



# SUFISA WINE REPORT TUSCANY AN EXTENDED SUMMARY

MAY 2018



UNIVERSITÀ DI PISA





---

# **Tuscany**

## **Wine report**

### **An extended summary**

*Authors: Daniele Vergamini, Paolo Prosperi, Fabio Bartolini, Gianluca Brunori, Stefano Grando*

*University of Pisa*

*May 2018*



H2020-SFS-2014-2

SUFISA

Grant agreement 635577

## 1. Introduction

SUFISA aims to identify practices and policies that support the sustainability of primary producers in a context of complex policy requirements, market imperfections and globalization. Knowledge on market conditions and other driving forces exists, but in a fragmented way: relevant producer groups and regions have not yet been analysed or framework conditions and driving forces have changed in the meantime. More information can be found on the [SUFISA website](http://www.sufisa.eu).

The aim of this summary is to examine the relevant policy, market conditions and institutional arrangements influencing the sustainability of one of the analysed Italian sectors (wine in Tuscany), as part of the EU-funded Horizon 2020 project, Sufisa (Sustainable finance for sustainable agriculture and fisheries).

This summary has been developed from a much larger report, which is available from: [http://www.sufisa.eu/publications \(project reports\)](http://www.sufisa.eu/publications/project-reports).

### 1.1 Structural change

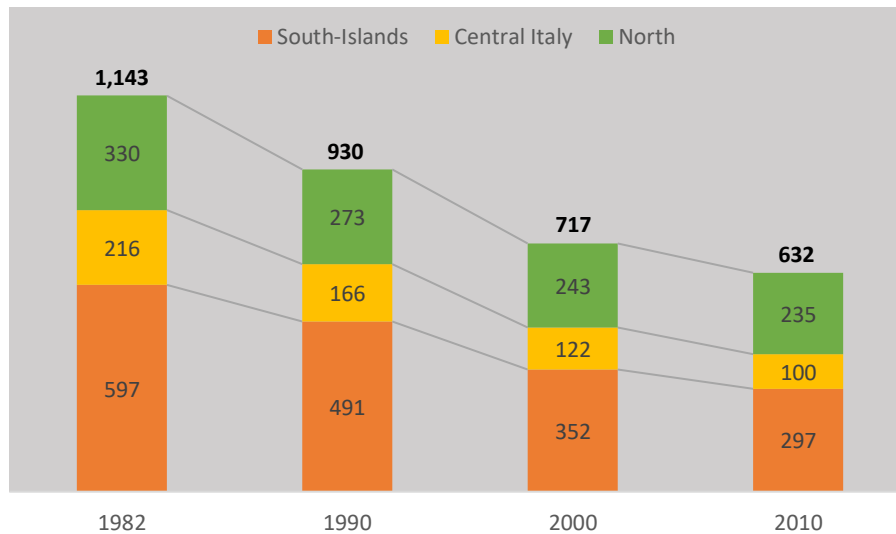
Wine production in Italy is undergoing a sustained process of transformation to cope with changes in demand (fall in wine consumption, consumers drink less but better), as well as to the extreme competition on markets, changes in the regulation of the sector and climate change. The sector is characterized by the extreme fragmentation of the supply chain due to the process of diversification (product and sale channels) towards quality wines, as well as farm modernization with a positive role of the common agricultural policy (CAP). The main trend highlights a decline in the traditional area under vines due to an increase in productivity and improvements of Italian organizational and production models towards greater efficiency that have been driven by the process of revision of the common market organisation for wine (Wine CMO). Moreover the sector is characterized also by the concentration on the marketing and distribution channels operated by large bottlers, distributors and retailers.

According to the 6th Agricultural Census by the Italian National Institute of Statistics (ISTAT, 2010), in the recent decades, the area under vines in Italy has steadily declined (i.e. about 12%) and the country has lost about 48% of the vineyard area (Figure 1). Also the number of farms declined during this period. In 1982, there were 1.6 million of winemakers. Then from 1982 to the last census of 2010 this number decreased to about one quarter (383,000) with an average farm size of 1.6 hectares per farm.

In Italy around 48.2 million hectolitres were produced in 2015, about 6% more than the average of the past decade (45 million hectolitres) and 15% more than the poor 2014. The Italian production of PDO wines was 16.3 million hectolitres (i.e. the 40% of Italian production), scoring an increase of 4% compared to 2010 (i.e. 15.782 million hectolitres) and 6% higher than the historical average (i.e. from the 2005 to 2014 about 15 million hectolitres). On the contrary, the PGI wines have suffered a decline (-4%), going from 14.023 million in 2010 to 13.452 million hectolitres in 2014 (i.e. the 32% of the Italian production). Furthermore, there has been a progressive decline of table wine.



**Figure 1. Vineyard area in Italy - ha/1000 – ISTAT**



*(Source: our elaboration on ISTAT data)*

However, if we look at regional level, these trends have been very imbalanced between regions. While some regions have even increased the vineyard area (i.e. Friuli Venezia Giulia and Trentino Alto Adige +10%), others such as Veneto remained stable or like Tuscany who have suffered minor losses (i.e. -3%). Therefore, the decrease of 12% is mainly attributable to the Central Italy (-18%) and South Islands (-16%) where despite Tuscany, Sicily, Puglia and Abruzzo, all other regions are falling sharply, while the North has contributed to a very small part (-3%).

According to ISMEA in 2013 the Italian PDO amounted to 405 (332 Doc and 73 DOCG) and 118 PGI. The region with the highest number of PDO and PGI wines was Piedmont (58), who was accompanied by Tuscany (57). Then it follows, Veneto with 52 denominations, Lombardy with 42 and Puglia and Lazio with almost 40. Over 41% of the total denominations are concentrated in Northern Italy, followed by the Centre and the South with an almost similar weight (21-25%) and the Islands (12%). The same concentration can also be observed from the analysis of the production volumes. In 2013, the PDO denominations cover the 60-62% of the production potential and of the certified production including Veneto, Piedmont, Tuscany, Emilia Romagna, Abruzzo and Trentino Alto Adige. The PGI production in Veneto covers about 80% of the production.



Analysing the regional data, in 2014, the region with the largest production of PDO wines was Veneto, with 4.2 million hectolitres, followed by Piedmont (2.1 million) and Tuscany (1.7 million). With regard to PGI wines, the largest producer was again Veneto with 3.5 million hectolitres, followed by Emilia Romagna and Sicily in 2.7 million with 2.2 million. However, this figure fails to grasp the basic difference between the regions of northern and central-southern Italy as appears to be strongly influenced by the performance of the single vintage.

The high number of designations of origin represents the production choices made by wine producers towards higher quality. At the same time it also reveals the high diversification present in the sector.

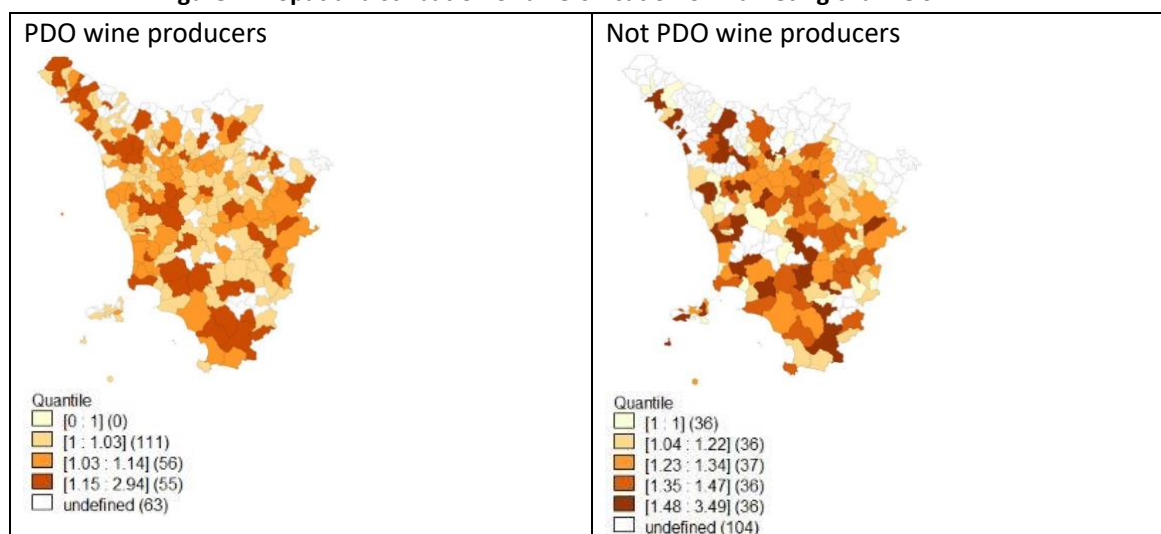
Quality and diversification choices represent the main strategy implemented by the various producers interviewed during the project. Since the export opportunity has become one of the most important conditions for the sustainability of the industry. The small- and medium-sized estates that focus on high-quality wines reported to choose various export strategies towards emerging markets, which are crucial in order to achieve more competitive prices, but at the same time they also need to rely on several local marketing channels in order to diversify their risk.

The diversification choices made on the sale channels are closely correlated with the diversification choices of the products. In the last 20 years, the choice of higher quality has led producers to diversify product types and sales channels. From this derives the high fragmentation of the sector. Each winery focuses in its uniqueness to achieve its competitive advantage, each producer with its history, its family, as well as its brand that becomes expression of its territory.

