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Wine after the pandemic? All the doubts in a glass

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Abstract. COVID-19 has triggered an unprecedented global crisis, the increasing recessions in many countries and related trade uncertainties are affecting the whole wine sector, from production to distribution, sales, and consumption. While the full recovery is still uncertain, and even worse scenarios are possible if it takes longer to recover trust and financial stability on wine markets, the crisis risks to jeopardize recent developments and sustainability in wine territories. Building on a tailored revision with a mixed-method participatory research process of the conceptual framework on Condition, Strategies, and Performance of Grando et al. (2020), we offer a critical reflection made by researchers and stakeholders supporting several socio-economic narratives and policy implications in the light of the current crisis. Distinguishing between short and long-term implications, we analyse the impact of disruptive changes in the external and internal conditions of the business environment, the strategies adopted by the wineries and their implication on performances, as well as a reflection on the policy needs to alleviate the ongoing suffering of the sector. The speed and scope of the pandemic crisis underscore the need for the wine sector to become more resilient by increasing the ability to cooperate and coordinate among supply chain actors and between policy levels. The latter offers a reflection on the balance between short-term interventions and the complementarity of post-2020 CAP measures to stabilize market and future incomes. We conclude that once the crisis abates, it will be necessary to reaffirm credible commitment and trust at all levels, not only with regard to production side but also on sale and distribution, especially in the face of changing consumption patterns that in the future will become more pressing for issues related to safety and sustainability.

Keywords: COVID-19, wine industry, pandemic, Italy.

1. INTRODUCTION

The Covid-19 Pandemic has triggered devastating consequences both for human lives and for economic progress. The most optimistic view of what we can expect after a long recovery from the COVID-19 will certainly be a half-full glass. The International Organization of Vine and Wine (OIV) sees in the near future a huge drop in wine consumption, as well as a reduction in average prices, and therefore in sales margins and turnover. The down-

ward pressure on prices could be even more pronounced for the fine wine market (the upper segment of the wine market) with a fall around 35% (Cardebat et al. 2020). While the Covid-19 pandemic has quickly delivered a global economic shock with catastrophic consequences, the increasing recessions in many countries and related trade uncertainties are affecting the entire wine sector, from production to distribution, sales, and consumption. The pandemic and the set of measures adopted to contain it, have led to massive downturns in global economies, and to increasing disruptions to global supply chains, trade that collapsed in the first half of 2020, and tourism for which the World Tourism Organization (UNWTO) has estimated a decline of 44% in international tourist arrivals with a loss of about 159 billion Euros just for the first quarter of 2020. Export found increasing difficulties and limitations alongside widespread international border closures, uncoordinated policy restrictions and social distancing measures, trade policy uncertainties and turmoil in the financial market (World Bank 2020a). Symmetrically Imports have been curtailed by aggressive quarantine measures, which heavily weighed on consumption and investment (World Bank, 2020b). Wine achieved a lower than average production volume in Europe, where the extraordinary measures to reduce the harvest volume had a significant impact in Italy, France, and Spain. But the sharpest decline was due to its heavy reliance on exports and tourism, in a magnitude that could jeopardize recent developments in most of the wine-producing countries. In Italy, Mediobanca (2020) estimated a loss of 2 billion euros in the 2020 turnover, resulting from a huge drop on sales between 20% and 25% compared to 2019. According to the Institute of Services for the Agricultural Food Market (ISMEA) from January to September 2020 wine export volumes are 2.6% lower than the previous year, while in value the loss is about 3.4%. Many priorities on political agendas previously considered ambitious, especially those related to the post-2020 CAP reform that aim at securing those investments necessary to align agriculture with Sustainable Development Goals (SDGs) risk now to become even further out of reach (Pomarici and Sardone, 2020). A huge question mark looms over the vast majority of emerging market and developing economies, the growth for many sectors is still uncertain, and even worse scenarios are possible if after the immediate policy support the structure of the wine industry takes longer to recover. The simple wage of this paper is to provide a reflection on the effects of the COVID-19 epidemic for the wine sector. Building on a Conditions-Strategies-Performance framework (Grando et al., 2020) adapted to the emergence of the COV-

ID-19 pandemic the analysis integrates a desk-based review of recent economic perspectives on the wine sector (World Bank, 2020a; Vergamini et al., 2019) with diverse experience data collected through two workshops conducted before the spread of the pandemic (Jan 2019) and during the first lockdown of May 2020. The purpose is to offer a critical reflection on the most-updated socio-economic narratives and policy implications, in the light of the current crisis. Distinguishing between short and long-term implications, we will try to analyze the impact of uncertainty that has spread since the earliest outbreaks of mid-March 2020 providing possible courses and outcomes. Clear policy actions and recommendations to alleviate the ongoing suffering of the sector are discussed, as well as addressing future challenges such as the recovery of the environmental investments through sustainable policies and the support of international trade through global coordination and cooperation. The starting point of our reasoning adapts well to the Italian sector and other traditional wine countries (France, Spain, Portugal), after which some trends and policy implications that are specific to the sector can also be extended globally.

2. METHODOLOGY

2.1 *The Condition-Strategies-Performance (CSP) framework*

The analysis provides a review and a reflection that further expand and test the CSP approach of Grando et al. (2020) derived from industrial organization (Porter, 1980) and agrofood value-chain management approaches (Rastoin and Gherzi, 2010) in light of the current spread of the COVID-19 Pandemic. The previous CSP framework was completed towards the end of 2019 in a completely different scenario. Driven by the objectives of the EU-funded Horizon 2020 SUFISA project¹ it has been tested on various sectors (Prosperi et al., 2019) including wine (Vergamini et al., 2018). However, the disruptive changes introduced with the pandemic in 2020 offered the opportunity to revise the previous approach and further develop the framework according to the mutated conditions. The framework proved to be a reliable ally for understanding the way the producer integrates and

¹ SUFISA – SUstainable FInance for Sustainable Agriculture and fisheries was an H2020 Project (Grant Agreement 63555) for which we analysed the wine sector in Tuscany through several quantitative and qualitative research activities. The National Report for Italy provides a synthesis of the diverse experience data we gathered through a survey, several focus groups and regional workshops (<https://www.sufisa.eu/publications/>, last accessed June 2020).

translates internal and external conditions into chosen strategies that then leads to performances and how on the basis of the observed performances producers adapt by recalibrating reactions to conditions (e.g. remote tasting, web-marketing, quantity of seasonal labour, etc.). Given its extreme flexibility, we have chosen the CSP approach to capture the short and long-term coronavirus pandemic effects on producers' strategies and performance in the wine sector. For ease of reading, we report here only the elements of novelty that are attributable to the changes introduced by the current crisis, while for more details regarding the CSP we remind to Grando et al. (2020). The adaptation of the CSP under the COVID-19 scenario is summarized in Figure 1 and should be interpreted in the following way. The core is the decision-making unit (the wineries). According to the change in external conditions introduced by the worsening of the pandemic (restrictions on the free movement of people and goods, trade and tourism disruptions, introduction of social distancing rules, national, regional and local lockdowns, rising of unemployment and financial stress), we observed a sudden change in the wine business environment, especially for the wineries that focus on the on-trade channels and those more export-oriented and widely connected to Global Value Chains (GVCs.). The shock induced by the change in external

conditions has determined for wine producers the need to confront and subsequently adapt to a new – although initially perceived as temporary – internal environment.

While wine production conditions appeared stable in the short to medium run as producers have adapted to the situation and continued their work in the vineyards, others were the conditions that mostly constrained wine producers. The “new” internal environment was found to be characterized by a lack of timely policy measures and coordination, by the drop of on-trade channels against the growing concentration of large retailers and supermarkets, by a quick fall in consumption of fine wines vs an increase of the medium-low quality segment albeit with a strong focus on regional brands, by sudden labour shortage and an increase in production time and costs vs a drop in average grape prices, with a generalised lack of liquidity and increase in debt exposure and related risks. Both external and internal conditions constrained the producer's decision-making to produce timely and adaptive strategies while waiting for a wider structural policy support. These responses, as we will analyze more in detail below, have had an impact both in the short and medium-long run on the performance of the sector, according to differences in the composition of output and exports, as well as the endogenous factors that determine the competitive-

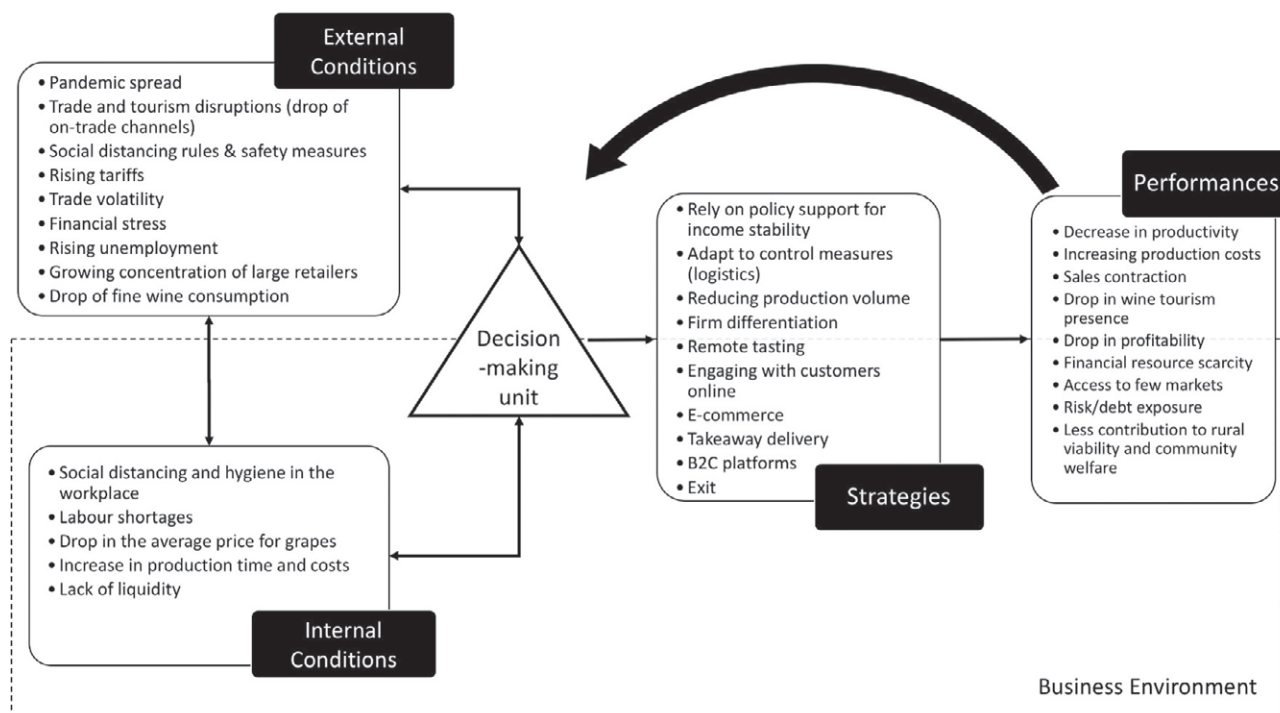


Figure 1. Producer's Decision-making Process. Source: Author created.

ness, the reliance on on-trade vs off-trade sale channels and producers' participation in GVCs.

