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State of the German and International Wine Markets

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International Wine Markets

Average Harvest but large Carry-Over Stocks

After two extreme years, with record low and record high yields, the global 2019 wine harvest brought production back to average levels with a total volume of 263 million hectolitres (Figure 1). Compared to the exceptionally large 2018 harvest, production in 2019 fell in almost all countries (Table 1). A heatwave in July was the main reason for significantly smaller harvests in Spain, Italy and France. Soaring temperatures (up to 46°C) which dried up vines and withered grapes in Languedoc in southern France made international press headlines. With a total of 156 million hectolitres, the EU represents 60% of global wine production in 2019, which is slightly below the long-term average.

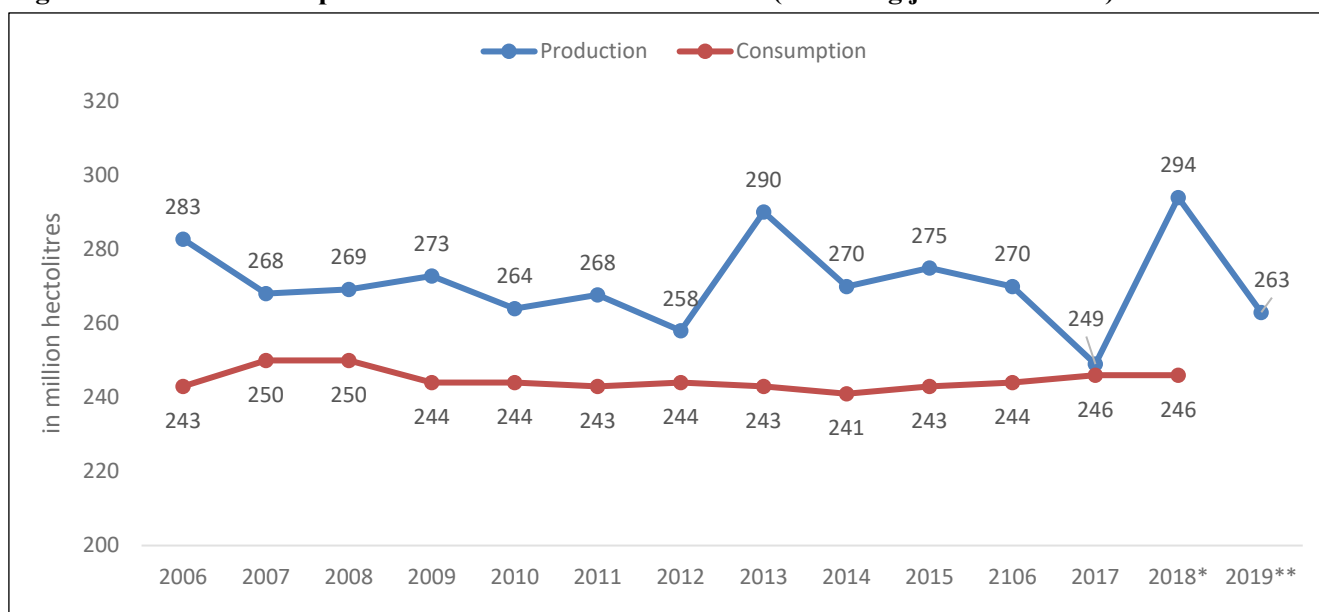
With 54 million hectolitres, the southern hemisphere represents 20% of world wine production. Harvests in Chile and Brazil were slightly above the long-term average and South Africa again had a low-yield harvest. Although the drought has ended in

South Africa, vines and yields have not yet recovered substantially from the water stress of the last three years. Specific information about the Chinese harvest is not available but informed market participants confirm that a trend of declining harvests has continued throughout 2019. Other countries show production levels in line or slightly above the five-year average.

Conflicting information exists about global wine consumption. The International Organisation of Vine and Wine (OIV) still reports annual wine consumption at a steady level of 246 million hectolitres (OIV, 2019a). Recent past growth was only possible because declining wine consumption in the traditional European wine markets was more than compensated for by exports to growing markets in North America and Asia. While the decline in consumption in traditional European markets continues, habitual annual growth of about 3 to 4% in the world's largest wine consumption market, the US, is levelling off.

For 2019, some sources report minimal growth of about 1% (GROMBERG et al., 2019), whereas others like the INTERNATIONAL WINES AND SPIRITS RECORD

Figure 1. Global wine production in millions of hectolitres (excluding juice and musts)



*2018 provisional data; **2019 forecasts
Source: OIV (2019b)

Table 1. Wine production 2015–2019 in millions of hectolitres (excluding juice and musts)

Rank		2015	2016	2017	2018*	2019**	2018/19 variation in volume	2018/19 variation in %
1	Italy	50.0	50.9	42.5	54.8	46.6	-8.2	-15
2	France	47.0	45.4	36.4	49.0	41.9	-7.2	-15
3	Spain	37.7	39.7	32.5	44.9	34.3	-10.6	-24
4	United States	21.7	23.7	23.3	23.9	23.6	-0.3	-1
5	Argentina	13.4	9.4	11.8	14.5	13.0	-1.5	-10
6	China	13.3	13.2	11.6	9.1	unknown		
7	Chile	12.9	10.1	9.5	12.9	11.9	-1.0	-7
8	Australia	11.9	13.1	13.7	12.9	12.5	-0.4	-3
9	Germany	8.8	9.0	7.5	10.3	9.0	-1.2	-12
10	South Africa	11.2	10.5	10.8	9.5	9.7	0.2	3
OIV	World Total	275	270	249	294	263	-30.6	-10

*2018 provisional data; **2019 forecasts
Source: OIV (2019b)

(IWSR, 2020) estimate that wine sales declined by 0.9%, the first decline in 25 years. This agrees with consumer survey findings where the wine consumption of the baby boomers (a strong US age cohort) is slowing as they age, while the youngest consumer group (the millennials) prefer premium spirits, hard seltzers and craft beer over wine (WINE INTELLIGENCE, 2020).