Analysing the Microdata of Tuscany census 2010, merged with a Regional database of public payment and adopting the reciprocal function of Herfindahl-Hirschman Index (HHI) (Lobley et al, 2001; Ilberly et al., 2010) we represent the extent of diversification of sales channels among alternative marketing strategies: i) direct sale on-farm; ii) direct sale off-farm; iv) forward contracting; v) sale to commercial enterprises; vi) sale through cooperatives. Below we reported the figure of the spatial distribution of the diversification index, which highlights the presence of a strong degree of heterogeneity across different wine quality productions. Figure 3 catches the attitude of PDO and organic wine producers to diversify their marketing channels. The spatial distribution of diversification index, respectively for PDO/PGI wine producers, shows greater diversification of sales channels, while for producers who do not choose the PDO/PGI label it shows a greater specialization with an average value of the diversification index around 0.97.



**Figure 2. Spatial distribution of diversification of marketing channels**



Source: Our elaboration from Microdata of Tuscany census 2010, merged with a Regional database of public payment

This strong differentiation of regional productions can also be seen in the questionnaire answers during the participatory workshop. The 60% of the respondents confirmed this strong push for the differentiation of processes and products as a condition of the Tuscan system, and little more than half of the respondents recognize a link between this drive to diversification and the resulting extreme fragmentation of the sector.

As evidenced by ISMEA, export is the main outlet for Italian wine production. The Italian institute for studies, research and information on the agricultural market (ISMEA) estimates that about 20 million hectolitres were exported across national borders. Thus, about half of the production of wine in Italy is exported (in 2013 the production was 44.7 million hectolitres). This data confirms the export dependence of the sector (USA, Germany and United Kingdom). Noteworthy is the value of the export in 2013 that is around 5 billion euro (i.e. about 15% of total agri-food exports in value).

However, the export processes are not exempt from strong competition on the wine markets. They often represent a more profitable choice for higher quality productions, but in most cases export channels are dominated by concentration processes operated by the large buyers. Against this background several problems related to the export dependency emerges.

Today, under the pressure of concentration in the distribution market, many distribution companies have become owners of the vineyard and of several historical brands. Through vertical integrations, they have acquired numerous productions. In this sense, the excessive dependence from the export becomes a risk factor that limits the autonomy of the territories and binds them to fluctuations in international markets. In addition, it becomes increasingly expensive for small and medium-sized producers to find a space on these markets. Nevertheless, a key point that could play in favour of regional producers lies in the ability to establish stable relationships with distribution networks through increased contact with third-party agents such as wholesale intermediaries or export brokers. These intermediaries can play a key role, connecting wineries to other distribution channels in domestic and external outlets.

These types of actors (i.e. wholesale merchants, industrial distributors, importer or exporter, agents and brokers) maintain relations with distributors and wine merchants. Since they follow the individual capillary outlets, they can be considered as manufacturers' representatives (Rindfleisch and Heide, 1997), which can substitute producers in the marketing phase (ISMEA, 2008).

These "middlemen" can help producers to find and develop exchanges in new distribution channels overcoming the bottlenecks created by the concentration of large distributors. Moreover, the contact with these intermediaries creates also the opportunity to reduce the transaction costs associated with the research and development of new marketing channels and, therefore, it can represent a successful strategy for small and medium enterprises to boost their competitiveness. Thus, aware of the strategic importance of these intermediaries, especially for small producers, seven years ago, the Tuscany Region decided to create an annual international reference event for brokers worldwide interested in Tuscan wines, called "Buy Wine". The Buy Wine represents the largest commercial initiative for Tuscan wines. It takes place every year in Florence (Italy) from 2011. In the course of its seven editions, it has acquired popularity and is now recognized by the industry as a reference event for importers worldwide interested in Tuscan wines.

This tool aims to create a matching point between regional wine producers and export brokers that are interested in buying Tuscan wine and import it into foreign countries.

#### ***The Buy wine matchmaking scheme***



Thus, for Tuscan producers became a great opportunity to meet these buyers at a significantly lower cost than traditional ways of contact with these intermediaries (i.e. visits in foreign countries, other trade fairs). Thus, we define Buy Wine as a mechanism that promotes the meeting between the real actors of the wine industry, particularly between wine producers and those foreign brokers who occupy the upper part of the wine supply chain. During the first focus group, some producers have positively commented their experience with the Buy Wine:

*"By participating in the Buy Wine for five years I could create a portfolio of brokers who provide me a growing percentage of sales annually, around 15% of my sales" (ORGANIC6).*

During the second focus group the Regional administration explained that the scope of this meeting is to encourage the development of the relationships between regional producers and the international importers.

### *The Buy wine event 2017 in Florence*



More recently, this event has been further enhanced, thanks to the contribution of an innovative web agency, named Uplink, that developed a CSM-2 intelligent matchmaking market information service that helps sellers and buyers to manage the pre-trading stage (i.e. organizing the search, matching and meeting phases). This infrastructure works in the pre-contractual phase between parties and like real matchmakers (Baritau et al., 2006) do not participate directly in the ownership flow, but simply match buyers and sellers, helping them to transact. Thus, Buy Wine, as an annual B2B event, and its architecture have been designed as tools to improve the accessibility of different regional products to major foreign markets. Thanks to the use of ICT technology, it has been possible to increase the number of meetings through a greater efficiency in meeting management and in fact a substantial reduction in search and transaction costs that the operators normally have to support to participate in this type of B2B event. From this point of view during the workshop emerged several prominent positions in the use of ICT as a tool to facilitate the marketing and trading operations.

#### **1.2 Context: policy and regulatory conditions**

The EU regulations, together with national and regional laws, define many aspects of the wine industry (BMTI, 2008), leading to stiffening and excessive bureaucratic burdens for producers. During the last decades, the European Commission has promoted a process of standardisation with the aim of facilitating trade and protecting the common market, including the effort to protect consumers from the potential fraud on the origin and quality of wines (Gaeta and Corsinovi, 2014). First, the EU legislation introduced the rules for the production and control of the development of wine-growing potential, establishing a limit on planting new vines and a system of allocation of planting right. Second, it set the rules for the oenological practices and treatments, the system of prices and market measures, the agreements for trade with third countries, the rules relating to the movement and to the release for consumption. Third, it introduced the concept of quality wines produced in specific regions, merging the definition of quality wine with a system of rules that associates the quality to the origin. During this period, the intention of the European legislator was to stabilize the wine supply and to preserve the internal product in order to meet the consumers' quality requirements (given the heterogeneity of the consumers' tastes). Academic literature (Malorgio and Grazia, 2007, pp.300-307) points out the importance of regulation to strengthen "the minimum quality standard" and to homogenize the production systems (in terms of specific production requirements and quality characteristics) within the same Appellations in order to give clear "quality signal" to the consumers. Afterwards, to meet these needs, the European Union has launched a new reform process to support the wine sector. With Regulation Market Regulation 1234/07, the European legislator provided the unification and the simplification of the previous 21 CMOs, including that of wine, into a single CMO.



The objectives of the new regulation were to increase the competitiveness of EU wine producers, regain market shares, restore the balance between supply and demand and simplify the regulations.

The reform was focused on diminishing incentives for grubbing-up of vines (i.e. for 400,000 ha), on abolition (transient, in the space of a few years) of planting rights, of the aid for distillation, storage and the use of musts. Then it was included the displacement of part of the available resources on the second pillar of the CAP and in particular of the aids for early retirement incentives for agro-environmental measures and aid for farm modernization. With regard to regulatory measures, it has been simplified the qualitative distinction of wines into two categories: wines with geographical indications; wines without geographical indication. The labelling rules have also been simplified, allowing the labelling of information so far banned, such as grape variety and the vintage year for all wines. Then, the expiration of the system of planting rights, potentially, postponed after two years, being at the discretion of the member states to maintain it in force until 2018. During a second phase of reforms, the EU finalised some aspects of the process of simplification started in 2007. Within the Commission implementing Regulation (EU) No.561/2015, a new scheme of authorisations for vine plantings was introduced, which should not apply for those Member States where, although the planting rights apply, the vine planting area is below a certain threshold.

At national level, with the DL 61 8/4/2010 the legislator sought to harmonize the national legislation following the European process of reform, merging the previous DOC and DOCG denominations into the PDO and assimilated the PGI designation to the IGT, including a change in the name of the table wine in "common wine". The national regulation mainly refers to the "production codes" for each designation of origin class with regard to the grape variety, the viticultural techniques, the climate, soil conditions (terroir), the acidity control and sweetening process and the sulphur dioxide content. Moreover, it also followed that with the DM 12272 12/15/2015 the national legislator reformed the licensing procedures for planting new vines in implementation of Reg. (EU) No.1308/2013.

Another important milestone in the national wine legislation regards the recent evolution of organic wine regulations. With the DM 12 July 2012, the legislation sets out the substances and products that can be used in organic production (i.e. Annex VIII of Reg. EC No.889/2008). In addition, it also provides restriction and prohibitions on certain oenological practices, as well as rules on labelling. Thus, the legislation on organic wine is harmonized within the main legislative references for the sector. Thanks to this reform for the wine has been possible to apply the Community rules on organic production, from the vineyard to the bottle, guaranteeing transparency to the consumers and the protection of the wine growers who apply the organic concepts to both the vineyard and the winery. The regulation has also allowed imports of organic wines from third countries with production standards and inspection and certification systems equivalent to those existing in the EU.

The reference point for the Regional legislation is the Regional Law n.68 30 November 2012 that disciplines the management and control of wine-growing potential. In addition, the resolution of the Regional Council No.382 of 28 April 2003 (Annex A) provides a list of the suitable grape varieties for cultivation.

With regard to the controls, during the years the legislator has allocated by law this important task to another organisation. Law or ministerial decree through the Inspectorate for Quality Protection and Fraud repression (ICQRF) decides the authorizations of the competent bodies (i.e. Chambers of Commerce and Industry CCIAA and PDO Consortia). As revealed in the media analysis for the wine industry, this ministerial office plays an important role in the protection of certified products and prevention of fraud.