2.2 Data collection, CSP development, and reflection

The process of reviewing and reflecting on the CSP approach in the light of the current pandemic crisis for the wine sector was based on a phased mixed-method participatory research process that integrated stakeholders' opinions, experiences, and reflections with a desk-based review of different sets of conditions, strategies, and performance at the end of 2019 with those in mid and late 2020 (Fig. 2).

We developed a baseline picture for the CSP analysis (i.e. the state of the sector before the pandemic) building on Vergamini et al. (2019, 2018) and integrating additional discussion elements grasped from a large workshop conducted in Tuscany during 2019 with 80 key players of the wine supply chain. The actors involved in this first workshop included small, medium-sized and large wineries, academics, members of DG-Agri of the Tuscany region, members of Tuscan PDO Consortia, sales agents, and other key intermediaries. In compliance with privacy issues, to these type of data, we will refer in the text with the initials WP (workshop participants). The workshop was organized as an iterative and interactive foresight game to capture the strategic nature of decision-making through a cyclical process of confronting potential future European wine sector states including agricultural and trade policies with individual and collective objectives, planning or taking future action (strategies), and reflecting on potential outcomes and policy implications (for a deeper analysis of the scenario building process² see Gardin et al., 2019). The experience data collected through the workshop contributed to develop and validate the chosen baseline set of conditions and strategies (see Annex 1). The actors involved answered questions about how they plan to meet these conditions or which strategies among those that can be implemented in the described scenarios they think can contribute to reaching individual and collective objectives regarding the future sustainability of the sector. Such exercise generate discussion among stake-

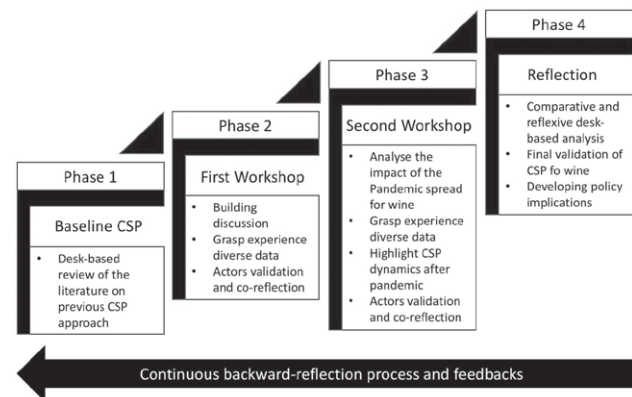


Figure 2. Phased mixed-method participatory research process. Source: Author created.

holders that we further employed to validate, and, ultimately refine the baseline CSP.

Then during the early outbreaks of May, we promoted a second and Web-based workshop (May 15, 2020) to co-reflect with more than 20 international wine actors across the supply chain (international winemakers, market consultants, agricultural consultants, wineries, representatives of regional institutions, academics and students) on the impact of the sudden changes in external conditions leaden by the pandemic on the producers' strategies and performances (please see Annex 2 for a deeper explanation of the workshop scopes and process). The data collected allows researcher to develop a backward reflection on the initial CSP set and grasp additional short-term implications for different geographical contexts (Italy, France, Spain, Portugal, Australia, and US). The workshop was intended to 'ground-truth' on the previous findings and better clarifying the role of the different pandemic stressor(s) in driving adjustment processes and the dynamics that drove wineries from the 'baseline CSP' in the past to the new framework with respect to the current pandemic state and to the future sustainability and viability of the sector.

Then a final comparative and reflexive desk-based analysis of market and regulatory conditions faced by the producers integrating different and recent economic prospects (World Bank, 2020a; OIV, 2020) was conducted by the research team to structure the different findings and provide key insights in terms of policy implications. Drawing on the different data sources described above, the next sections examines the resulting condition, strategies and performances, particularly in terms of different temporal (short vs long term) and spatial contexts, the pressures faced by producers in each region and the strategies adopted by wineries and associated supply-chain actors to adapt and overcome the pandemic.

² For ease of reading, it is important to mention that the scenario narratives were built on the basis of key dynamics that afflict European agriculture and which can be summarized in three macro-categories (consumption models, distribution of power along the supply chain, prevailing technological models) that resulted from the SUFISA project. For wine, the interaction of these macro-categories with different trends and drivers of change identified for the Tuscan sector led to the formation of potential specific reference scenarios that have been verified with actors under their territorial context.

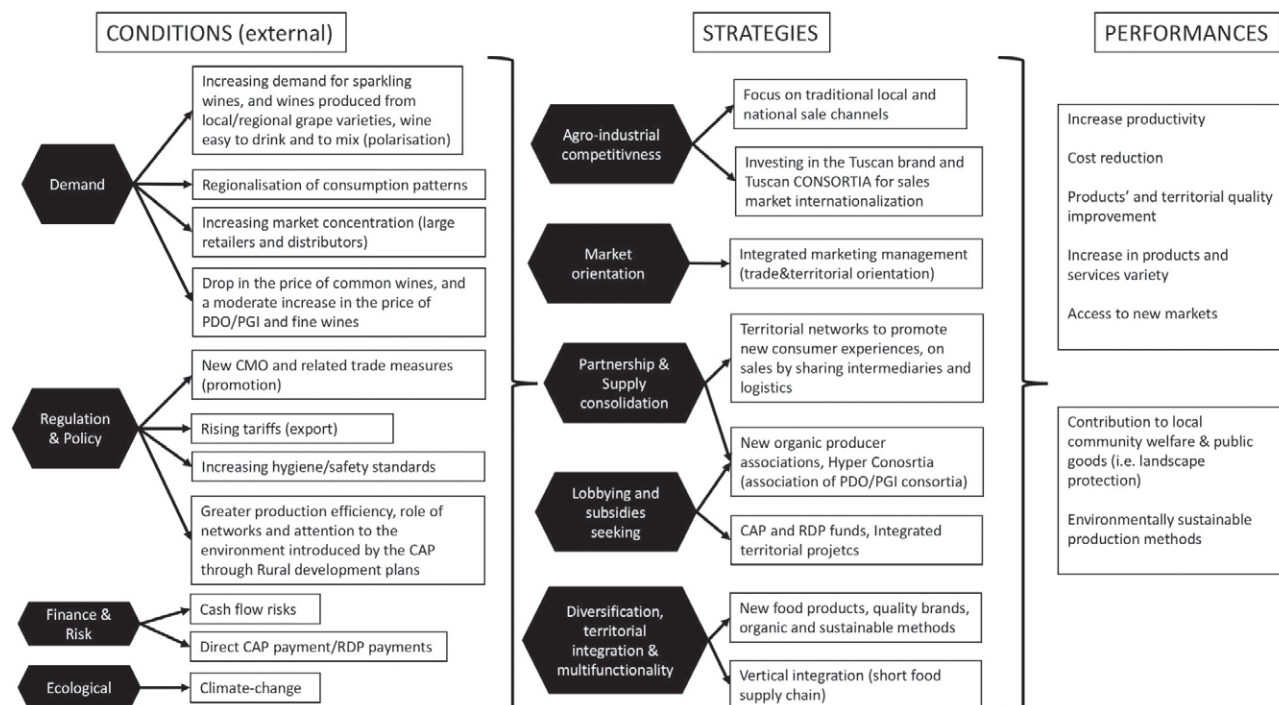


Figure 3. The baseline CSP framework for wine. Source: Revision on Grando et al. (2020).

3. A DEVASTATING BLOW TO AN ALREADY-FRAGILE VISION OF THE FUTURE

Before March 11 2020 we did not expect a certainly bright future, however, there were positive trends and strategies that aimed – let's say – to increase the sustainability of the sector (Obi et al., 2020). The baseline conceptual framework (Figure 3) illustrates that in face of growing concentration on foreign markets, rising tariffs, and regionalisation in consumption patterns, we have witnessed the consolidation of investments in traditional local and national sale channels, increasing investment in the maintenance of the territory (e.g. RDP non-productive investments aiming at securing environmental assets such as landscape through the restructuring of old and abandoned terraced vineyards) and in quality, the progressive formation of new territorial networks to promote new consumer experiences (Brunori et al., 2012), the growing application of trade marketing (spread of B2B and B2C events), and the improvement of existing facilities, especially those related to the increasing of wine tourism in the light of multifunctionality and income diversification. For some Italian regions like Tuscany, where the budget for CMO promotion measures is around 30 million euros, these investments represent the result of a decade of work conducted by the Region together with the regional wineries and protection con-

sortia. Thanks to these efforts Tuscany gained its resonance as a global umbrella brand for its agricultural productions, including its high-quality wines (e.g. Chianti, Brunello di Montalcino etc.). However, these developments have not been limited to promotion but involved the transformation of the regional winescape (Vlahos, 2020). If climate change was a key concern, there was no lack of plans for sustainability and improvement of the vineyards. Indeed, the attention to sustainability and to the environmental impact of production have been proved, for example, by the widespread increase in organic viticulture (Pomarici and Sardone, 2020). In the panorama of sustainable initiatives, the Italian producers were the first to believe in new production protocols such as organic, which in 2019 marked its strong growth. Even against the changes in demand and consumption patterns, we have seen an increasing ability of Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) wines³ to boost their average prices and an increasing interest in wines that are easy to drink, mix, with low alcoholic content, premium, with low environmental impact and with alternative packaging. Therefore, in the face of wine structural flows determined by change in the sector conditions

³ We refer to those wines that belong to the art. 93 of the Regulation (EU) 1308/2013;

driven by internal and external forces, producers demonstrated their ability to find proactive and unison strategies to maintain substantial stability of the wine supply, increase productivity, reduce costs, increase in products variety and access to new markets (Vergamini et al., 2019; 2018).

