in detail, around the 50% of the interviewees produce organic and biodynamic wine,
511 of which the majority is certified. The range in farm size of the vineyard size spans from 2 ha to 1500
512 ha out of the total farm size. According to the last 5 vintages, the average annual production is between
513 15 thousand bottles per year to over 2 million bottles per year, with an annual turnover that ranges
514 between 100 thousand euros to 45 million euros. The number of employees of the sample ranges from
515 1 to 80. The sample reflects well the different kinds of Tuscan wine producers and the characteristics
516 observed cover a wide and diverse spectrum of producers that includes classic brands as well as small
517 independent wineries, both organic and biodynamic producers.

518 The interviews were designed to explore the producers' strategies (quality differentiation and
519 diversification of sale channels) as well as the significance of several conditions and local factors (i.e.
520 see Fig. 2) in the development of those strategies. First, a short questionnaire was used to seek
521 information about general production data and firm's characteristics. Then, information was elicited
522 about the following dimensions: the strategies implemented; the marketing channels adopted; the
523 degree of quality produced; the source of grape input; the factors that hinder/facilitate or have
524 hindered/facilitated the development of their activities, as well as the perceived threats and
525 opportunities that influenced or could influence the wine sector in Tuscany. This part of the interview
526 focused on producers' strategies in response to emerging trends. Then, we analysed the approaches
527 of the firm to sustainability (i.e. survival, resilience and adaptability of the company). Finally, special
528 emphasis was placed on quality and how producers are oriented towards quality goals.

529

530 **5 Results**

531 The quantitative analysis relies on data from the 2010 Tuscany census merged with a Regional
532 database of the payments for both CAP pillars received by farms in 2010 (i.e. payment for Rural
533 Development Programme 2007-2013, Single Farm Payments, and other first pillar payments). The
534 database contains a large sample of individual farms representative of the entire population of wine

535 producers, allowing to grasp both the heterogeneity and distribution of farm types and strategies.
 536 While the database comprises about 80,000 farms, we focused the analysis only to farms that produce
 537 and commercialise wine (about 4,050 farms)⁹. Among these, our analysis is not able - given the lack
 538 of data¹⁰ - to discriminate between those wineries that produce and market bottled wine from those
 539 that market bulk wine. However, the lack of specification on data related to the sale of bulk wine is
 540 not binding for the scope of the analysis. First, because we assume the quality orientation (PDO/PGI
 541 and organic) as a main driver of the choice of sale channels and second because the sale of bulk wine
 542 does not significantly affect¹¹ the diversification of sales channels.
 543 As explained in the methodology, using census data allowed to compute an index measuring the
 544 degree of diversification of sale channels among five different channels: direct to consumer at farm
 545 gate, direct to consumers outside farm gate, forward contract, sale to intermediaries and sale to
 546 cooperatives. The analysis of the sale channels shows a positive relationship between the degree of
 547 quality produced and the choice of diversification of sale channels (table 1).
 548
 549

550 **Table 1** Distribution of the degree of diversification of sale channels in accord with farm specialisation and quality
 551 production (in bracket the percentages)
 552

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

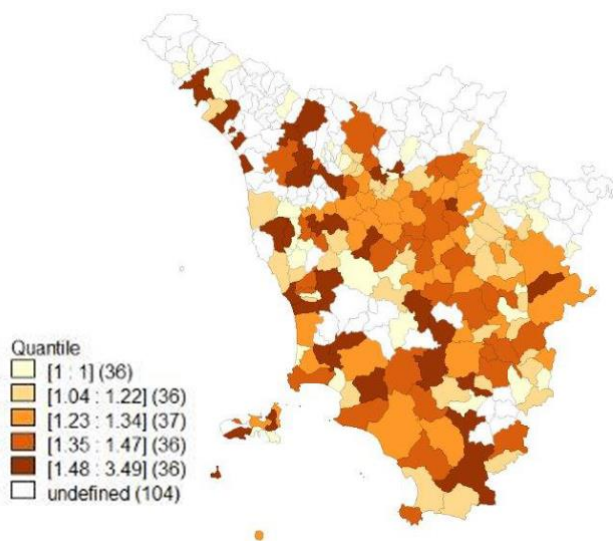
553 Source: Authors elaboration.

