

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

Ukrainian wine production and consumption

Kapranova Kateryna

© 2024 CZU Prague



Czech University of Life Sciences Prague

Faculty of Economics and Management

BACHELOR THESIS TOPIC

Author of thesis: Kapranova Kateryna
Study programme: Economics Policy and Administration
Field of study: Business Administration
Thesis supervisor: doc. Ing. Vladimír Krepl, CSc.
Supervising department: Department of Economics
Language of a thesis: English

Thesis title: **Ukrainian wine production and consumption**

Objectives of thesis: Researching Ukrainian wine production and consumption, both domestically produced and imported, is the primary goal of this bachelor's thesis. The research will analyze a range of grape varieties, both indigenous and international, that are used in the nation's wine production; it will also examine how different wines are consumed and compare domestic and worldwide wine markets. To fully understand the current state of the situation and its perspectives, the study will look into the influence of socioeconomic factors, particularly the Russo-Ukrainian War, on the Ukrainian wine industry and production.

Methodology: This bachelor's thesis's content will be gathered from proper, previously published scientific papers, research projects, and articles. Google Scholar, Science Direct, Research Gate, and other online databases will be used while researching the subject of the thesis. Throughout this thesis investigation, applicable and published literature will also be examined, including Sotheby's Wine Encyclopedia and others. The author's personal experience and those of their professional colleagues in the selected region will also provide data for the paper.

The proposed extent of the thesis: 40 - 60 pages

Keywords: Ukraine, Wine, Grape variety, Production, Consumption

Recommended information sources:

1. Kochkina, N. and Tavoletti, E. (2019) 'Current trends and consumer motivation in the Ukrainian Wine Market', *Case Studies in the Wine Industry*, pp. 141–155. doi:10.1016/b978-0-08-100944-4.00011-2.
2. Hanchukova, O., Velikova, N. and Motuzenko, O. (2024) 'A toast to emerging terroir: Exploring consumer attitudes toward local wine in Ukraine', *International Journal of Wine Business Research* [Preprint]. doi:10.1108/ijwbr-05-2023-0030.
3. Stevenson, T., Szentkiralyi, O. and Ritchie, J. (2020) *The New Sotheby's wine encyclopedia*. Washington, DC: National Geographic.
4. Goncharuk, A.G. and Figurek, A. (2017) 'Efficiency of winemaking in developing countries', *International Journal of Wine Business Research*, 29(1), pp. 98–118. doi:10.1108/ijwbr-02-2016-0007.
5. FEDOROVA, N.Ye. and TARAN, I.O. (2019) 'Determination of the foreign economic potential of Ukrainian wine industry in the world market', *Economic innovations*, 21(3(72)), pp. 150–158. doi:10.31520/ei.2019.21.3(72).150-158.
6. Marks, D. (2011) 'Competitiveness and the market for Central and Eastern European wines: A cultural good in the global wine market', *Journal of Wine Research*, 22(3), pp. 245–263. doi:10.1080/09571264.2011.622517.

Expected date of thesis defense: 2023/24 SS - FEM

Declaration

I declare that I have worked on my bachelor thesis titled "Ukrainian wine production and consumption" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15.03.2024

Kapranova Kateryna

A handwritten signature in black ink, appearing to read 'Kapranova Kateryna', written over a horizontal line.

Acknowledgement

I would like to thank doc. Ing. Vladimír Krepl, CSc. for his advice and support during my work on this thesis. I would also like to thank my family and colleagues who gave advice on the chosen topic.

Ukrainian wine production and consumption

Abstract

Ukraine has a long history of winemaking that dates back centuries. It is ranked 30th in the world for the area of vineyards surface. Ukraine's wine production benefits from its varied terrain and weather conditions, which create good conditions for growing grapes in different parts of the country. This thesis work will analyze the Ukrainian wine industry, focusing on production and consumption dynamics, as well as identifying major trends, difficulties, and opportunities. The work will examine the historical development of Ukraine's wine industry, from being a significant wine-producing region in the Soviet Union to its current emphasis on quality-oriented winemaking. Geopolitical tensions, economic instability, and climate change are factors that are taken into account when analyzing their effects on wine production and consumption trends. The bachelor work explores the increasing popularity of Ukrainian wines locally and abroad, along with efforts to boost wine tourism and improve export rates. This study offers a detailed analysis of the Ukrainian wine industry, presenting an overview of its current status and potential future developments.

Keywords: Ukraine, Wine, Grape variety, Production, Consumption

Výroba a spotřeba ukrajinského vína

Abstrakt

Ukrajina má dlouhou historii výroby vína, která sahá staletí. Rozloha plochy vinic je na 30 místě na světě. Produkce vína na Ukrajině těží z rozmanitosti terénu a povětrnostních podmínek, které vytvářejí dobré podmínky pro pěstování hroznů v různých částech země. Tato diplomová práce bude analyzovat ukrajinský vinařský průmysl se zaměřením na dynamiku produkce a spotřeby, stejně jako identifikaci hlavních trendů, potíží a příležitostí. Práce bude zkoumat historický vývoj ukrajinského vinařství, od významné vinařské oblasti v Sovětském svazu až po současný důraz na kvalitu vína. Geopolitické napětí, ekonomická nestabilita a změna klimatu jsou faktory, které jsou brány v úvahu při analýze jejich dopadů na trendy výroby a spotřeby vína. Bakalářská práce zkoumá rostoucí oblibu ukrajinských vín u nás i v zahraničí spolu se snahou o posílení vinařské turistiky a zvýšení exportní míry. Tato studie nabízí podrobnou analýzu ukrajinského vinařského průmyslu, představuje přehled jeho současného stavu a potenciálního budoucího vývoje.

Klíčová slova: Ukrajina, Víno, Odrůda hroznů, Výroba, Spotřeba

Table of content

Introduction	9
1 Objectives and Methodology	10
1.1 Objectives	10
1.2 Methodology	10
2 Literature Review	11
2.1 Wine fundamentals	11
2.1.1 Grape varieties	11
2.1.2 Wine production steps	12
2.2 Global wine market	15
2.2.1 Production	15
2.2.2 Consumption	17
2.3 International wine production regulations	19
2.3.1 Wine appellation systems	20
2.4 Economic Impact of the wine industry	22
2.5 Challenges of the wine industry	24
2.6 Ukrainian winemaking	25
2.6.1 History of Ukrainian wine	26
2.6.2 Producing regions	27
2.6.3 Grape varieties	28
2.6.4 Prominent wine producers	30
3 Practical Part	33
SWOT analysis of Ukraine's wine industry	33
3.1 Strengths	33
3.1.1 Rich viticultural heritage	33
3.1.2 Diverse terroir	35
3.1.3 Emerging reputation	37
3.2 Weaknesses	41
3.2.1 Lack of awareness	41
3.2.2 Export rates	41
3.2.3 Competition	44
3.2.4 Quality perception	47
3.3 Opportunities	47
3.3.1 Growing export potential	47
3.3.2 Education	48
3.3.3 Wine tourism	50
3.4 Threats	52
3.4.1 Climate change	52
3.4.2 Wartime	54
3.4.3 Economic Instability	56
4 Results and Discussion	59

5 Conclusion	61
6 References	62
List of figures and abbreviations	67
6.1 List of figures	67
6.2 List of abbreviations	68

Introduction

Winemaking is a culture with thousands of years of history to tell. It has evolved from a primal drink made in pits by ancient Georgians to sophisticated, state-of-the-art wine production facilities around the world. While techniques of winemaking have evolved, the tradition and cultural aspect of making and drinking wine never disappeared through at least 8000 years of history. “In wine, there is truth” is a Latin expression that can be interpreted in many ways. Ukraine is not a huge wine producer, but every year its winemakers try to overcome struggles and make high-quality wines. It is important to these people to showcase the country's culture and narrate its wine story.

Ukraine is the largest country entirely located in Europe, covering around 603,500 square kilometers. Ukraine’s landscape differs from vague plains and river valleys to mountains and sea coastlines. The country has a wide range of sights to visit, often attracting many tourists from around the world. With a long history and its large territory, this agrarian nation has been producing wines for centuries, subsequently, wine tourism is also popular.

As a part of the Soviet Union, Ukraine was one of the largest wine-producing republics, focusing on higher quantities. However, today a large number of Ukrainian winemakers focus more on quality rather than quantity. Although Ukrainian wines are not popular abroad, some of its vineries are trying to export and share Ukrainian wine culture overseas. Due to the occupation of Crimea and the recent occupation of Eastern and Southern territories due to the Russo-Ukrainian war, Ukraine lost a lot of wine-producing areas since 2014.

This country’s terrains, including access to the Azov and Black Seas, Carpathian Mountains, and big rivers, allow winemakers to grow grapes in different regions. The main winemaking region (excluding Crimea) is Odesa, followed by Mykolaiv, Kherson and Zakarpattia. Many of the wineries are now not functioning as they were before 2022, some of them are completely or partially destroyed, some are under Russian occupation and some are at risk of being bombed every day. Ukraine has a lot of perspectives and obstacles, this thesis work will look into both, showcasing the general situation in Ukraine’s wine market.

1 Objectives and Methodology

1.1 Objectives

Researching Ukrainian wine production and consumption, both domestically produced and imported, is the primary goal of this bachelor's thesis. The research will analyze a range of grape varieties, both indigenous and international, that are used in the nation's wine production; it will also examine how different wines are consumed and compare domestic and worldwide wine markets. To fully understand the current state of the situation and its perspectives, the study will look into the influence of socioeconomic factors, particularly the Russo-Ukrainian War, on the Ukrainian wine industry and production.

1.2 Methodology

This bachelor's thesis's content will be gathered from proper, previously published scientific papers, research projects, and articles. Google Scholar, Science Direct, Research Gate, and other online databases will be used while researching the subject of the thesis. Throughout this thesis investigation, applicable and published literature will also be examined, including Sotheby's Wine Encyclopedia and others. The author's personal experience and those of their professional colleagues in the selected region will also provide data for the paper.

The practical part will process the data through a SWOT analysis, investigating strengths, weaknesses, opportunities, and threats associated with the country's wine industry. Internal and external factors that affect the market of wine in the country will be presented in this thesis. SWOT analysis will be conducted to evaluate the present state of the sector, its advantageous and disadvantageous conditions. A SWOT table will be presented to clarify the analysis results.

2 Literature Review

2.1 Wine fundamentals

Wine is described as a beverage resulting from the alcoholic fermentation of fresh grapes, either whole or crushed, or from grape juice (Haseeb et al., 2019). Over 70 countries produce wine globally, however, the majority of wine production is concentrated in a smaller number of countries, with traditional wine-producing regions such as France, Italy, Spain, and the United States being among the largest producers. In 2022, the global vineyard surface area is estimated to cover approximately 7.3 million hectares.

There is a general division of wine regions into Old vs. New World. The term "Old World" is used to describe European countries where winemaking techniques started from. These nations are France, Italy, Portugal, Spain, Germany, Hungary, Croatia, and Georgia. Alternatively, the "New World" refers to countries outside of Europe that produce wine. Many of these countries were once colonized by Old World winemaking nations, which has influenced their winemaking traditions. Key countries of the New World include the United States, Canada, Argentina, South Africa, Australia, New Zealand, and China.

2.1.1 Grape varieties

In modern viticulture (winegrowing) two types of vine are important: *Vitis vinifera* and American Vine (Robinson, 2022). It is believed that there are more than 10,000 grape varieties, however, recent DNA testing suggests that the real number comes down to 5,000 as some grapes are known under different names around the world (Stevenson et al., 2020).

Vitis vinifera is an Eurasian species, which was first domesticated by Georgians, Turkish, and Armenians back in 6000 BC, and has been used to make most wines since then. *Vitis vinifera* includes important international grape varieties, such as Pinot Gris, Pinot Noir, Merlot, Riesling, Chardonnay, and others. American vine is native to North America and is not widely used to make wines. This type of vine is resistant to the vine pest *Phylloxera*, so for this quality, many winemakers use it to produce rootstock onto which *Vitis vinifera* is grafted, such operation allows *Vitis vinifera* to grow even in infested areas (Stevenson et al., 2020).

Thousands of *Vitis vinifera* grape varieties can be differentiated primarily by color and flavor, however, they all differ in ripening time, budding period, and other factors affecting the grape. All the grapes require heat, sunlight, water, carbon dioxide, and nutrients to grow, that is why climate is extremely important in winemaking. As a general rule, grapes can grow between 30° and 50° latitude in both hemispheres; they cannot fully develop where it is too cold or too hot. Beyond climate, there are other factors, like ocean currents, lakes and rivers, altitude, and rainfall that affect the grape. Some areas are more suitable for specific grape varieties, or in some cases, the grapes are indigenous to a specific place.

There are white, black, mid-coloured, and teinturier grape varieties. This thesis work will be focused mostly on white and black ones. The international varieties are those which are planted throughout the world, they include classic varieties such as Cabernet Sauvignon, Merlot, Chardonnay, Sauvignon Blanc, etc. “Native” or “indigenous” varieties originate in specific regions and produce wines with special characteristics. These varieties include Nebbiolo and Sangiovese (Italy); Touriga Nacional and Alicante Bouschet (Portugal); Xinomavro and Agiorgitiko (Greece); Telti-Kuruk, Odesa Black and Sukhomlinsky White (Ukraine) and many others.

2.1.2 Wine production steps

Harvesting. Veraison is the time in the vineyard when the berries start ripening. In the Northern Hemisphere, it is between July and September while in the Southern Hemisphere, it is from January to March. As the grapes become ripening, the sugar levels rise (from the sun's influence) and the acid levels go down. To achieve a crisp acidic wine the grapes are harvested earlier. When berries achieve a perfect balance between acid, flavor, tannin, and sugar - the grapes are harvested (the perfect balance depends on the grape variety and style of wine expected). Harvesting is done by hand or machine, which can also influence the price of the bottle. The choice between hand or machine harvesting method depends on many factors including the terrain (slope, soil, density, etc.), labor cost, weather at the vineyard, and others. Machine harvesting has its advantages, including speed, availability to work at night, and lower price to operate. It is utilized on flat or slightly inclined landscapes and with such grape varieties that are not harmed easily. Hand harvesting is slower and requires more labor costs. It is used when the grapes need more attention while harvested, it allows to separation of rotten berries from good ones from the

very beginning and protects from damages during transportation using smaller vessels than in a machine. The hand method allows to pick up of berries on rough terrains and allows to ferment of whole bunches (this is required for some wine styles).

Grape reception. Berries are checked upon arrival at the winery. Grapes for premium wines are checked individually on a sorting table, allowing to elimination of any unripe or rotten ones.

Crushing and destemming. These processes are not required in all wines. If the grapes were harvested by machine the berries arrive at the winery without stems, so they do not need the destemming process. Most producers dispose of stems, however some wine styles still use them during winemaking. Crushing is a process when a machine squashes grapes to the point where they extract liquid which is called free run juice. This a careful process, if the machine crushed seeds, the wine will have bitter oils and more tannins inside.

Pressing. This process separated nectar from solid (hard) components of the grape. Depending on the wine style (red/white/rosé...) the pressing process occurs at different times. For instance, for white wines, the fermentation happens after pressing and it is the opposite for reds, they are fermented together with solid parts. This is like because white wines do not need the color and tannins that come from the skins and seeds of the berry, while red ones get the necessary appearance and flavor from them. Wine presses come in a few variables, vertical presses compress the grapes from above, while pneumatic ones (a newer invention) are basically horizontal cylinders. One of the main differences is that pneumatic presses minimize oxygen contact which is better for the grapes.