According to Vergamini et al. (2018) their performances resulted from strategies for which potential demand, as well as supply and market risks, were perceived as intelligible and manageable and for which they developed adaptive/proactive responses. However, as they pointed out during the first workshop, there are also other factors that should have been considered, such as environmental conditions, for which the risk can assume an indefinite value, beyond their control. Unfortunately, this has been – shortly thereafter – confirmed by the rapid spread of COVID-19.

The early March outbreaks exposed us to the idea of a fragile future, but above all, they added an additional element that we didn't consider in the baseline approach, namely "time factor". Although aware of the existence of sudden and uncontrollable changes in external conditions, in all the wine scenarios that we analyzed during the first workshop (Garding et al., 2019) an important variable escaped from the control of the analysts as well as of respondents, and it was the "time response", or rather the speed in providing solutions. The astonishing speed and the scope of the pandemic crisis is unprecedented. Although in previous scenario analyses we consider the opportunity for sudden shocks, what we did not model was the need for the predisposition of quick policy strategy, or let's say at least timely.

What we should learn from the current situation is to anticipate the crisis, we need to prepare us and instead of perpetuating the present living we should project ourselves towards the future. (WP01)

Despite the unprecedented policy support and the stringent control measures to mitigate the ongoing health and human costs and to support the near-term economic losses, the underlying policy strategy was "taking time", since policymakers were not prepared to deal with a severe public health crisis of this scope. Although this factor is not immediately evident, the lack of predisposition and coordination among policies is detrimental in the long term, leaving more room for the downturn consequences that we are now experiencing for wine and for many other sectors. Thus, the uncertainty associated with the lack of predisposition, becomes the starting point of our revision of the framework and the first fundamental insight from our reflection.

We have lived to date in the complete lack of signs of restarting, in an atmosphere of uncertainty, in the lack of real planning for the sector (WP02)

If it is true that nobody imagined this scenario before January, nevertheless in the last few years some extreme and catastrophic events have taught us the need to predispose strategies to be able to tackle quick measures.

Covid-19 epidemic should lead us to review the production world in a different way. (WP03)

A strong sustainable future needs timely and targeted policy interventions that reaffirms credible commitment to sustainable policies and predispose a new relationship with the environment. As we would deepen in the discussion, at European level, for example, Pomarici and Sardone (2020) illustrates that the post-2020 CAP reform there already includes preventive instruments that goes in this direction like the "harvest insurance", the "mutual funds" and the "green harvesting". However, to these policy tools that could offer concrete stability to crisis situations, the Members States (MS) posed so far very little attention despite being feasible (Trestini et al. 2017). Before the COVID-19 crisis, the world was concerned with concentrating the National Support Programs (NSPs) resources on fostering competitiveness. Consequently, the overall picture leaves no room for optimism. In the next section, we try to analyze the events step by step to distinguish some key implications between the short and medium-long term.

4. SHORT-TERM IMPLICATIONS

In the short term, the wine sector – affected by social distancing and the tourism stop – experienced a sharper decline.

The territories that before the crisis were growing, are now in difficulty, affected by the HoReCa stop and by the collapse of wine tourism. (WP04)

However, specific results emerge, reflecting differences in the composition of output and exports, as well as the reliance on on-trade vs off-trade sale channels and changes in those endogenous factors that determine the competitiveness (i.e. human capital and other terroir factors⁴). Portugal wines, for example, suffered a

⁴ For a deeper analysis of the regional factors that determine competitiveness of the wine supply chain we refer to Vergamini et al., (2019).

lower impact than France, while the France sector has been affected more than the Italian one (Table 1), bringing out also the problem of different speeds for different countries.

In addition, the World Bank reports that the sectors that participate more in the global value chains could be more affected by the disruptive effects of COVID-19. Although wine is a territorially-based product, for those wineries that focus on export and are globally connected, the effect of safety measures is to slow down production and transport with the consequent lack of the necessary inputs/outputs between one process and another.

Argentina, for example, encountered such a problem during the harvest with regards to labor shortage, since workers traditionally come from regions very distant from the wine-growing areas. (WP08)

The covid-19 hit the wine sector mainly from the supply side. The wineries are not experienced with labor shortages as in other sectors. Since most of the labor force is generally mobilized during the harvest, producers from the southern hemisphere faced this problem during the first wave, while the European countries fear to face it with a second wave, which this time would bring down the resilience of the sector. In addition, the propagation of shocks through networks and trade interlinkages such as GVCs could be a major driver of economic fluctuations (Acemoglu, Akcigit, and Kerr 2015). GVCs account for more than half of global trade, which becomes more volatile especially during crises (Freund 2009; Taglioni and Zavack 2016). These effects could also prove disruptive for those companies that depend to a greater extent on external financial flows from companies operating in other sectors or that are simply controlled by foreign capitals. Wine has experienced a high degree of financialisation in recent years, where external investment and acquisitions have not excluded many popular brands.

Net of these considerations, in the supply chain of the traditional wine countries most of the “on-trade” distribution channels disappeared. The HoReCa and other “on-trade” channels have been the most affected by the lockdown. With the closure of restaurants, the stop of social life, travel & leisure industry, we assisted to the collapse of sales for many of the EU denominations of origin and other regional wines (i.e. the most affected). According to the Comité européen des entreprises vins (CEEV), in Europe the stop to this channel could lead to a 35% drop in sales volumes, and a loss of over 50 % in value. But let's not forget that the spatial dimension also matters (Ilbery et al., 2010). By unpacking this impact following a vertical direction (northern vs south-

ern hemisphere) we envisage greater repercussions in the Mediterranean area where there is a greater concentration of wine bars and restaurants (Italy, Portugal, Spain, France and Greece). Furthermore, this area has seen in recent years the greatest concentration of investments in the vineyard and cellars: to improve the product quality, but also the appeal and accommodation capabilities of the territory.

With regard to the hospitality in the north of Montalcino (Tuscany) we suffered a big blow, a devastating impact: we miss the most beautiful moment of our work, the relational one. If we consider also the contraction of the highly developed tourism industry, which will continue to be severely limited during the next months, the negative impact for thousands of wineries that focus on the strategic combination of these activities is likely to be unsustainable. (WP11)

The feeling is that the crisis is eroding decades of development standards for our quality wines providing unbalanced territorial consequences that could threaten the current objectives of a “vibrant agriculture” and “generational renewal” (Pomarici and Sardone, 2020). Although even before the pandemic several experts and practitioners endorsed several pessimistic scenarios for future wine demand, a general collapse of the market was truly unpredictable. On the opposite, considering only the increase in sales for domestic consumption mainly recorded by large retailers during the lockdown as a signal of recovery, we risk drawing wrong conclusions. In supermarkets, the offer is much more limited compared to the on-trade channels for which differentiation is a key strategy (Vergamini et al., 2019), and focuses on price and rather homogeneous products among several major players. According to Cardebat et al. (2020) we should contextualise the increase in sale of large distribution by market segments and distinguishing between export and national/regional market accounting for the collapse of off-trade channels. Therefore, we envisage that the most affected producers are those that a) focus on terroir-driven and fine wines, b) are based on export c) benefit from an important local/regional demand through HoReCa. The same reasoning applies to the rapid growth of sales in e-commerce. As we will discuss later with regard to the medium-long term, this type of offer is also badly suited for a highly differentiated production like that we are used to finding in the most prominent Italian wine regions.

Ours is a medium-sized family business, for which the impact on the European markets has been violent, but we are mostly affected by the stop of HoReCa; Our winery has now realized above all his vocation and the link with

Table 1. Short-term implications by Countries.

Countries	Composition of output and export, on-trade vs off-trade, competitiveness	Short-term implications	Impact experienced	Actors
Italy (Tuscany)	World class red wines (Sangiovese), export oriented, great focus on wine tourism, quite heterogeneous reliance on different trade channels (mix of on-trade vs off-trade). Strong territorial endowment.	With the collapse of wine tourism, the sector experienced a huge drop exacerbating the previous criticalities like late payments and increasing lack of liquidity. As a consequence, debt exposure is rising. Unlike France, before the pandemic, Italy managed to exploit the rise of United States tariff to its advantage, so the subsequent lock-down resulted in a balance of losses compared to the previous positive export balance.	Medium-strong	WP05
Spain (Rioja)	World class red wines, great focus on on-trade. Strong image of the regional brand.	In Spain, there has been a huge drop in wine consumption as in other countries following the HoReCa stop, which has mainly affected the upper tiers of production (40% nationally and 60% from the Rioja where they produce 300 MLN of liters/year of which 60% goes to the national market and 40% is exported). While the top wines recorded the major negative consequences, the consumption of medium-level or low-quality wine has increased, but with a very low percentage that does not compensate for the losses related to the closure of the restaurants. The estimation is about 40/50% reduction in volume and 50/60% in value (turnover). Last year the average price for grapes was around 1 euro/kg, while for this year predictions show about 0.5 euros per kg. In addition, several large processors risk purchasing less quantity. Even in Spain, there is a consensus for a reduction in yields, but without aids, part of the grapes will remain in the countryside. The impact of e-commerce was minimal but still a stimulus for many wineries. Tourism has had the first and greatest impact, now is the turn for uncertainty and the consequent economic crisis.	Medium-strong	WP06
Portugal (Lisbon)	Export oriented, great focus on wine tourism, mixed trade channels.	In Portugal, the main impact is on export; 15-20% losses for large companies and up to 50% for small wineries; Anyway, the export is gradually restarting with the reopening of the Asian, US and Canada's markets (with a probable increase of 15% of exportation); However, it needs to be balanced with the negative impact from the closure of HoReCa channels and the stop of wine tourism. Take-away and supermarkets contribute to maintaining sales while wine consumption at home increases. The feeling is that for the 2020 harvest in Portugal the price of the grapes will not be affected by the situation; Portuguese government has planned fiscal and support intervention with the same measure announced for Italy (distillation aid, etc.)	Low-medium	WP07
France (Bordeaux)	World class red wines (Cabernet-sauvignon & Merlot) and champagne (luxury segment). Great focus on wine tourism. Strong territorial endowment.	Restrictions played a major role in delivering less consumption of premium wine or luxury products like champagne while there was an increase in the consumption of cheap products; Wine region like Bordeaux has been mostly affected by the stop of wine tourism. Although the wine is a durable product, the situation doesn't encourage a reactive response from the markets when it will improve. Then the emotional context constrained the purchasing behavior; In addition, the confinement of workforces caused workforces troubles or increasing production times and costs. With regard to export, it decreased by 20% during the first 2020 quarter following another 20% fall just in march. Exceptional measures from the Agricultural minister provide: social security contributions for employees and companies with an envelope of 400 MLN Euros; Aid for distillation to reduce a volume of 2MLN Hectoliters with 140 MLN euros;	High	WP08
Australia (Adelaide Hills)	Great Wine Capital for white wines (Sauvignon Blanc), notably sparkling wine. Focus on export. Focus on drinkability and new blends (vanguard wines). The territory is a matrix of new and old patterns that aim at increasing wine tourism.	Limited implications since Vine harvest and Wine processes have been taken place normally with an impact on the organization and logistic steps due to social distancing restrictions; Restrictions slow down production processes while wineries react by engaging with customers online; for large wineries with 24hrs processes the impact was in the re-organizing of the processes (slow down, divided into steps with breaks to include regular cleaning processes) to reduce workers exposition to contamination; Large impact by the stop of travels; stop of wine tasting (no visitors) and shut down of HoReCa channels; Fires have been a greater concern than the Covid-19 shut-down; the main challenge is how they will maintain export channels (50/60% of their sales to countries overseas).	Low-medium	WP09