China, the other strong growth motor for wine consumption in this century also sees falling wine consumption (WANG, 2020). The trade war with the US has negatively affected economic conditions, public spending and the income of China's relatively small group of wine consumers, which is mainly limited to few key metropolitan areas. Accordingly, the Chinese wine market has significantly declined in attractiveness for international wine producers (LOOSE and PABST, 2019b) and market experts see little room for recovery over the next few years. Demand for wine in Hongkong was strongly affected by the protests, which significantly reduced tourism-related wine and eating out expenditure. The UK, the third most important wine import market, globally, has also seen a decline in the number of regular wine consumers and, over the last few years, has suffered from the uncertainties of a delayed Brexit, resulting in the lowest market attractiveness of all the international wine markets analysed (LOOSE and PABST, 2019b).

Development of Bulk Wine Prices

The extreme volatility of harvests over the last two years has strongly affected bulk wine prices. After a shortage of wine in 2017, prices fell drastically through very high availability after the bumper 2018 harvest. The 2019 harvest was not small enough to correct the supply problem. In early 2020, the supply chain is reported to be fully supplied because the historic 2018 vintage kept tanks filled throughout 2019. At the end of 2019, European wine stocks were reported to be at an all-time high. Price development for international grape varieties from the New World and European countries over the last two years are shown in Figure 2. Because of large carry-over stocks, the average sized 2019 harvest was not able to recover bulk wine prices. Bulk wine prices remain at a low level and even continue to fall slightly for French wine and Californian whites.

Forthcoming harvests in Australia, Chile and South Africa in early 2020 do not suggest a dramatic change. It is still not known to what degree grapes in Australia will be affected by smoke taint as a result of the massive bush fires already starting in October 2019. Hunter Valley, Adelaide Hills and the Victoria wine growing regions are reported to be widely damaged, while the large volume producers in the Riverland area seem to have been spared so far.

Figure 2. Development of bulk wine prices for international grape varieties of different origins



Source of data: CIATTI (2018, 2019)

Threats and Challenges for the Global Wine Industry

In June 2019, more than a thousand global wine industry experts were asked about the most important threats and challenges and their effect on wine businesses (Figure 3). Climate change was the challenge with the highest (almost certain) likelihood of occurrence but had only the third strongest expected impact on wine businesses. Restrictive health policies with higher tax rates and minimum prices being made mandatory for wine and alcohol are expected to have the strongest effect on wine businesses. Reduced demand for wine through a global economic downturn slowing the global wine trade was second. The effects of a no-deal Brexit, competition with other alcoholic beverages and the deregulated sale of cannabis were seen as comparatively small challenges for wine businesses.

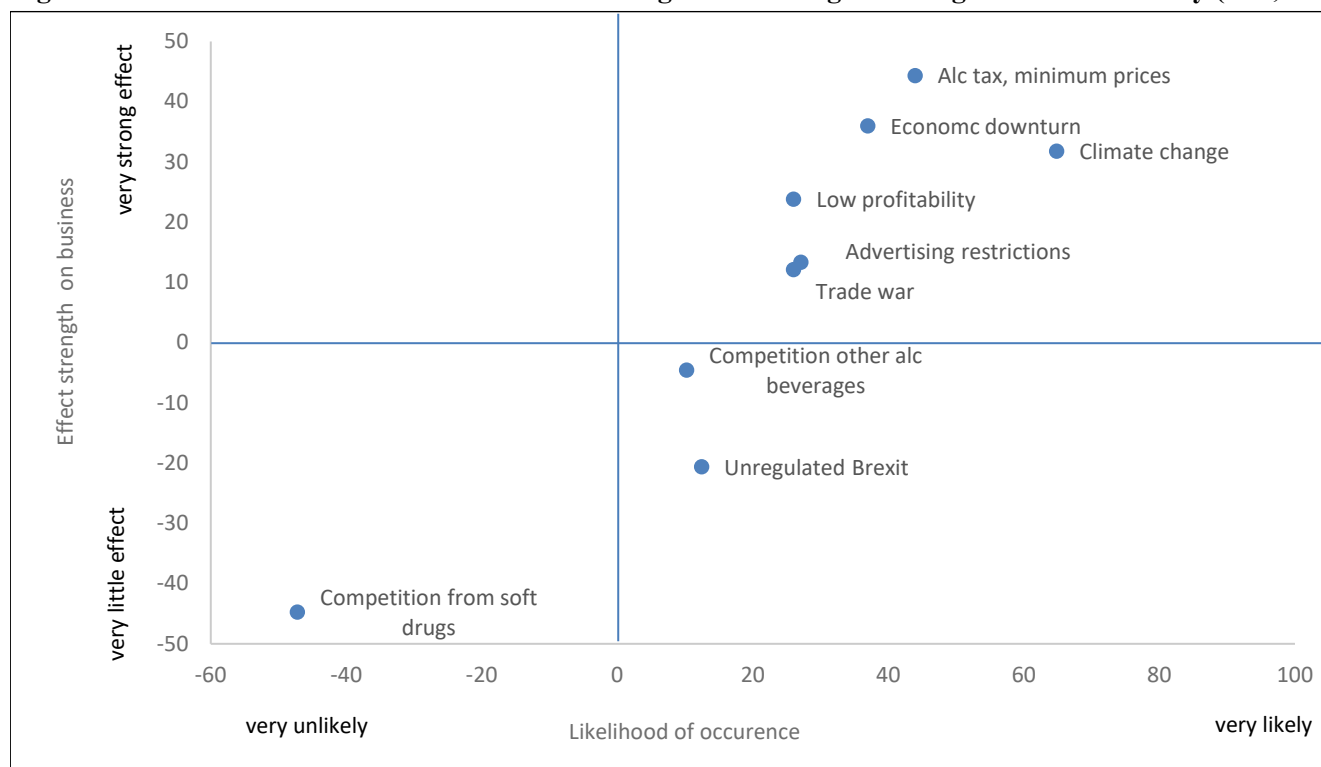
In October 2019, the largest international wine market, the US, introduced strong trade barriers, with a 25% tariff on wine imports from four European countries (see also next section). Both the likelihood of a trade war and its effect strength on wine businesses will certainly have increased sharply since the survey was conducted in June 2019.