Fermentation. Alcoholic fermentation is a process of converting sugar inside grapes into alcohol and CO₂, creating heat and flavor compounds as by-products (Robinson, 2022). The process of fermentation requires the temperature to be higher than 5°C. The natural (ambient) or cultured yeast consumes sugars creating alcohol. The choice of using cultured yeast depends on the producer; some experts believe that natural yeast is better for the complexity of the wine. The fermentation process can be artificially stopped by removing or killing yeast (sometimes to achieve sweeter wines), or the yeast will fully consume sugars and the fermentation process will stop naturally. The fermentation can also be stopped if the temperature goes up more than 35°C or if all the nutrients, apart from sugars, are consumed (Robinson, 2022). Controlling temperature during fermentation is vital, using lower temperatures preserves more aromas and flavors in white wines, for

example, this is important when producing high-quality floral wines. Higher fermentation temperature is fundamental for the proper amount of color and tannins in red wines. The ideal temperatures vary between grape varieties and styles of wine, however, there are set standards: 12-22°C for white wine and 20-32°C for red wines (Wines: Looking behind the label: An accompaniment to the WSET Level 2 award in wines, 2019).

Pre-bottle maturation. Wines are primarily matured in stainless steel barrels, then depending on the wine style preferred, the wines can be impacted by oak. This can be done in a few ways: the wine can be put in oak barrels (old/new barrels influence the must differently); adding oak flavors can be done by adding oak chips to steel vessels (cheaper than using oak barrels). Oak impact is wanted in both white and red wines, specifically when trying to create complex, more expensive samples.

Blending. This process can be done at different times, but as a rule, winemakers prefer blending during the maturation. This procedure improves balance and consistency in wine. This process includes merging different wine varieties to make a blend that exceeds the qualities of each individual wine. The blending components may be from different grape varieties, vintages (years of harvest), and vineyard locations.

Clarification. Buyers often want to have wines without any sediments (yeast residue, for instance) which is why there are three ways to clarify wines. To achieve clarity winemakers may choose from the following techniques: sedimentation, fining, and filtration (Robinson, 2022). Sedimentation is a process of using gravity or centrifugal forces to put all the unwanted particles to the bottom of the liquid and extract all the clean juice. Fining is a method aimed at accelerating the settling of deposits (typically happening later in bottles) by introducing a fining agent that transforms haze particles into clumps. These clumps are later removed by filtering. Filtration removes unwanted particles when wine goes through a filter, this process has two methods: depth and surface filtration.

Packaging. Most wines are packaged into glass bottles, this allows storage of them for long periods of time and eliminates oxygen impact on the wine. It is vital to use clean bottles and a closure to seal the wine. There are a few closure types: corks, synthetic corks, technical corks and screw caps.

Post-bottling maturation. Some wines are made to be drunk young, which means the post-bottling maturation is quite short (within a year of bottling) to preserve fresh primary flavors that occur when wines are young. Other wines, usually of the more complex like Port, and German Riesling, require longer in-bottle maturation to fully

achieve their potential. The maturing wines are to be kept in dark cold places (like cellars) with no extreme sunlight or temperature fluctuations. It is critical to keep the cork moist by storing the wine horizontally.

2.2 Global wine market

Wine is a widely traded product, with substantial exports from well-known wine-producing countries to various worldwide markets. The United States, the United Kingdom, Germany, and China are important importers of wine, playing a crucial part in global wine commerce. These nations possess strong consumer markets with varied preferences, making them appealing targets for exporting wine.

On the other hand, many countries are highly successful in exporting wine, making a substantial impact on the global wine market. France, Italy, Spain, and Australia are prominent in the wine industry due to their extensive winemaking histories, varied terroirs, and famous grape varieties, allowing them to distribute wine globally. These countries are renowned for making a big selection of wines, including traditional Bordeaux blends, refined Italian varieties, and well-known Spanish reds. Understanding the wine market dynamics of different countries is essential for understanding the global picture.

2.2.1 Production

The worldwide wine industry includes a vast network of producers, wholesalers, and buyers, contributing altogether to both the worldwide economy and cultural heritage. The global wine production varies annually, but it typically ranges between 250 to 300 million hectoliters. According to the International Organisation of Vine and Wine (OIV), in 2023, global wine production is estimated at 244.1 million hectoliters (World wine production outlook, 2023).

Figure 1: Wine production (excluding juices and musts) in EU countries

<i>Unit: mhl</i>	2018	2019	2020	2021	Prov. 2022	Prel. 2023	23/22 Var.	23/22 Var. (%)	5-year Average	5-year Var. (%)
France	49.2	42.2	46.7	37.6	45.8	45.8	-0.0	-0%	44.3	3%
Italy	54.8	47.5	49.1	50.2	49.8	43.9	-5.9	-12%	50.3	-13%
Spain	44.9	33.7	40.9	35.5	35.7	30.7	-5.0	-14%	38.1	-19%
Germany	10.3	8.2	8.4	8.4	8.9	9.0	0.1	1%	8.9	2%
Portugal	6.1	6.5	6.4	7.4	6.8	7.4	0.6	8%	6.6	12%
Romania	5.1	3.8	3.8	4.5	3.8	4.4	0.6	15%	4.2	4%
Hungary	3.6	2.4	2.6	2.6	2.5	2.5	0.0	1%	2.7	-8%
Austria	2.8	2.5	2.4	2.5	2.5	2.4	-0.2	-7%	2.5	-6%
Greece	2.2	2.4	2.2	2.4	2.1	1.1	-0.9	-45%	2.3	-50%
Bulgaria	1.1	0.9	0.9	0.9	0.8	0.9	0.1	7%	0.9	-6%
Slovenia	0.9	0.8	0.7	0.6	0.5	0.6	0.0	6%	0.7	-18%
Czech Rep.	0.7	0.5	0.6	0.6	0.6	0.5	-0.1	-13%	0.6	-14%
Croatia	1.0	0.7	0.8	0.8	0.7	0.4	-0.3	-41%	0.8	-46%
Slovakia	0.4	0.3	0.4	0.3	0.3	0.3	-0.1	-20%	0.3	-23%
Luxembourg	0.1	0.1	0.1	0.1	0.1	0.1	0.0	8%	0.1	24%
Cyprus	0.1	0.1	0.1	0.1	0.1	0.1	-0.0	-9%	0.1	-20%

Source: World Wine Production Outlook, OIV Statistical Report, 2023

There are a few countries that are traditionally leaders of wine production, such countries are Italy, France, and Spain. The International Organisation of Vine and Wine announced that France will be a leader in 2023 in terms of production, with an estimated number of 45.8 million hectoliters of wine made. Since 2022, Spain and Italy have experienced a notable decline in production due to disadvantageous weather conditions. Italy faced heavy rainfall and floods, while Spain had prolonged droughts, contributing to the decrease in wine production in both countries (World wine production outlook, 2023).

In the last five years, five EU countries (as depicted in Figure 1) have witnessed growth in their production volumes. These countries include France, Germany, Portugal, Romania, and Luxembourg.

In the European Union (EU), wine production volume for 2023 is projected to reach 150 million hectoliters, reflecting a year-over-year decrease of 11.2 million hectoliters (World wine production outlook, 2023). This estimated volume represents a 7% decline compared to 2022 and is 8% below the last five-year average. The EU's wine production for 2023 accounts for 61% of the world's total, a figure consistent with the average of the past decade. In the United States, the fourth-largest wine producer globally, the preliminary estimate for wine production in 2023 is 25.2 million hectoliters,

representing a 12% increase compared to 2022. Favorable weather conditions, including cool temperatures and heavy winter rains in the Napa and Sonoma regions, have contributed to this growth, providing much-needed moisture to the vines after several years of drought. In Georgia, wine production for 2023 is estimated to be 1.5 million hectoliters, marking a decline of 28% compared to the 2022 volume due to unfavorable weather conditions, including heavy rainfalls, hail, and intense winds that severely impacted the Eastern wine regions of the country (World wine production outlook, 2023).

Figure 2: Wine production in major countries in the Southern Hemisphere

<i>Unit: mhl</i>	2018	2019	2020	2021	Prov. 2022	Prel. 2023	23/22 Var.	23/22 Var. (%)	5-year Average	5-year Var. (%)
Chile	12.9	11.9	10.3	13.4	12.4	10.0	-2.5	-20%	12.2	-18%
Australia	12.7	12.0	10.9	14.8	13.1	9.9	-3.1	-24%	12.7	-22%
South Africa	9.5	9.7	10.4	10.8	10.3	9.3	-1.0	-10%	10.2	-8%
Argentina	14.5	13.0	10.8	12.5	11.5	8.8	-2.6	-23%	12.5	-29%
New-Zealand	3.0	3.0	3.3	2.7	3.8	3.6	-0.2	-6%	3.2	14%
Brazil	3.1	2.2	2.3	2.9	3.2	2.3	-1.0	-30%	2.7	-18%
Uruguay	0.7	0.6	0.7	0.7	0.8	0.5	-0.3	-34%	0.7	-29%
Southern Hemisphere	57	53	50	59	56	45	-10.7	-19%	55.0	-18%

Source: World Wine Production Outlook, OIV Statistical Report, 2023

In the Southern Hemisphere, the wine production estimate for 2023 is 45 million hectoliters. This represents not only a decrease of 19% compared to 2022 but also a decline of 18% compared to the last five-year average. Countries like Chile, Australia, Argentina, South Africa, and New Zealand all experienced decreases in wine production over the past five years.

2.2.2 Consumption

The consumption of wine experienced a slight decline of 1% from 2021 to 2022, with an estimated total consumption of 232 million hectoliters in 2022. In 2022, the war in Ukraine influenced the energy crisis and disruptions in the global supply chain. The Russian invasion led to a surge in production and distribution costs, consequently driving up wine prices for consumers. Despite the elevated prices, consumption rates vary across different geographical regions (State of the world vine and wine sector in 2022, 2023).

Figure 3: Wine consumption in major countries

<i>mhl</i>	2018	2019	2020	2021	2022	22/21	2022
				Prov.	Prel.	% Var.	% world
USA	33.7	34.3	32.9	33.1	34.0	2.8%	15%
France	26.0	24.7	23.2	24.9	25.3	1.5%	11%
Italy	22.4	22.6	24.2	24.2	23.0	-5.0%	10%
Germany	20.0	19.8	19.8	19.9	19.4	-2.5%	8%
UK	12.9	13.0	13.2	13.1	12.8	-2.2%	6%
Russia	9.9	10.0	10.3	10.5	10.8	3.3%	5%
Spain	10.7	10.2	9.2	10.3	10.3	-0.1%	4%
China	17.6	15.0	12.4	10.5	8.8	-16.0%	4%
Argentina	8.4	8.9	9.4	8.4	8.3	-1.3%	4%
Portugal	5.1	5.4	4.4	5.3	6.0	14.3%	3%
Australia	5.3	5.8	6.0	5.7	5.5	-3.2%	2%
South Africa	4.2	3.9	3.1	3.9	4.6	15.8%	2%
Canada	4.9	4.7	4.4	4.2	4.2	-0.4%	2%
Romania	3.9	2.2	2.6	3.7	3.7	-0.2%	2%
Netherlands	3.6	3.5	3.7	3.7	3.6	-3.4%	2%
Brazil	3.3	3.6	4.1	4.1	3.6	-12.9%	2%
Japan	3.5	3.5	3.5	3.3	3.4	1.7%	1%
Switzerland	2.4	2.6	2.5	2.6	2.6	2.6%	1%
Austria	2.4	2.3	2.3	2.4	2.4	-0.4%	1%
Czech Republic	2.0	2.2	2.1	2.2	2.2	0.3%	1%
Belgium	2.7	2.7	2.7	2.4	2.0	-14.5%	1%
Sweden	2.1	2.0	2.1	2.1	2.0	-5.9%	1%
Other countries	34.2	33.8	33.5	33.6	33.1	-1.4%	14%
World total	241	237	231	234	232	-1.0%	100%

Source: State of the world vine and wine sector in 2022, OIV Statistical Report, 2023

In 2022, the United States maintained its position as the biggest wine consumer globally. With an estimated volume of 34.0 million hectoliters, wine consumption has risen by nearly 3% compared to 2021, returning to pre-pandemic levels. Within the European Union, France remained the largest consumer of wine in 2022, where 25.3 million hectoliters of wine were consumed, making France the second largest consumer worldwide. Italy, Germany, and the UK together consumed 55.2 million hectoliters of wine in 2022, which is around 3,6% less than their accumulated consumption rate in 2021. The Czech Republic shows a slight increase to 2.2 million hectoliters, both compared to 2021 and their five-year averages, placing it between Belgium and Austria. Switzerland's wine

consumption continues to rise for the second consecutive year, reaching 2.6 million hectoliters in 2022, marking a 3% increase from 2021.

China's wine consumption continues to decrease, reaching 8.8 million hectoliters in 2022, marking a 16% decrease compared to 2021. This decline started in 2020 by the COVID-19 pandemic, when numerous major wine markets were badly influenced by it. Lockdown measures, disruptions to the hospitality sector, and a notable decrease in tourism collectively impacted wine consumption in many countries.

2.3 International wine production regulations

European Union. Wine regulations within the EU have deep historical roots, dating back to the seventeenth and eighteenth centuries. During this period, major wine producers such as Italy's Chianti and Portugal's Douro (Port) faced increased competition within their borders and began to differentiate export wines from certain regions to protect their markets.

The Phylloxera invasion in the nineteenth century significantly altered Mediterranean wine production and trade, impacting Algeria, Italy, France, Greece, and Spain. In response, France implemented pivotal wine regulations, including the "Appellation" system, planting restrictions, and minimum prices, laying the groundwork for the EU's Common Market Organization (CMO) for wine. These regulations, influenced by the French Geographical Indications (Appellation d'Origine Contrôlée—AOC) system, led to foundational wine regulations later adopted by the EU (Meloni et al., 2019).

Since its creation in 1970, the EU's Common Wine Policy has included measures such as minimum price support, distillation subsidies, and market interventions to manage surpluses. Efforts to reform these regulations are facing resistance due to competition issues, budget constraints, and new challenges such as climate change. Despite attempted reforms in 1994 and 1999, significant changes were only implemented in 2007 after the EU's eastern enlargement. The proposed reform aims to abolish previous intervention measures, introduce new subsidies, and simplify labeling rules in order to improve global competitiveness (Meloni et al., 2019). Discussions continue in the EU regarding reforms to the use of hybrid grapes, particularly in response to climate change.

North America. The American Viticultural Area (AVA) system was established by the Bureau of Alcohol, Tobacco, and Firearms in the late 1970s to officially designate wine

appellations in the United States. AVAs are determined by geographic elements such as state and county names, akin to the European AOC/DOC system. The initial AVA was established in 1980, with Napa Valley being certified in 1981. There are currently 147 American Viticultural Areas (AVAs) in California and 248 across the United States. AVAs range in size from tiny to huge territory. The AVA certification procedure, overseen by the Alcohol and Tobacco Tax and Trade Bureau (TTB), involves verifying local or national authorization, detailing unique qualities, and outlining boundaries. AVA designations are mostly based on geography and do not have stringent rules about grape varieties, crop yields, or winemaking methods. Labeling rules regulate matters such as grape origin, varietal content, and vintage.

South America. Argentina's wine market regulations have undergone significant changes over the years. In the 1930s, regulations such as forced uprooting and wine disposal were introduced. These regulations were tightened during the 1950s and 1970s, with additional measures such as temporary planting bans and stricter bottling regulations. In 1982, the government introduced production restrictions similar to the Soviet system. The deregulation of “quantity” regulations was constrained by the introduction of “denominations of origin” and the protection of geographical names in 1991. After Argentina defaulted on its debt in 2001, wine exports grew, but in the following years, domestic consumption declined due to factors such as inflation and tax increases (Meloni et al., 2019). To revitalize the wine sector, policies such as the 2005 Wine Strategic Plan and the 2013 declaration of Argentine wine as the “national drink” were implemented.