Countries	Composition of output and export, on-trade vs off-trade, competitiveness	Short-term implications	Impact experienced	Actors
US (Napa Valley)	World class red wines (Cabernet-sauvignon). Focus on on-trade and wine tourism. The territory focuses on innovation and in the ability of renovating old blend and developing new and easy to mix and drink wines.	The US experienced border closures and various levels of strictness depending on the county level (yellow counties start later wearing masks etc.). During the lock-down, wineries were open without tasting, so with a huge economic impact for those areas like Napa Valley where tasting tours and on-sale channels are key. Off-farm sales were up, while On-farm or direct sales were down (retailers like supermarkets have increased their sales and considering a large amount of stock wine from past years this may help of clearing past inventory). This, however, does not represent a trend that might continue with the reopening. It seems that when people stuck at home they increased wine consumption or simply since they cannot consume wine outside they substitute with in house consumption. For smaller companies high-end, high-quality producers are facing huge economic difficulties (potential bankruptcy in the next few months) and it really depends on how quickly restaurants will be re-open.	Medium-strong	WP10

the restaurants despite having a couple of multi-channel labels including those suited for large retailers and supermarkets, which obviously continued to sell in this period in Italy and abroad and the online channel worked a bit; but lacking tasting or direct-sale, we feel worried. If uncertainty was initially normal, it is now becoming chronic and widespread across Europe. We will invest in online but we believe in returning to a vis-a-vis relationship, wine needs relationships. (WP12)

In line with the relational nature of wine, we feel strong doubts about the possibility of shifting our business online. We need certain and quick answers on the public front to support tourism, the author's cellar is in great difficulty. It needs support and speed. (WP13)

In any case, even in face of considerable growth in e-commerce and takeaways, the profitability of producers who relied on more traditional channels remains deeply undermined. Neither large cooperatives escaped from these negative effects, especially those direct-selling/regional based that in the last decade have made substantial investments to shift their business towards PDO, organic, and terroir-driven wines. In the same way, we risk being exaggerated to figure a general collapse of the market, since a recent Mediobanca survey confirms that 53.4% of the cooperatives that focuses on "off-trade" channels, expect for 2020 less pessimistic results. Furthermore, for Mediobanca the Italian wine could lose up to € 2 billion in revenues in 2020, with a drop between 20 and 25 percent compared to the 2019 (a great year).

Assuming that the COVID-19 specific effects on exports come on top of the fall in world trade envisaged by the World Trade Organization (WTO), current projections estimate a contraction in exports between 700 million and 1.4 billion Euros for the major Italian

producers in 2020. With regard to the domestic market, given that around 65% of national sales are "on-trade", the short-term impact can be approximated to a loss of over 500 million Euros. This figure is also confirmed by the recent Nomisma Wine Monitor survey. According to the results of the first quarter of 2020, considering the US market, the sales of Italian wines in the off-trade reached 94 million liters, which represent only 40% of the total imports. The problem will therefore concern the other 60% of Italian wine for which we expect a drop, especially with the on-trade that is continuing to be down to zero. These observations, coupled with the fact that liquidity is quickly drying up on the wine market reinforce the thesis that the latter segment is the one who in the end will have suffered a devastating blow. A survey on 400 producers recently conducted by Firab (Foundation Italian for research in organic and biodynamic agriculture) found that the 73% of organic farms were hit by the pandemic crisis and, in terms of liquidity for the 65% the expected economic stability is at most three months. To notice that half of the respondents is under 50 thousand euros in turnover. These figures corroborate the narratives expressed by the Italian producers who attended the second and "online" workshop. However, as we introduced in Table 1 the past quarter did not end entirely in a negative way. Indeed, thanks to the threat of tariffs and the "January exploit" of Italian wine in the USA, the Italian trend was above the average of the other countries: overall US imports for the quarter closed at + 10.9% in value. Therefore, net of exogenous and external factors (tariffs and covid-19) it is now necessary to shift the discussion on the medium-long term.

5. LONG-TERM IMPLICATIONS

Severe and long-lasting socio-economic effects of the pandemic crisis may erode the basis of a balanced territorial development and rural viability. The decline in investment because of elevated uncertainty and financial stress, the ruptures in trade linkages, the fall of many businesses, and the rising unemployment will cause negative effect on both consumers and producers sides. In addition, potential difficulties in providing a continuum of specific support programs to existing declining agricultural areas and to those segments hit by the COVID-19 crisis (the more dependent by the on-trade channels) risk compromising the human and territorial capital and losing a whole series of necessary assets for terroir-driven wine regions, such as the protection of landscapes and environmental quality. According to World Bank (2020a) the economic, social and environmental implications are likely to be more severe and protracted in those countries that experienced larger outbreaks, greater exposure to international spillovers (i.e. GVCs, financial markets, and tourism), and pre-existing difficulties such as business and workers informality, large flaws in the health system, widespread social inequalities.

Furthermore, the COVID-19 epidemic eroded the confidence about prospects for future labor income and profits, in other words, it contributes to a widespread uncertainty forcing wineries to operate with weak cash flow in a generalized lack of liquidity (Figure 4). In the medium- and long-term the wine risks continuing to be penalized by psychological aspects, linked to the general climate of uncertainty. We could introduce it as “domino effect”. The collapse of economies in the short run caused a sharp decline in household consumption and firms’ investments with huge repercussions on demand and supply (Bhandari, Borovicka, and Ho 2019). Recession and subsequent increasing unemployment caused a loss in lifetime earnings, but to a greater extent the risk of unemployment permanently increases consumers’ savings rate, while again reducing consumption.

Tourism has had the greatest impact with the collapse, and doubts are still strong. There is a growing concern about the economic crisis that will come. Actually, we have 5 million workers at home that have been supported by the Spanish government, which will have an impact in the medium and long term on the GDP. What about unemployment? Now is likely to be at 20%, and in the next future? (WP06)

In this scenario, a key point will be the economic health of “on-trade” players and their attitude towards risk. In the worst case by becoming risk-averse the HoReCa

players will make fewer orders, asking for more delayed forms of payment to minimize their risks (the participants’ behaviour affect pricing and buying dynamics).

In the short term, we took care of the cellars, how to keep them in business, while in the long run we must support our distributors. (WP12)

Accordingly, the wineries that focus on the on-trade channels will be crushed between the reduction in sales and downward pressure on prices, in any case, with less liquidity.

However, among the PDOs, PGIs and fine products, each wine will make its own story (evidence suggest a drop on price for Chianti wines). Many reactions from several wine regions will depend on the combination of creativity, innovation and their ability to deal with political risk (Cardebat et al., 2020). But probably to curb the slow decrease in the price lists the wineries will need signs of a strong recovery, especially from travel & leisure industry.

Considering that Tuscany has 38 million tourists, as strong sign towards recovery we should focus on rural tourism as a guarantee of accompaniment (strong sign) towards recovery. Rural tourism could be a much safer or more manageable form of tourism. For example, we should develop partnerships between restaurants and wineries to shift the restaurant from the crowded city centers to the rural areas, in those structures that could allow greater control and security. (WP13)

At the opposite for some large brands, the situation will be probably more affordable since they could be able to impose higher purchase quantities thanks to their greater market power “in a take it or leave it way”, while the others will be forced to find new creative solutions (i.e. social networks, e-commerce platforms) or in the worst cases to exit the business. While a probable future in the face of the appropriate incentives for distillation, could then see the **distillation of wine surpluses**, possibly to produce sanitizing alcohol and help unprofitable firms to persist (we analyze the implication in the discussion), the first overall impact for the sector in the medium-long term is that of the **consolidation of a two-speed market**: one driven by large retailers and one by the slow restart of the on-trade channels. Potential impacts from this situation vary greatly in function of the opening and participation of wine regions in GVCs and from the rebound velocity for those small and medium direct-selling and terroir-driven wineries. In a post-Covid-19 world that support open trade with exchange rate stability the local tropism could be a limiting factor. Wine region as well as wineries that are