It is worth to notice that with the Ministerial Decree No.293 of 20 March 2015, the Ministry of Agriculture has been adopted the provisions for the keeping of records in dematerialized form in the wine sector. Thus, all wine producers in Italy are therefore obliged to the compliance with the electronic register and to the transmission of all the operations carried out on farm to the ICQRF. This standard has raised major concerns, for its effective implementation and considerable controversy, confirmed by the concerns expressed by those producers that were interviewed.

At Regional level, it is worth to mention also the relevant role expressed by the rural development plan (RDP) of Tuscany Region 2014-2020 that offers various support measures for the Tuscan wine producers. The RDP support includes packages of measures that include the accession to the quality schemes (measure 3), packages aimed at boosting investments in tangible fixed assets (measure 4) and aid for start-up of young farmers (measure 6). Then the RDP offers measure directed to improve the quality of Tuscan production preserving the environment and landscapes through the agri-environmental payments (measure 10), or through the support of organic farming (measure 11). Finally, there is a package of measure to support farmers cooperation (measure 16), in which are provided several measures linked to investments. This type of measures found a remarkable response from regional producers that we interviewed.

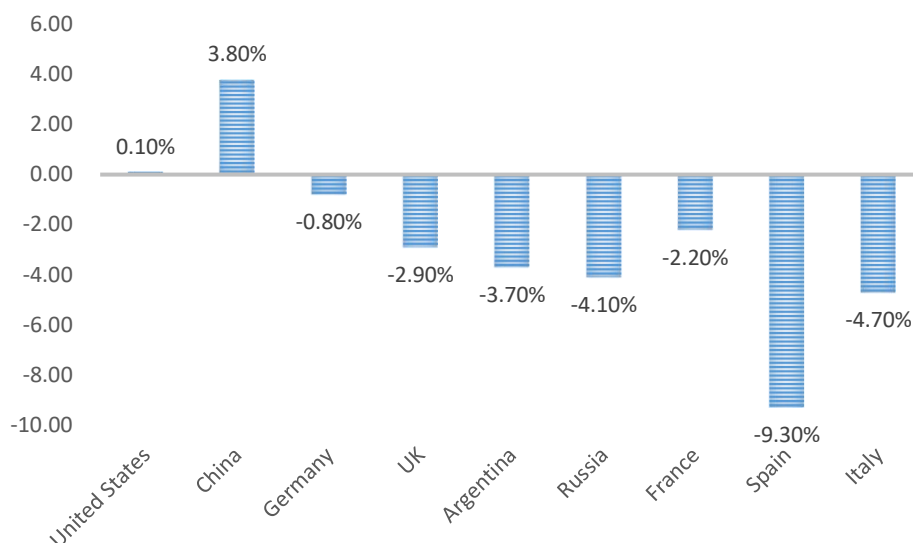
### 1.3 Context: demand conditions

According to estimates of the International Organization of Vine and Wine (OIV), the consumption of wine is floating for several years between 240 and 245 million hectolitres because in several countries the consumption does not grow anymore.

From a commercial perspective and from the consumption point of view we are witnessing profound changes linked to the evolution of lifestyles and to the general economic downturn. According to the OIV data (2007-2012), the analysis of per capita consumption indicates that we are moving towards an average level of 20-25 litres of wine per capita, recording year by year a progressive decline.

In 2012, France is the key market in terms of per capita consumption with 47.7 litres per person, 30% more than in Italy. Portugal is the second country in the world for per capita consumption with 42.5 litres and Italy is the third country (37.1 litres per person). While in China consumption appears more stable, remaining at 1.1 litres per capita during the surveyed period, the US per capita consumption is on average of almost 10 litres per capita. The cross reading of world consumption and those per capita shows us that despite the internal demand in many countries is declining, however the way for the decline is still very long. According to the OIV data the general trend highlights US and China as the best market, with an increase respectively of 0.1% and 3.8% of per capita consumption during 2009-2014 (Figure 3).

**Figure 3. Estimation of per capita wine consumption**



Source: Our elaboration with OIV data

Furthermore, according to BTMI 2008 study based on the data of the Institute of Services for the Agricultural Food Market (ISMEA), in 2006 the purchases of wine in Italy amounted to slightly more than 793 million liters with a value of more than 1.7 billion of euros. Of these about 212 million liters with a value of 772 million euros were PDO wines and about 580 million liters with a value of 895 billion euros were common wines. From 2004 to 2006 it is estimated a decrease of 0.5% in quantity and a 7.2% increase in the value of wine sold in Italy. The most significant increase is registered by PDO wines (i.e. 7.9% in the quantity and 15% in the value), while the common wines fell by 3.3% in quantity and increased only 1.7% in value.

Today, the wine production can reach consumer through different ways and several stages. Different types of organisations allow the access of the product to consumer and from some years, they are undergoing a deep structural transformation. Since the seventies, we assist to the increase of concentration in the distribution sector in favour of large distributors, which can offer to consumer a wider choice and ease of access. While "traditional" channels, namely retail stores, are a reality that is slowly losing its importance, and only in some areas in poor urban concentration still plays a strategic role.

The wine shops, although their percentage of sales is decreasing, they still play a decisive role in terms of image, selling qualified products and helping to spread the appreciation for wine.

- The modern trade (supermarkets and retail chains) is the channel that has the highest bargaining power able to impose particularly stringent requirements in terms of quantity and quality.
- The Ho.Re.Ca. and specialized retail represent a rather important channel for the distribution of wines, with a more limited bargaining power compared to modern trade. In particular, the suppliers are required ad hoc range of products and the provision of additional services to the sale.
- Commercial intermediaries play a key role in production environments characterized by high fragmentation. Wholesalers and cash & carry are also able to follow the individual capillary outlets and sometimes replacing the company itself in marketing to support the wine exploitation activities (ISMEA, 2006).

According to ISMEA data the 75% of household purchases in PDO wines takes place in supermarkets and hypermarkets, while the wine bars and traditional stores account for the 8%, discounters 10%, wholesalers 4% and other sales channels 3%. The common wines have similar percentages among the different channels.

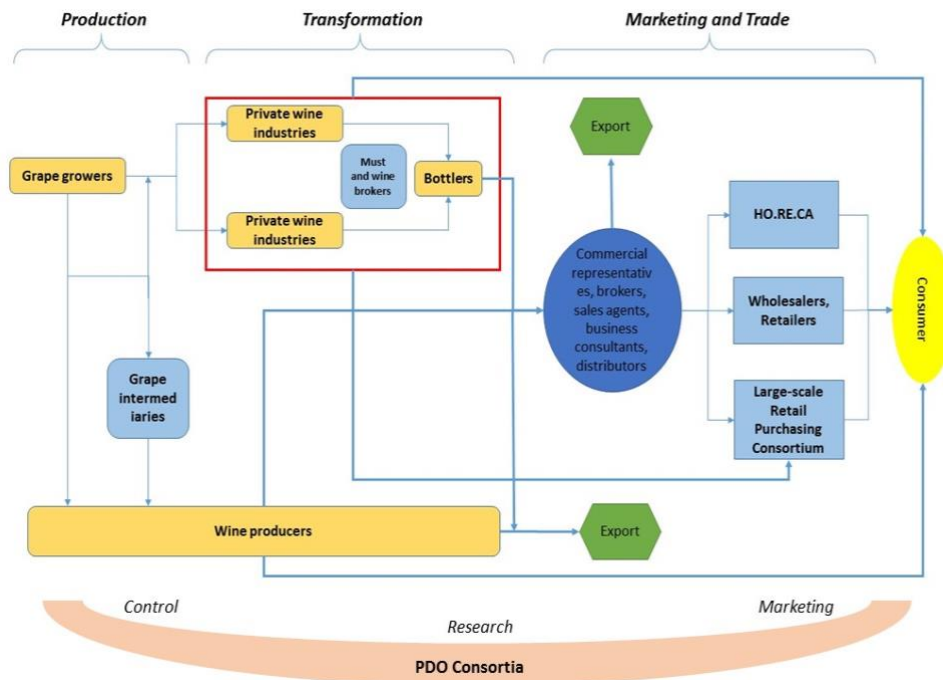
If we consider the distribution channels, according to a survey conducted by the Mediobanca studies in 2008, the first distribution channel is the large-scale retail (43.7%) and the second channel is Ho.Re.Ca. (19.9%), then the direct sale has an incidence of 9.4%, the wine shops and wine bars of 8.3%. However, the data related on Great wines (with a price for consumer higher than 25 euros), show an opposite distribution with a greater role of Ho.Re.Ca. about the 44.6%, then an increasing value for direct sale 11.9%, wine shops and wine bars 28.6% while the large-scale retail decreases to 6.8%.

#### 1.4 Key features of the Tuscan wine supply chain

According to the data provided by the Chamber of Commerce (Infocamere, 2008) the wine sector in Tuscany reflects the characteristics of the Italian agriculture. From the 8,398 wine producers surveyed, the small sole traders dominated the sector (82%), which is characterised by the lower presence of partnerships, the 10%, and corporation the 5%. The other types of farms, including cooperatives and associations, achieve the 0.5%. The 96% of these farms identified the wine producers' core, while the 3.4% are farms specialised in the bottling phase.

Only a small portion of these farms focuses production only in the cultivation of grapes stage (Figure 4). Generally, these grape growers sell grape to consortia and other cooperative that carry out the processing and distribution phases.

Figure 4. Tuscan wine supply chain



Source: Our adaptation from BMTI, 2009.