International Wine Trade

The global wine trade is vital to the wine industry, helping to balance shifts in consumption patterns (LOOSE and PABST, 2018). The international wine trade has been steadily increasing by volume and value during this century, only briefly interrupted by the economic recession in 2009 (OIV, 2019a). Since the announcement of US import duties for wine in October 2019, the global trade war has now also reached the wine industry. A 25% tariff was imposed on still wine below 14% alcohol in containers smaller than 2 litres from France, Germany, Spain and the UK following a ruling from the World Trade Organisation (WTO) in favour of the US regarding subsidies granted to Airbus by European governments.

The wine industry was taken by surprise by the sudden imposition of this tariff and so was unable to react by increasing inventories ahead of the tariff. Instead, a considerable amount of ship freight already on its way to the US fell under the new ruling at the time of unloading. Because of the strongly regulated three-tier system of individual states, requiring an importer, a wholesaler and a retailer, each with their own margin, a 25% tariff results in shelf price increases of about 40%. Preliminary data available in

Figure 3. Likelihood of occurrence and effect strength of challenges to the global wine industry (n=1,101)



Source: LOOSE and PABST (2019b)

January 2020 suggests that imports of French, German and Spanish wine decreased sharply (by about 40% in November 2019). Both producers and importers reacted by partially sacrificing their margin to offset the price increase for retailers. Some lower-priced wine producers are considering shipping their wine in bulk to have it bottled in the US, although the logistics process is challenging. Alternative strategies discussed include increasing alcohol levels above 14% or having a minimal CO₂ pressure so that rose and white wines do not fall into the still wine category. Some producers have also turned their marketing efforts to Asian markets hoping to offset volume lost in the US market.

Because of the three-tier system, domestic US wineries are also vitally dependent on importers entering other states. To date, evidence suggests that Californian wines have not been able to benefit from the tariffs on European wines because their importers are weakened by unsold stock and lost income. The complex and fine-tuned US wine supply chain has suffered from the chaos and domestic wineries are afraid that hospitality businesses may also suffer from less interesting wine lists, possibly also reducing the sales of domestic wines that cannot fully substitute for specific European wine categories.

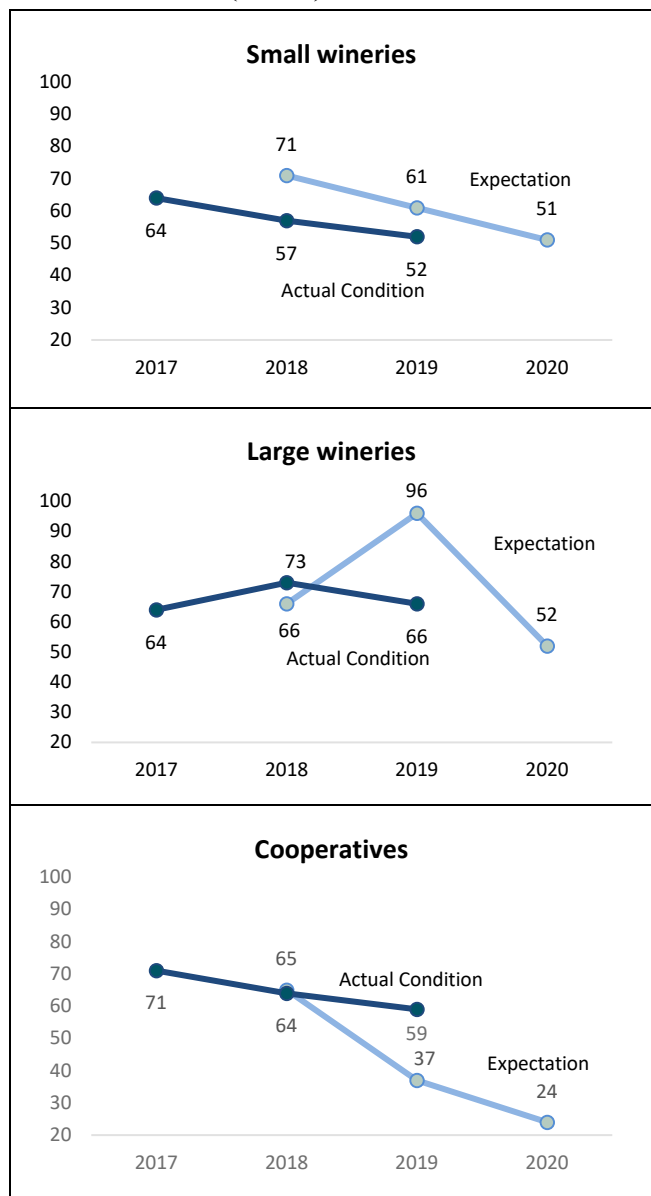
Retaliation measures are to be reviewed on a regular basis and, in January 2020, the US Trade Representative published the threat of possible 100% tariffs to be extended to both sparkling and still wines from the entire European Union. Such an increase cannot be compensated for and will result in shelf price increases by a factor of two to three. European producers are expected to be priced out of the key mass premium price segment leading to drastic volume reductions. Considering this uncertainty, it is not surprising that producers report a complete halt to new listings of any European wines by the US supply chain, minimising their exposure. As a reaction to import tariffs, the European Commission has increased aid for wine promotion activities by 10%, providing 60% funding for eligible European wine promotional activities in “third countries”, i.e., countries outside the EU and the European Free Trade Area (EFTA).

Imports to the third most important wine import market, the UK, also remain affected by trade uncertainties. Although there is now a definite decision on Brexit on 31 January 2020, it is unclear when new trade agreements will be in place to replace the UK’s current free trade with the European Union when it ends this year. Exporters worry that it may take years before such an agreement will be in place, further hindering wine trade with this important market.