2.3.1 Wine appellation systems

Wine appellation systems, also known as geographical indications, are regulations that identify and protect the geographical origin of wines produced in specific regions, as well as assure that these wines are of exceptional quality. The use of these techniques is necessary in order to preserve the unique characteristics and reputation of wines that are associated with particular geographical locations. In the EU, there are various types of geographical indications (GIs): Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI).

Figure 4: Wine appellation systems around the world

Wine appellation systems in Europe		
Country	PDOs	PGIs
France	Appellation d'origine contrôlée (AC or AOC) Appellation d'origine protégée (AOP)	Indication géographique protégée (IGP) Vin de Pays (VdP)
Italy	Denominazione di Origine Protetta (DOP) Denominazione di Origine Controllata (DOC) Denominazione di Origine Controllata e Garantita (DOCG)	Indicazione Geografica Tipica (IGT) Indicazione Geografica Protetta (IGP)
Spain	Denominación de Origen Protegida (DOP) Denominación de Origen (DO) Denominación de Origen Calificada (DOCa)	Vino de la Tierra (VdlT)
Portugal	Denominação de Origem Controlada (DOC) Denominação de Origem Protegida (DOP)	Indicação Geográfica Protegida (IGP) Vinho Regional
Germany	Qualitätswein Prädikatswein	Landwein
Austria	Qualitätswein	Landwein
Hungary	Oltalom alatt álló Eredetmegjelölés (OEM)	Oltalom alatt Földrajzi Jelzés (OFL)
Ukraine	Контрольовані найменування за походженням (КНП)	
Wine appellation systems outside Europe		
USA	American Viticultural Area (AVA)	
Canada	Vintners Quality Alliance (VQA)	
Chile	Denominación de Origen (DO)	
South Africa	Wine of Origin (W.O.)	
Australia	Hierarchy of Zones-Regions-Sub-regions	

Source: own elaboration, Robinson, J. (2022)

France is well-known for its distinguished wine appellation system. French PDO wines include Appellation d'origine contrôlée (AC or AOC) and Appellation d'origine protégée (AOP). It is more common to see AOC, the traditional appellation when buying wines from France. Wines with such recognition are subject to strict rules; many of the most well-known wine areas in France, including Bordeaux, Burgundy, Champagne, and the Rhône Valley, are governed by the AOC classification system. French PGI wines include terms as Indication géographique protégée (IGP) and Vin de Pays (VdP). These appellations are widely used among producers. France has a specific indication used for wines without a GI, it is called Vin de France. Such wines can display grape variety and vintage on the label, but they can not include region or appellation information; they are simply identified as originating from France.

Italy has a range of wine laws, including appellation systems. As in France, Italian wines have PDO and PGI wines. Denominazione di Origine Protetta (DOP), Denominazione di Origine Controllata (DOC) and Denominazione di Origine Controllata e Garantita (DOCG) are the names for Italy's PDO wines. These classifications are comparable to the AOC system used in France. The use of these classifications ensures that wines meet specific quality standards that are established by factors such as the geographical region, the types of grapes used, the yields, and the production methods. PGI wines of Italy are labeled Indicazione Geografica Tipica (IGT) and Indicazione Geografica Protetta (IGP).

Spanish wine laws include not only PDOs and PGIs but ageing criteria as well. PDOs include Denominación de Origen Protegida (DOP), Denominación de Origen (DO), and Denominación de Origen Calificada (DOCa). Vino de la Tierra (VdlT) is a widely used PGI in Spain. As for ageing, Spanish wine laws have four main categories: Joven, Crianza, Reserva, and Gran Reserva.

2.4 Economic Impact of the wine industry

The economic impact of the wine industry is significant and includes a variety of sectors including agriculture, tourism, hospitality, retail, and export. The wine industry contributes to the agricultural sectors around the world. Vineyard businesses contribute to the local economy by creating jobs and supporting local businesses such as equipment suppliers and vineyard management services. In Italy, for instance, the wine production industry is estimated to have a workforce of 21,051 professionals in 1,761 production-related businesses as of 2024 (IBISWorld - industry market research, reports, and Statistics, 2022). The wine industry in Italy is expected to generate €13.2 billion in 2024.

The selling of wine at retail outlets such as liquor stores, supermarkets, and online platforms benefits the economy by increasing income and providing jobs in distribution, sales, marketing, and retail. Wine drinking increases demand for related products including glassware, accessories, and gourmet cuisine. Wine-producing countries profit from export revenues and access to global markets, while importers enjoy a varied range of wines from throughout the globe.

Wine tourism, also known as enotourism or viticulture tourism, has gained increasing importance in recent years and contributes significantly to the economic development of wine-producing regions around the world. Many wine regions attract tourists and contribute to the local economy through spending on wine-related activities such as lodging, restaurants, transportation, tastings, tours, and events. Tourists support local businesses such as restaurants, hotels, and tour operators, stimulating economic growth in wine-producing regions. It also raises investment in infrastructure, such as roads, utilities, and hotel facilities, and is frequently drawn to wine regions. This project improves the visitor experience and enhances access to key services and amenities for local people.

There are a few locations that are particularly well-known for wine tourism. Bordeaux is known for its luxury wineries, chateaux, and vineyards. Bordeaux, a UNESCO World Heritage Site, attracts wine lovers to its wineries, museums, and tasting rooms. Visitors can experience Château Margaux, Château Lafite Rothschild, and Château Cheval Blanc in Médoc, Saint-Émilion, and Pomerol (Bordeaux, Port of the Moon, n.d.). High-end wine tourism in Napa Valley, California, combines beautiful scenery, fine dining, and top-rated wines. Napa Valley is home to notable wineries like Robert Mondavi, Opus One, and Domaine Chandon, offering tastings in small boutique rooms and huge estates (Wine tasting in Napa Valley, 2023). Vineyard tours, gastronomic events, and outdoor activities are available in the hills and vineyards. Tuscany, Italy's countryside, medieval villages, and famous wines make it a prominent wine tourism destination. Wine lovers seeking authentic Tuscan wines visit Chianti Classico, Brunello di Montalcino, and Vino Nobile di Montepulciano. Travelers visit popular cities Florence, Siena, and San Gimignano and taste Tuscan food and wine. South Australia's premier wine region, Barossa Valley, is known for its robust Shiraz, Riesling, and historic vineyards. More than 150 wineries in Barossa Valley offer cellar door tastings, vineyard picnics, and gourmet dining events. Visitors can also experience Barossa's rich culture in German-influenced Tanunda and Angaston. One of the oldest wine regions in the world, Douro Valley in Portugal is known for its terraced vineyards, river cruises, and fortified Port wines. Tourism in UNESCO World Heritage Site Douro Valley combines natural beauty and wine tourism. Visitors can enjoy wine tastings at historic Port lodges, peaceful boat rides on the Douro River, and visit wine villages like Pinhão and Peso da Régua.

Restaurants, hotels, and event venues are heavily impacted by the wine industry. Since wine is a high-profit menu item, restaurants depend on wine sales. Restaurants with a

large selection of wines or sommelier-selected wines attract wine lovers and connoisseurs, increasing revenue per table. Wine pairing events are commonly held at restaurants, where wines are paired with fine foods. Wine tourists frequent local restaurants in wine-producing regions, bringing a steady supply of customers. Hotels may provide in-room wine tastings, wine-themed spa treatments, and vineyard tours to attract customers. Wine resorts and vineyard bed-and-breakfasts provide wine travelers with unique wine experiences and access to surrounding vineyards. Various events promote local wines, wine culture, and hotel economic activity through ticket sales, vendor collaborations, and patronage (Hall and Macionis, 2019.). Hospitality businesses invest in wine training and certification to improve service and quality. Professional sommeliers and wine stewards improve guest pleasure, repeat business, and word-of-mouth referrals by making recommendations.

2.5 Challenges of the wine industry

There are several issues that the wine industry must contend with, including climate change, regulatory limits, and shifting customer tastes. Climate change poses substantial obstacles to wine production by changing temperature patterns, precipitation levels, and weather extremes in established wine-producing areas (Hannah et al., 2013). Climate changes can impact the ripening of grapes, the health of vineyards, and the quality of wine, resulting in alterations in grape types, harvest schedules, and agricultural methods. Pests and diseases including phylloxera, powdery mildew, downy mildew, and grapevine trunk diseases can significantly harm vineyard health and productivity. Managing these pests and diseases typically involves the application of pesticides and fungicides, which may have consequences for the environment and human health (Gessler et al., 2011).

Globalization and competition in the wine sector are rising due to competition from both established wine-producing nations and new wine regions. Global competitiveness compels wine producers to distinguish their goods, enhance quality, and adjust to evolving consumer preferences and market conditions (Anderson and Wittwer, 2015). Market saturation in certain regions has resulted in an oversupply of wine, causing prices to decrease. Oversupply can arise due to overplanting, technical breakthroughs in winemaking, and variations in demand. It is crucial to control production levels and market dynamics to prevent surplus inventories and sustain profitability (Sogg, 2019). Wine producers must comply with intricate regulatory frameworks, encompassing labeling

requirements, appellation restrictions, and export/import regulations. Trade obstacles, tariffs, and geopolitical tensions can affect international wine trade, posing challenges for wineries aiming to enter global markets (Anderson and Nelgen, 2011). The wine business is under growing pressure to implement sustainable practices and minimize its environmental impact. Concerns regarding water scarcity, soil erosion, biodiversity loss, and carbon emissions are increasing among consumers, regulators, and industry stakeholders (Hall et al., 2016). Wineries are more frequently adopting sustainable methods in grape growing and wine production to tackle these issues.

2.6 Ukrainian winemaking

Ukraine has many traditional wineries, each crafting wines of exceptional quality for generations. Renowned for their excellence, Ukrainian wines have earned praise on the global stage, earning prestigious accolades at international competitions. Now, these wines are becoming increasingly accessible, being on the shelves of retail outlets, on the tables of dining establishments, and finding their way online, bringing joy to a growing audience of enthusiasts worldwide. As their reputation continues to ascend on the international scene, Ukrainian wines want to captivate even broader audiences, promising a future of continued growth and appreciation.

The cultivation of wine in Ukraine is not only a significant commercial sector but also a flourishing cultural activity that contributes to the enhancement of the nation's identity and history. A rising number of people are pushing for the establishment of a larger number of specialized, small wineries that would focus on the production of unique, artisanal wines. In addition to this movement, Ukraine is home to a wide variety of major vineyard estates and wine factories that produce conventional wines for mass consumption. Over the past several years, winemakers in Ukraine have been working to cultivate a culture of wine appreciation among the general public by promoting the culture of local grapes and wines. Over the past ten years, a great number of new restaurants and bars have opened their doors, with the primary goals of educating the general public about the wine industry and celebrating the unique features of wine. Numerous wine festivals, tastings, and educational activities have seen a significant increase in their number in recent years.

The wine industry in Ukraine went through a period of significant decline after the 80s of the last century. More than 80% of Ukraine's vineyards were destroyed by the Soviet anti-alcohol law in 1985-1987. It is estimated that 30-40% of all Crimean grape plantations were destroyed during those years together with bottled wines that were stored in the vineyards' cellars resulting in unique varieties of grapes disappearing (Prytula, 2010).

2.6.1 History of Ukrainian wine

The history of Ukrainian wine dates back to the VI century BC, when the Black Sea regions, including Crimea and Tavria (today Kherson and Zaporizhzhya region) were colonized by ancient Greeks. It was in that period that they presented breakthrough innovations in making wine to the colonies. Allegedly Olbia (Parutyne, Mykolaiv region today) was the place where the colonists started the education of the locals, creating the foundation for the wines made now.

Through time other artifacts were found proving that not only the coastal areas were wine-producing regions. Some historical accounts say that winemaking began its development in Transcarpathia as early as the 3rd century BC. Grape knives dating III century BC were discovered within the region of Zakarpattia (History of Ukrainian winemaking, 2023). Some of the chronicles mention that grapes were grown in monastery gardens on the slopes of the Kyiv hills prior to the VIII century.

Many different cultures and communities lived on modern-day Ukraine territory for centuries. The Scythians, who lived there from the VII century BC to the III century BC, based on the Greek historian Herodotus, drank wine mainly pure, while other ancient nations diluted sweet southern wines with water (Kruchek, 2013).

Throughout time, winemaking was getting more sophisticated and people were able to implement newer technologies, some of which were brought from abroad. In 1822, Swiss winegrowers came to the Odessa region and established a colony Chabag (French), which is now known as Shabo. Chabag Swiss were developing viticulture and living in the region until 1940 and have evolved this land into a proper Wine-Cultural Center. For a long time after they were displaced the estate was not used as intended by the Swiss, however a new winegrowing center "Shabo" was established in 2003 (Heidi, 2014).

Many experts believe that the peak of Ukraine's wine industry occurred in the 19th century. However, after the First and Second World Wars, Bolshevik occupation, and later

the Soviet Union times, the wine industry was degrading. During the Soviet regime, the focus shifted towards producing high quantities of wine rather than building up quality. More than 80% (hundreds of thousands of hectares) of Ukrainian vineyards were destroyed by the order of the Soviet government as a part of the “Anti-Alcohol Campaign” from 1985-1987 (Kruchek, 2013).

A new era of prosperity for winemakers came after Ukraine got its Independence in 1991. Since then new technologies have been implemented, and new vineyards established, including big or family-owned. Since the 2000s Ukrainian winemakers have tried to shift from the Soviet focus on quantity and started focusing on high-quality wine production. The long-standing culture of mainly consuming strong spirits like vodka and brandy has been shifting towards the consumption of local and imported wines. This thesis work will show the change in the market.

2.6.2 Producing regions

Ukraine has a range of wine-producing regions. Nearly 50% of the total area devoted to viticulture are the "oblasts" in the south of the country which have proximity to the Black and Azov Seas. These regions include Crimea (occupied), Mykolaiv, Kherson, Dnipropetrovsk, Zaporizhzhya, and Odesa. These territories are greatly influenced by the seas, hotter climates, and specific landscapes in that zone. Besides southern territories, the Zakarpattia region in the west of the country is also a popular wine-making area. This region is in the Carpathian mountains and is influenced by the specifics of that terrain. There are also wineries in the north. Kyiv and Chernihiv regions have wine production sites, however, due to the colder climate these areas of production are not as big and easy to manage. There are experimental vineyards in the northwest, particularly in Lviv and Ternopil regions, where high humidity prevails. Humidity has a positive effect on some specific grapes, however cold temperatures may be problematic for producers of that region.

Figure 5: Major Ukrainian wine producing regions



Source: Decanter, 2024

2.6.3 Grape varieties

Ukraine has a diverse range of grape varieties that are an integral part of its winemaking tradition. Ukrainian grape varieties grow from Crimea to Transcarpathia, each possessing its characteristics and histories. This thesis work will explore Ukraine's various grapes, indigenous and international to see how they influence the country's winemaking practices.

International grape varieties. Most of the wineries are used to international grapes and techniques. The most famous wines of Ukraine are made from these grapes: Aligoté, Chardonnay, Pinot Gris, Riesling, and Traminer for whites; and Cabernet Sauvignon, Merlot, Pinot Noir and Saperavi for reds.