Thus, the Tuscan sector compared to other regions of Italy (i.e. Emilia-Romagna and Veneto) is mainly characterized by small and medium-large vertically integrated producers, which carry out all phases including the sale and distribution. Instead, the cooperative model has spread more in the other regions, where a myriad of producers confers grapes to fewer cooperatives or bottlers, who then transform and distribute the products. Although less than in the other regions, the media analysis has revealed that there are also large cooperatives, concentrated mainly in the Chianti area, since the main bottled wine in Tuscany is Chianti with 4.5 million bottles, almost entirely directed to large retailers. One of these, which count 46 employees and it associates 38 wineries throughout Italy, concentrates the production in the Chianti area between Florence and Siena and in the Grosseto area. The regional press reported that they receive wine from 2,500 producers with about 2,500 hectares of vineyards (TOS24d, 2016).

*For the majority of the producers we interviewed the different product's features have a direct influence on transaction characteristics and production costs that determine the difference between organizational and decision-making models (W: Interviewees 3, 5, 6, 7, 8, 10, 11, 12). The transaction characteristics affect vertical integration strategies through their effects on transaction costs. Then the transaction characteristics have an influence on the agency relationship among firms that in turn affects the design of strategies. However, the degree to which transaction characteristics influence the design of governance structures depends on the farmer's specific assets, whether new assets or skills are necessary and are produced in-house and whether are delivered by third party (Hobbs and Young, 2001).*



The characteristics of the Tuscan territory, the factors related to the history, traditions, local culture and the type of properties and capital structure of the farms have pushed producers toward strategies and investments related to quality. Producers have pursued higher quality productions with larger operative margins. And as a consequence, they chosen a vertically integrated business model. Within this model, they maintain the total control over all stages of production, including also those not directly linked to the production process as the promotion of tourism and territory. Then the differentiation occurs according with the local factors and the image of Tuscany that that they want to communicate with consumers.

Furthermore, also product differentiation has become a common approach among Tuscan wine producers. The increased uncertainty over quality that consumers (buyers) face, push producers (sellers) to enhance product characteristics realizing asset-specific investment in order to differentiate their products. Thus, sellers differentiate their products to the specification of different buyers.

*According to the stakeholders, we interviewed, in those cases in which regulation did not allow operating changes on product characteristics, or to develop new products, producers have undertaken direct acquisitions of other companies. For example, several companies that operate in the Classic Chianti area choose to operate strategic acquisitions of property and vineyards in southern Tuscany (Maremma Toscana). One producer reported that he has first acquired a property in Maremma, and then he operated two more acquisitions outside the region, in Sicily. The strategy made by his group, lies in the choice of developing products with different characteristics, benefiting from other climatic conditions and different soil characteristics. In Maremma as well as in Sicily, the group was able to develop different types of white wine to find new market outlets. Thus, the choice of direct acquisition ensures to the group to maintain direct control over the organization of the subsidiaries and guarantee the quality of its productions (W: Interviewees 8, 9, 12).*

Instead, in the other regions, where the territory allowed greater yields per hectares and the characteristics of the product were qualitatively lower, the productions have been geared directed to standard products with lower operating margins. In these regions, the focus was the quantity, and the choices of these firms have been described by contracts on quality through cooperative model and large retailers for the sale of products.

**Aim:** Given the strong regional differences and the need to focus the analysis on the case study for Tuscany, the report sought to better understand key market and regulatory conditions that potentially impact wine sector sustainability at regional level, including the emerging key strategies to increase the future sustainability of the sector.



## 2. Methodology

### 2.1 Data collection

With regards to the Wine sector in Tuscany, the analysis focused on wine as a main product. In this vein, we analysed those estates that maintain the control over everything including the agricultural (i.e. growing grapes), industrial (i.e. processing via fermentation, blending, aging and bottling) and service phases (i.e. marketing and distribution). We included the cooperatives that purchase grape or bulk wine and carries out the processing stage with the aim to sell the end product (wine) under their own label and the "virtual" wineries that outsource everything and produce wine at bonded hosted or shared facilities.

In a first step, we conducted a media analysis covering national, regional and specialised media from 2012 to 2016, as well as a desk-based analysis of market and policy conditions, supplemented with 15 in-deep expert interviews. In a second step, we carried out one focus group (FG) with Tuscan small and medium-sized organic wine producers, followed by a second focus group that was only partially carried out with large Tuscan wine producers and Cooperatives in the Tuscany Region headquarters in Florence. We therefore decided to integrate the second FG with additional interviews to those large-scale wineries that could not participate in the meeting.

Lastly - due to the difficulty of involving in a "SUFISA" workshop wine producers and industry experts already engaged in the vintage period 2017 and consequent processing (i.e. September - November) – the participatory workshop was held in a later period. In particular, the project coordinator and WP2 leader were promptly informed and gave their consensus for carrying out the workshop activity in a later period and within a wider workshop on sustainability organized by the industry experts. Thus, the FGs and the case study results have been presented and discussed the 4th November 2017 at the University of Siena within the context of the "Sangiovese Purosangue" workshop on sustainability of the wine industry in Tuscany. In order to gather more comments and information, during this activity we provided - at the end of the workshop - 14 questionnaires on the main themes presented and discussed with the actors, leaving space through open-response questions to receive also comments on future strategies for the wine industry. Finally, through the "Producer Survey" (task 2.6) we collected 110 questionnaires that report information on the qualitative/case specific outputs and issues from the wine case study in Tuscany.

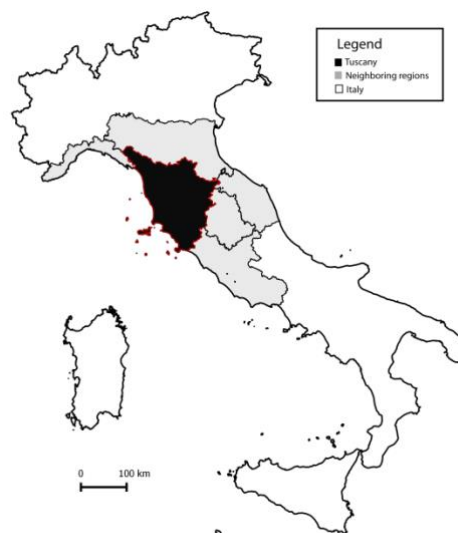
Specific objectives of this task were to describe different typologies of IAs and their prevalence in the wine sector, to identify specific Institutional Arrangements (IAs) attributes that characterize the wine sector, as well as to analyse how different parameters of a given type of arrangement can shape the terms of the relationship between wine producers and buyers and explore mechanisms linking (internal and external) conditions to marketing strategies. Particular focus has been dedicated to assess the sustainability of a given IA. Finally, the survey aimed at identifies future drivers of the wine-specific IAs.

Through the survey we collected quantitative data at farm level that are representative of the Tuscan wine producers, with a focus on the most relevant case study issues (regulatory, market conditions related to arrangements within the supply chain, sustainability conditions and producers' strategies) to allow the further identification, through comparative cross-regional analysis (undertaken by the WP2 leader and co-leader), of key regulatory and market conditions across case studies and commodity groups.

## 2.2 Case Study area

Tuscany was selected as a case study area. Tuscany region is located in central Italy (Figure 6) and borders with Liguria to the northwest, with Emilia-Romagna to the north and east, Umbria to the east and Lazio to the southeast. On the west part, it borders with Tyrrhenian Sea and contains the Tuscan Archipelago. The population of the region is about 3.7 million inhabitants (2016) with the city of Florence as political and administrative centre of the region.

**Figure 5. Tuscany location map**



(Source: author elaboration on <http://www.regione.toscana.it/web/geoblog/-/open-geodata>)

The regional surface is 2,298,704 hectares, of which in 2010 the total agricultural area is 1,295,120 hectares and the utilised agricultural area is 754,345 hectares, of which the total grape area is around 57,942 ha (almost 8% of the Regional utilised agricultural area and 14% of the national grape area). The region is dominated by hills (66.5%) with few plains (8.4%) and it is surrounded and crossed by mountain chains (25%), of which the highest are the Apennines.

Over the centuries, the geographical position of Tuscany, the morphological and climatic characteristics of the soils, the influence of the Tyrrhenian Sea together with social, economic and historical factors have favoured the development of the Tuscan viticulture, contributing to develop a rich and well-known terroir globally recognized as a brand by itself. In this system, the production of wine represents an important factor of territorial identity. Despite the steady decline of the domestic demand and the relative reduction in the area planted with vines (i.e. between 1982 and 2010, the Tuscan area planted with vines decreased by 37% compared to 45% at national level),

according with ISTAT, the Tuscan production has been growing during the last years (i.e. about 8% over the average production of 2009-2013) reaching 2.8 million hectolitres.

The success of Tuscan wines is also based on an extremely specialised and diversified structure of the production system driven by the terroir characteristics in which were developed brands with high quality standards and worldwide reputation. According with official statistics the number of active estates that produces wine in 2008 was around 8.4 thousand with an average size of 2 hectares. The majority of producers identify in wine production their core activity, while the others are grape growers who sell their grapes to cooperatives and other specialised wineries. The fully integrated estates generally produce wine with their own grape production; however, depending on the vintage, they may also purchase grapes from grape growers within a long and stable supply relationship. Cooperatives and virtual wineries generally source their grapes from grape growers or purchased bulk wine. Their action differs from the integrated companies and their strategies, albeit differentiation, appear to be more related to financial leverage. According to Goodhue et al. (2013) the competitive advantage of a fully integrated firm is more related to the decision toward vertical integration or supply chain choices that can increase the control over transaction costs, branding and differentiation, which are narrowly linked to the different characteristics of the territories.