Economic Condition of Producers

The economic challenges facing businesses due to the slowdown in the global economy and the growth of trade barriers are also reflected in expectations for economic development in 2020. The double pressure of oversupply and a slump in demand is reflected clearly in the lower expectations of the various producers (Figure 4). For smaller grape producing and wine marketing wineries, both actual economic conditions and expectations for the future have been deteriorating steadily since 2017. Large bottling wineries, mainly buying grapes or wine from producers, had very positive expectations in 2019 because the large 2018 harvest re-established sufficient supply. Expect-

Figure 4. Economic condition and expectations index by global wine producers 2017–2020 (n=405)



Source: LOOSE and PABST (2019b)

ations for 2020 dropped markedly in 2019, most likely caused by stagnating or falling wine demand in the major global wine markets. Although the development of economic conditions shows similarities across all three producer types, wine cooperatives are the least optimistic about future development. Expectations are more stable on the part of exporters, importers, wholesalers and (to a slightly lesser extent) specialist retailers.

Climate Change – Effects, Expectations, Adaptation and Mitigation

Climate change is already affecting the wine industry and is expected to have a strong impact in the future (Figure 3). The degree to which climate change has been felt by companies over the last five years varies by position in the value chain. Nine out of ten wine producers have already felt the effects of climate change, while this is the case for only six out of ten marketers (LOOSE and PABST, 2019b). The most affected wine producers are generally the least capable of avoiding the effects of climate change due to being economically tied to their land and property.

Experienced Effects of Climate Change on Viticulture

Over the last five years, more than half of grape producers have faced lower grape yields due to extreme weather events such as late frost, heavy rains, hail or stress from drought (Figure 5). These extreme weather events have substantially increased the volatility of grape yields; at the same time, this volatility has entailed strong price volatility for grapes and bulk wine. Due to existing yield regulations, there is only a limited

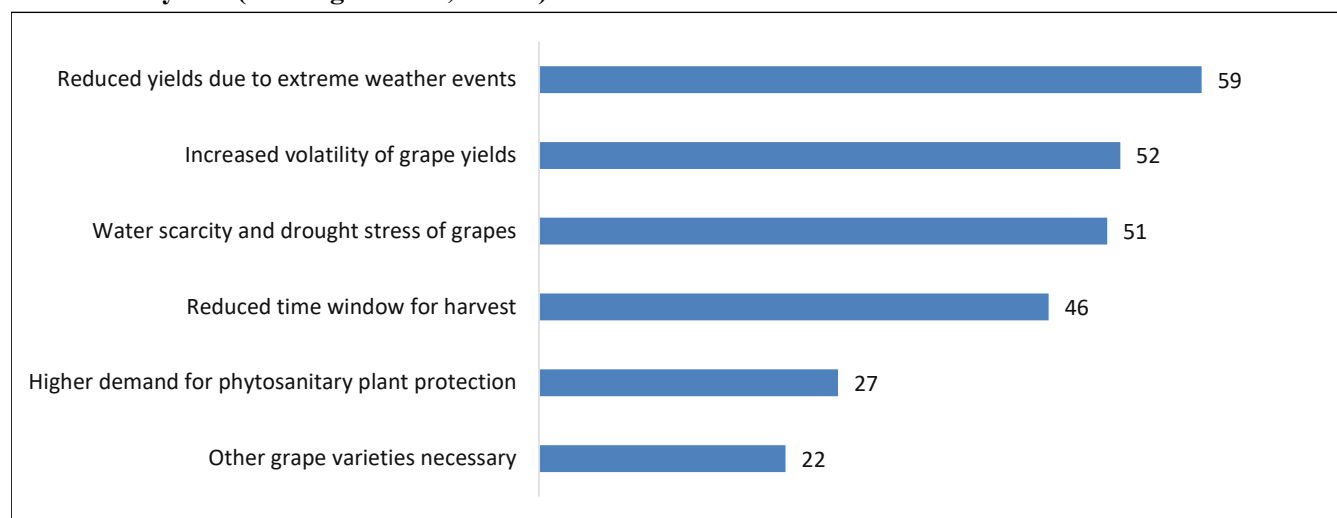
extent to which small harvests in one year can be compensated for by bigger harvests in the following year. Almost one in two grape producers has had to change corporate processes with shortened time windows for harvesting and greater reception capacities.

Effects of Climate Change on the Supply Chain for Wine

The effects of climate change on wine growing impact all players across the complete wine value chain. So far, companies at the beginning and in the middle of the value chain have largely buffered the majority of impacts. In the future, however, these effects will be felt more strongly by marketers and consumers. In addition to producers, bottling wineries, as buyers of grapes and bulk wine, and exporters, as intermediaries between international markets, are the most affected by the risks associated with the rising volatility of prices, quantities and wine quality. Companies respond to these mounting risks both by closer cooperation with producers and by shifting to other producers and wine origins.

The majority of both marketers and bottling wineries have stated that sensory characteristics have changed. Half the large wine growing estates and wineries that source grapes and bulk wine from several producers have already had to apply new oenological practices to mitigate the effects on ready-to-drink wine derived from bulk wine that has been affected by climate change. So far, wineries and cooperatives with their own grape production have used these new technologies to a lesser extent. Over the next 10 years, 62% of retailers, 55% of bottling wineries and 42% of

Figure 5. Experienced effects of climate change on viticulture and grape production over the last five years (% of agreement, n=312)



Source: LOOSE and PABST (2019b)

wine producers expect the sensory characteristics of wine to change further. In the future, an adaptation strategy using new oenological practices will also assert itself in independent wineries and cooperatives and will be applied by the majority of wineries.

Climate change already impacts co-ordination between the players in the wine industry today. Volatility in yields and wine quality increases price fluctuations, on the one hand, and the risk of availability, on the other. When faced with harvest losses, the affected vintners can hardly profit from price increases and wineries find it difficult to source the grapes and bulk wine required to supply the volumes agreed with food retailers. Years with a global oversupply have led to price erosion as the global demand for wine is constant and only few wines can be stored long term. For the future, marketers and exporters, in particular, expect the volatility of price and availability to rise significantly. Up till now, this has been partly compensated for by wineries. By 2030, half to one third of the players expect increased risks. These will lead to new forms of cooperation with producers but also lower profitability.