⁹ These farms include all wine producers even if 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. The specialisation 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 (less 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 available show in 2013 an amount of just 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 sales (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).

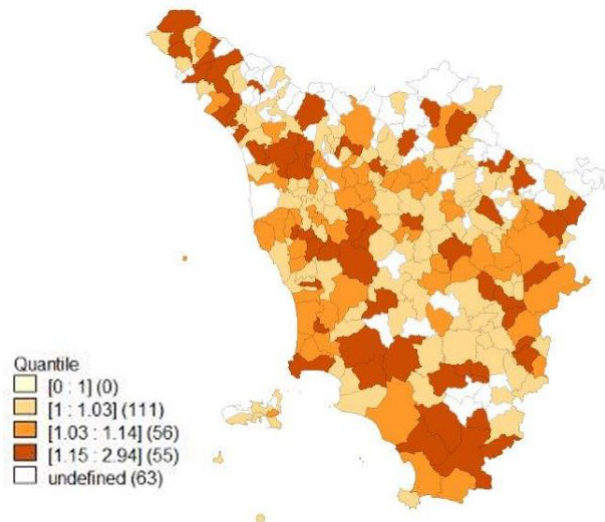
554 Both quality of production and diversification in marketing channels are presented as categorical
 555 variables. The degree of classification is disentangled in four categories moving from the choice of a
 556 single sale channel (D index proximal to zero) to three incremental categories qualified by increasing
 557 the range of 0.3. The choice of a binary representation between the choice of adoption of a specific
 558 quality strategy (PDO or not PDO, organic or not organic) or not, even if simplifying the variety of
 559 existing strategies, exactly reflects the only possible choice that is in agreement with the current
 560 legislation and it is recognised by the market¹². According with the types of farming defined by
 561 Commission Regulation (EC) No 1242/2008, Tuscan producers, including those specializing in wine,
 562 show a very high relevance of farms with commercialisation through only one marketing channel
 563 (about 61%). Thus, the majority of producers reveal a high concentration of sale channels. At the
 564 other end of the spectrum, among the 40% who rely on diverse marketing channels, only a few
 565 producers show a high diversification index (8%). The degree of diversification is quite
 566 heterogeneous across quality productions. In fact, both PDO/PGI and organic producers have a higher
 567 attitude to diversify the marketing channels. 53% of Tuscan wine producers that adopted a PDO/PGI
 568 denomination use multiple sales channels - with 10% highly diversified -, while the 47% report to
 569 use a single channel. Among organic wine producers, the 57% shows the choice of diversifying the
 570 sale channels – with 13% highly diversified - whereas the remaining 43% report the choice of a single
 571 channel. The relationship between the differentiation of quality (i.e. PDO/PGI and organic) and the
 572 choice of marketing channels can be further deepened analysing the spatial distribution of the
 573 diversification index for PDO/PGI wine producers (Figure 5).
 574
 575



576
 577 **Figure 5.** D=HHI-1 distribution for PDO/PGI wine producers
 578 Source: Authors elaboration.
 579
 580

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. Supertuscan), 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.

581 As expected, the Tuscany of the 57 designations of origin shows a clear attitude for the diversification
582 of sales channels. By contrast, for producers who do not choose PDO/PGI labels the results show a
583 greater specialisation of the sales channels (Figure 6).
584
585



586
587 **Figure 6.** HHI-1 distribution for Not PDO wine producers
588 Source: Authors elaboration.
589

590 The qualitative information gathered through the interviews support these results. On the one hand,
591 small and medium-sized wineries that produce a relatively small quantity of wine per year (i.e.
592 approximately less than 130 thousand bottles per year) with PDO/PGI or organic labels stated that
593 they sell their products through several marketing channels (e.g. direct sell at farm gate via tasting
594 rooms, local wine fairs, local retailers). Among these wineries, we find some who decided to exit
595 from the organic certification scheme, but they continued to apply the organic method. These
596 producers, aware of the quality of their products or the strength of their own brand continued to sell
597 their products on different sale channels without using the organic brand. In some cases, they shifted
598 to the “Toscana” PGI brand, while in other cases they elaborated a new marketing message using new
599 quality attributes such as "natural wine". Furthermore, the search for multiple sales channels -
600 especially at the local level - to reduce market risks, has been repeatedly confirmed during the
601 interviews. Among these producers, the trend towards export is one of the main strategies for
602 diversifying sales channels. Within the export strategies, the search for emerging markets with
603 competitive prices is the most discussed strategy.