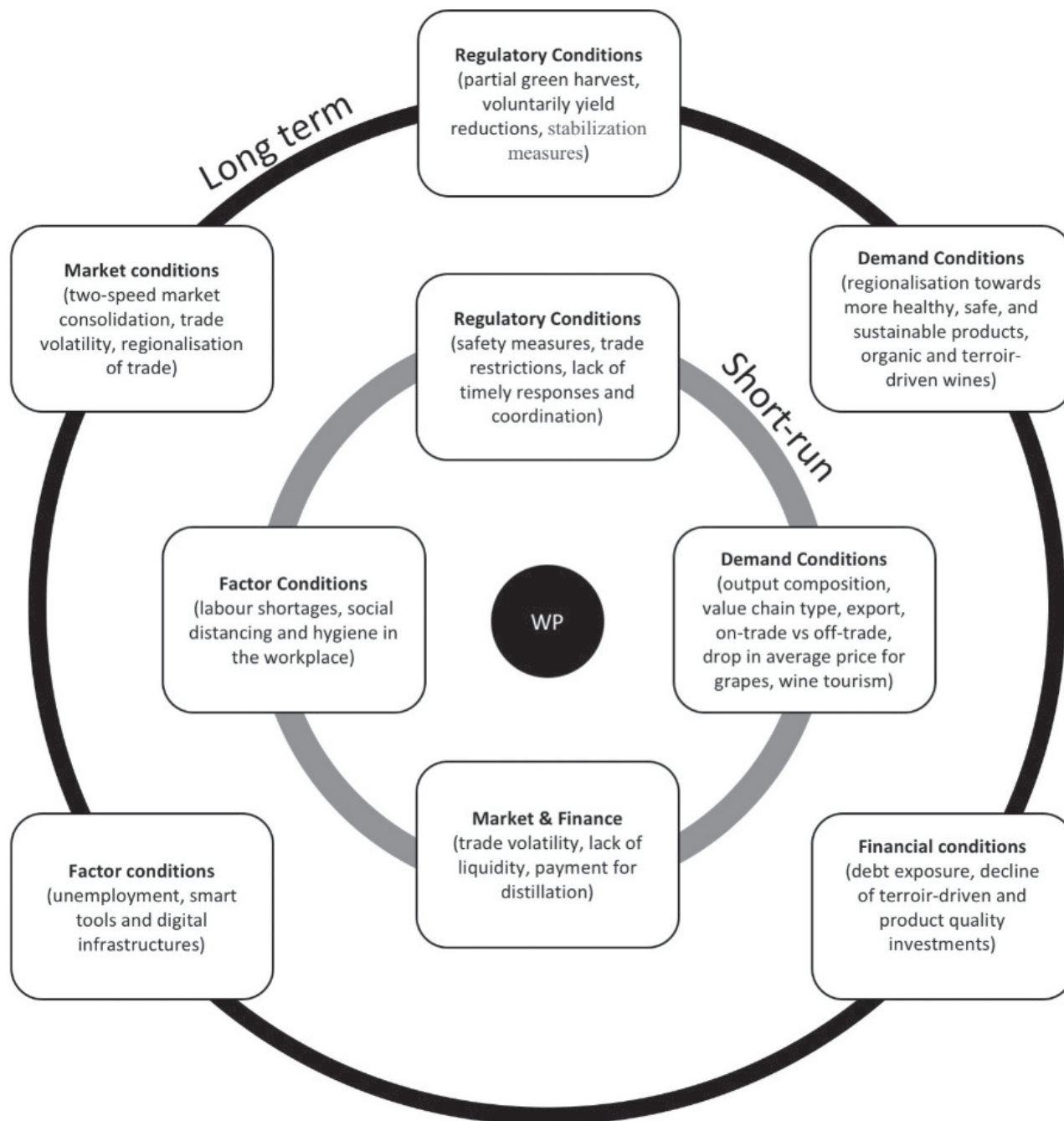


Figure 4. Validated short- and long-term wine conditions. Source: Revision on Grando et al. (2020).

well-integrated in GVCs may re-assess whether the gains from participation in global value chains are worth the risk of further disruptions. A retreat from these export-oriented firms towards a regionalization of trade would produce adverse effects on the sector (Barattieri et al., 2019), further reducing already-low growth and productivity. In the latter, the main threats are the permanent

loss of productivity for many wineries and the risk for the wine territories of being depleted of all those investments necessary to maintain quality, and most important to secure the necessary environmental interventions (let's not forget that during 2019, many wineries have made great investments to deal with environmental improvements). Vice-versa in a protectionist context and

strong exchange rate instability due to tripartite trade war between the U.S., China and the European Union the regionalisation of trade patterns become a key success factor due to strategic trade policy reasons but also for solid local direct-selling dynamics.

In both cases we can expect a drop of investments (except in communication) and *more control of yields during the harvest*.

too much wine on the market risk to eliminate the value of the supply chain. (WP15)

Then, despite near-term policy support, some wineries will resort to credit or financial strategies to survive given the supposed 'safe-haven' nature of their wines.

At national level, under the caring for Italy decree of March it emerges the revolving pledge as an instrument that gives wineries that have stocks of wine the opportunity of depositing such value to the bank as a guarantee on the loan. Furthermore, when wineries will sell the wine they replace the guarantee with other lots to keep the bank guaranteed. This instrument will be very valuable for Italian PDOs' wines. (WP14)

However, net of any short-term private/public aid, we refer to a second and most probable medium/long-term effect as the "**financial stress**", whose balance will depend for the European wineries to a large extent on the availability and access to the future CMO/RDP measures and other forms of more structural support provided by the post-2020 CAP reform (Pomarici and Sardone, 2020). In addition, export-oriented firms tend to be more exposed since they are dependent on borrowing to finance promotion activities and trade marketing. For all the wineries that are in financial stress the inability to service debt (high borrowing costs against weak cash flow) could cause to exit the business. More or less evidently, a third effect of the COVID-19 epidemic will be the **greater attention to digital**. While e-commerce, smart work, and remote technologies did not allow the wineries to balance the negative impact of the fall in sales, several wineries are investing more in digital, both for the marketing of products and for export processes.

Coronavirus has accelerated these new horizons, and we expect that the newly opened channels will also continue when the sector restart. In our opinion, those who bought on the web will continue if they have had a positive experience, a key aspect for future business. (WP05)

During the lock-down we started to focus on the online channels; We implemented a new customer management system (CRM) and we tailored our newsletter, the

frequency of which has increased thanks to increasingly personalized CRM management. There has been a positive response from the US as a market more accustomed to actively participate in virtual life vs the Italian market that is almost at a standstill. We created a virtual wine experience, bookable online. Literally we bring at your home the Val d'Orcia. The experience consists of a "home delivery" of a tasting kit with all the accessories necessary for a classic tasting with the addition of a virtual tour at the vineyard, cellar etc. and with a final guided tasting. However, it is difficult to create emotions and empathy even if these virtual experiences will increase in the future. (WP11)

However, the different experiences converge on the difficulties to completely transfer the emotional/relational nature of wine consumption to a virtual environment. Without policy intervention, most wineries see the risk of privileging quantity rather than quality, rewarding again the large networks or at least the more structured companies. However, policies could play a crucial role in supporting this transition. If on the one hand, the producers try to be resilient, in the long run, and without policy intervention, the situation risks exacerbating negative aspects of current changes in lifestyles and consequently in wine consumption.

Finally, a fourth and very likely change will be delivered by **new consumption patterns**. Today it is difficult to determine whether in the future we will see a greater role for "safe" and environmentally friendly products, but for producers, the challenge of organic and terroir-driven products represents a key opportunity.

Wine will benefit a lot when people come back to life and relationships, as a product that focuses on these aspects. However, the consumer patterns will change focusing more on sustainability. If before the Covid-19 epidemic, words like sustainability, authenticity, and transparency were often associated with empty slogans, with the crisis the consumer's attention to their contents could increase. (WP05)

According to future societal demands, the current crisis offers a further opportunity to strengthen the greening process of the CAP promoting behavioural shifts in line with the recent Green New Deal by the European Commission, and follow up initiatives (e.g., Farm to Fork strategy and Biodiversity strategy).

6. POLICY IMPLICATIONS AND CONCLUSION

We analyzed the consequences of the COVID-19 outbreak on wine sector building on a tailored revision of the CSP framework of Grando et al. (2020) that allowed us to integrate diverse experience data with

recent socio-economic narratives bringing out key elements for short and long-term policy implications. According to our review, the most prominent economic narratives support that despite an arsenal of macro-prudential support policies in the near term the pandemic caused the disruption of domestic demand and supply, trade, and finance. The speed and depth with which it has struck the sector depends on the microstructure of the wine and suggest the possibility of a slow recovery that poses formidable challenges for policymakers.

According to World Bank (2020a) protectionism in the way of new trade restrictions should be avoided since it could reverse the few gains that the sector maintained (i.e. by increasing price volatility and dampen growth) and it does not offer a solution to the security problem. To limit probable long-term negative implications, the analysis underscores the value of coordination and cooperation in agricultural policy as well as between and across governments and the private sector. The diverse opinions collected through the online workshop converged on the need for greater coordination between regions and the national government in planning income stabilization measures. For the Italian sector, despite the envelope announced of approximately 50 million euros, the reduction of stocks through “a distillation of crisis” for the participants risks of not generating the desired impact since it focuses on “generic grapes” a quality that is now becoming marginal in many regional vineyards (i.e. in Tuscany generic grapes weigh only 1% of the total at the national level). By extending this reflection beyond the short term, especially in view of its further application in the field of measures to target market and revenue stabilization within the CAP reform, this tool should be refined according to the principle of complementarity to provide a better use of available funds per MS and a balanced achievement of its outcomes. Despite the new CAP was designed within a very different scenario the challenge for policymakers will be to integrate the urgent interventions with the long-term measures to reshape the structure of the EU wine industry after the pandemic. Thus, the crisis offers a new opportunity for strategic planning that should likely facilitate this process. Therefore, in the wine sector, the debate converges on the opportunity to implement ad hoc strategies and combining the different available tools. The same reflection applies to the “partial green harvest” or the voluntary reduction of yields that will be part of the stabilization package discussed for the post-2020 CAP reform. The application of this tool should provide a quick-fix in the current situation, but for its effectiveness, in the medium-long term, there are at least a couple of points that need to be further analyzed. The first regards the attention and the resources that will be

effectively delivered because in the past they have been always very scarce (Pomarici and Sardone, 2020; European Commission 2017). As we previously introduced in the past the MSs took advantage of favorable wine market conditions to concentrate NSPs resources on fostering competitiveness, while we expect that the green harvesting, insurances, and mutual funds should assume more importance in the next future, especially after the current shock. Again, the crisis could represent the opportunity to reflect if it is necessary to implement complementary actions that facilitate the effective adoption of such tools. The second point stresses again the need for more coordination between policy levels. In face of the recent regional advance in securing quality and the origin, the key message is that “centralization could be risky” since there are regions that are more advanced than the national government in the control of vine and wine-growing potential. These actors fear a limited impact of a “complex aid” that should also guarantee “speed, effectiveness, and simplicity” at the same time.

One positive aspect that emerged is that the COVID-19 epidemic increased the solidarity between supply chain members and amplified the opportunity for discussion, shifting the attention from a crystallized present towards the search for a viable future that should go beyond the current limits of the sector in a more effective way. Consistent with this idea, one option could be on dusting off old CAP tools. We refer to the open debate on the single CMO on the integration of wine actors (European Commission 2016). Indeed, forms of aggregation such as producer organizations (POs), which are not currently widespread in the sector are seen as a strategic instrument in concentrating supply, obtaining more favorable prices that notwithstanding the rules of the European competition, facilitating the access to CAP support and deliver a significant reduction in production and marketing costs for their members.