To secure goods sourcing and minimise risks, companies such as buying wineries, exporters and marketers can either cooperate more closely or switch to other suppliers. Exporters and wineries, in particular, have already pursued these strategies in the past, thereby reducing the effects on retailers and consumers at the end of the value chain. Over 40% of retailers plan to shift to other suppliers or countries of origin in future if their existing suppliers are affected by climate change. This will aggravate the eco-

nomic pressure on grape and wine producers, who themselves have significantly fewer opportunities to shift.

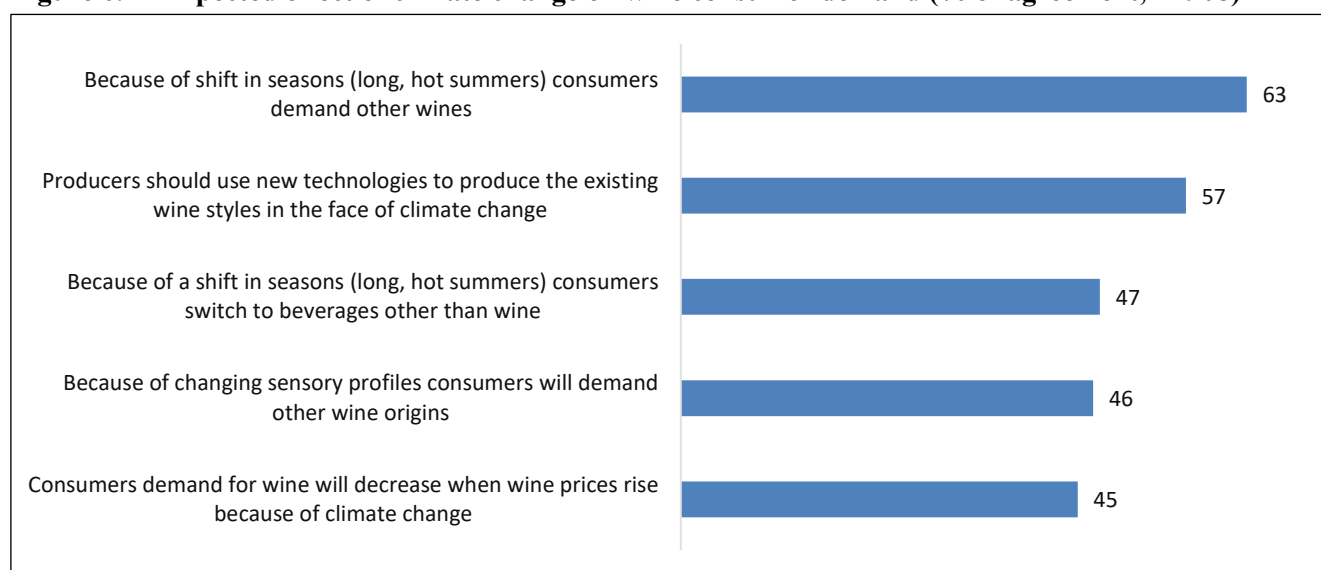
Effects of Climate Change on Consumer Demand

Retailers are already noticing climate-change induced changes in consumer behaviour (Figure 6). In hot summers, for example, wine consumption drops, and demand for heavy red wines dwindles. In future, retailers also expect demand for other wines (63%) and other beverages (47%) to increase. This means production and demand will develop in an opposite direction. Climate change causes the production of heavy wines, richer in alcohol, and, at the same time, fuels consumer demand for lighter and more refreshing wines. More than half the retailers (57%) therefore urge producers to apply new oenological practices to continue with existing wine profiles despite climate change.

Adaptation of the Wine Industry to Climate Change

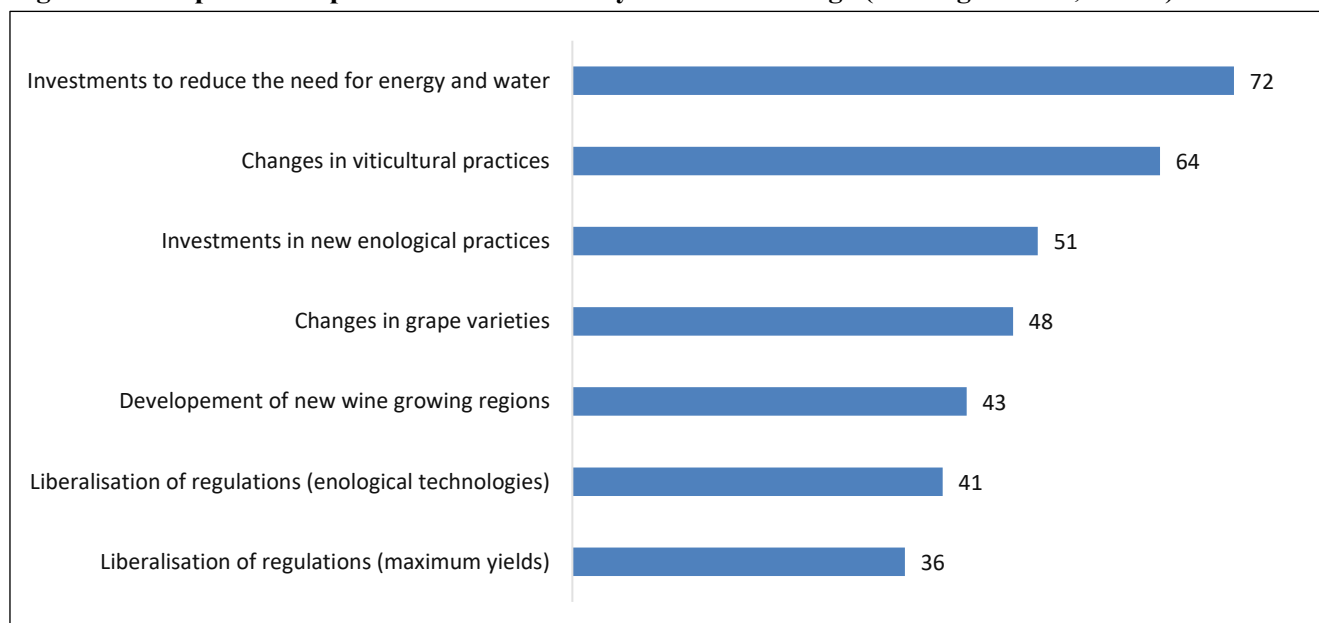
The effects of climate change on grape production that have been observed so far will increase further in coming years. The effects of climate change on grapes and wines can be mitigated through changes in viticultural practices, in harvest management, in oenological practices and through the use of irrigation (Figure 7). For the future, it is anticipated that new grape varieties which are more tolerant of heat and drought stress will be in great demand. Grape producers expect a strong increase in the use of grape varieties more appropriate for the climate. One in three producers expect this to become necessary by 2030. Beyond these adaptation measures in existing wine growing regions, wine