604 On the other hand, among those cooperatives, bottlers and merchants specialised in the
605 commercialisation of large quantities of wine per year (i.e. the larger producers declared to sell more
606 than 2 million bottles per year), which include both premium and standard wines, it emerged their
607 decision to specialise through few distribution channels, prevalently supermarket and large retailers.
608

609 We focus on few large distributors that assure us the sale of at least 80% of our products. We
610 also have a small organic production, but we prefer to sell it through other local channels,
611 mostly restaurants and on-site through our tasting room in our direct sales outlet.
612 (COOP002)
613

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

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

630
631 In order to minimize the risks associated with a low sale price due to the volatility in prices
632 from one vintage to another, we made a large investment in infrastructures for the long-term
633 preservation of all the wine produced, thanks to the grapes conferred by our members. Thus,
634 we are now able to wait when the market provides a more profitable price. Generally, it could
635 happen that the product in a bad vintage is scarce, in that case, we are the only ones to have
636 the required quantities and thus we can get a better price.

637 (COOP001)
638

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

669 different markets that can take place through different sales channels. According with this
 670 background, our results show that farmers with large amount of land have positive attitude toward
 671 diversification of sale channels, but this choice, as we have seen above in greater detail, can be only
 672 partially explained through the size or the volume.

673 For those who commercialise PDO/PGI and organic wines, the choice of diversification of sale
 674 channels is also confirmed by the positive value taken by the regressors "doc_all" and "d_bio", which
 675 identify those producers who commercialise wines with a certified designation of origin and an
 676 organic label (Table 2). The two explanatory variables show that being involved in quality labels
 677 positively influences the choice of diversification of sale channels, confirming our hypothesis that
 678 quality is linked with the choice of multiple sale channels.

679
 680
 681
 682

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

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

683

Source: Authors elaboration.

684

685 The analysis of the regional and local determinants of the choice of diversification of sale channels
 686 confirms the significance of some variables hypothesized in the conceptual model (Figure 2). From
 687 the set of factors endowment, results show that the farm localisation in urban areas has a positive
 688 influence on the choices of diversification (positive coefficient with a value of 0.13); while, on the
 689 contrary, the localisation in a marginal area returns a higher value of specialisation (the value of the
 690 coefficient is significant but negative -0.72). The results can be interpreted in the light of higher
 691 transaction and transport costs that farmers located in marginal areas have to endure in order to
 692 implement new and diversified marketing strategies.

693 From this point of view, the interviews brought at least one additional cognitive element. According
 694 to some respondents, the distance/proximity to large urban centres in some cases can affect the choice
 695 of diversification rather than specialization of marketing channels. For instance, wineries that are
 696 distant from the major urban centres but close or embedded in highly relevant touristic areas, they
 697 have opted to diversify their sale channels by taking advantage of the popularity of such places and
 698 of the relative economic opportunities through wine tastings, catering services for wedding,

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

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

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

704 (ORGANIC004)

705

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

710 Furthermore, according to Figure 2, the analysis shows how the determinants of the different
711 marketing strategies are related with different intensity to firm resources (e.g. type of production,
712 farm size), and *terroir*. As mentioned above, the choice of a specific quality positively affects the
713 diversification of sale channels (coefficient for the choice of PDO/PGI is positive with a value of
714 0.13, for organic is still positive but lower 0.07). While the organic labels are growing considerably
715 in Italy, with regard to the wine market it has not reached such popularity yet. Therefore, producers
716 who adopt the organic label choose to position themselves on a market niche that leads them to search
717 for different sale channels, as has been confirmed through the interviews. The organic producers said
718 that they preferably refer to several marketing channels; their focus is mainly on those local food
719 networks on which they can promote the territory and communicate the true value of their organic
720 products. This choice therefore is also intimately linked with intangible factors such as trust and local
721 relationships that these producers have activated and maintained over time, with a sense of belonging
722 to the local community.