Aligoté. Aligoté is a white grape variety mostly linked to Burgundy, France, known for making citrusy and refreshing white wines. Aligoté is thought to have originated in the

Burgundy region of France and has been grown there for centuries (Robinson et al., 2012). Aligoté wines are recognised for their vibrant acidity and freshness, making them perfect for enjoying youthful, unoaked wines (Robinson et al., 2012). Aligoté vines are able to grow in colder environments, for such quality it is a popular grape in Ukraine and Eastern Europe in general. The most popular areas in Ukraine are southern and central-western regions. Ukrainian winemakers manufacture Aligoté in a range of styles, from crisp and light-bodied to more complex and aromatic. Aligoté wines are usually not aged in oak to prevent freshness and acidity from disappearing. Ukrainian Aligoté wines transform the unique terroir of Ukraine to exceptional white wines.

Chardonnay. Chardonnay is one of the most well-known white grape varieties globally. As Aligoté, it comes from the Burgundy region of France, where it is believed to have been cultivated from the Middle Ages. Chardonnay often yields wines that are medium to full-bodied with moderate to high levels of acidity (Robinson et al., 2012). Ukrainian winemakers value it for its capacity to thrive in various climates and suit different wine styles. It is mostly grown in central and northern Ukraine. Ukraine's continental climate with hot summers and cold winters provides favorable conditions for Chardonnay. Ukrainian winemakers make both crisp unoaked versions and deep oak-aged ones. Chardonnay's versatility and aging techniques give Ukrainian winemakers an opportunity to create premium wines that are attractive to both local and global consumers.

Pinot Gris. Pinot Gris (Pinot Grigio in Italy), is a white grape famous for creating fragrant and tasty wines. Pinot Gris is thought to have developed in the Burgundy region of France as a mutation of the Pinot Noir vine (Stevenson et al., 2020). Pinot Gris wines commonly display various fruit flavors such as citrus, pear, apple, and stone fruit. Pinot Gris wines from different locations can vary in style, ranging from dry to off-dry to sweet, based on the winemaker's choices. In Ukraine, Pinot Gris is primarily cultivated in cooler climate areas in northern and central Ukraine. Ukrainian winemakers are exploring various winemaking techniques to highlight the distinct qualities of Pinot Gris grapes cultivated in the region. They use both traditional and modern methods for creating wines that vary in style: from light and invigorating to more complex.

However, there are a number of other grape varieties that are utilized in the production process. These varieties include Rkatsiteli, Sauvignon Vert, Gewurztraminer, Albariño, Blaufränkisch, Pinotage, Tempranillo, Timorasso, and Zweigelt.

Indigenous grape varieties. The core of Ukraine's winemaking identity may be articulated through indigenous cultivars, which have originated centuries ago and are still massively used today. These varieties have been tailored to the distinctive terroirs of the country. Some of the most popular grapes include Telti-Kuruk, Sukhomlinsky white, and Citron Magarach. Additionally, other indigenous grapes such as Kokur, Kefesia, and Ekim Kara are cultivated in occupied Crimea.

Telti-Kuruk. Ukraine's indigenous grape variety, Telti-Kuruk, is a rare white technical grape. Currently, Telti-Kuruk grapes are exclusively available in Ukraine. This grape variety is amongst the few that have survived the phylloxera epidemic. This grape has a unique shape of bushes and for that quality is known as 'fox tail'. The berries are slightly oval-shaped, uniform in bunches, light green, with a slight pea shape in dry years. It has similarities to the Hungarian variety Juhfark ('sheep's tail') and offers fresh, mineral wines with floral and fruity notes of white acacia and quince (Manoli et al., 2023). This grape is mentioned to be cultivated as early as the 16th century by the Turks that inhabited Ukrainian territories back then. This variety is used in making both still and sparkling wines. The wine has a light straw color with a golden tinge, a vivid floral scent, a harmonious taste, and is full-bodied with a hint of piquancy (Manoli et al., 2023).

Citron Magarach. The Yalta's Magarach research center developed a white grape variety that yields wines with light straw to amber colors, distinct citrus notes, and a rich, rounded tongue with moderate acidity. Its tolerance to frost is why it is popular in northern Ukraine.

Sukholymanske White. Originating in the latter part of the 20th century, this white grape type produces wines that are light golden, with delicious scents of pear and white flowers. The flavor is harmonious, featuring hints of melon and white plum, followed by a nice sourness in the finish.

Odesa Black. Also known as Alibernet, is a complex red grape variety developed in the 1940s through a hybrid between Alicante Bouschet and Cabernet Sauvignon. The wine it produces is dark and deep red, with scents of mint and blackberry, and velvety jam overtones.

2.6.4 Prominent wine producers

Some of the most noteworthy wineries of Ukraine include Beykush, Bolgrad, Kolonist, Shabo, TM Villa Tinta or Vinhol Oksamitnoe, Christophe Lacarin Winery, Stoic Winery, Chateau Chizay, Čopak Winery and My Wine by Eduard Gorodetsky.

Beykush. This is a family-owned winery that was established in 2011. This winery is located in the Mykolaiv region, on Cape Beykush. The uniqueness of the location just 100 meters from the sea, between Berezansky estuary and Beykush Bay, gives these wines a particular taste. Grapes grow on a territory of 11 hectares. Red varieties include Pinot Noir, Merlot, Saperavi, and Cabernet Sauvignon; white varieties include Chardonnay, Pinot Grigio, Riesling, Sauvignon Blanc, and Rkatsiteli (Вина Бейкуш, 2021). Moreover, this vineyard has been testing its grounds for cultivating white Telti-Kuruk, Alvarinho, and Timorasso grapes, as well as red Tempranillo, Malbec, and Pinotage varieties. Its winemaking styles and techniques range from traditional-method sparkling wines to wines aged in amphoras, capturing the distinct character of this land. The winery's distinct wines attract many customers among Ukrainians and Europeans. These wines got a chance to be present in the Michelin-starred restaurant Hide in London, where Kara Kermen wine is served. Even though it is growing and evolving, the 2 kilometers proximity to the occupied territory has a negative influence on this estate due to the risk of shelling. The price for 1 bottle ranges from 9 EUR to 52 EUR.

Bolgrad. This winery was established in the 1990s, however, its origins date back to the 1900s, when the vines were cultivated by landlords of those lands. After WWII, in 1945 was officially transformed into a winery and has been producing wines since that time. "TM Bolgrad", a renewed winery, with new ownership was established in 1998 by the Markushevskiy and Maslenkov families. The vines benefit from the climate, being situated in the Odesa region, near the Black Sea. Terrains' salinity and freshness influence the wines, making them exclusive and popular. The terrain on the banks of Ukraine's largest freshwater lake Yalpug generates a distinctive microclimate by regulating humidity and temperature (Bolgrad, n.d.). Bolgrad has about 600 hectares of vineyards and generates over 6 million bottles a year (O'Connor, 2024). New techniques that the company implements improve the processes of conventional winemakers. Bolgrad wines received 2 bronze and 3 silver honors at exhibitions in Turkey, Slovakia, and Hungary.

Shabo. Leading wine producer in Ukraine, known for its great wines and extensive viticultural legacy. The company is located in the ancient Shabo region near Odessa and has a tradition reaching back to the early 19th century when Swiss winemakers first

brought viticulture to the area. The company prioritizes sustainability and innovation by incorporating current winemaking techniques alongside traditional methods inherited through generations. The winery produces a variety of wines, including Chardonnay, Sauvignon Blanc, Cabernet Sauvignon, Merlot, and indigenous Ukrainian grapes like Telti-Kuruk. Shabo wines are renowned for their outstanding quality and unique characteristics, receiving praise on a national and global scale. The estate provides guided tours of its vineyards and cellars and organizes events, tastings, and educational programs to enhance the wine enthusiast's experience.

3 Practical Part

SWOT analysis of Ukraine's wine industry

This thesis will analyze Ukraine's wine industry through a SWOT (strengths, weaknesses, opportunities, and threats) analysis, providing a detailed examination of its internal strengths and weaknesses, as well as the external opportunities and threats shaping the industry landscape.

3.1 Strengths

3.1.1 Rich viticultural heritage

Winemaking in Ukraine has a long history, dating back thousands of years, with evidence indicating that grape cultivation and wine manufacturing started in ancient times. Historical indigenous groups in present-day Ukraine, like the Scythians, Greeks, and Romans, were the first to introduce the art of growing grapes and making wine to this territory. The warm climate and fertile soils in the southern regions of Ukraine supported the growth of vineyards and the production of high-quality wines. Ukraine's winemaking legacy has encountered numerous obstacles over time, such as invasions, wars, and shifts in political administrations. Winemaking continued despite challenges, as local communities and estates maintained vineyards.

I. Ancient Times (Antiquity)

Ancient Greeks colonized Black Sea regions, presenting winemaking techniques as early as the VI century BC. Evidence of winemaking in Transcarpathia in the 3rd century BC was found.

II. Medieval Period

Winemaking was popular during the medieval era as well. Monasteries and noble estates played a crucial role in grape cultivation and wine production. Visual: Image depicting medieval vineyards, wine cellars, or historical documents related to winemaking.

III. Ottoman Rule (15th-18th centuries)

Communities and estates in Ukraine continued to cultivate grapes and make wine even when the territories were under Ottoman control. Muslims were allowed to cultivate wines in Crimea, despite the Islamic prohibition of wine. They were making it solely for profit purposes, as Crimean wines were popular and in demand. Visual: Map showing the regions where winemaking continued during Ottoman occupation.

IV. Soviet Era (20th century)

During the Soviet era, winemaking experienced a dramatic shift, with state-owned wineries and massive collective farms taking the front stage. Due to destruction in World War II, the number of plantations had decreased, leaving much of them in a dilapidated condition. Many vineyards were destroyed due to Anti-Alcohol campaigns in the 1980s. Visual: Photographs of Soviet-era vineyards, wineries, or labels from wines produced during this period.

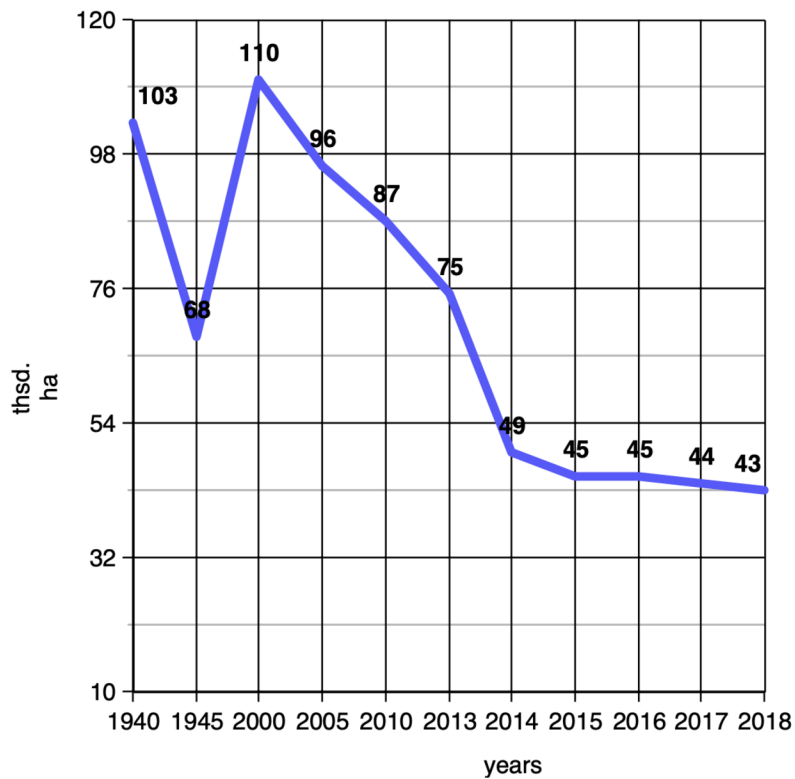
V. Post-Soviet Independence (1991-present)

Reorganization, privatization, and a renewed focus on classic winemaking techniques arose in Ukraine's wine industry when the country gained independence in 1991. - Visual: Images of modern Ukrainian vineyards, wineries, and winemakers, showcasing the industry's revival and innovation.

VI. Present Day

In modern times, Ukraine's cultural legacy and economic growth have been enriched by the country's flourishing wine industry, which showcases a wide range of grape varietals, terroirs, and winemaking techniques. - Visual: Photographs of contemporary Ukrainian wines, vineyards, winemakers, and wine festivals, highlighting the industry's vibrancy and growth.

Figure 6: Area in Ukraine planted with grapes through the years



Source: own elaboration, State Statistics Service of Ukraine (2018).

3.1.2 Diverse terroir

Ukraine's varied terroir includes a broad spectrum of climates, soils, and topographies, creating optimal circumstances for growing grapes and producing wine. Various environmental elements in different regions of Ukraine, such as the coastal areas along the Black Sea and the continental climate in central and eastern Ukraine, impact grape cultivation and wine production.

I. Coastal regions

Coastal regions around the Black Sea, such as Crimea and the Odesa Oblast, have a marine climate with moderate winters and warm summers. The sea's moderating effect helps reduce temperature extremes and ensures sufficient sunlight for grape ripening. The limestone and clay soils in these regions enhance the mineral complexity of the wines made there.

II. Continental Climate

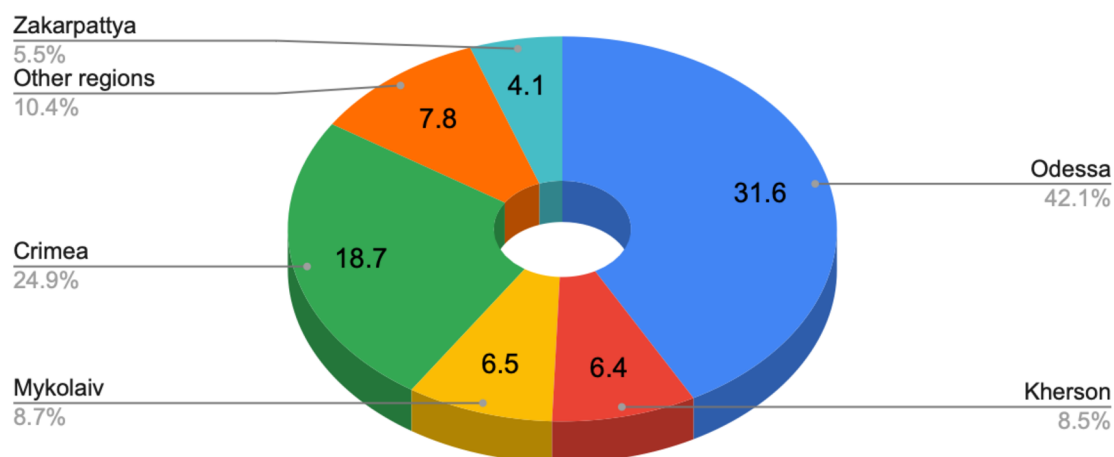
Vineyards in central and eastern Ukraine, characterized by a continental climate, encounter significant temperature fluctuations between seasons. Extreme winter cold and summer heat present difficult circumstances for growing grapes, necessitating precise vineyard management methods to achieve ideal ripening. The sandy loam and loamy soils in these places offer excellent drainage and promote robust vine growth.

III. Mountainous regions

Mountainous regions in Ukraine, like the Carpathian Mountains in the west, have distinct terroirs due to their elevated locations and milder climates. Vineyards in this area are frequently cultivated on terraced inclines, utilizing the elevation and sunlight exposure. The well-drained soils made of slate and shale enhance the minerality and complexity of the wines produced in these regions.