Figure 6. Expected effect of climate change on wine consumer demand (% of agreement, n=908)



Source: LOOSE and PABST (2019b)

Figure 7. Expected adaptation of wine industry to climate change (% of agreement, n=274)



Source: LOOSE and PABST (2019b)

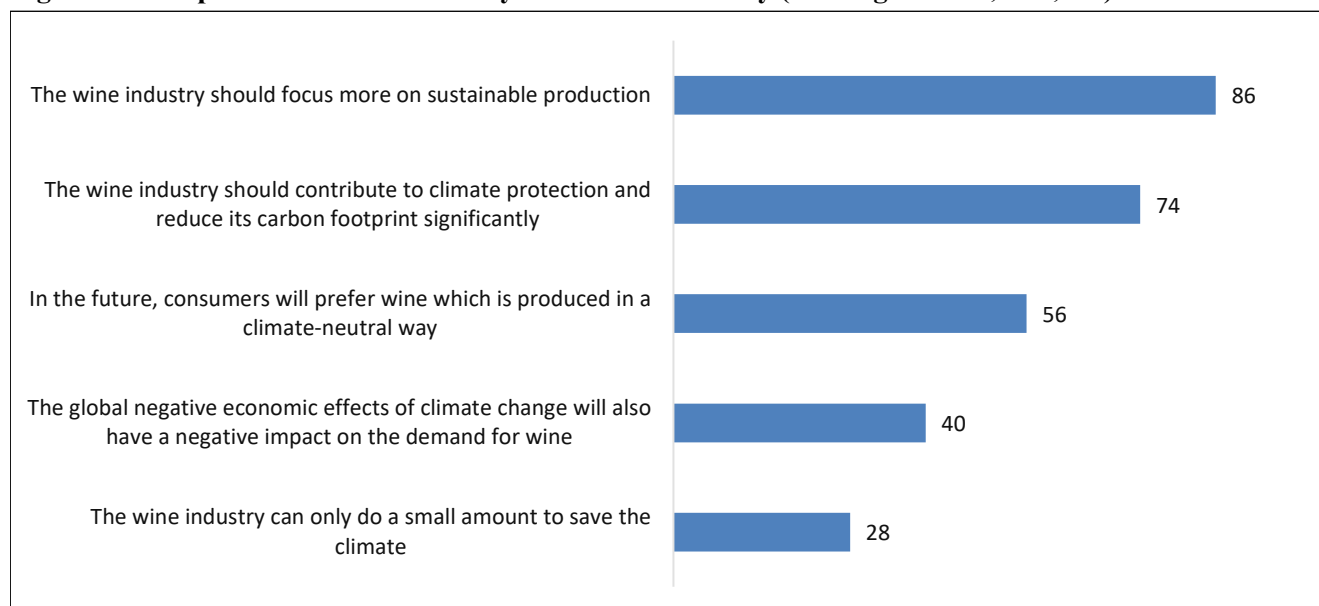
growing will increasingly shift to cooler growing regions in higher altitudes or further away from the equator.

Over the last five years, climate change has brought about economic winners (23%) and losers (35%). In the next decade, it is primarily cooperatives (53%) and wineries (44%) that expect their efficiency to decline heavily or very heavily due to climate change. Declining profitability hinders the ability to increase climate change adaptation by investment.

The Importance of Sustainability in the Wine Industry

Wine industry players are seeing increased demand for improved sustainability in the sector (Figure 8). Among the players, 86% agree that the wine industry should focus more on sustainable production. Approval among retailers is highest in Scandinavia (96%) and Southern Europe (93%). Three quarters consider a reduction in the carbon footprint as a necessary contribution to be made by the wine industry. Approval for this is highest in Italy (81%) and lowest in Germany

Figure 8. Importance of sustainability in the wine industry (% of agreement, n=1,178)



Source: LOOSE and PABST (2019b)

(65%). In addition to reduced water consumption, the energy needs and therefore the carbon footprint of wine production and distribution also need to be minimised.

Wine producers regard reduced water and energy consumption as the most important mitigation measure. Saving water is an especially big challenge since the grape varieties currently grown require more water in the form of irrigation. Apart from the direct benefits for companies, water and energy savings also make a positive contribution to the sustainability of the industry.

In addition, producers are faced with the major challenge of convincing consumers to buy sustainable wine. Uniform industry standards combined with comprehensive information and education campaigns could prove a solution here. Only a few respondents are optimistic that consumers will prefer wines produced in a climate-neutral manner in future. The most optimistic are retailers in Scandinavia and Southern Europe (91%), whereas German producers (at 38%) are rather sceptical. Some 40% of players expect the negative economic effects of climate change to impact on the demand for wine.