In this structure, the diversification strategies and the search for both horizontal and vertical coordination played a key role supported by the positive results obtained by the export. According to ISTAT data, in 2015 the Tuscany region held 17% of national exports of bottled wine. Thanks to the great capacity to export products outside the Region and to reach the international outlets, Tuscan producers have encountered fewer obstacles to find the necessary resources to maintain investments and innovation despite the recent general crisis and the related lack of liquidity in the industry. In 2015 the value of the export was about 902 million of Euros with a growth of 19% from 2009 that is above the average national growth of 5%, and the red PDO category gave his greatest contribution to this trend (about 504 million of Euros).



***A total of 4 key themes have been selected from the data analysed, as listed below.***



**3.1 *Marketing strategies and price level.*** The topic of marketing emerged as a key topic in relation to the different conditions harvested and analysed in the project. These conditions, such as the over-regulation, the declining demand, pressures on sale prices and the increase concentration in the market drive Tuscan wine producers to adopt several marketing strategies that range from product and process differentiation to the development of new forms of coordination through producers' networks and new consortia (i.e. AVITO, Biodynamic Lucca) in order to increase their bargaining power in the international markets.

In traditional and mature markets like wine, the search of a unique competitive advantage based on resources capabilities and quality (Edelman et al., 2005; Gimeno-Gascon et al., 1997) is considered no longer sufficient and not financially sustainable (Newton et al., 2015). Today the competition pushes wine producers to search and achieve several advantages based on prices, quality, on the capacity to realize investments in R&D, innovation, training, infrastructures, branding as well as creating more stable relationships with global distributors and supply networks (Visser and Langen, 2006). Thus, in order to be competitive firms, need to develop innovative products and processes that can support the growth on new markets (Chang et al., 2011): in other words firms need to differentiate (Porter, 1985).



The diversification strategies and the search for both horizontal and vertical coordination also benefited from the positive role played by the export. According to ISTAT data, in 2015 the Tuscany region holds 17% of national exports of bottled wine.

Thanks to the great capacity to export products outside the Region and to reach the international outlets, the Tuscan producers have encountered fewer obstacles to find the necessary resources to maintain investments and innovation despite the recent general crisis and the related lack of liquidity in the industry.

Against this background, the differentiation strategies have been discussed several times in relation, first to the ability to develop new and high-quality products and second, to the ability to communicate the terroir under a common producers front that can overcome the different regional individualities.

From the one hand producers agreed that the marketing strategies should be directed to:

- Economically viable niche markets linked to quality,
- The demand in emerging markets (i.e. China in the first line),
- The demand linked to more conscious consumption, such as the growing demand for organic production.

The market and demand for organic wine is growing and many of the producers who participated in the activities are involved in the organic production; some of them have opted to produce 100% organic and biodynamic quality wines. During the first Focus Group in response to an increase of the organic wine demand - participants expressed the importance of promoting organic producers and organic products as well as protecting landscapes and territories through specific organic agri-food districts. Participants stressed the need of involving institutions to support cooperation between producers to improve communication activities and credit access capacity. Discussions at the first focus groups revealed that the increasing consumption of the “bio” products is not followed by the development of a critic capacity of the consumer. The following quote provides a good synthesis of this aspect:

“It seems that the consumer is not able to distinguish from what is really bio and what is not, or from what can be a greater bio product and what is just a standard one.” (ORGANIC2).

The organic producers perceived that this demand inflation for organic product could be translated into a loss of consumer trust. Despite the increasing demand, the consumers still need information and orientation among the range of organic productions. Thus, producers agree that there is a strong need for protecting and better communicating the bio-products.

In fact, during the focus group there was a general consensus on the need for more and better communication activities for “bio” products that can be related to the territory (a mature territory that can understand and develop this type of communication). During the workshop participants highlighted the need to develop organic products together with integrated and specific regional knowledge in order to represent the true values of the territory.

“The organic wine can be a regional priority, but we must not marry biological production by faith, but it must be integrated with specific knowledge”. (WSP3).

For these reasons, a new pattern has emerged in the course of the workshop, namely the "rational viticulture". A viticulture that is careful to the territory and its social and environmental values, that cares about the health of consumers (i.e. reducing sulphites and chemical inputs), capable of developing innovation and wine experts' coordination through networks or new producers' associations in order to be competitive on markets.

While organic farming and the research on grape varieties can contribute to increase the environmental and social sustainability of viticulture in Tuscany, a large part of the discussion of rational viticulture also concerned precision farming to make vineyard practices more efficient, new irrigation techniques to cope with periods of extreme drought, hydraulic and agricultural techniques of land management to prevent erosion and soil management techniques such as cover crop to protect biodiversity. As emerged in the FGs, all these aspects of environmental sustainability to be applied in the near future need a continuous aggregative effort, in the face of what has been repeatedly confirmed as an extremely fragmented condition of the sector.

From the other hand, during the focus group the producers stressed the need for joint action at regional level that can include the promotion of marketing skills. Almost all producers in both focus groups and workshop have repeatedly expressed that any promotion strategy should be more strongly supported within a common framework at regional level. Institutions are considered key to help producers to overcome the individualities of the territory and consolidate the regional supply chain. Alternatively, some producers have highlighted that another possible strategy is the development of new business networks or producers' associations capable of creating a common action front. Two examples of these coordination efforts are "AVITO" and the network of organic producers "Biodynamic Lucca". The promotion of the territory and its products under a single regional organization is also seen as a strategy that can help producers to increase their sales prices. With regard to price volatility, the actors in both focus group agreed on the need to create a common offering front with common promotion mechanisms that could enhance the reputation of companies and territories. During the workshop, it has emerged the need to focus on collaborative efforts that can lead to the creation and formation of new sales networks and local intermediaries, with more qualified staff to face the new market scenarios.

If on the one hand also the large producers agree that the sector needs a coherent commercial action at regional or national level in order to raise prices and investments for increasing the value of their productions, on the other hand small producers believe that the competitive pressures exerted by the major producers is responsible for strong market fluctuations and the relative price depression. Those major producers succeed in surviving even at very low prices, relying on larger quantities and more standard production.

"The downward price competition only benefits large producers. We cannot afford competition on price and quantity since we are more oriented through quality." (ORGANIC4).

For these reason during the first focus group it was hypothesized a new condition category between market access and price level that we can call “competition”.

3.2 *Institutional arrangements for wine*. The 93% of the respondents to the producer survey identify in individual sale agreements the main institutional arrangements for the wine sector, while only 7% of respondents reported that the sales were belonging to a collective organisation and therefore through different formal and informal arrangements. These arrangements represent different strategies that potentially help wine producers to manage market competition and price volatility.

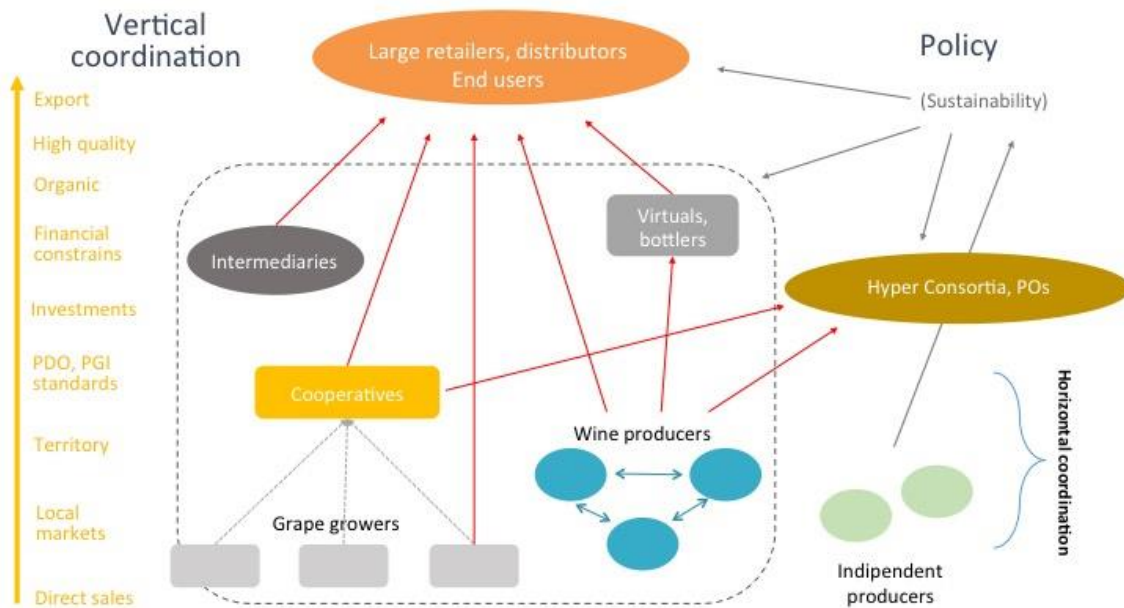
According to the 58% of respondents, the most used agreements in wine transaction are informal (written or oral) agreements at the time of sale, which cannot be legally enforced. Then 28% of producers refer to an informal agreement engaged between parties before the production stage. Only few producers rely on formal agreements, such as contracts defined before (4%) or at the time of sale (10%).

With regard to the main sale agreement it is not surprising that no interviewee declared that belonging to a collective organization could constrain the sale to the specific rules of the organization. In fact, 7% of producers who belong to a collective organization are linked to a PDO consortia or other type of PO that are mainly engaged in promotion activities. Therefore, even if producers belong to a collective organization, they are not obliged to respect specific rules for their sales. Hence, although we can observe that conditions of promotion can affect also sale agreements, it is not possible to detect if there are other indirect conditions affecting sales and coming from the demand side.

The type of institutional arrangement that characterise the wine sector in Tuscany highlights the nature of vertical coordination processes that are undergoing the sector (Figure 6).