Figure 7: Vineyard areas in the main wine-producing regions of Ukraine in 2013 in thousands of hectares

Vineyard areas in the main wine producing regions of Ukraine in 2013 in thousands of hectares



Source: own elaboration, Vinegrowing and viniculture of Ukraine. Current state, problems, and development tendencies (2015)

Coastal regions in Ukraine have the largest vineyard lands. Due to the warm climate, Odesa and Crimea (occupied since 2014) had a combined vineyard area of 50.3 thousand hectares in 2013, which accounted for over half of the country's total vineyard acreage. The vineyard areas of Mykolaiv and Kherson totaled 12.9 thousand hectares or 17.2% of the total vineyard areas. In 2013, the mountainous region of Zakarpattya had 4.1 thousand hectares of vineyards, accounting for only 5.5% of the total grape areas. In 2013, other regions including Kyiv and Chernihiv, which have a continental climate, collectively covered 7.8 thousand hectares.

Ukraine demonstrates utilization of diverse landscapes for wine production, with nearly all regions hosting wine producers despite some areas being less renowned among vinegrowers. This demonstrates the beneficial results of utilizing diverse terroirs in wine production, creating unique and appealing wines from Ukraine for consumers.

3.1.3 Emerging reputation

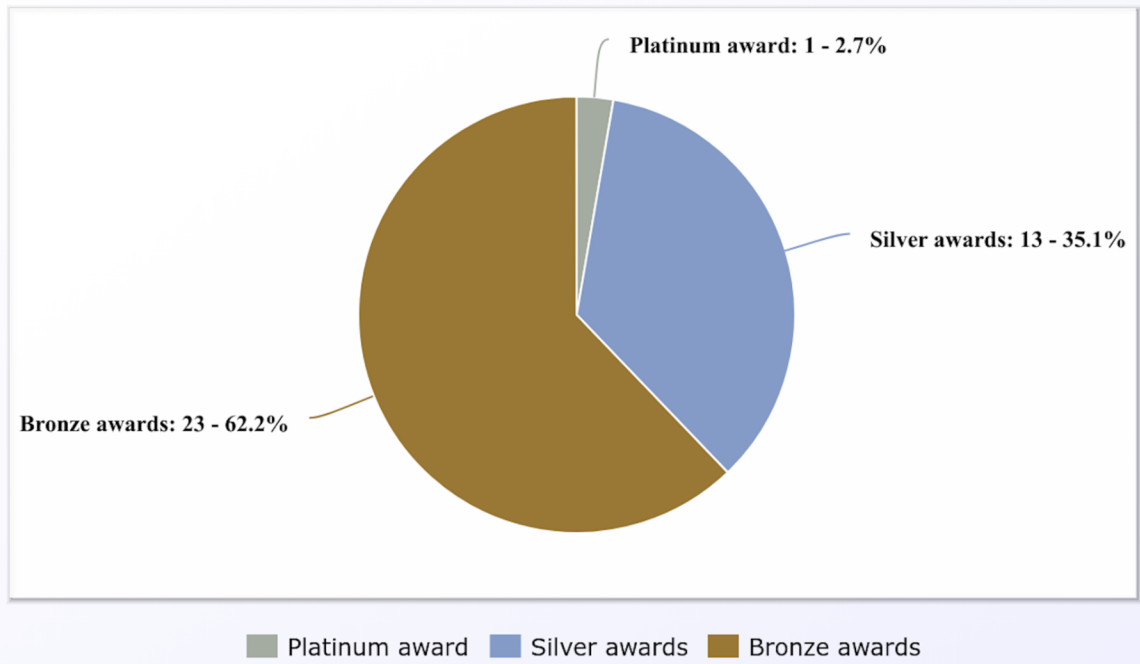
Ukrainian wines are gaining recognition and praise globally due to their high quality, good value, and unique characteristics. Ukraine's wines are gaining popularity among discerning consumers and wine aficionados globally as the global wine community gets more curious and experimental.

a) Quality

The remarkable quality-to-value ratio of Ukrainian wines is a crucial reason driving their increasing reputation. Ukrainian winemakers may create high-quality wines at competitive prices in comparison to wines from well-known wine locations. Ukrainian wines offer a compelling mix of quality and cost, making them attractive to both casual customers and connoisseurs looking for value-driven choices. Ukrainian wines are gaining recognition and awards in international wine competitions, enhancing their global reputation. Wine critics, sommeliers, and industry professionals are recognizing the quality and variety of Ukrainian wines, which is bringing attention to the country's growing wine industry. Ukrainian wines are becoming more visible and credible to customers worldwide as they receive more awards and excellent reviews.

Figure 8: Decanter World Wine Awards for Ukrainian wines in 2023

Decanter World Wine Awards for Ukrainian wines in 2023

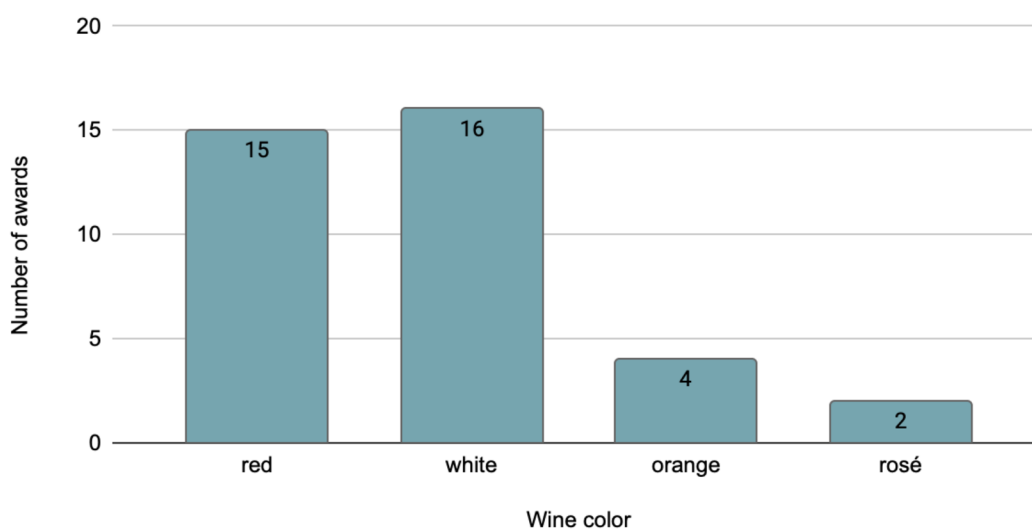


Source: own elaboration, Decanter World Wine Awards (2023)

Decanter World Wine Awards has appointed 37 awards to Ukrainian wines in 2023. These include 1 Platinum, 13 Silver, and 23 Bronze awards. These awards were distributed throughout five wine producers: Shabo, Château Edem, Château Chizay, Beykush Winery, and Vina Zaporizhzhya Graevo. The awards were given to 4 types (by color) of wine: red, white, orange and rosé.

Figure 9: Decanter World Wine Awards for Ukrainian wines in 2023 (by color of wines awarded)

Decanter World Wine Awards for Ukrainian wines in 2023 (by color of wines awarded)

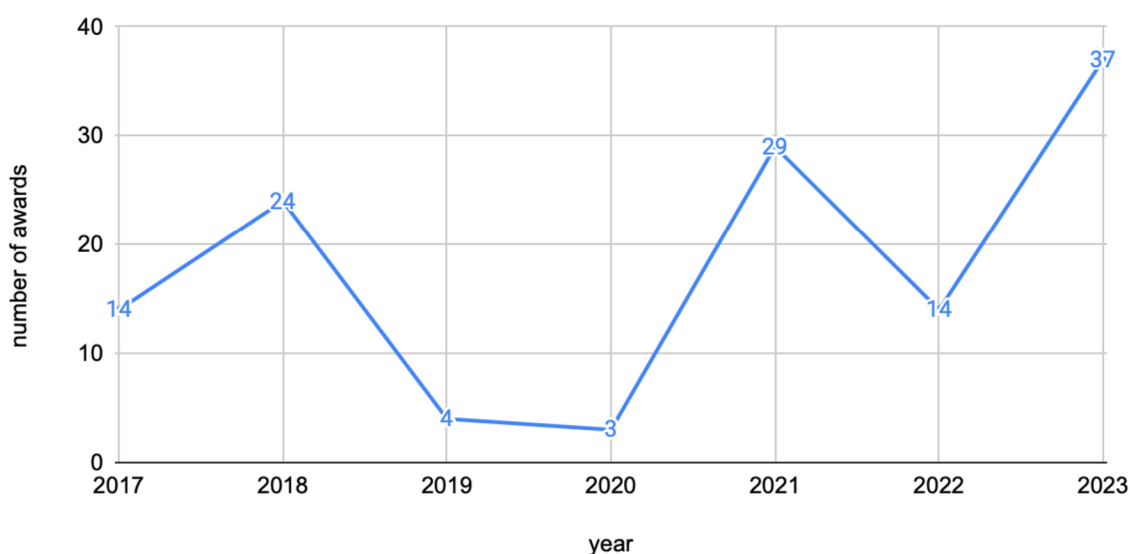


Source: own elaboration, Decanter World Wine Awards (2023)

To compare this data with previous years, the Decanter World Wine Awards has appointed 14 awards to Ukrainian wines in 2017. All 14 awards were given to wine producer Shabo, for their white and red wines. In 2018 Ukraine gained 24 awards, followed by only 4 awards in 2019 and 3 awards in 2020. In 2021 Ukrainian wines received 29 awards, followed by 14 awards in 2022.

Figure 10: Number of Decanter World Wine Awards for Ukrainian wines from 2017 to 2023

Number of Decanter World Wine Awards for Ukrainian wines from 2017 to 2023



Source: own elaboration, Decanter World Wine Awards (2023)

b) Distinctive Character

Ukraine's wines are gaining recognition in the wine industry due to their unique and characteristic qualities. Ukrainian wines display a variety of flavors, tastes, and styles, influenced by the country's distinct terroir and winemaking tradition. Ukrainian wines provide a distinctive and memorable experience for all tastes, ranging from the sharp minerality of coastal whites to the strong fruitiness of continental reds and the subtle complexity of wines from highland regions.

Ukraine's winemakers use different grape varieties, including indigenous grapes that are only grown on this land. Alibernet, or Odessa Black, is a difficult but rewarding black grape. It makes dark, deep red wines with mint, blackberry, and silky jam notes. The Ukrainian white grape Telti-Kuruk produces crisp, mineral wines with flowery and fruity flavors of white acacia and quince. Sukholymanske White is a white grape variety that produces wines with a light golden color, pear and white flower scents, and melon and white plum flavors. These indigenous grape types demonstrate Ukraine's winemaking diversity and boost its winemaking reputation.

Ukrainian wines are quickly becoming well-known worldwide for their outstanding quality, reasonable prices, and distinctive features. Ukrainian winemakers have demonstrated their capacity to create distinguished wines that compete with those from

well-known locations, as evidenced by awards from esteemed contests such as the Decanter World Wine Awards. Ukrainian wines are gaining recognition from both customers and specialists, which is helping them establish a strong presence in the global market.

3.2 Weaknesses

3.2.1 Lack of awareness

Ukrainian wines face a problem in international markets due to a lack of awareness. Inadequate marketing strategies and lack of promotion have led to minimal visibility and recognition of Ukrainian wines among global consumers and industry professionals. Ukrainian wines face challenges in competing with well-established wine-producing nations, resulting in decreased export rates. To address this difficulty, it is crucial to boost investment in marketing strategies and targeted promotional activities to expand awareness and improve the international visibility of Ukrainian wines. Participating in international wine events and competitions can offer great exposure and opportunities for Ukrainian wine producers to display their unique offerings and distinctive traits.

3.2.2 Export rates

The exportation of wine from Ukraine constitutes a relatively modest percentage of the world wine trade in comparison to other nations that are more well-established in the production of wine. The actual export rates of Ukrainian wines might change from one year to the next depending on a variety of factors including production numbers, market demand, and export policies. In Crimea a big portion of wines that were made there are now exported and consumed by Russia because the peninsula was occupied in 2014. Negative trends can be seen in export rates as well because of the full-scale invasion of Russia in 2022. Because many vineyards are not functioning as before, or are completely occupied, the export rates go down due to product numbers decrease and issues with transporting. Due to the invasion, for 2 years Ukraine's exports are restricted to shipping by road, as boat shipments are not available and air connections have been disrupted. Nonetheless, Ukraine's wines were mostly exported to the Independent States of the

former Soviet Union, however, due to Russia's aggression since 2014 these numbers were going down, as Russia was one of the main importers.

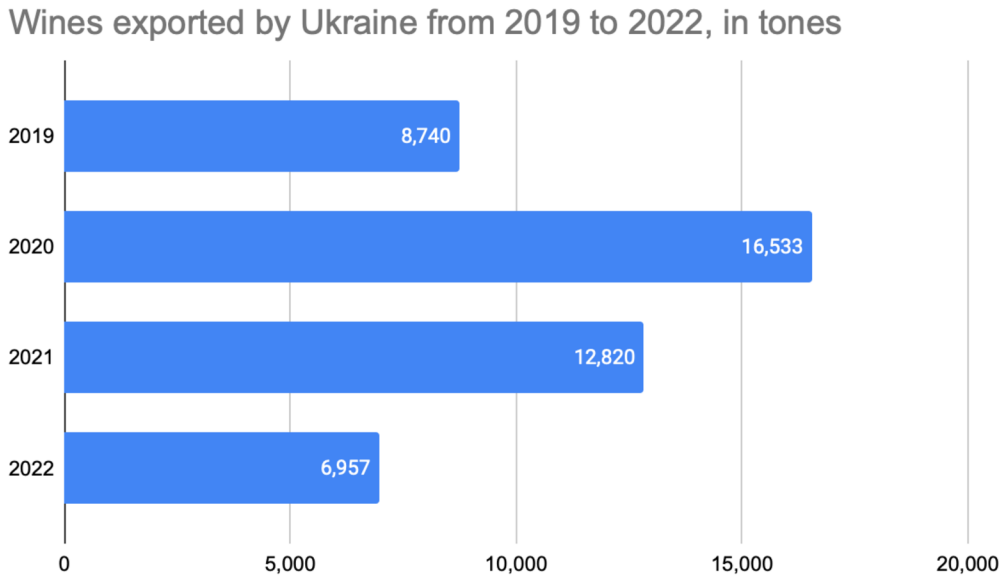
Figure 11: Geographical structure of Ukrainian wine export in 2018



Source: own elaboration, Economic innovations (2019)

In 2018, Ukrainian wine exports revealed a significant trend: 59% of the exported wines were directed to the Independent States of the former Soviet Union, covering countries such as Kazakhstan, Uzbekistan, Azerbaijan, Georgia, Armenia, and Moldova. Meanwhile, the European market accounted for a mere 1.4% of Ukrainian wine exports. Africa and the Americas each received less than 1%, whereas Asian countries saw a substantial portion, constituting 17.8% of total wine exports.

Figure 12: Wines exported by Ukraine from 2019 to 2022, in tones



Source: own elaboration, ITC, 2024

The exported value in metric tonnes varied over the years: 8,740 metric tonnes in 2019, rising to 16,533 metric tonnes in 2020, then dropping to 12,820 metric tonnes in 2021, and further declining to 6,957 metric tonnes in 2022.

Ukraine exported \$11.5 million worth of wine in 2021, ranking as the 53rd largest wine exporter globally. In the same year, wine ranked as the 335th most exported product in Ukraine. Ukraine's primary wine export destinations are Germany (\$2.81M), Kazakhstan (\$1.55M), Belarus (\$1.4M), Moldova (\$1.35M), and Algeria (\$572k) (Observatory of Economic Complexity (OEC), 2024). Germany, Moldova, and Lithuania emerged as the key export destinations for Ukrainian wine, with the most significant increases in trade volume between 2020 and 2021.