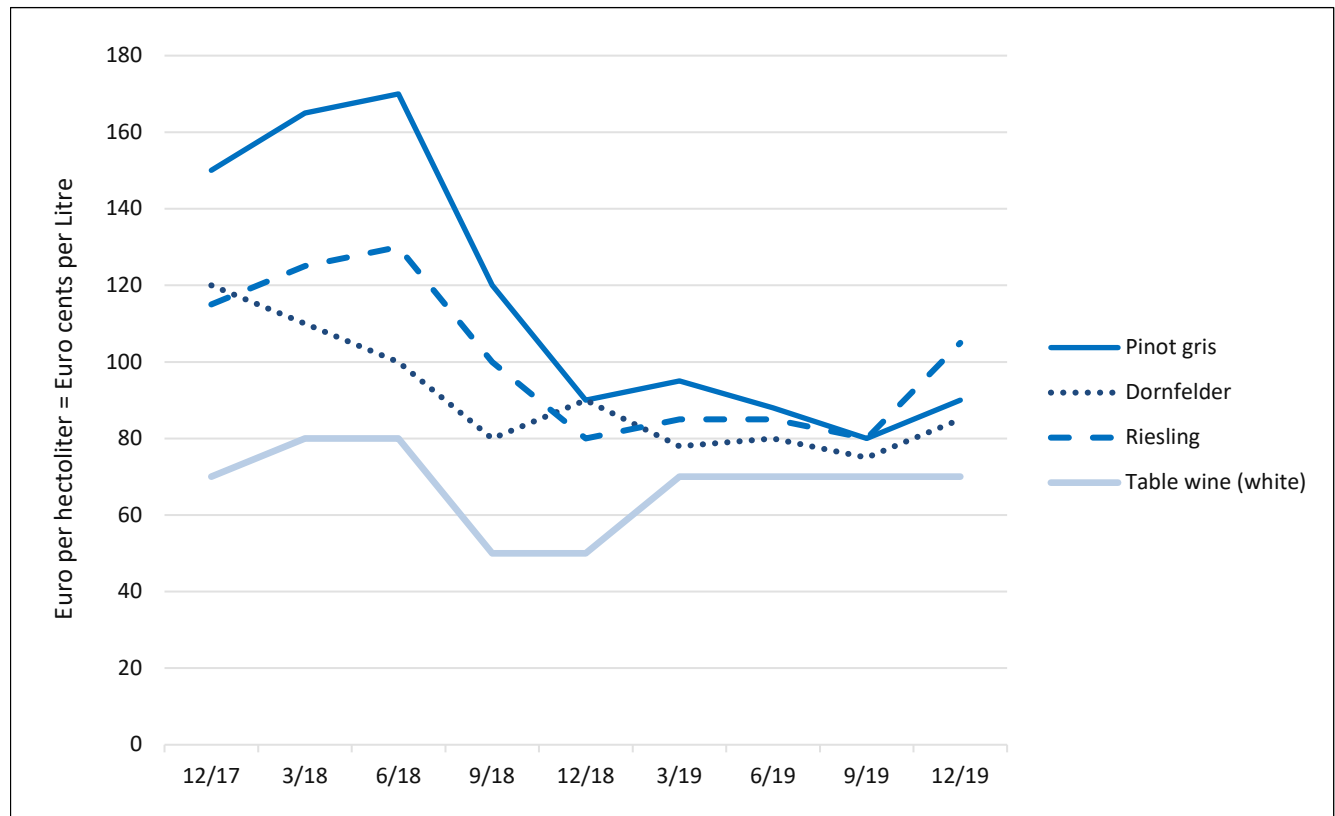
The German Wine Market

German Wine Production

After 2018, 2019 was the second warmest year in German history. During an average spring, budding and flowering occurred at normal levels. The European heat wave in July also saw a number of consecutive days above 40°C in wine growing regions along the river Rhine that caused widespread sunburn to vines and grapes in vineyards with a south-western exposure, a phenomenon previously unknown in Germany. German wine growers also face the challenge to adapt to climate change by different viticultural measures. Although exposing grapes to the sun through partial exfoliation was beneficial for ripeness in the past, the need for sun protection has now become more important. As the availability of water decreased further, the record dry 2018 harvest was smaller than the year before and resulted in an average size.

Because of the general above-average vintage in 2018, significant carry-over stock was still available, which caused bulk wine prices to remain flat in the autumn of 2019 (Figure 9). Early in 2020, there seems to be growing demand particularly for white varieties

Figure 9. Development of German bulk wine prices (example of the Palatinate wine growing region)



Source: WEINWIRTSCHAFT (2018–2019)

and prices show weak upward trends. There is considerably less demand for red varieties (LOOSE et al., 2000).

Taking into account the growing variability in crop size, the wine industry needs to reconsider the suitability of yield regulations and legal options for carry-over stocks (Figure 7). LOOSE and PABST (2018) reported German wine growers' concerns about leaving good quality fruit unharvested or downgrading it to table wine status in the record year of 2018 when volume caps for quality wine were exhausted. In particular, after the very small 2017 harvest, some wineries that were unable to deliver because of empty stocks, questioned whether current wine regulations are still appropriate in the context of climate change and its adverse effects on wine production.

Crop Variation and Assessment of Wine Regulations

A producer survey representing almost a quarter of German wine area (22.4 thousand hectares) shed more light on wine producers' assessment of the effect of crop variability and the suitability of wine regulations (LOOSE et al., 2019). The results show a very mixed picture (Figure 10). For about a third of producers, mainly wine estates, the large 2018 harvest did not cause problems and was welcome in order to meet existing demand, and to grow and address new target

groups. More than a quarter of producers, mainly large cooperatives, experienced strong price pressure and had to sell wine they could not market within their distribution network as bulk wine. Once prices fell for bottled wine in retail chains and for bulk wine, this exerted pressure to adapt at a national level, otherwise risking the loss of sales. Wine estates, marketing through cellar door sales, gastronomy and specialty retail, experienced less price pressure than large producers mainly marketing through food retail.