The data are also confirmed by the findings from focus groups, suggesting that in most cases producers consider themselves as highly independent and extremely competitive, thus they rarely collaborate. However soft forms of coordination do take places in the developing of new producer organisations, territorial networks and hyper consortia (i.e. Biodynamic Lucca and AVITO) in order to increase the market access and contrast the concentration made by large distributors. Within the sector, the intermediaries through vertical and horizontal coordination forms also play an important role. These actors ensure a privileged contact between the actors of the system and their major distribution channels.

**Figure 6. Wine producers' institutional arrangements in Tuscany**



Analysing the characteristics of the main agreement, indeed, emerges a scenario dominated by vertically integrated companies that maintain the control over the agricultural (i.e. growing grapes), industrial (i.e. processing via fermentation, blending, aging and bottling) and service phases (i.e. marketing and distribution). This classification reflects the different investments in firm resources as the main strategic decision of a winery. This type of decision, rely on the choice between developing entirely and internally the whole production process or outsourcing some of the agricultural and industrial stages. Thus, the type of arrangements can be related to the winery's grape sourcing decision, one of the most important firm's resources.

Against this background, the quality and the other values that the territory can express through its products, which represent the main drivers of the vertical coordination processes, are represented through the main characteristic of the sale agreements. In other words, the opportunity to control the variables that guarantee a predetermined quality standard and reduce quality risks are the key factors that drive the decision through the type of agreements. Thus, as evident from the Table 1 below, the main factors of the sale agreements that are included in price setting are quantity, production costs, quality and market and thanks to the informal and individual arrangements the producers can maintain greater control over these factors.

**Table 1. Price determination factors (N=106)**

Price determined on	Yes [%]	No [%]	Missing, Not applicable, Do Not Know [%]	Tot
Production Costs	55	33	12	100
Quantity	76.5	16	7.5	100
Quality	54	32	14	100
Market	42	50	8	100
Share of profit	14	53	33	100

To confirm this major opportunity of control through this type of arrangements, the majority of producers agreed on “Quality” and “Safety” standards as specific requirements of the sale agreement. These factors are closely linked to the regulation of the wine sector, as well as to the presence of quality standards and to the direct control operated by wine producers on the key phases of the production process in order to minimize the risks.

The same type of agreements applies to the different types of vertical integrated companies that in the regional supply chain operate with a greater or lesser intensity on the production and distribution phase. The independent producers often cooperate within their own association but they represent actors who have come out from PDO consortia or other POs since they want to develop an independent quality approach if compared to the standard values that the territory expresses. These actors focus more in the relationship with consumers and mostly rely on local food networks to sell their products, thus they rely on individual sales direct to consumers.

On the other side, we can distinguish the cooperatives that purchase grape or bulk wine and carries out the processing stage with the aim to sell the end product (wine) under their own label and the "virtual" wineries that outsource everything and produce wine at bonded hosted or shared facilities (Newton et al., 2015). Cooperatives and virtual wineries generally source their grapes from grape growers or they purchase bulk wine from other producers. However, their action differs from the strategies of integrated companies, albeit differentiation appears to be more related to financial leverage. Also these actors often refer to individual agreements; however they use forms of contract in the phase of purchasing the grapes from grape growers and in the distribution stage when they sell the products to large distributor. According to Goodhue et al. (2013) the competitive advantage of a fully integrated firm is more related to the decision toward vertical integration or supply chain choices that can increase the control over transaction costs, branding and differentiation, which are narrowly linked to the different characteristics of the territories. Large distributors and retailers - often flanked by bottlers and wine merchants - purchase wine from other producers before selling it directly to the end user, or processing it and adding value and new brands. It is also clear that the relationships with those actors is in the form of vertical coordination through the use of contracts, credit lines to allow new investments, the guarantee of greater price stability in some cases are driven by direct brand acquisitions. Examples come from cooperatives that - to ensure secure cash flows and minimum prices guaranteed - maintain distribution contracts with bottlers and distributors who can buy large quantities thanks to their financial capacity; in turn, bottlers and distributors sell this wine through their distribution channels at higher prices. Many producers need investments to innovate their main practices and maintain a high quality of their products in order to respond to changes in demand and to new competitive challenges (i.e. the recent growth of the organic demand). However, they are often constrained on the financial front because of delays in payments and difficulties in obtaining credit lines. This opens the way for a greater vertical integration carried out by the actors downstream of the supply chain that, vice versa, have a greater financial stability and are interested to expand their portfolio of products and ensure higher sales margins.



**3.3 *Privileged sale channels and the consolidation of the regional supply chain.*** The sector is witnessing profound changes linked to the evolution of lifestyles and to the general economic downturn. In addition to the uncertainty of demand, high barriers on the outlet markets and pressure on sale prices, the regional producers often face also the structural weaknesses of the supply chain due to excessive fragmentation; in fact, the extreme atomization of the supply chain that characterizes the regional industry does not facilitate the development of clusters nor other forms of coordination (Humphrey and Schmitz, 2002).

This kind of situation appears when there is a common strategy in which investments on the marketing and trade side lead to a weaker bargaining power of producers with respect to large wholesalers and distributors. In this extremely competitive environment, an alternative to the modern trade, particularly relevant for small and medium-sized wineries, can be the contact with third-party agents such as wholesale intermediaries or export brokers. From this point of view has emerged the key role of institutions in creating the contextual conditions to develop these linkages. In this vein, the Tuscany Region decided to create an annual international reference event for brokers worldwide interested in Tuscan wines, called "Buy Wine". For the regional administration, the scope of this meeting is to encourage the development of the relationship between regional producers and the international buyers at lower search and transaction costs.

Respondents on average claim to sell part of their production for 18% through collective channels such as wine fairs (confirming the data harvested in section B), and for more than 10% through B2B events such as Buy Wine. Almost 10% is sold through individual channels such as international buyers and just over 5% through company-managed wine clubs.

With regard to Buy Wine, around 57% of the respondents said they increased their average sales volume thanks to their participation in this event, of which the majority with an average annual increase in exports of nearly 20%, while 40% did not find any positive impact. Furthermore, before participating in the Buy Wine 2016, 22% of producers said they had an export volume of less than 10%, 22% registered that they had exported between 50% and 75% and 18% declared they had traded between 75% and 90% as export. Thanks to the participation in the B2B event, 44.5% said they had strengthened their volume of exports with a consolidation percentage of less than 10% in 24.5% of cases) and between the 10% and 25% in 12% of cases. 55% of respondents did not report any effect. Furthermore, 57% of producers said that thanks to this B2B event, they managed to enter new and promising markets (mainly Canada, Russia, Holland, Denmark, Singapore, China, Sweden, Brazil, Finland). Finally, 45% of respondents said they received through this B2B event purchase proposals at higher average prices, and 35% said that they developed more stable commercial relations.

Another possible strategy emerged through focus groups and interviews concerns the overcoming of the fragmentation of the offer through new business networks and associations capable of creating a common action front. All workshop participants and questionnaire respondents considered the horizontal coordination strategies as well as strategies to consolidate supply chain and networking as key for the future sustainability of the sector. Against this background one trend emerged and regards the recent attempt of increasing concentration - and consequently bargaining power – carried out by several producers and PDOs' consortia towards a greater coordination effort and reassembling of new producer networks. Two concrete and opposite examples of this trend are the hyper consortium AVITO and the network of organic producers "Biodynamic Lucca". While AVITO unites sixteen PDOs' consortia with five thousand producers, more than twenty thousand employees and the 70% of Tuscan wine production (1.8 million hectolitres out of a total 2.6 million, with a turnover of euro 1.2 billion of which the 70% is generated by the exports), Biodynamic Lucca is a smaller association of organic producers who want to rediscover and communicate the true value of the organic products of the territory of Lucca. The common strategy, even if on different scales, consists of consolidation and networking to gain more bargaining power within the supply chain and with market and institutions. Alternatively, according to some respondents, it emerged also the trend of a greater concentration with vertical integration operated by large distributors who can easily access to financial resource in order to maintain control over the supply chain.

All these interpretations and also the results of the workshop questionnaires suggest that there is a trend over consolidation and concentration despite the observed high fragmentation of the supply chain. The aim of this new dynamics is to strengthen the regional supply chain and consequently the positions occupied by the different producers in relation to the markets.

**3.4 *The future sustainability of the wine sector.*** Any discussions about the future of wine making in Tuscany inevitably involve looking at what declination of sustainability the wine sector will focus on. As such, the future viability of the wine sector was discussed at length in both the FGs, workshop and producer survey, where for the latter activity it assumed a special focus on the environmental, economic and social dimension of sustainability.

If on the one hand the workshop has contributed to consolidating the results that emerged from the previous activities, in terms of conditions the industry faces and strategies in response to these conditions, on the other hand the workshop has enriched the discussion by introducing some elements of novelty. Three of the workshop participants, in particular, were adamant that, in order to face climate changes and preserve the territory where production takes place, producers must invest in research together with the Universities of the Region and regional Institutions.

According to those participants, investments should address innovation on clonal selection and viticultural practices that can increase the conservation of the soil, bio-diversity and the chances to obtain even more quality wines: "We need to make a team, or to create more stable relationships within the sector and with external actors such as Universities and Regional bodies. We need to invest more into research to increase what we call the durable material, such resistant species of grape that can help producers to reduce pest treatments. In the past we did a great job with the project Chianti Classico 2000; we were able to create 25 grape varieties (within Sangiovese, Canaiolo, and Colorino) and today they continue to give us excellent results on the wines we produce and we are able to export. But we cannot stop here, we must reinvest ourselves in research to deal with new environmental issues and we must always remember that one thing is good wine, another thing is quality wine".