To comprehensively embrace the situation, the export rates of Georgia and Ukraine were compared. Georgia was chosen due to its similar vineyard surface area. The vineyard surface area of Ukraine is 41,800 ha, while Georgia's vineyard surface area is 49 450 ha.

Figure 13: Georgia Export rates and Ukraine Export rates, in 1000 hectolitres

Georgia Export rates and Ukraine Export rates, in 1000 hectolitres



Source: own elaboration, OIV, 2024

Ukrainian wine exports are restricted by geopolitical events such as the annexation of Crimea and the Russian invasion. This has resulted in a decrease in exports and limited shipping choices, with exports mainly confined to road transport. Given these constraints, export rates could be perceived as suboptimal or weak.

3.2.3 Competition

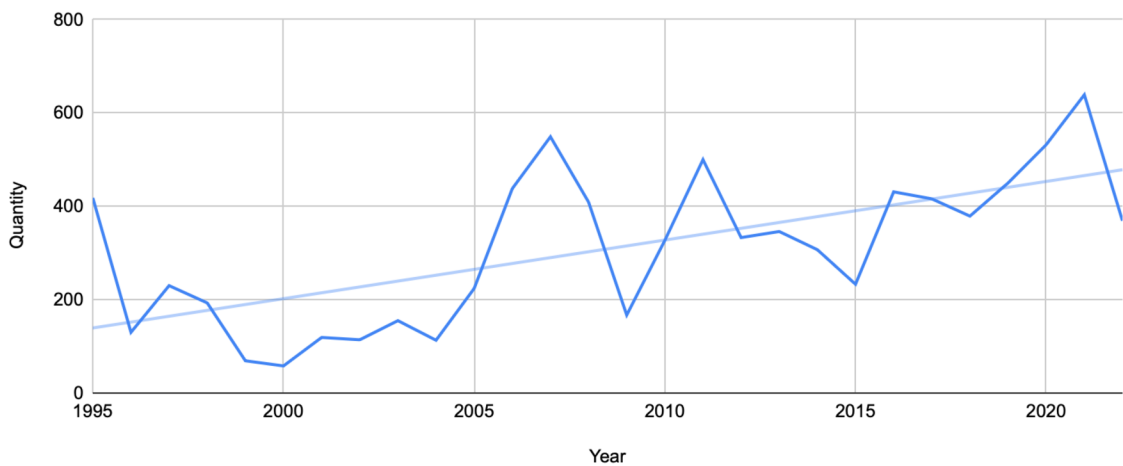
Ukraine encounters competition from both local and global participants in the wine industry. Many Ukrainian wineries compete for domestic market dominance. Wineries face intense competition in the domestic market as they strive to attract local consumers and build a strong brand reputation. Many small new wineries do not survive due to bigger producers' reputations and recognition. Some smaller companies never get to the shelves of supermarkets and are only sold directly at wineries. Ukrainian wineries compete with foreign producers in domestic and international markets. France, Italy, Spain, and Chile sell their wines to Ukraine, offering consumers a diverse selection due to their strong wine industries and recognition among customers. Ukrainian vineyards need to rival these global names in terms of quality, pricing, and marketing. Only Italy in 2022 imported more than 15,000 tons of wine to Ukraine, and together with other countries, 44,753 tons of wine

were imported to Ukraine that year. Ukraine imported \$199M worth of wine from other countries.

From the author's personal experience, a lot of Ukrainians are more willing to buy imported wines than domestically produced ones. This goes for all age groups. Younger demographics want to follow world trends and consume trendy wines from international grape varieties, while older generations remember the ways of mass Soviet manufacturing and some believe foreign wines have better quality. This is not the case for all the population, however, such a mindset still exists in the wine consumption market of Ukraine.

Figure 14: Quantity of imported wines to Ukraine from 1995 to 2022, in 1000 hectolitres

Quantity of imported wines to Ukraine from 1995 to 2022, in 1000 hectolitres

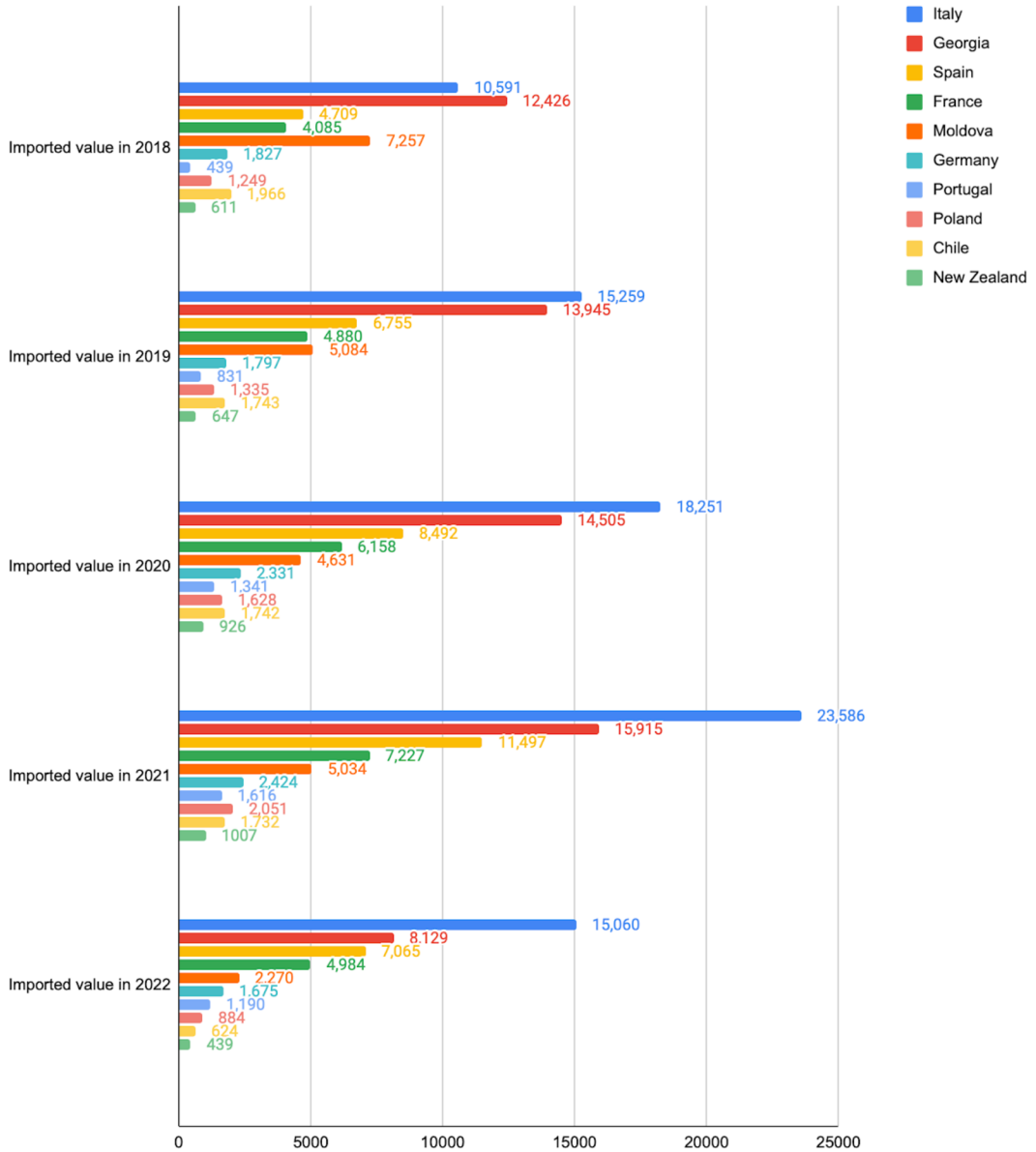


Source: own elaboration, OIV, 2024

The trend of importing foreign wines into Ukraine has shown growth, reaching its peak in 2021 before experiencing a decline in 2022. This decrease in wine imports can be attributed to reduced consumption rates resulting from population displacement (occupied territories and mass immigration) and decreased demand. However, surveys conducted in Ukraine indicate that 28% of Ukrainians have increased their alcohol consumption since the onset of the full-scale war.

Figure 15: Major wine importers to Ukraine from 2018 to 2022, in tones

Major wine importers to Ukraine from 2018 to 2022, in tones



Source: own elaboration, ITC, 2024

Italy maintains a leading position in wine imports, reaching a peak of 23,586 tonnes in 2021. Georgia saw a significant decline from 2018 to 2022. Spain, France, and Moldova had consistent import values, whilst Germany, Portugal, and Poland had volatility. Chile and New Zealand had lower import quantities than other countries, with Chile suffering a significant decrease from 2018 to 2022.

Ukrainian wineries must adapt to changing client preferences and trends, both domestically and internationally, to remain competitive. This entails offering a diverse selection of wines, accommodating different pricing points, and implementing effective marketing strategies. Ukraine's wine business competitiveness requires wineries to innovate, improve quality, and adapt to market changes to succeed in a highly competitive marketplace. Restricted distribution networks and logistical limitations create a challenge, making Ukrainian wines less known abroad.

3.2.4 Quality perception

Although Ukrainian wines have improved in quality recently, there may still be lingering perceptions of inconsistency or worse quality when compared to wines from established wine regions. Building a reputation for high quality and reliability is essential for gaining recognition in international markets, regardless of any prior assumptions.

Labeling requirements, certification processes, and import laws might hinder Ukrainian wineries from attempting to export their products due to regulatory hurdles. Overseeing complex regulatory frameworks in multiple countries requires time, resources, and specialized knowledge.

3.3 Opportunities

3.3.1 Growing export potential

Expanding the variety of wine products to incorporate popular and modern styles preferred by consumers in international markets can help Ukrainian winemakers take advantage of new prospects and appeal to a wider client demographic. Biodynamic wines, organic or vegan wines, fortified and sweet wines, and natural wines are gaining popularity among younger demographics and environmentally conscious consumers worldwide. Ukraine can improve its competitive position in global wine markets and increase its export opportunities by adjusting to current trends and creating wines that match changing customer tastes. Furthermore, allocating resources to research and development for innovation and the creation of distinctive wine products might enhance Ukraine's prominence in the global wine market.

Consistent quality is essential for building confidence and credibility with consumers and wine professionals globally. Ukrainian wineries may set their wines apart as premium products in the global market by maintaining high-quality standards during the winemaking process. Attention to precision is necessary throughout the entire process, from grape growth to bottling, including harvesting, fermentation, and ageing. Enforcing strict quality control methods, including routine testing for acidity, sugar content, and other essential factors, ensures high quality in wine production. Enhancing staff training and skills in current winemaking processes and technologies improves Ukrainian wineries' capacity to create high-quality wines that reach global standards.

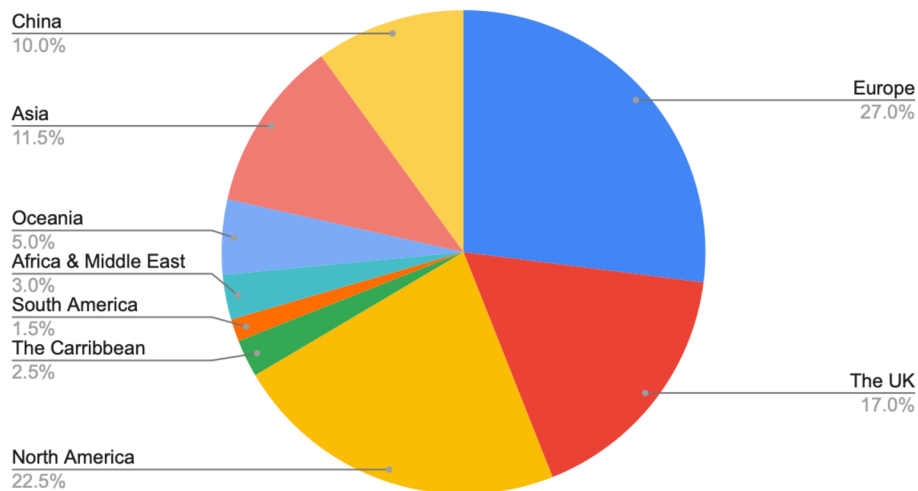
Attracting experienced experts from global wine markets can greatly influence regional winemakers. Local wineries might enhance their production facilities and methods by incorporating professionals with expertise in industry standards from other countries. The increase in talented individuals can improve the quality of Ukrainian wines, leading to growth and competitiveness in the worldwide market.

3.3.2 Education

Enhancing wine education in Ukraine can be another opportunity for growth. Developing specialized wine schools or institutes focused on wine education can offer valuable training programs for individuals aiming to become sommeliers, winemakers, and industry experts. Schools provide education on viticulture, winemaking techniques, tasting skills, and wine company management. Collaborating with prestigious wine education institutes and certification agencies worldwide can enhance the standard of wine education in Ukraine. Collaborative programs, workshops, and certification courses led by foreign experts can offer useful insights and globally recognized credentials. One of the most prestigious and renowned wine institutions is WSET (Wine & Spirit Education Trust). Currently, only one school in Ukraine offers WSET courses and is located in Kyiv. Attracting more international course providers can positively impact the future of the industry's professionals.

Figure 16: Percent share of WSET students in 2021/22 academic year

% share of WSET students in 2021/22 academic year



Source: own elaboration, WSET (2022)

WSET education holds global recognition and significance. Establishing more such schools in Ukraine would integrate local wine professionals into the global wine community, facilitating knowledge exchange with other nations and enhancing the perception of Ukrainian wines internationally.

Hosting frequent workshops, seminars, and tasting events conducted by local and foreign professionals can help improve wine expertise and admiration among industry professionals and casual customers. These events may include discussions on grape varieties, winemaking techniques, wine regions, food pairing, and new developments in the wine sector. Including wine education in the academic curricula of universities that provide programs in hospitality, culinary arts, agriculture, and tourism can equip students with an essential understanding of wine-related subjects. Customized courses can cover wine production, marketing, sales, and restaurant business to equip graduates for wine industry professions.

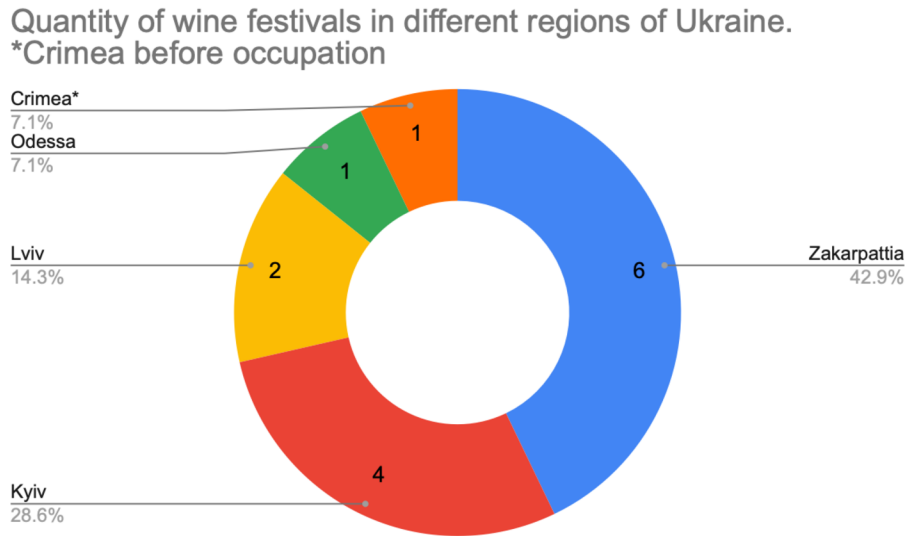
Promoting public awareness through media campaigns, social events, and community activities can increase interest in wine education among the general population. Participating in wine festivals, tasting events, and wine tourism can offer fascinating and entertaining chances for individuals to explore and learn about wines.