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

731

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

736 (WP001)

737

738 Education has a positive influence on the diversification of the sale channels (significant but with a
739 small value of 0.03). The increase in knowledge, through an improved acquisition of information,
740 may lead to a reduction in transaction costs and thus facilitate the distribution choices. One of the
741 interviewees - a young entrepreneur of a 100-year-old company - with respect to its predecessors has
742 brought sensible innovation by developing new brands and strategies. His company, which deals
743 mainly with commerce like a “virtual”, follows a network strategy, coupled with organic
744 diversification and an aggressive financialisation of the sales. With regard to the latter, he explained
745 how his firm search in foreign markets young technology start-ups and ICTs companies who mainly
746 work on the online market. When he finds a promising business (characterized by high potential
747 growth rates), stipulates a contract that provides to the company the financial liquidity required to
748 develop the business (through a sort of credit line) in exchange for a part of the autonomy and control.
749 For the company, the greater liquidity is necessary, especially in the first years of start-up and for the

750 winery greater control means being able to use the capabilities of the start-up without acquiring it,
751 thus saving the costs related to the acquisition and direct control. In the end, the return of this strategy
752 is to achieve a higher presence on international markets by increasing direct control on commercial
753 networks using the financial leverage.

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

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

766
767 One opportunity that we have in the future in order to raise our sale prices and to escape from
768 the pressure that the large retailers and distributors exercise on us is to develop a greater direct
769 contact with the final consumer.

770 (WP015)

771
772 The interviews from this point of view provided also further elements on the influence of the regional
773 setting in the choices of the Tuscan producers. In some cases, the *terroir* combined with relatively
774 accessible factor endowment allocation (land) and a good market reputation (set of *terroir*) and
775 favourable regulation (set of firm resource) have allowed the differentiation strategies to succeed; in
776 other cases when the allocation of factor endowment has started to be scarce or there was a shift in
777 the regulation, with the same previous combination the producers did not get the same advantage.

778
779 About 10 years ago, in a context of growing competition and declining demand, we decided
780 through some acquisitions to differentiate our products, before our wineries focused on
781 Chianti. Thus, we moved to produce in other areas of Tuscany where at that time thanks to
782 the work of some wineries the *terroir* of those areas had become popular (i.e. Bolgheri). After
783 we observed that over the years other wineries have arrived attracted by this prestigious *terroir*
784 in an attempt to emulate our strategy. Nevertheless, we were among the first to acquire this
785 advantage, many have then disappeared over the years. Today the cost of land is too high (200
786 thousand euros per hectare) and it is not easy to plant new vines due to the changes in the
787 system of planting rights according to the EU regulation, so we are evaluating new strategies
788 to further differentiate ourselves.

789 (WP023)

790
791 In other cases, the producers have revealed how the combination of *terroir* and factor endowment
792 and firm resource no longer guarantees the market success previously obtained by the differentiation
793 strategy adopted due to the change in the set of firm resources.

794
795 When the most important winery for our PDO dropped out from the activity, we have suffered
796 a lot from this change even though our area remains a very important *terroir* in Tuscany.
797 Before then that firm ensured contact with markets, and when stopped a period of decline for
798 the popularity of our wines outside the island has begun. In contrast, we reacted by
799 implementing the activities of promotion of the PDO consortium trying to substitute the key
800 role previously occupied by that company. We implemented a greater coordination between

801 the remaining wineries and we focus a lot on innovation on new grape varieties and traditional
802 ones in order to develop new products capable to play a major role for the island.