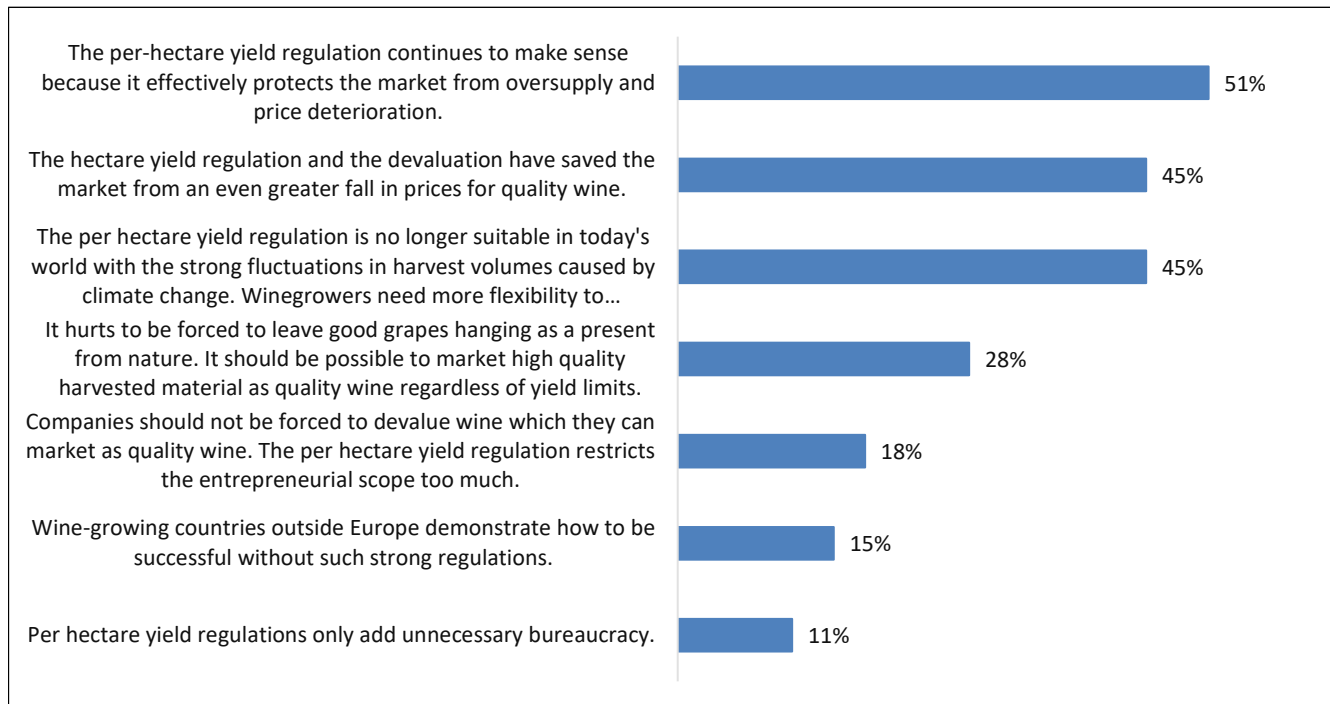
Producer assessments of the future suitability of the per-hectare yield regulations show a similar divide (Figure 11). Overall, there is a small majority of around 51% welcoming yield regulations to protect the market from oversupply and price falls. In particular, large cooperatives perceive regulations as a means of market protection. Some 45% of producers (only slightly less) request more flexibility between highly fluctuating vintages and see the wine regulations as inappropriate to address these changed conditions. About a quarter of producers regret having to leave good quality fruit unharvested because the wine regulations assume a strong relationship between quantity and quality that may no longer be the case under climate change conditions. There is considerably less concern regarding the limitation of entrepreneurial scope or bureaucracy and few producers see New World liberal regulations as appropriate examples to follow.

Figure 10. German producers' assessment of the large 2018 harvest (agreement in %, n=536)



Source: LOOSE et al. (2019)

Figure 11. German producers' perception of the suitability of per-hectare yield regulations (agreement in %, n=536)



Source: LOOSE et al. (2019)

German Consumption, Imports and Exports

The decrease of wine consumption in Germany has continued, although on a smaller scale. After wine consumption fell by 2% in 2017/18, it fell by a further 1.5% between August 2018 and July 2019 (DWV, 2020). This decrease was to be expected because two hot summers fell in the recorded time window (LOOSE and PABST, 2019a). In addition to the effect of heat on wine consumption (see also Figure 6), there are further factors like moderate alcohol consumption by the younger generation and increasing immigration from cultures not attuned to wine that make the future growth of wine consumption in Germany rather unlikely. First statistical data available from market research agency IRI analysing scanner data suggest a recovery of wine sales in food retail for the second half of 2019. The consumption of sparkling wine increased slightly (by 0.8%). Overall, per capita wine consumption of 23.4 litres can be divided into 20.1 litres of still wine and 3.3 litres of sparkling wine (DWV, 2020).

For the period covered in DWV (2020), the consumption of German wine fell more than that of imported wine because the small 2017 German wine harvest reduced the availability of German wine. This

supports the argument for more flexible wine regulations to maintain constant delivery to the supply chain. In the second half of 2019, volumes of quality German wine increased strongly compared with the large 2018 harvest (DWV, 2020), suggesting a growth in the amount of German wine consumed in the next statistical report.

According to available statistics, including November, 2019 exports of German wine remained stable overall at a level of about 1.03 million hectolitres with an average value of 2.96 € per litre (DWV, 2020). Already, in November, a very strong decline could be seen for the most important export market, the US, where volumes (value) declined by 28 (40%) compared to November 2018. Considering uncertainty regarding further import tariffs in the US and the shake-up of the US wine supply chain, where first importers face bankruptcy, a decline in imports has to be expected for the months to come. Once tariffs are lifted, recovery will not be instantaneous as a result of the rigidity of the US supply chain.

Both German and international wine producers must expect to sail in difficult waters when considering the challenges ahead, which include stalling consumption, trade barriers and uncertainties, alcohol regulation, and changes to production as a result of climate change.

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