3.3.3 Wine tourism

Expanding wine tourism in different locations and terrains in Ukraine provides a variety of experiences for both local inhabitants and worldwide wine lovers. Wineries located in several regions of the country offer visitors the opportunity to discover distinct landscapes, climates, and winemaking practices, enhancing the appeal of Ukrainian wine tourism. In addition, wine tourism in Ukraine can create economic opportunities for local communities by showcasing distinct landscapes and winemaking traditions offered by wineries in different locations. Wineries can boost regional development and employment creation by attracting visitors domestically and internationally, leading to growth in hotel, restaurant, transportation, and associated sectors. Wine tourism may facilitate cultural exchange and appreciation, creating links between tourists and local people, and highlighting Ukraine's heritage and winemaking traditions.

The growth of the wine tourism business in Ukraine offers chances for environmental conservation and sustainable practices, alongside economic rewards and cultural interactions. Wineries can utilize wine tourism to promote environmentally beneficial practices like organic farming, water conservation, and biodiversity preservation, which help maintain natural landscapes and ecosystems. Wine tourism can help local artisans, craftspeople, and food producers by promoting their products during wine tastings and tours, which encourages community and cooperation in the area. Wine tourism can help promote rural development and revitalize historic places by serving as key attractions for agritourism and historical preservation activities. Ukraine may strengthen its status as a dynamic and varied wine destination by seizing these opportunities, drawing global visitors, and fostering sustainable growth in local communities.

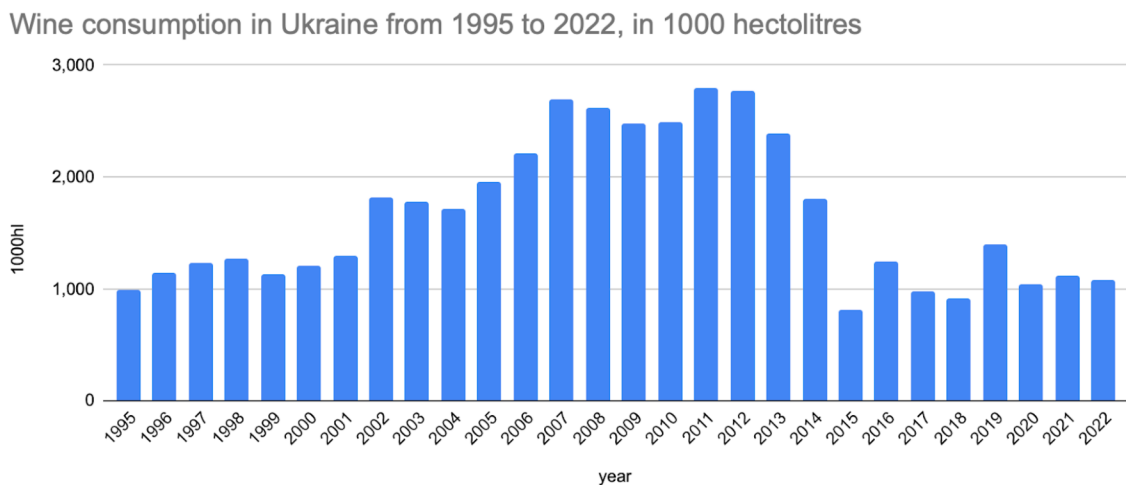
Figure 17: Quantity of wine festivals in different regions of Ukraine



Source: own elaboration, Kornilova, Agrosvit (2018)

Most wine festivals in Ukraine are concentrated in specific locations, with Kyiv hosting 4 festivals and Zakarpattia hosting 6 festivals annually. Wine tourism can be attracted by these wine festivals, allowing people from all over the world to try new and diverse wines of Ukraine.

Figure 18: Wine consumption in Ukraine from 1995 to 2022, in 1000 hectolitres



Source: own elaboration, OIV, 2024

Wine consumption in Ukraine has exhibited slow growth since 2015. Recent studies indicate a notable increase in the levels of awareness and appreciation of wine among Ukrainian citizens. As a result, there is a growing inclination among the population to invest both time and financial resources in wine tourism experiences. According to a recent questionnaire, almost all respondents were familiar with Ukrainian wines, and 98.8% have tasted local wines (Hanchukova et al., 2024). According to OIV, average consumption of wine per capita in Ukraine is estimated to be 3 L. To compare this with other countries, Czech consumption of wine per capita is 25.3 L, while Poland's is 4.1 L per capita.

3.4 Threats

3.4.1 Climate change

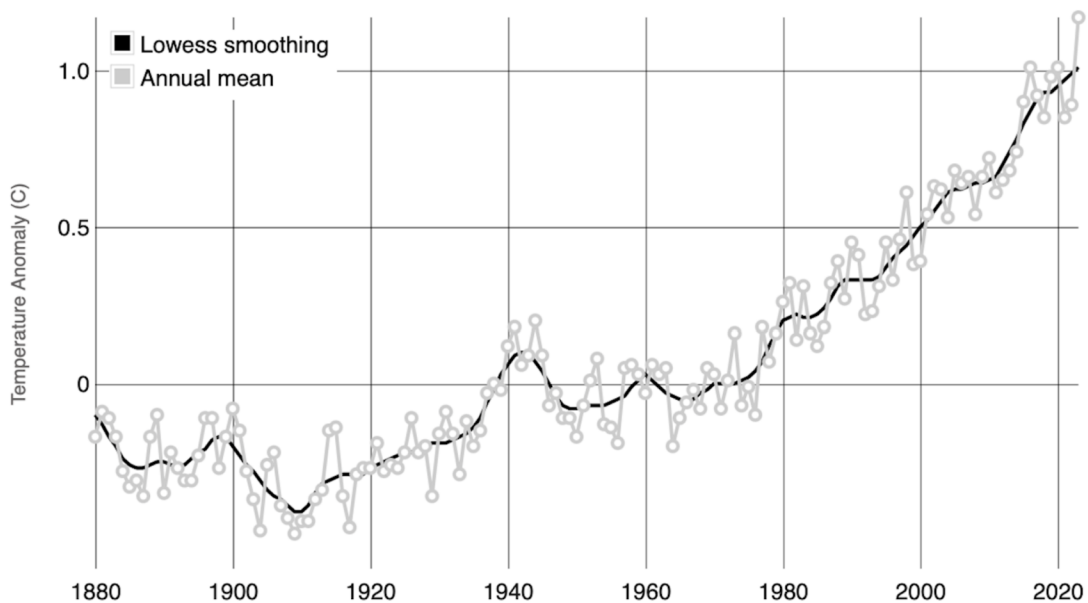
Climate change presents various risks to the wine business in Ukraine. As grapes need heat, water, humidity, sunlight, and other factors, climate change poses a big threat to grape ripening, vine growth, and grape quality. Changes in temperature and sunlight exposure can influence acidity levels in grapes. Warmer climates may lead to grapes with higher sugar content and lower acidity, impacting certain wine styles. Varieties like Pinot Gris and Telti-Kuruk, known for their crisp and acidic wines, may lose these characteristics in hotter conditions, prompting producers to consider alternative grape varieties or even abandon certain production areas. Furthermore, shifts in harvesting times pose challenges for winemakers in other aspects. Adjusting to new harvest schedules can be labor-intensive and disrupt production timelines. Early flowering and ripening due to climate changes require adaptation from both small and large-scale producers, necessitating adjustments in vineyard management and winemaking processes.

Climate change poses possible dangers to the production of ice wine, a process of making sweet wines by allowing grapes to remain on the vine for longer durations. This procedure depends on frost and snow to freeze the grapes, usually picked in November or December after extended exposure to sunshine, which enhances their sweetness. Fluctuating weather patterns and milder winters could threaten the dependability of this process, risking the production of ice wine.

Extreme weather conditions, like heat waves, droughts, and severe rainfall, present substantial risks to wine production. Heatwaves can influence grape ripening, resulting in imbalanced flavors and elevated sugar levels in the grapes, impacting the wine's quality. Droughts can cause stress in grapevines, impacting their growth and berry development, leading to decreased yields and grapes of lower quality. Excessive rainfall can result in heightened disease susceptibility, including mold and mildew, that can harm grape clusters and reduce grape quality. Severe weather events can disrupt the delicate balance needed for effective wine production, creating issues for vineyard management and winemaking procedures.

Changes in precipitation patterns and higher evaporation rates due to increasing temperatures can affect the availability of water in vineyards. This may result in water stress for grapevines, leading to stunted growth and lower yields. It is essential to adopt sustainable water management practices to ensure adequate irrigation for vineyards.

Figure 19: Global Land-Ocean Temperature Index



Source: NASA (2024)

Surface temperatures are rising every year, making it a viable threat to winemakers around the world. Climate change poses substantial problems to the wine industry in

Ukraine, necessitating adaptation measures and sustainable practices to reduce its effects on vineyard management and wine production.

3.4.2 Wartime

Ukraine has a long history, which has good and bad sides. It has been occupied and oppressed at different times throughout history. The more recent military conflicts include the occupation of Crimea, the partial occupation of Donetsk and Luhansk regions in 2014, and an ongoing full-scale war that was started by Russia in 2022. Russia currently holds around 120,000 square kilometers of Ukrainian land, which includes all temporarily occupied territories of Ukraine since 2014.

Figure 20: Territory of Ukraine under Ukrainian control since the onset of Russian aggression in 2014



Source: own elaboration, CNN, 2023

Most of the territories occupied are in the south of the country, including some territories in the east. Around 71,000 square kilometers are the territory with proximity to the sea. These territories before the aggression were the regions with high wine production

numbers. After the territories were occupied in 2014, the production rate of wines went down.

Figure 21: Ukrainian wine production after Crimea was occupied in 2014

Ukrainian wine production after Crimea was occupied in 2014	
Year	Tones of wine
2013	2827
2014	1229
2015	920

Source: own elaboration, OIV, 2024

The decline in production is not solely caused by the occupation of areas. The Russian military destroyed various vineyards, factories, and warehouses in Ukraine due to the daily shelling of cities and the country's land.

The Leleka winery in Odesa oblast lost a significant quantity of its wines in March 2022 due to a bombing at the company's warehouse. Most of the wines made and corked before the full-scale invasion happened were destroyed when the Russian army attacked the winery with its missiles. Leleka Winery had to start from the beginning and is now operating again. The missile strike in the Kyiv region caused damage to multiple buildings at the neighboring Wine Idea winery. The modest family-owned vineyard Cassia, situated near Kyiv, suffered partial damage during the Russian army's operation to capture the Ukrainian capital from February to March 2022.

Not only Ukrainian wineries and wines suffer from the ongoing war. One of the biggest wine import and distribution businesses of Ukraine, Wine Bureau, lost around 1.5 million bottles of wine on March 3, 2022. This company is the importer of one of the most upscale supermarkets in Ukraine, “Goodwine”. On March 3, 2022, a Russian missile attack on Goodwine's warehouse outside Kyiv happened. Only a few dozen thousand survived the attack and subsequent fire, resulting in a minimum of 15 million dollars in lost items for Wine Bureau’s “Goodwine”. This company lost not only wines but a colleague as well. Six-month-pregnant Viktoria Zamchenko, a sommelier in “Goodwine” and her husband were killed in their apartment by a Russian drone in October 2022.

The threat posed by the war extends beyond territorial concerns, impacting the livelihoods of people. Within the niche field of the wine industry, the expertise of sommeliers, winemakers, and business owners holds significant importance for the sector's future trajectory, particularly in emerging wine-producing nations, like Ukraine. Some of the skilled personnel have been relocated inside the country, some have immigrated abroad and some have been trapped in occupied territories, causing interruptions in operations and production processes. The inability of talented individuals to work could have lasting consequences on the quality and sustainability of Ukrainian wine production.

Beyond damages to inventories and factories, war affects supply networks, blocking vineyards' access to essential supplies and equipment for production. Delivery of finished wines is influenced by constant shelling and destruction of the roads. Approximately 25,000 kilometers of roads and 315 bridges have been destroyed as of December 2022, according to Prime Minister of Ukraine, Denys Shmyhal.

The ways of war cause environmental consequences. Agricultural lands are affected by bombings and military acts. As a result of the explosion of the Kakhovskaya HPP, in 2023, Kherson Oblast lost irrigation. Many types of crops will never be able to be grown in those areas again. Agricultural fields have suffered greatly since the beginning of full-scale invasion, since February 24, 2022, at least 19.3% of cultivated areas of Ukraine were lost (ICUV, 2023). Military actions including bombings, shelling, and the deployment of heavy weaponry have resulted in significant harm to natural environments, causing soil erosion, deforestation, and water contamination.

The ongoing conflict creates uncertainty about the future of the wine industry in Ukraine, making it difficult for businesses to plan for long-term growth and investment.

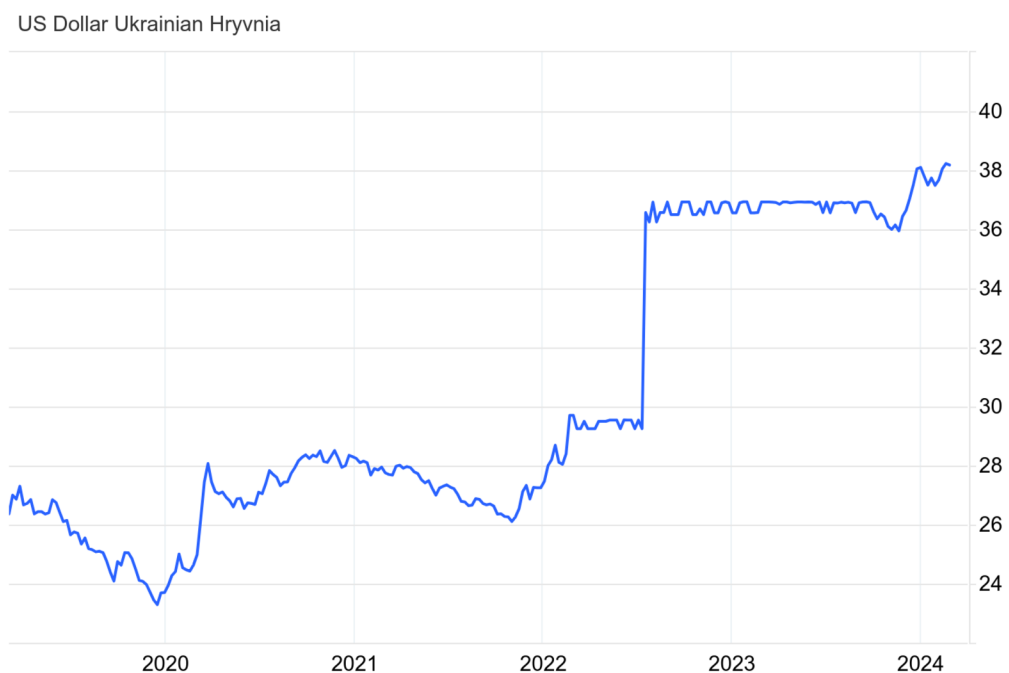
3.4.3 Economic Instability

Instability in Ukraine's economy can significantly impact the wine sector. Political instability and economic unpredictability can discourage domestic and international investors from investing in the wine business. Investors may become cautious due to uncertainty regarding the future stability of the country's economic and regulatory environment, which could restrict funding for vineyard growth, modernization, and marketing. Corruption levels are a high threat to the improvement of Ukraine's economic position. Persistent political tensions and economic constraints may cause disruptions in business operations in the wine sector.