803 (WP030)

804
805 Finally, with respect to the information that we collected through the empirical analysis and the
806 interviews, some noteworthy trends also emerged. One example regards the recent attempt to
807 overcome the fragmentation of the sector through a greater coordination effort and reassembling of
808 new producer networks that represent the sector on the markets. This strategy aims to increase the
809 concentration of the offer and the bargaining power of the individual producers. Two concrete and
810 opposite examples of this mixed public and private initiatives are the hyper consortia “AVITO” and
811 the network of organic producers "Lucca Biodinamica". AVITO unites sixteen consortia of protected
812 denominations of origin with five thousand producers, more than twenty thousand employees and the
813 70% of Tuscan wine production (1.8 million hectolitres out of a total 2.6 million), with a turnover of
814 euros 1.2 billion of which the 70% is generated by the exports. Lucca Biodinamica is a new
815 association of organic producers that want to promote the true value of organic wines produced in the
816 countryside of Lucca. The strategy that both are pursuing, even if on different scales, is the
817 consolidation one, by networking to gain more bargaining power within the supply chain and with
818 markets and public institutions. Alternatively, according to some respondents, it emerged also the
819 trend of a greater concentration with vertical integration operated by large distributors that can easily
820 access to financial resources in order to maintain control over the supply chain

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

828 829 830 **6 Discussion**

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

835 The theoretical framework provides a conceptualisation of the regional wine supply chain in relation
836 to the key sources of differentiation for wine producers as well as to main sets of regional factors.
837 The combination of these factors may determine a competitive advantage which influence farmers’
838 decision-making process towards differentiation with respect the choice of quality (i.e. PDO/PGI or
839 organic) and of the marketing channels.

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

848 Through the empirical analysis we observed a positive relationship between the degree of quality
849 produced and the choice of diversification of sale channels. The degree of diversification is quite
850 heterogeneous across quality productions. In fact, both PDO/PGI and organic producers have a higher

851 attitude to diversify the marketing channels. The focus on those PDO/PGI and organic wine producers
852 shows that 53% of Tuscan wine producers that adopted a PDO/PGI label use multiple sale channels
853 and the same for the 57% of organic producers. The qualitative information gathered through the
854 interviews support these results. Among the small and medium-sized wineries that have been
855 interviewed the majority report to diversify their quality and to use several marketing channels (e.g.
856 direct sell at farm gate via tasting rooms, local wine fairs, local retailers).

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

864 The quantitative approach provides an explanation of the determinants of the producers' strategic
865 behaviour. Through a truncated regression analysis, we verify the assumption that the adoption of a
866 quality label can affect the choice of diversification of sale channels. In accordance with the Two-by-
867 two differentiation strategy model (Newton et al., 2015), our results show that there is a fairly clear
868 positive relationship between the two strategies. Wine producers that commercialise wine with a
869 designation of origin and/or an organic label confirm a strong diversification of sale channels that is
870 confirmed by the positive and significant sign of the coefficients. At the opposite, producers who do
871 not invest in quality seem to be more oriented towards specialisation. In addition, the qualitative
872 interviews report that the marketing orientation of many wineries is quite complex, individualised,
873 and it also depends on factors related to market risks -such as increased need for timely payments,
874 trust or privileged channels in the distribution chain- and in some cases also the ability to exploit the
875 economic leverage generated by other sectors such as tourism. Furthermore, the analysis confirms
876 that the determinants of different intensity of involvement in each marketing strategy are connected
877 with firm resources, *terroir* and factors endowment according with the harvested literature (Gabriel
878 et al., 2009; Paasi, 2010; Ilbery et al., 2016). First, the type of marketing channel used in the case
879 study region is influenced by the farm location. The results show that farmer' location in urban areas
880 positively affects the choice multiple marketing channels, while the location in marginal areas
881 influence the choice of few or single channel. While the former may be a consequence of the different
882 demand by alternative marketing strategies (i.e. DTC, HO.RE.CA, local wine fairs and markets), the
883 latter seems related to higher transaction costs for farmers located in marginal areas to enter in a new
884 marketing strategy. Building on the experience data gathered through the interviews it has emerged
885 that do not always the distance entails the choice of few sale channels. Moreover, where tourism
886 promotes marginal locations the producers develop hybrid strategies to increase local sale channels.