With regards to the single CMO, it will be relevant to provide the necessary support and flexibility for securing the ongoing projects for the restructuring of vineyards and promotion, which are key measures to guarantee the viability of wine territories, especially for those actors that have been most affected by the on-trade fall. Thus, policymakers should provide quick reprogramming. For example, the Tuscany Region is now acting as a facilitator with the national government to allow an extension for the NSP to the conclusion of the projects (March 2021), as well as a fast and smart variant, to ensure promotion actions (e.g. no Vinitaly, it is possible to steer the promotion action in ultra-rapid times in other markets), an increase the percentage of contribution from 50 to 60 percent (i.e. less promotional activities but with the same

budget) as well as a reduction of penalties. In line with these needs, the future CAP could include – beyond the typical promotional actions and market analysis – new actions aimed at the preparation of technical files and facilitate access to non-EU markets with information on oenological practices limitations, phytosanitary and hygiene rules (Pomarici and Sardone, 2020).

If the problem of the future has repeatedly stressed by participants since the crisis is seen as an opportunity for redemption, then the need to limit future shocks becomes crucial. Despite the unprecedented amount of financial support to “do whatever is necessary to restore confidence and economic growth and to protect jobs, businesses, and the resilience of the financial system” (U.S. Department of the Treasury 2020), the need to invest in the predisposition of viable future strategies and policy interventions emerges from the discussion. In other words, against an immediate support strategy that shift the private sector income losses into public debt relaxing capital and liquidity coverage requirements, a more direct role of policies is expected to ensure a strong and sustainable economic recovery of the territories, evaluating the opportunity to support the investments, human and territorial capital. However, to achieve these goals, it is necessary to recover a climate of trust, starting from the travel & leisure industry. Many Euro Area members that are heavily reliant on tourism, are still prone to a slow recovery, stressing the need for more cooperation. Wine as many other sectors will need to uphold a stable rules-based international trading system to secure a solid and lasting recovery. Although the COVID-19 epidemic has caused the disruption of the most privileged on-trade sales channels, the sector has witnessed a new ability to coordinate among the various actors to express positive messages of restart, identity, and reaffirmation. This positive wave has also offered an opportunity to accelerate the process of consolidation of the supply-chain (Vergamini et al., 2019), at least for what regards the formation of new promotion networks at the regional and national level. The most important Italian wine Consortia are now acting in this direction. For example, the Chianti Wine Consortium launched a European tender to form a network aimed at developing promotion in Canada and the United States. From this point of view, the ability to network resources, at least for promotion, could represent a fundamental element to overcome growing difficulties. In addition, to facilitate this type of operation, several Italian regions are requesting a variation on the NSP to offer the necessary support to alternative forms of promotion like remote tasting or virtual B2B meetings.

Finally, the pandemic poses the production of healthy, safe, and sustainable products as a key challenge

for many wineries, representing what we can see as the half-full glass.

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REFERENCES

- Acemoglu, D., Chernozhukov, V., Werning, I. and Whinston M. 2020. A Multi-Risk SIR Model with Optimally Targeted Lockdown. Unpublished paper. Massachusetts Institute of Technology, Cambridge, MA.
- Barattieri, A., M. Cacciato, and F. Ghironi. 2019. Protectionism and the Business Cycle. NBER Working Paper 24353, National Bureau of Economic Research, Cambridge, MA.
- Bartolini, F., Andreoli, M. and Brunori, G. 2014. Explaining determinants of the on-farm diversification: empirical evidence from Tuscany region. *Bio-based and Applied Economics Journal* 3(1050-2016-85760), pp. 137-157, <https://doi.org/10.36253/BAE-12994>
- Barney, J., 1991. Firm resources and sustained competitive advantage. *Journal of Management* 17(1), pp. 99-120, <https://doi.org/10.1177/014920639101700108>
- Bhandari, A., J. Borovicka, and P. Ho. 2019. Survey Data and Subjective Beliefs in Business Cycle Models. Working Paper 19-14, Federal Reserve Bank of Richmond, Richmond, VA.
- Brunori, G., Rossi, A. and Guidi, F. 2012. On the new social relations around and beyond food. Analysing consumers' role and action in Gruppi di Acquisto Solidale (Solidarity Purchasing Groups). *Sociologia ruralis* 52(1), pp. 1-30, <https://doi.org/10.1111/j.1467-9523.2011.00552.x>
- Cardebat, J. M., Masset, P., & Weisskopf, J. P. (2020). COVID-19: What is Next for the Market for Fine Wines?. Available at SSRN 3636317.
- European Commission (2016b), Study on agricultural interbranch organisations in the EU, Brussels https://ec.europa.eu/agriculture/external-studies/2016-interbranch-organisations_en
- European Commission (2017), Study on risk management in EU agriculture, Brussels, <https://ec.europa.eu/agriculture/sites/agriculture/files/external-studies/2017-risk-management/report-study-on-risk-management-eu-agri.pdf>

- Federvini, 2011. Relazione annuale Federvini 2011. <http://www.federvini.it/index.php/it/relazioni-annuali/finish/33-relazioni-annuali/665-relazione-annuale-2011>, Accessed 3/05/2017.
- Freund, C. 2009. "The Trade Response to Global Downturns: Historical Evidence." Policy Research Working Paper 5015, World Bank, Washington, DC.
- Gardin, B., Aubert, P.M., Schwoob, M.H., Loveluck, W., Treyer S., 2019. SUFISA Final set of scenarios and their interpretation in terms of solutions and strategies-D 4.2. <https://www.sufisa.eu/wp-content/uploads/2019/07/Deliverable-4.2.pdf>
- Grando, S., Bartolini, F., Bonjean, I., Brunori, G., Mathijs, E., Prosperi, P. and Vergamini, D. (2020). "Small Farms' Behaviour: Conditions, Strategies and Performances", Brunori, G. and Grando, S. (Ed.) Innovation for Sustainability (Research in Rural Sociology and Development, Vol. 25), Emerald Publishing Limited, pp. 125-169. <https://doi.org/10.1108/S1057-19220200000025008>
- Ilbery, B., Courtney, P., Kirwan, J. and Maye, D., 2010. Marketing concentration and geographical dispersion: A survey of organic farms in England and Wales. *British food journal* 112(9), pp. 962-975, <https://doi.org/10.1108/00070701011074345>
- Ilbery, B., Kirwan, J. and Maye, D., 2016. Explaining Regional and Local differences in organic farming in England and Wales: A comparison of South West Wales and South East England. *Regional Studies* 50(1), pp. 110-123, <https://doi.org/10.1080/00343404.2014.895805>
- ISMEA, 2014. Report vini a denominazione di origine. Struttura, produzione e mercato. <http://www.ismeamercati.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/3918>, Accessed 3/05/2017.
- Montaigne E., 1999. Standards and quality wine in the transformation of the winegrowing sector in the Languedoc. Contributed paper presented at the workshop: "Market, right and equity: Rethinking Food and Agricultural Grades and Standards in a Shrinking World", IFAS, Institute for Food and Agricultural Standards Michigan State University, October 31- November 3
- Montaigne E., 2001. – Normes, qualité des vins et mutations de la viticulture du Languedoc. In: Bulletin d'information et de documentation, B.I.D. n° 9, 2001, p. 54-57, Ministère de l'économie, des finances et de l'industrie, DGCCRF.
- Obi, C., Vergamini, D., Bartolini, F., & Brunori, G. (2020) The Impact of Changes in Regulatory and Market Environment on Sustainability of Wine Producers: A Structural Equation Model. *Wine Economics and Policy*. <https://doi.org/10.14601/web-7689>
- OIV, 2020. The International Organisation of Vine and Wine 2020 Wine Production Report. <http://www.oiv.int/public/medias/7541/en-oiv-2020-world-wine-production-first-estimates.pdf> Accessed 08/01/2021.
- Pomarici, E., & Sardone, R., 2020. EU wine policy in the framework of the CAP: post-2020 challenges. *Agricultural and Food Economics*, 8(1), 1-40. <https://doi.org/10.1186/s40100-020-00159-z>
- Porter, M. E., 1981. The contributions of industrial organization to strategic management. *Academy of management review*, 6, no. 4, pp. 609-620.
- Prosperi, P., Kirwan, J., Maye, D., Bartolini, F., Vergamini, D., & Brunori, G., 2019. Adaptation strategies of small-scale fisheries within changing market and regulatory conditions in the EU. *Marine Policy*, 100, pp. 316-323. <https://doi.org/10.1016/j.marpol.2018.12.006>
- Rastoin, J-L. and Gherzi, G. (2010). Le système alimentaire mondial: concepts et méthodes, analyses et dynamiques. Paris: Éditions Quae.
- Taglioni, D., and V. Zavack, 2016. Innocent Bystanders: How Foreign Uncertainty Shocks Harm Exporters. Policy Research Paper 6226. World Bank, Washington, DC.
- Trestini S., Pomarici E., Giampietri E., 2017. Around the economic sustainability of Italian viticulture: do farm strategies tackle income risks? *Quality – Access to Success* 18, pp. 461–467.
- U.S. Department of the Treasury. 2020. Statement of G7 Finance Ministers and Central Bank Governors. Statements & Remarks, U.S. Department of the Treasury, Washington, DC.
- Vergamini, D., Prosperi, Minarelli, F., P., Grando, S., Bartolini, F., Raggi, M., Viaggi, D., Brunori, G., 2018. SUFISA National Report Italy-D 2.2. https://www.sufisa.eu/wp-content/uploads/2018/10/D_2.2-Italy-National-Report.pdf
- 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*, 72, pp. 136-152. <https://doi.org/10.1016/j.jrurstud.2019.10.006>
- Vlahos, G. 2020. Farming System Transformation Impacts on Landscape: A Case Study on Quality Wine Production in a Highly Contested Agricultural Landscape. *Land*, 9(4), pp. 120. <https://doi.org/10.3390/land9040120>
- World Bank, 2020a. *Global Economic Prospects, June 2020*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1553-9>
- World Bank, 2020b. *Global Economic Prospects: Slow Growth, Policy Challenges*. January. Washington, DC: World Bank.