Instability can result in logistical hurdles, disruptions in the supply chain, and obstacles in obtaining vital resources including labor, equipment, and raw materials. Unpredictable business conditions can cause issues for businesses in Ukraine, including the wine sector. Economic uncertainty can lower consumer purchasing power, leading to lower disposable income levels and changing spending choices. Consumers may reduce spending on non-essential items like expensive wines due to economic uncertainties. Decreased customer demand may compel wineries to reduce prices explore different markets for their products, or shut down completely.

Ukraine's wine exports to overseas markets can be influenced by fluctuations in currency values and economic situations. The devaluation of currency can enhance the competitiveness of Ukrainian wines in international markets by reducing their pricing compared to wines from other nations. Economic instability could destroy trust in Ukrainian products and result in decreased demand in foreign markets.

Figure 22: The value of 1 US Dollar in Ukrainian Hryvnia (UAH) over the years



Source: Trading Economics (2024)

The value of the Ukrainian currency Hryvnia has been greatly affected by the war. Since the beginning of 2022, the value of 1 US Dollar rose by 35.7% against the Ukrainian Hryvnia (UAH).

Economic instability presents substantial hurdles to the wine sector in Ukraine, necessitating proactive management methods and adaptation to efficiently navigate volatile economic conditions.

4 Results and Discussion

The SWOT analysis has evaluated the present state of the wine industry in Ukraine, its advantageous and disadvantageous conditions. A SWOT table is presented to clarify the analysis results.

Figure 23: SWOT table

	HELPFUL	HARMFUL
Internal origin	STRENGTHS <ol style="list-style-type: none"> 1. Rich viticultural heritage - thousands of years of winemaking on the territory of Ukraine; 2. Diverse terroir - broad spectrum of climates, soils, and topographies, creating optimal circumstances for growing grapes and producing wine; 3. Emerging reputation - Ukraine's wines are gaining popularity among consumers and wine aficionados globally. Awards given to Ukrainian wines. 	WEAKNESSES <ol style="list-style-type: none"> 1. Lack of awareness - minimal visibility and recognition of Ukrainian wines abroad; 2. Export rates - low exports to EU and other developed countries; 3. Competition - domestic and intentional producers compete for market dominance. Import rates grow; 4. Quality perception - need to improve quality and follow regulatory frameworks.
External origin	OPPORTUNITIES <ol style="list-style-type: none"> 1. Growing export potential - expanding the variety of wine products to incorporate popular and modern styles, improving quality; 2. Education - developing specialized wine schools or institutes focused on wine education; 3. Wine tourism - expanding wine tourism in different locations and terrains in Ukraine to boost economy and support culture. 	THREATS <ol style="list-style-type: none"> 1. Climate change - grapes can be greatly influenced, climate change poses a big threat to grape ripening, vine growth, and grape quality; 2. Wartime - occupied territories and on-going war influence production numbers, vineyards, factories, and warehouses are destroyed; 3. Economic Instability - political instability, economic unpredictability and fluctuations in currency values.

Source: own elaboration

The thesis examined Ukraine's wine sector, focusing on production, consumption, export, and import statistics. The study has examined Ukraine's extensive winemaking history from the 6th century BC to the current day. Ukraine's wine production benefits from its varied topography and meteorological conditions, creating ideal habitats for growing grapes in different regions of the country.

Ukraine was a major wine producer during the Soviet era, being one of the largest among the Soviet Union states. The production and consumption rates of it have fluctuated throughout history. Ukraine has lost a significant number of its valuable wine-producing

lands due to causes like anti-alcohol campaigns, occupation of territories, and war in 2022. Consumption rates experienced a sharp decline following the occupation of Crimea and parts of Donetsk and Luhansk regions in 2014. The fall in production was caused by both recent events and the ongoing invasion, which led to a reduction in production locations and affected supply routes and infrastructure. Several Ukrainian wine producers have experienced significant losses in the last two years, including damage to land, storage, displacement of workers, and other impacts.

Ukrainian wines have begun their journey to global markets to raise awareness and boost export figures. Ukrainian wines have been receiving more recognition and accolades at prestigious events such as the Decanter World Wine Awards, highlighting the exceptional work and commitment to high-quality standards by Ukrainian producers. Not all companies have embraced modern technologies and prioritized producing high-quality wines; some continue to adhere to the Soviet approach of prioritizing quantity above quality. These companies must enhance quality to boost export rates.

The bachelor's thesis examined the growing popularity of Ukrainian wines in the local market. Ukrainian wines are popular locally, although import rates are increasing annually, ranking Ukraine as the 31st largest importer of wines globally.

The Ukrainian wine industry is threatened by climate change affecting grape cultivation, economic instability deterring investors, and ongoing war impacting daily company operations.

5 Conclusion

The Ukrainian wine industry is dynamic in its production and consumption rates. Through the years the numbers of production and consumption have been changing following major events.

The Ukrainian wine industry has a lot of potential, having a variety of opportunities for improvement. However, there are many difficulties and challenges that this industry is facing. Ukraine's wine industry continues to expand and evolve despite obstacles such as political disorder, economic changes, and environmental difficulties. The progress of the Ukrainian wine industry is seen on an international level. Various aspects such as the industry's extensive historical foundation, diverse terroir, and increasing global prominence make Ukrainian wines more and more popular among locals and foreigners. Ukraine has access to many different grape varieties. Many winemakers use both international and indigenous grapes to create a diverse portfolio of wines produced in this country.

In order to maximize its potential, the Ukrainian wine sector must focus on many critical areas. This involves improving quality standards, making substantial investments in infrastructure and technology developments, and proactively exploring prospects in wine tourism and educational programs. By focusing on these crucial aspects, the Ukrainian wine industry is set to flourish, playing a major role in the country's economic growth, safeguarding its cultural legacy, and meeting the tastes of consumers at home and abroad.

6 References

History of Ukrainian winemaking (2023) Wines of Ukraine. Available at:
<https://ukr.wine/history/>.

Kruchek , R.V. (2013) History of Ukrainian winemaking, зб. матеріалів VI Всеукр. наук.-практ. конф. молодих учен. та студ. з міжнар. участю, Одеса, 5-6 листоп. 2013 р. .

Gander-Wolf, Heidi (2014) "Once a Swiss Winegrower Colony Named CHABAG in Russia Now a Modern Winegrowing Center Called SHABO in the Ukraine," Swiss American Historical Society Review: Vol. 50: No. 2, Article 4.

Haseeb, S. et al. (2019) 'What's in wine? A clinician's perspective', Trends in Cardiovascular Medicine, 29(2), pp. 97–106. doi:10.1016/j.tcm.2018.06.010.

Robinson, J. (2022) Understanding wines: Explaining style and quality: An accompaniment to WSET® Level 3 award in wines. London: Wine and Spirit Education Trust.

Stevenson, T., Szentkiralyi, O. and Ritchie, J. (2020) The New Sotheby's wine encyclopedia. Washington, DC: National Geographic.

Wines: Looking behind the label: An accompaniment to the WSET Level 2 award in wines (2019). London: Wine & Spirit Education Trust.

World wine production outlook (2023) International Organisation of Vine and Wine. Available at:
https://www.oiv.int/sites/default/files/documents/OIV_World_Wine_Production_Outlook_2023.pdf.

State of the world vine and wine sector in 2022 (2023) International Organisation of Vine and Wine. Available at:

https://www.oiv.int/sites/default/files/documents/OIV_State_of_the_world_Vine_and_Wine_sector_in_2022_2.pdf.

Meloni, G. et al. (2019) 'Wine regulations', *Applied Economic Perspectives and Policy*, 41(4), pp. 620–649. doi:10.1093/aep/025.

IBISWorld - industry market research, reports, and Statistics (2022) IBISWorld Industry Reports. Available at:

<https://www.ibisworld.com/italy/industry-statistics/wine-production/665/>.

Khan, M.A. (2016) *Strategic winery tourism and management: Building competitive winery tourism and winery management strategy*. Edited by K. Lee. Toronto: Apple Academic Press.

Wine tasting in Napa Valley (2023) Napa Valley Wine. Available at:

<https://napavintners.com/wineries/>.

Centre, U.W.H. (n.d.) Bordeaux, Port of the Moon, UNESCO World Heritage Centre.

Available at: <https://whc.unesco.org/en/list/1256/>.

Hall, C. M., & Macionis, N. (2019). Wine tourism: Introduction. In *Wine Tourism Destination Management and Marketing* (pp. 1-14). Springer, Cham.

Anderson, K., & Nelgen, S. (2011). *Global wine markets, 1961 to 2009: A statistical compendium*. University of Adelaide Press.

-Anderson, K., & Wittwer, G. (2015). Asia's evolving role in global wine markets. *China Economic Review*, 35, 1-14.

Gessler, C., Pertot, I., & Perazzolli, M. (2011). Plasmopara viticola: a review of knowledge on downy mildew of grapevine and effective disease management. *Phytopathologia Mediterranea*, 50(1), 3-44.

Hall, C. M., Gössling, S., & Scott, D. (2016). *The Routledge handbook of tourism and sustainability*. Routledge.

Hannah, L., Roehrdanz, P. R., Ikegami, M., Shepard, A. V., Shaw, M. R., Tabor, G., ... & Hijmans, R. J. (2013). Climate change, wine, and conservation. *Proceedings of the National Academy of Sciences*, 110(17), 6907-6912.

Sogg, C. (2019). Competitive dynamics and the changing structure of the global wine industry: An analysis of spatial, structural, and performance dimensions. *Journal of Wine Economics*, 14(3), 317-341.

Prytula, V. (2010) 25 years since the beginning of the anti-alcohol campaign in the USSR: Crimean winemaking is still recovering, *Radio Svoboda*. Available at: <https://www.radiosvoboda.org/a/2037758.html> (Accessed: 22 February 2024).

Robinson, J., Harding, J. and Vouillamoz, J. (2012) *Wine grapes: A complete guide to 1,368 vine varieties, including their origins and flavours*. New York: HarperCollins Publishers.

Robinson, J. and Harding, J. (2015) *The oxford companion to wine*. Oxford, United Kingdom: Oxford University Press.

Manoli, T.A. et al. (2023) 'ВПЛИВ ТЕРУАРУ НА СЕНСОРНІ ХАРАКТЕРИСТИКИ ВИНОГРАДУ ТА ВИНА СОРТУ ТЕЛЪТІ-КУРУК', *Food Science and Technology*, 16(4). doi:10.15673/fst.v16i4.2550.

Вина Бейкуш (2021) *Вина Бейкуш - Вина Чорного моря*. Available at: <https://beykush.com/>.

O'Connor, L. (2024) Ukraine: A wine odyssey, Decanter. Available at: <https://www.decanter.com/wine/ukraine-a-wine-odyssey-521339/> (Accessed: 27 February 2024).

Bolgrad (n.d.) BOLGRAD. Available at: <https://bolgrad.wine/>.

Osypov, Volodymyr and Osypova, Larysa, (2015), Vinegrowing and viticulture of Ukraine. Current state, problems, development tendencies, Ukrainian Journal Ekonomist, issue 5, p. 28-31.

FEDOROVA, N.Ye. and TARAN, I.O. (2019) 'Determination of the foreign economic potential of Ukrainian wine industry in the world market', Economic innovations, 21(3(72)), pp. 150–158. doi:10.31520/ei.2019.21.3(72).150-158.

(ITC), I.T.C. (no date) Trade Statistics for International Business Development, Trade Map - Trade statistics for international business development. Available at: <https://www.trademap.org/> (Accessed: 27 February 2024).

Observatory of Economic Complexity (OEC) (2024) oec.world. Available at: <https://oec.world/> (Accessed: 28 February 2024).

Global surface temperature (2024) NASA. Available at: <https://climate.nasa.gov/vital-signs/global-temperature/> (Accessed: 28 February 2024).

Breaking News, Latest News and videos (n.d.) CNN. Available at: <https://www.cnn.com/> .

Front Page - International Center for ukrainian victory: ICUV (2023) International Center for Ukrainian Victory | ICUV. Available at: <https://ukrainianvictory.org/> (Accessed: 01 March 2024).

Hanchukova, O., Velikova, N. and Motuzenko, O. (2024) 'A toast to emerging terroir: Exploring consumer attitudes toward local wine in Ukraine', International Journal of Wine Business Research [Preprint]. doi:10.1108/ijwbr-05-2023-0030

Ukrainian hryvniaquote - chart - historical data - news (2024) Ukrainian Hryvnia - Quote - Chart - Historical Data - News. Available at:
<https://tradingeconomics.com/ukraine/currency>.

WSET education available in more countries than ever academic year 2021-22 (2022) WSET. Available at:
<https://www.wsetglobal.com/news-events/news/2022/september/28/wset-education-available-in-more-countries-than-ever-academic-year-2021-22/> .

Kornilova, N. and Kornilova, V. (2018) 'Gastronomic festivals in Ukraine as a factor in the development of gastronomic tourism', *Agrosvit*, (20), p. 21.
doi:10.32702/2306-6792.2018.20.21.

List of figures and abbreviations

6.1 List of figures

Figure 1: Wine production (excluding juices and musts) in EU countries

Figure 2: Wine production in major countries in the Southern Hemisphere

Figure 3: Wine consumption in major countries

Figure 4: Wine appellation systems around the world

Figure 5: Major Ukrainian wine producing regions

Figure 6: Area in Ukraine planted with grapes through the years

Figure 7: Vineyard areas in the main wine-producing regions of Ukraine in 2013 in thousands of hectares

Figure 8: Decanter World Wine Awards for Ukrainian wines in 2023

Figure 9: Decanter World Wine Awards for Ukrainian wines in 2023 (by color of wines awarded)

Figure 10: Number of Decanter World Wine Awards for Ukrainian wines from 2017 to 2023

Figure 11: Geographical structure of Ukrainian wine export in 2018

Figure 12: Wines exported by Ukraine from 2019 to 2022, in tones

Figure 13: Georgia Export rates and Ukraine Export rates, in 1000 hectolitres

Figure 14: Quantity of imported wines to Ukraine from 1995 to 2022, in 1000 hectolitres

Figure 15: Major wine importers to Ukraine from 2018 to 2022, in tones

Figure 16: Percent share of WSET students in 2021/22 academic year

Figure 17: Quantity of wine festivals in different regions of Ukraine

Figure 18: Wine consumption in Ukraine from 1995 to 2022, in 1000 hectolitres

Figure 19: Global Land-Ocean Temperature Index

Figure 20: Territory of Ukraine under Ukrainian control since the onset of Russian aggression in 2014

Figure 21: Ukrainian wine production after Crimea was occupied in 2014

Figure 22: The value of 1 US Dollar in Ukrainian Hryvnia (UAH) over the years

Figure 23: SWOT table

6.2 List of abbreviations

AOC	Appellation d'origine contrôlée
AOP.....	Appellation d'origine protégée
AVA	American Viticultural Area
CAP.....	Common Agricultural Policy
DO.....	Denominación de Origen
DOC.....	Denominazione di Origine Controllata
DOCa.....	Denominación de Origen Calificada
DOCG.....	Denominazione di Origine Controllata e Garantita
DOP.....	Denominación de Origen Protegida
EU.....	European Union
GI.....	Geographical indications
IGP.....	Indication géographique protégée
IGT.....	Indicazione Geografica Tipica
OIV.....	Organization of Vine and Wine Intergovernmental
PDO.....	Protected Designation of Origin
PGI.....	Protected Geographical Indication PGI
UAH.....	Ukrainian Hryvnia
US.....	The United States
USD.....	The United States Dollar
VdlT.....	Vino de la Tierra
VdP.....	Vin de Pays