887 Second, the analysis confirm that farm size has prominent role in explaining the diversification of
888 sale channels and also other factors already mentioned such as geographical location, farmer
889 education and age and the choice to live on farm influence the choice of distribution channels. When
890 the size and production capacity increase, wineries also tend to diversify market risks diversifying
891 sale channels. Against this background, the results seem to confirm existing literature on scale
892 economy (Delord et al., 2015) in explaining the adoption of multiple channels (Bartolini et al., 2014).
893 Nevertheless, in the case of wine, the interpretation is not straightforward, given the main interaction
894 of this choice with *terroir*. According to our definition of *terroir*, the expansion of farm size may take
895 place on a poor land adapted for producing industrial wines. In that case to the increase on farm size
896 may correspond the decision to distribute the undifferentiated and standard wine with a few or just a
897 single sale channel (i.e. through cooperatives or virtuals). The interviews provide also further
898 elements of discussion on the influence of the regional setting in the choices of the Tuscan producers.
899 The interviewees confirm the positive role of *terroir* to provide additional advantage through the
900 differentiation strategies when combined with the other sets of firm resources and factor endowment
901 and the allocation of these factors is optimal. At the opposite, the same combination when is based

902 on scarce factors did not get the same advantage for producers. The same apply when occurs a change
903 in a specific set.

904 Finally, the analysis provides noteworthy trends, among which the recent attempt of increasing
905 concentration and consequently bargaining power from several producers and consortia for protected
906 denomination of origin through a greater coordination effort and reassembling of new producer
907 networks (i.e. the case of the hyper-consortia AVITO). The objective is to is to create subjects that
908 have greater weight on the sector in terms of production, ability to realise investments, promotion
909 activities, as well as the ability to dialogue with institutions and global distribution networks. From
910 these features derive their greater bargaining power compared with the single wineries that are just
911 part of it. This trend which go in the opposite direction of our findings, in reality it can be seen as a
912 change in the producers' strategies to cope with external pressure (competition, decline of domestic
913 demand etc.). From this point of view, the analysis highlights the importance for the wineries
914 decision-making process to understand the relationships between marketing strategies and the
915 combination of regional factors. The analysis of these dynamics shows how the strategies do not
916 exclusively depend on market. The analysis at the regional level reveals the presence of factors whose
917 combination can determine the success or failure of the strategies and from which the evolution of
918 the sector may depend. Outside the context of Tuscany, a similar conceptualisation suggests to
919 analyse in-depth what are the key factors for that system, from whose interaction the different
920 strategies can be developed, which however should be calibrated within those specific territorial
921 contexts. Besides some fundamental characteristics for the wine sector that emerged during the
922 analysis, this is the main message that could be transferred to other production contexts.

923

924

925 **7 Conclusion**

926 The study aimed to improve the knowledge of some key relationships in the decision-making process
927 of Tuscan wineries through an analysis that deepens the linkages between the quality differentiation
928 strategies, the diversification of sale channels and their regional and local determinants. According to
929 previous literature (Ilbery et. Al, 2016), the paper hypothesises that the link between the regional
930 differentiation strategies and the diversification of marketing channels is due to the interaction of
931 different combination of three sets of regional factors (*terroir*, factor endowment and firm resources).
932 The presence of specific settings at the regional level influences farmers' decision-making process
933 and leads to changes in the producer's organisation models.

934 This conceptualisation has been examined empirically through a quantitative and qualitative research
935 method focused on a case study for Tuscan Wine sector. The analysis allowed to understand several
936 decision-making outcomes that corroborate our main hypothesis: the choices of differentiation of
937 quality, although in a first moment has played in favour of the sector, subsequently had negative
938 repercussions on the capacity of the sector to cope with the new competitive scenario.

939 If at the beginning of the 80s with an increasing demand for Tuscan wines, the regional producers
940 were able to differentiate successfully towards products of a higher quality (the PDO for Chianti
941 Classico was established in 1984). Over the last 30 years following the changes in the sets of regional
942 factors - and consequently of the sector - the opportunities arising from the differentiation were
943 reduced and the weaknesses related to this approach emerged.