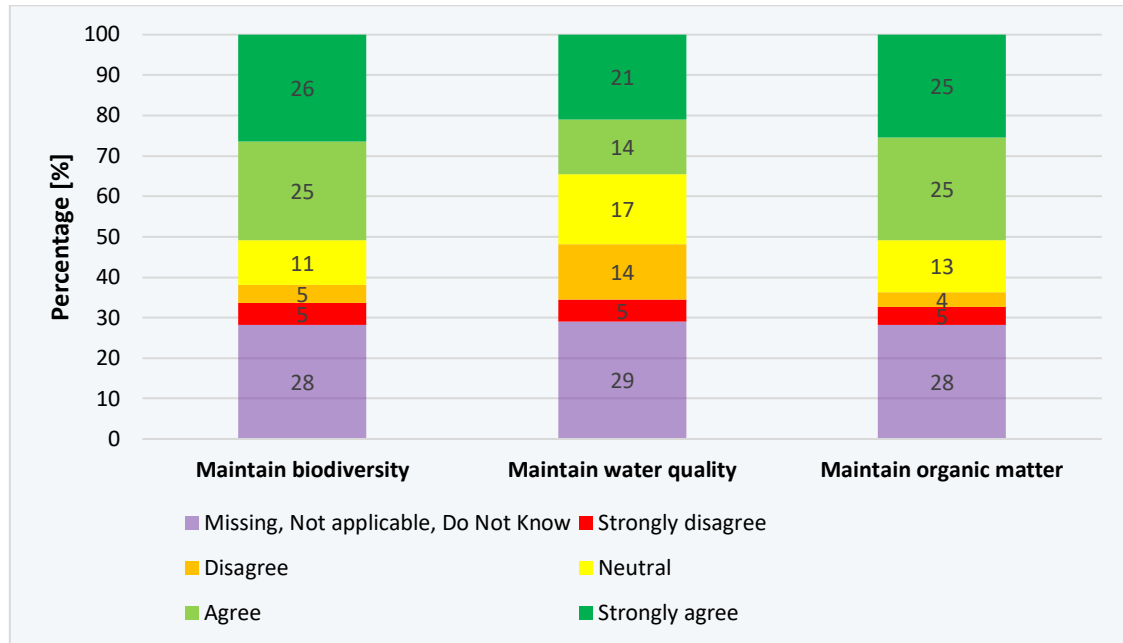
Likewise, in the FGs, the research of quality and the need to increase the quality wines was often mentioned as being pivotal to the future of the wine sector in Tuscany, as well as for the wine sector more generally.

On the quality front and on the environmental side, organic could be a regional priority for workshop participants: "however, we must not marry biological production by faith, but it must be integrated with specific knowledge". Nowadays the organic production is double-digit growth (i.e. 10% annually) and Italy is currently one of the leading countries, but there is still a long way to go in the wine sector. More attention needs to be paid to vineyards, especially on soils and the values of the territory need to be represented. This vision also emerged in the first focus group where reference was made to a need for bio producers to represent their view of organic production with moral principles against the market view of organic as a mere marketing opportunity. "We do organic wine for the values it expresses, for us, the bio product as they know in many countries (i.e. Germany) is not premium price. For example, for German consumers the organic products must be cheaper, thus many of us that are converting to organic, as the German producers, we do not it just for the market" (ORGANIC2).

For these reasons, a new pattern has emerged in the course of the workshop, namely the "rational viticulture". A viticulture that is careful of the territory and its social and environmental values, as well as for consumer health (i.e. reducing sulphites and chemical inputs), capable of developing innovation and wine experts' coordination through networks or new producers' associations in order to be competitive on markets. While organic farming and the research on grape varieties can contribute to increase the environmental and social sustainability of viticulture in Tuscany, a large part of the discussion on rational viticulture also concerned precision farming to make vineyard practices more efficient, new irrigation techniques to cope with periods of extreme drought, hydraulic and agricultural techniques of land management to prevent erosion and soil management techniques such as cover crop to protect biodiversity.

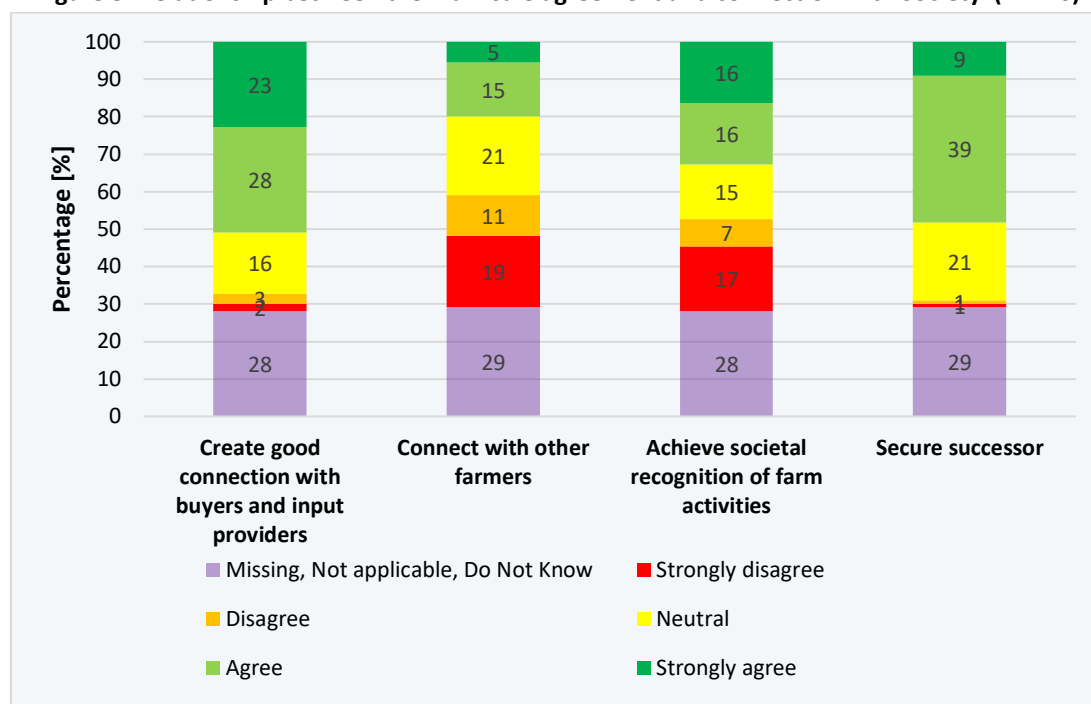
Against this background the survey results can add some elements of discussion useful to complete the picture just described. The farmers' perception of sustainability through their main sale agreement reveals a positive impact of their marketing choices in relation to the maintenance of biodiversity, water quality and organic matter.

**Figure 7. Relationship between the main sale agreement and preservation of the Environment (N=110)**



Noteworthy, considering that the majority of producers focus on an individual sale agreement - therefore mainly referring to a company strategy that focuses on distinctive features such as quality and rarely being open for collaboration - a number of respondents stated also that such main sale agreement does not help to maintain and develop agreements with other companies (Figures 8). On the other hand, almost half of the companies believe that this type of agreement can guarantee them a successor.

**Figure 8. Relationship between the main sale agreement and connection with Society (N=110)**



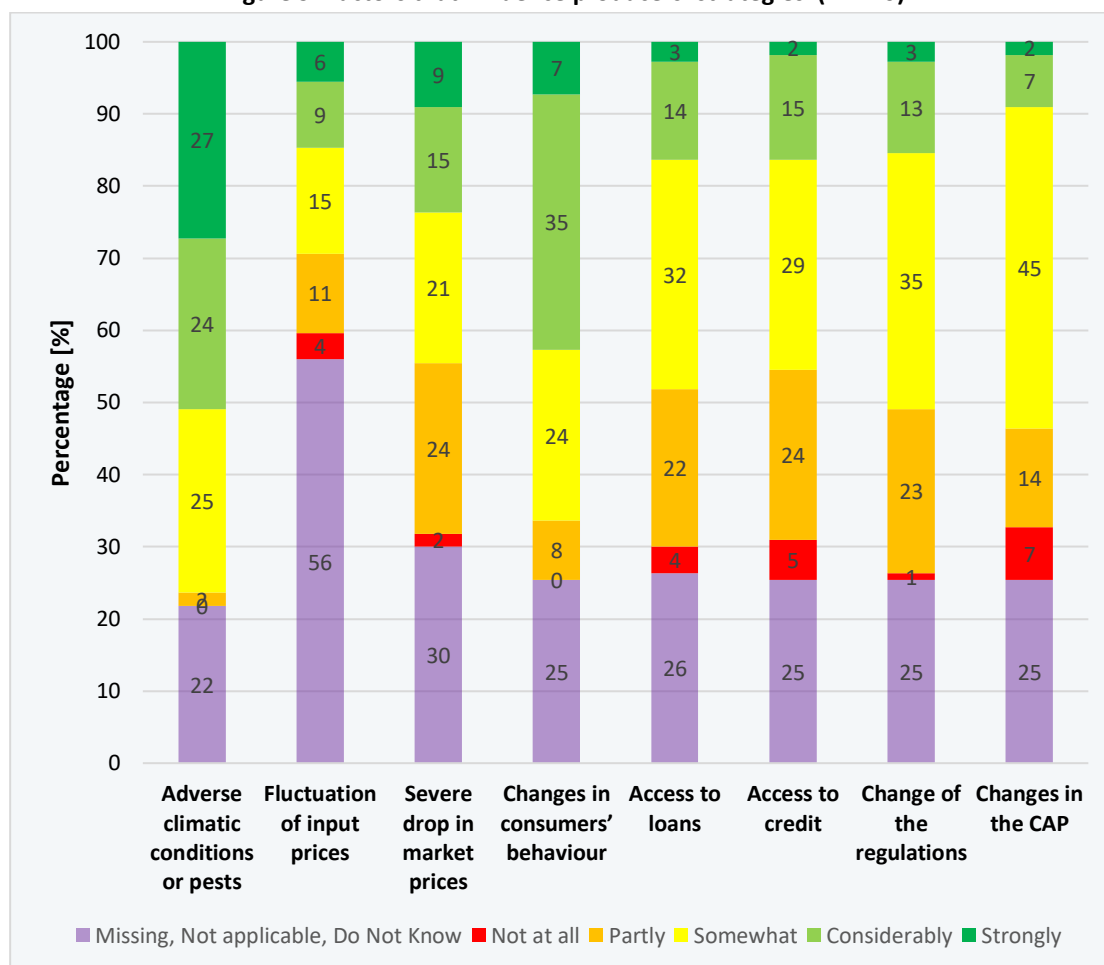
However as emerged in the FGs, all these aspects of environmental and social sustainability to be applied in the near future need a continuous aggregative effort, in the face of what has been repeatedly confirmed as an extremely fragmented condition of the sector.