ANNEX 1

SUFISA Regional Workshop: “Long-term future scenarios of wine markets between opportunities and risks: what will be the strategic choices of Tuscan wineries”

a) Objectives of participatory scenario workshop

The participatory workshop was the final task of the SUFISA activities for WP4 “Scenarios & Solutions” carried out by the University of Pisa. The workshop intended to elicit the views and opinions of relevant stakeholders and decision-makers operating in the Tuscan wine sector. The end goal of this event was the identification of market and regulatory issues influencing the performance of wineries in Tuscany (Italy) in response to potential future scenarios (see Gardin et al., 2019 for a deeper understanding of the scenarios development process); to elicit how wineries developed strategies to deal with them and to discuss their relevance for the sustainability of their farms and farming systems. More specifically, the aim was to extend, support with further evidence, and refine our understanding of CSP framework from a primary producer perspective, and contribute to the formulation of future alternative solutions. Accordingly, the workshop was organised as an interactive cyclical process of ask & answer at an individual and collective level (work

in groups) between researchers and 38 participants (small and medium-sized Tuscan wineries, wine cooperatives members, staff members of the Tuscan DG-Agri, wine consultants and extension service providers, members of the special agency of the chamber of commerce “Promo Firenze”). In other word, the workshop triggered participants to confront potential future European wine sector scenarios including agricultural and trade policies with individual and collective objectives, planning or taking future action (strategies), and reflecting on potential outcomes and policy implications.

Before the workshop, we engaged participants by email, sharing all the relevant information about the SUFISA project and its related scenarios, as well as the workshop goals and its schedule.

b) General introduction: presenting the four food system narratives (scenarios) and their (possible) impacts for the wine sector

Since wine significantly differed from the other SUFISA sectors and commodities, before the running of the regional workshop we discussed and refined through several face-to-face meetings with relevant regional stakeholders (members of Wine appellation consortia, of wine cooperatives, large regional wineries, as well as members of the Tuscan DG-Agri) the four scenarios

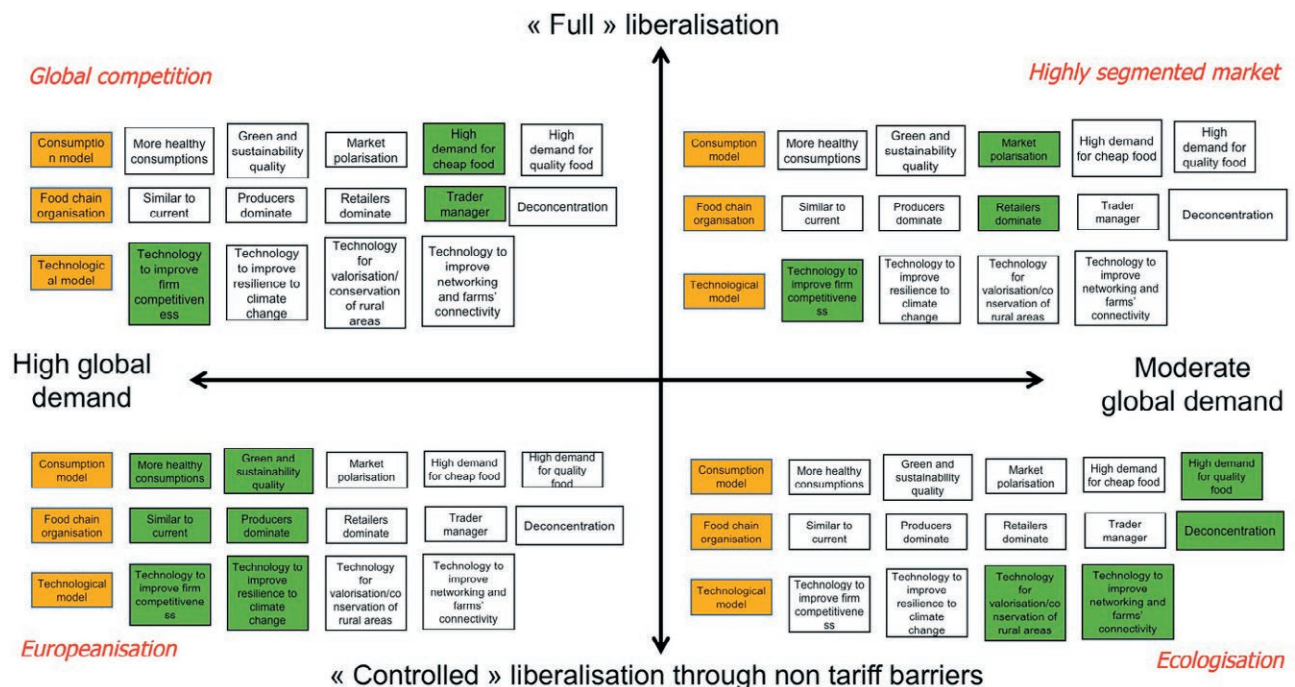


Figure 1a. Four scenarios for Tuscan wine sector.

provided by the SUFISA project in order to adapt it to the different specificities of the wine sector. Below we report the resulting scenarios. Figure 2 summarises the main variables and trends and it follows a brief description for each scenario.

– Scenario 1: International/Global competition

The first scenario (international competition) is qualified by an overall increase in demand as well as full market liberalisation. To 2030 it is assumed that the dominant consumption model is based on low price and cheap food due to a limited amount of household budget for the food basket. Wines of medium-low quality and reasonably priced are now globally available thanks to the modern trade. The consumption of premium and organic wines has been limited to few segments of the average richest population, among these, consumers continue to prefer to drink less but of more quality. Therefore, on average consumers are not willing to pay for quality products and low-price food is ensured by trade. The wine trade is completely liberalized and both tariff or non-tariff barriers are removed. There is less bureaucracy with a marginal weight of product standards lower than in previous years (i.e. less stringent rules for labelling and fewer controls). The dominant research is mainly performed by few private corporations that – due to a huge investment in the sectors as well as dominant position in acquiring farm data – provide new technologies and equipment mainly aimed at reducing production costs. The control of all farm data together with the advanced use of digitalisation and big data allows such few multinationals to directly support farms in any daily practices to reduce production costs. Thus, the market has become very efficient but there is a very high competition among farms (many small and medium-sized farms have stopped producing wine) and just few farms can still afford to produce premium and organic wines. The value chain is dominated by intermediaries (international buyer and export manager) with a very low bargain power for both retailers and producers.

– Scenario 2: Highly segmented market

The second scenario (highly segmented market) is qualified by an overall reduction in the demand as well as full market liberalisation. The reduction of the demand mostly affects the cheapest segments of production (standard and table wines). Thus, within the market, both cheap wine and high-quality wine (premium and organic wines) coexist. Consumption is increasingly regionalised, the differentiation of production undergoes a considerable increase, the types of quality products increase, the origin is increasingly connected

to the environment and to historical and cultural factors linked to the different terroir. Each winery seeks its own market segment to represent its uniqueness and its regional key characteristics. The demand for wine shows a general reduction that mostly affects the price for standard wines (not quality or origin wines) while the segment for premium price and organic remains almost stable (status quo). The maintenance of a cohesive European Market but more open at the international trade is coherent with the maintenance of functioning EU market. However, the free trade and international competition (mostly characterised by an increase in the wine producing regions due to the regionalisation of consumption) increase also the supply of high-quality products (emerging markets may benefit for not-tariffs barriers) with the possibility for some products to obtain more favourable prices on these markets comparing to the national market. The dominant research is mainly performed by private companies which provide new technologies and equipment to reduce production costs or to improve the quality of the process. The value chain is dominated by retailers that – due to their economy of scale and to their ability to reduce transactions cost – try to increase the variety of wines into the supermarket and, meanwhile, try to reduce the number of wine supplier (few companies afford to represent the different producing regions).

– Scenario 3: Europeanization

The third scenario (Europeanization) is qualified by very strong European standards that set out the framework for both trade and production as well as for an increase in the demand. European Agricultural production is effectively protected and recognizable and ensures a quite high-quality level respecting higher sustainability and ethical standards. Thus, wine import into EU is very limited due to such high standards. This has determined an increase in production costs with an overall increase of the cost of food, and consequently of wine. At the same time, EU consumers show a high willingness to pay for healthy food as well as for food communicating a low impact on the environment and society. The increasing demand for origin, premium and organic wines, support the efforts of producers who have specialized their production patterns towards this market. The dominant research paradigm is characterised to increase competitiveness and food safety to reach extra-EU markets as well as to introduce technologies and practices to mitigate the effects of climate changes. The latter is for example oriented at introducing new varieties tolerant to drought and extreme weather. The value chain segmentation continues with the current trends but differ-

ent high prices for wine and has encouraged cooperation among producers, consolidating their position along the value chain.

– Scenario 4: Ecologisation

The fourth scenario (Ecologisation) is qualified by very strong European environmental standards that set out the framework for both trade and production but with a reduction of the demand that mostly affects the cheapest segments of production (standard and table wines) comparing with that of organic and high-quality wine, which remain almost stable. Furthermore, as Europe is going less dependent on external agricultural markets, there is no need for international trade. Meanwhile, a reduction in production is a consequence of export restriction due to low activity of trade with extra EU countries. European consumers – that are increasingly oriented towards the regionalization of consumption – show a very high willingness to pay for health food and for production communicating high environmental standards and origin. Moreover, wine demand is further contracted due to shifting in consumers' preferences towards health and safety consumptions (i.e. substitution of cheap wine with energy and improved nutritional drink). Therefore, the wine demand remains high only for premium prices wine. Relaxing of competition for prices as well as the new business model to meet the new demand for consumers have reduced the bargaining power of retailers and now there is no actor in a dominant position along the value chain. A balanced research system, between public and private research, ensure adequate provision of technology and practise to address Sustainable Development Goals (SDGs) as well as to improve knowledge exchange and mutual learning across wineries and along the supply chain.

c) Workshop Schedule

- 13.00 Registration
- 14.00 Workshop presentation, scopes and introducing scheduled activities at individual and collective level
- 14.15 Introducing first round of CSP individual analysis
- 14.30-15.00 Individual analysis (live survey)
- 15.00 Individual Scenario analysis (live survey)
- 15.45-16.00 Coffee break and cluster preparation
- 16.15 Introducing second round of CSP collective analysis
- 16.30-17.30 Collective/Group analysis (focus group discussion per cluster)
- 17.30-18.00 Discussion and conclusions

d) Animation techniques and instructions to participants

The workshop has been driven using a “metaplan-like” technique, that is:

- by training participants on the use of a smart application on their mobile phone to answer questions, taking comments, suggestions and other notes;
- by providing participants with post-it large enough (e.g. 15x20 cm) to be able to write two or three sentences with a pen;
- by leaving them enough time to reflect to the questions;
- by organizing collective discussion (for strategies and for solutions), in order (notably) to
 - identify solutions and strategies that are shared by most, and conversely, that are highly controversial
 - “cluster” the different strategies / solutions proposed by individual and in different groups.

e) Individual analysis (Live survey carried out during the workshop by launching the questions on the screen and having each participant answer via an app from their mobile phone).