944 First of all, the possibility of planting new vine and extending production has been progressively
945 reduced by changes in wine regulation (EU Regulation No. 1234/07 and Commission implementing
946 Regulation No.561/2015). As a consequence, the land factor has become increasingly scarce and
947 expensive. At the same time, the system of designations of origin has progressively revealed its
948 rigidity in the face of changes in consumption patterns (Malorgio and Grazia, 2007), but it has
949 continued to increase its popularity and the denominations of origin have raised in Tuscany. The
950 producers' partial view of these elements and of their combination has led their decision to the search
951 for differentiation at any costs in order to reach an increasing quality. Nevertheless, to cope with the

952 increasing difficulties (increasing competition, demand changes, change in regulation, environmental
953 issues), the search for diversification of sales channels has curbed these problems and guaranteed the
954 maintenance of the sector through exports. Thus, the marketing choices made in relation to just some
955 of the analysed regional sets and not to their possible interactions did not allow producer to identify
956 the potential negative outcomes, which led the sector to a weak condition linked to extreme
957 fragmentation, such as to be unable to guarantee the continuity and existence to the whole wineries.
958 Many wineries become very small businesses and with the prices they receive - when they are paid
959 on time - they cannot cope with high production costs. Their market power is very low against large
960 players but they try to resist, continuing to differentiate with a sale strategy that aim to secure exports
961 through new market niches.

962 Nevertheless, analysing the dynamics of the relationships between the regional factors that influenced
963 the producers' marketing strategies, we found new and promising strategies that are emerging to cope
964 with these problems. The interviews revealed the producers' effort to coordinate within the supply
965 chain in a process of reorganization and consolidation of the sector in order to reduce supply
966 fragmentation. The analysis suggests that a transformation of the regional setting is taking place, and
967 in addition to strategies for differentiating the quality and the marketing channels, the new setting
968 also combines strategies for coordinating the supply chain towards the creation of new producers'
969 associations and hyper-consortia (AVITO) oriented not only towards promotion (as the traditional
970 role of PDO consortia) but also to the sale. This new strategy is aimed at increasing producer prices
971 and the bargaining power of producers by trying to strength cooperation and aggregation in the supply
972 side.

973 These findings call into question the view that the complex nature of marketing strategies is mainly
974 driven by the condition of the national and global market, while according to Ilbery et al. (2016) they
975 open the debate to the opportunity to consider specific sets of factors that assemble and combine in
976 specific ways the regional conditions. In the case of wine, the overriding importance of demand
977 during the 80s provided a relevant justification for the regional differentiation model, but this today
978 may seem less possible with a global scenario changed. Yet, if we read the regional differentiation
979 model in combination with other factors, we can provide a clearer explanation of the evolution of the
980 system and of the new patterns for the marketing of wine.

981 Thus, the main novelty and contribution of the paper is to provide an integrated and regional view of
982 producers decision-making process that is linked to the key factors of a territory and to their dynamics.
983 The overall message is related to the ability of the decision-maker to understand of how the external
984 pressures influence local factors and how the local factors can combine to generate strategies that can
985 effectively ensure the sustainability of the sector.

986 There are implications here too for debates on the regionalisation of firm's strategic management. In
987 other words, the firms need to strengthen their decision-making capacity, increasing awareness and
988 understanding of the key factors that define their local setting in order to implement more effective
989 and relational strategies. Against the pursuit of a unique strategy that provides the differentiation of
990 quality and the search for niche markets, the wineries should plan very carefully and not overestimate
991 the real size and potential of these markets. For these firms, the preparation for the future challenges
992 could be to strengthen their position in the global retail networks, trying to exploit the relational
993 capital and the consolidation process that are developing at the regional level.

994 With regard to the Tuscany Region, there is an increasing awareness that it is necessary to incentivize
995 policy measures aimed at improving promotion and marketing capacity of regional producers through
996 the support of training and/or through measures that aim to promote cooperation between farmers.
997 Indeed, the new Rural Development Program (RDP 2014-2020) that provides support to this kind of
998 measures, aims to promote producer organizations, new business networks and partnership in order
999 to deliver innovation in the agricultural sector, as well as new processed products, the optimization
1000 of organization systems for preserving natural capital. The natural capital and the conservation of the
1001 territories are strategic assets for the valorisation of the productions and therefore the regional policies
1002 should be designed in a coherent and holistic way taking into consideration eventual feedback loops

1003 between measures (i.e. innovation, cooperation, organic production, commercialization and
1004 diversification).