Moreover, when producers look at the future of the sector many of them express a strong concern about changes in consumer tastes and patterns, as well as about climate change (Figure 9). Another factor of concern for producers is the potential drop of the wine market prices. Many believe this latter factor as a driver for their future choices.

Remarkably we have observed several abstentions on the question about fluctuation of input prices. As many producers have repeatedly stressed during the focus groups, there are factors that the farm strategies can somehow cope with and other factors that they have simply to face with some sort of adaptation strategy. Against this background, many producers believe that the input prices will constantly increase, so they claim that on this front they can only adapt and, for this reason, they do prefer to choose an adaptive strategy.



**Figure 9. Factors that influence producers' strategies (N=110)**



When we asked respondents about their strategies in the coming 5 years, most of them (44%) answered they would cope through an expanding strategy, while 21% prefer a maintenance strategy. Specifically, within those who agree with expanding their scale plan in the next future (see Table 2 and Table 3 below), 54% would invest in production facilities, 16% would specialize with a focus on high quality products, and 45% would develop new sale channels. These results are in line with producers' preferences expressed during the focus group activities.

**Table 2. Production related changes (N=106)**

	YES [%]	NO [%]	Missing, Not applicable, Do Not Know [%]
I plan to invest more in production facilities	55	10	35
I plan to externalize particular aspects of my operations	4	64	32
I plan to specialize my production	16	49	35
I plan to insure against crop losses	3	65	32
I do not have specific plans	2	65	33

**Table 3. Market related changes (N=106)**

	YES [%]	NO [%]	Missing, Not applicable, Do Not Know [%]
I plan to diversify into new crops/products	27	49	24
I plan to insure against volatile prices and costs to avoid loss of income	0	76	24
I plan to develop new partnerships (for instance with other producers, retailers, processors)	15	62	23
I plan to develop new sale channels	41	32	27
I plan to add value my wines (e.g. conversion to organic)	10	65	25
I do not have specific plans	1	75	24

Finally, among those who declared a conservation strategy and those who declared an expansion strategy, 25% stated that they did not have any expectation about the potential successor, while in 41% of cases there was a reference to a family member. Few respondents (only 3%) have declared to think about selling their property in the future.

The survey results confirm the discussion that emerged during the focus groups and the workshop, when we asked which strategies or policies could help to overcome the problems of the sector and several participants agree that the main focus should be on the marketing side. Against this background, many participants have expressed the wish for greater territorial coordination between the public sector and companies. Moreover, in their opinion there is also the need to develop a greater capacity to use modern ICT technologies (i.e. e-commerce platform, web and social skills). After that, they highlighted the need for more action in territorial characterization of the products; this should be accompanied by further effort to improve the capacity to recognize and communicate product quality. All these efforts should be oriented to succeed in enhancing the present territorial diversity without giving up to local and distinctive features. Other aspects of consensus in the discussion and in the questionnaires involved the need for more communication and promotion activities, access to credit as well as the importance of environmental aspects and climate change as previously discussed: *“There is a need for more organisational and coordination support, more effort to reduce collaboration risks and increase the ability to achieve common objectives”*.

Finally a key aim of the workshop was to develop a range of scenarios regarding the future viability of the wine sector in Tuscany. In this respect, the idea of increasing the overall quality and efficiency of the system is central, as well as increasing the quality of the supply chain relationships through investments in vertical and horizontal coordination through the following actions:

- Consolidating the industry (i.e. AVITO);
- Investing in the quality of research and training;
- Investing to increase production efficiency and reduce administrative burden (i.e. development of new standards, technology and the use of ICT).

At the moment, we have identified a starting point in fulfilling the needs of more quality and coordination (expressed by the maturity of the system of designations of origin and the spread of organic farming standards). From this development point - under the spur of territorial differentiation strategies – it is possible to identify the first consolidation tendencies as well as further research perspectives on quality. On this basis, it is possible to suggest two main scenarios for the wine sector in Tuscany.

Before doing so, it is important to highlight several constraints that emerged from the analysis. First, the need of more communication between the private and public sector, if not satisfied, can undermine the transition to the most suitable scenario. Second, it is important to consider the need to define the rule and the framework for a “rationale viticulture” as well as the agro-ecology management practices or the organic ones. Third, it is important - in policy terms - to have clear the purpose of the wine sector (is it about to maintain and increase the ability of the territory to achieve several positive externalities within the development of the industry, making a meaningful contribution to the environment and rural societies, or simply focus in terms of its contribution to individual profits?). Fourth, it will be important to keep in mind how to better deal with the reduction of bureaucratic burdens that nowadays seriously constrain the sector - if compared with other Italian agricultural sectors or to the situation in other wine producing countries. Fifth, the timescale involved for any of the possible scenarios to come may be as long as from 5 until 10 years. Bearing these constraints in mind, the two scenarios were developed as follows:

### **Scenario 1: Retention of the Status Quo.**

*Following the main past drivers/conditions and strategies:*

1. Many small brand and companies – and few medium-large cooperatives - will come out of production due to financial difficulties.
2. Export will be increasingly affected by competitive pressure, starting to fluctuate year after year.
3. Progressive shifting production to organic products or products with lower chemical synthesis inputs.
4. Foreign companies will buy most local properties and productions.
5. Few producer associations or super brand will succeed in developing high quality products and will continue to represent the territory.
6. At the local level there will be no opportunity for young people to access the sector.

*Predicted impact on the wine sector in Tuscany:*

1. Insufficient market share to allow many small farms to survive;
2. Often inappropriate and burdensome legislation;
3. Insufficient opportunities for young entrepreneurs;
4. Tourism and other features of the territory will guarantee for a long time the maintenance of a status quo;
5. Growing territorial disparities: some denominations will lose their original meaning and the territories will be progressively occupied by other activities;
6. Foreign capitals will provide the support for the industry. More foreign labour will be needed.
7. There will be a loss of traditional and local values, supplanted by globally recognizable market values or standards.

### **Scenario 2: The development of a “rational viticultural” system**

*Following the future sustainability drivers/conditions and strategies:*

1. New producer associations are developing, focusing on changing agricultural and marketing practices;
2. Different producers / consortia develop high quality products in accordance with the principles of more rational agriculture and respecting the environment and consumer health;
3. The emphasis is shifted from promotion to sales through specific training (new brokerage companies are established in the territories to deal with international sales);
4. Foreign capital continues to enter the sector but are often accompanied by investments by young local entrepreneurs who, thanks to favourable public policies, succeed in developing innovative and successful projects;
5. Several producers’ associations or producers’ networks collaborate with the regional

institution to increase the sustainability of the sector;

6. The market, driven by producer and other actors of the supply chain - including new market intermediaries - will absorb part of this new and young local entrepreneurs.

*Predicted impact on the wine sector in Tuscany:*

1. Increase of export and market share, allowing many small brands to survive;
2. Reduction of burdensome legislation;
3. Increasing opportunities for young entrepreneurs;
4. Tourism and other features of the territory positively affect the developing of the sector;
5. There will be a greater consolidation of the sector that overcome the fragmentation and increase its bargaining power against external competitors;
6. Local and foreign capitals will provide the support for the industry;
7. Traditional and local values will be maintained by the new producers' associations, creating new narratives and values that continue to increase the regional brands;



#### 4. Conclusions

The Tuscan wine case study has aimed to understand key market and regulatory conditions that impact on wine sector and the key strategies and arrangements in place that producers are utilising to manage difficulties and risks.

This report has established how Wine sector has undergone significant transformation, characterised by an increase of diversification towards quality wines that has led to an increase in vertical integration models followed by the extreme fragmentation of the wine supply chain. Then, the increase in concentration by large bottlers, traders and distributors has created bottlenecks for small and medium-sized wine producers. Against this background the contact with international brokers and wine intermediaries become a key condition to guarantee the access on new market. On this side, the effort made by the Tuscany Region to develop the access on international markets through privileged sale channels has a positive impact for the sustainability of the regional supply chain. However, for a better understanding of this economic processes please refer to the full report.

Using interviews, focus groups and a producer survey, the research highlights and explores 4 key themes, including marketing strategies and price level; institutional arrangements; privileged sale channels; and the consolidation of the regional supply chain and the future sustainability of wine sector.

Overall, the emerging issues highlight the many difficulties Tuscan wine producers face going forward, but also highlights how there are an increasing number of different ways and arrangements which farmers can explore to strengthen the sustainability of the wine sector e.g. consolidation strategies through new producer networks or POs that can create a common marketing front at regional level.





**This project has received funds from the EU's Horizon 2020 research and innovation programme under Grant Agreement No 635577. Responsibility for the information and views set out in this [report] lies entirely with the authors.**