- 1) Now we ask you to select one or more business goals for the next 10 years

Objectives	Max 3 obj.
Business development	
Reduction of production costs	
Maintenance	
Facilitate generational renewal (succession)	
Export growth	
Increase local markets	
Increase branding	
Renewing	
Quality	
Exit	
Other	Please specify

- 2) Which of the following changes in the conditions of demand, supply, territory and the environment do you think will affect your business choices in the next 10 years. Give an answer from 0 not influential 5 very influential.

Demand changes	0 nothing – 5 very
<i>Greater attention to quality by markets and consumers (in addition to the origin, attention to premium wines, organic, from international blends, wines produced from native vines, light and easy to drink and mix wines, etc.)</i> <i>Change in the requested quantity (growth in regional consumption, opening of new markets or even vice-versa closing of markets such as the USA and decrease in regional consumption etc.)</i> <i>Changes in selling prices (request for lower prices and / or possibility to increase prices in emerging markets)</i> <i>Changes in consumption patterns (e.g. lower consumption of wine and search for drinks with a lower alcohol content)</i> <i>Increase in consumer knowledge and awareness (eg. Consumers who are more informed, more aware of what they drink, who do not choose only for the price but who carefully evaluate quality, brand and territory)</i> <i>Change in regulation on the main non-EU export markets (eg USA, Canada) and EU. (Change in tariffs, methods of access, trade agreements and accessibility to state monopolies)</i>	
Supply changes	0 nothing – 5 very
<i>Change in the offered quality (both in production and communication terms)</i> <i>Change in the quantity produced and in the production scale (growth and / or decrease in production, increase or decrease in the production scale)</i> <i>Greater attention to the origin and the territory (changes and / or simplification of the regulations, new rules related to the origin etc.)</i> <i>Changes in production costs (greater production efficiency and reduction of production costs or increase in input costs and consequently higher production costs)</i> <i>Search for greater production differentiation (increase in production of local grapes, transition to organic, biodynamic and other blends)</i> <i>Change in production technologies (increase in research into new varieties resistant to climate change, increase in technologies that can contribute to greater production efficiency)</i>	
Territorial changes	0 nothing – 5 very
<i>Changes in the access to factors of production – land, labor and capital (change in the regulation of planting rights, expansion of the vineyard area, increasing access to skilled workforce or contraction in its availability, greater access to capital for new investments, etc.)</i> <i>New entrepreneurs and generational change (continuation of the family business with family members and/or change with new qualified resources from the territory, or risk of exit from business due to lack of generational change)</i>	

Change in agricultural policies (mainly CAP, RDP, and wine CMO measures) (e.g. opportunity of more incentives for restructuring, greater aid for the start-up of new productions and for young entrepreneurs, simplification of regulation, new support measures for promotion, etc.)

Change in relations with institutions and other regional organizations (e.g. greater openness in decision-making processes, greater participation, and more direct and simplified communication with the various bodies that regulate the sector and/or development of new territorial bodies such as OPs, new types of consortia, etc.)

Environmental changes	0 nothing – 5 very
<i>Changes due to a greater or lesser presence of extreme weather events</i> <i>Changes in the management of water resources and soils due to an increase in drought periods</i> <i>Changes linked to an increase of invasive species and pests</i> <i>Changes in the management of soil fertility and natural resources</i> <i>Changes related to the management of the rural landscape</i>	

- 3) Now we ask you to select from the following strategies those that you think could allow you to pursue your business objectives over the next 10 years. Which of the following could be your key strategy in the next ten years?

With regard to this part (strategies), after a first round of answer, we introduced the four scenarios and we replicated the questions for each scenario. We asked to the participants which of the following strategies could be implemented within the reference scenario for the next 10 years.

Strategies to increase competitiveness	Select relevants
<i>Aiming at the company's production efficiency, reducing inputs and improving processes on both vineyard and cellar</i> <i>Increase production specialization thanks to greater research and increased management & control on grape varieties and cellar processes</i> <i>Focus on quality and origin (e.g. reduced yields but higher quality)</i> <i>Intensifying production by increasing yields per hectares</i> <i>Wineries diversification (developing new products and/or new types of business)</i> <i>Product diversification</i> <i>Aiming at technological development for greater control of production and production efficiency.</i> <i>Develop territorial partnerships</i>	

Forming new productive organizations, associations or joining cooperatives or PDO/PGI Consortia

Market orientation	Select relevants
Improving the ability to access to markets through export broker, or market intermediaries or by investing in the creation of in-house export competences	
Investing in the development of new markets	
Invest in the creation of corporate units and/or specific resources in the management of commercial relations on foreign markets through new commercial and/or distribution companies (internationalization of added value)	
Develop the lever of marketing and promotion in a cooperative perspective through consortia and other producer organizations and associations	
Formalize presence on the markets through greater use of contractual instruments (e.g. annual or multi-year distribution contracts, contracts with intermediaries, etc.)	
Reduce market risks through risk protection and management contracts and/or insurance contracts	
Status quo (survival)	Select relevants
Farm diversification	
Increasing non-agricultural activities	
Reduce business (part-time)	
Reduce the demand for external labour and improve the internal capacity to satisfy production needs	
Resizing	
Policy support	Select relevants
Increasing networking activities, partnership or the recourse to business associations (horizontal cooperation) in order to achieve business objectives	
Increasing lobbying capacities and ability to access to RDP, CMO resources	
Investing resource to acquire subsidies, tenders and other forms of support to achieve company objectives	
Investing in R&D	
Risk management	Select relevants
Insurance contracts to reduce production and market risks	
Flexibility	
Assets, corporate functions and underused structures liquidation to recover and maintain liquidity	
Investment in credit recovery and debt management	
Long-term contracts with large distributors	

f) Collective analysis

First, we divided participants in 8 different clusters according with the following specification:

Wineries size	Type of production	Export level	
		<50% turnover	>50% turnover
Small	Conventional	1	5
	Organic/Biodynamic	2	6
Large	Conventional	3	7
	Organic/Biodynamic	4	8

Each cluster was composed by 4/5 stakeholders and two facilitators. The goal was to create discussion groups with similar characteristics/background to facilitate the sharing of problems and the networking of potential strategies.

Then we asked in each group to:

- To identify a new cluster objective and to evaluate whether this objective was realistic or not within each scenario (robustness of the scenario)
- What individual and collective strategies would they have put in place to achieve the cluster objective in each scenario
Here facilitators organized with poaster and post-it the collective discussion:
 - to select strategies that were shared by most, and conversely, that were highly controversial
 - To “cluster” the different strategies / solutions proposed in the different groups.
- Finally, we asked participants in the different groups to reflect on potential policy needs to achieve the group’s goal.

Finally – in a plenary session – one or two representatives of each group presented the most debated scenarios and their related strategies and solutions.

ANNEX 2

“WEB-BASED WORKSHOP” (MAY 15, 2020)

a) Objectives

The aim of the Web-based Workshop was threefold. Firstly, it was aimed at discussing the impact of the sudden changes driven by the pandemic on wine producers’ strategies and performances. Secondly, it intended to provide with a space for stakeholders to make their own recommendations for the sector. Thirdly, stakeholders were expected to improve our understanding of the policy implications of the findings emerged from our

research activities before and during the crisis. To pursue these objectives, we did not foresee a rigid analytical structure, but the workshop was instead promoted as a co-reflection exercise with 20 international wine key actors (international winemakers, market consultants, agricultural consultants, wineries, representatives of regional institutions, academics and students) to engage stakeholders and elicit through an open-discussion the most significant CSP aspects that emerged from the pandemic. Thus, the workshop was intended to ‘ground-truth’ on the previous CSP findings and better clarifying the role of the different pandemic stressor(s) in driving adjustment processes and the dynamics that drove wineries from the ‘baseline CSP’ in the past to the new framework with respect to the current pandemic state and to the future sustainability and viability of the sector. Against this background the animation technique allowed participant to discuss carefully on the key topics introduced by pandemic, to stress different directions, including unpredicted events and issues.

The structure of the workshop included two rounds of 10 presentations of 10 minutes each with 5 minutes of open discussion and at the end an hour of round table discussion between participants. The workshop employed a moderator for the presentations and a round table facilitator who returned a final summary of the day. Then data collected allowed researcher to develop a backward reflection and a comparison with the initial CSP set, including short-term implications for different geographical contexts (Italy, France, Spain, Portugal, Australia, and US) analysed in the workshop.

b) Workshop Schedule

- 10.00 Workshop introduction, scopes and scheduled presentations
- 10.15 First round of Workshop presentations
- 12.30 lunch break
- 13.30 Second round of Workshop presentations
- 16.00 Coffee break
- 16.15 Round Table
- 17.00 Discussion and conclusions

c) Researcher backward reflection

With data collected in the second workshop we developed a comparative analysis to understand the context and evolution of the sector under the pandemic crisis. The aim of this exercise was to reflect on possible changes on the initial CSP set, as well as address the important contingencies introduced by the pan-

demic. The reflection was guided through a grid of key issues developed to consider and discuss all impacts of the pandemic on the key elements of the CSP framework (Table 1a).

Table 1b. Reflexive questions on strategies after pandemic.

Guiding question	What we want to understand on CSP
1. Where and how (channels) producers commercialise their products?	Markets and marketing
2. What are the main challenges with customers and demand introduced by the pandemic?	
3. What are the marketing strategies in place to secure export?	
4. What are the contextual change that influenced most their business model?	
5. What are the role of policies?	
6. How do they maintain/finance their activity, and what they require after the crisis?	Financing
7. Do they show a cooperative approach? How did this start? How is it going? Will they continue in the future?	Horizontal coordination
8. Do you collaborate with others in the value-chain? How did this evolve? Will you continue with this in the future?	Vertical cooperation
9. Do they feel that the current policy context can help to overcome the pandemic crisis and improve their business performance?	Policy and regulations
10. What about the environmental constrains and social challenges that they need to address?	
11. How do they deal with current policies and regulations? What are their main strategies?	
12. What about the sustainability of the sector, how would they define this impact?	Financial Sustainability