1005 While the analysis is able to provide a systematization of the main industry issues and decision-
1006 making outcomes at regional level, overcoming the limitations of the individual methods through the
1007 choice of a mixed methodology, the main limitations derive from the lack of additional data to
1008 describe the different - and complex - types of wine productions as well as other relevant variables
1009 for the firms decision-making process. To provide an even more comprehensive analysis, the decision
1010 to limit the decision-making process to two key strategies should also be extended to other strategies
1011 such as contracting, risk management and financialisation that are increasingly present in the wineries
1012 decision-making processes. Finally, the lack of time series prevented to verify the observed dynamics,
1013 limiting the analysis to the producers' experience data that we obtained through the interviews.

1014 To conclude this analysis cannot be interpreted as an end in itself, but rather as a mean to improve
1015 the knowledge of the regional factors and key dynamics that influence the decision-making process
1016 of wine sector at regional level.

1017 Some fruitful questions for further research should address more in detail the regional differentiation
1018 of producers marketing strategies and their relationship with the export, including questions
1019 associated with the increasing adoption of contracts and other form of institutional arrangements
1020 along the wine supply chain as well as the influence of risk management. These elements could help
1021 to unravel the regional differences of marketing models and introduce new factors in the definition
1022 of the decision-making process, leading to the understanding of the elements that link different
1023 regional settings.

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1156 **Appendix A**

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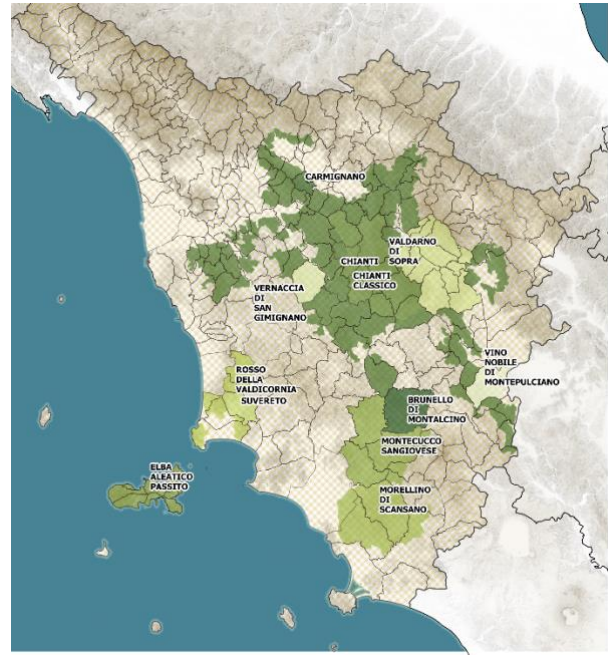
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Figure A.7. Maps of the PDO (DOC, DOCG) wines in Tuscany (authors elaboration)

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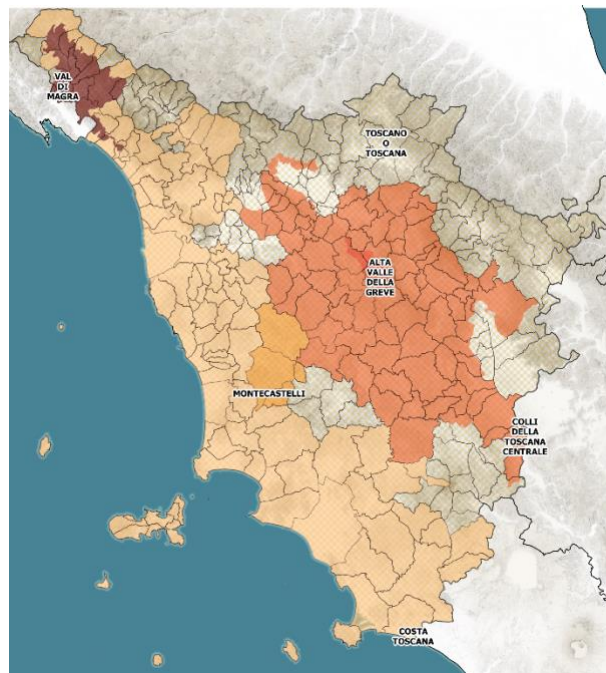


Figure A.8. Map of the PGI wines in Tuscany (authors elaboration)

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