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Abstract of Dissertation

of a dissertation for the award of the educational and scientific degree of "Doctor" (in Economics) in the doctoral program "Finance, Monetary Circulation, Credit and Insurance" (Finance) on the topic:

**FINANCIAL ANALYSIS AND ASSESSMENT OF
ABSORPTION AND EXPORT
IN THE WINE PRODUCTION SECTOR
IN THE REPUBLIC OF BULGARIA**

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The defense materials are available in the Doctoral Studies and Academic Development Department.

I. General characteristics of the dissertation work

1. Relevance of the topic

National and European financial support can provide new opportunities for the development of Bulgarian wine production and favorable conditions for optimizing wine exports. This requires financial management to adopt effective investment solutions in innovative technologies and leading marketing policies to achieve better competitiveness of Bulgarian quality wines on international markets with limited production capacity, but with potential for technological modernization of wine-producing enterprises.

Optimization of export opportunities for Bulgarian wines can be supported by effective measures set out in the General Program for Supporting the Vine and Wine Sector of Bulgaria, where the emphasis is on stimulating competitiveness, marketing and distribution in Bulgarian wine production.

An important place is also given to improving the qualifications of employees and workers, through investments in human resources and the implementation of innovative technologies, which will be crucial to making production more efficient for economic progress, which will benefit the wine production sector and the economy of Bulgaria. Initially, they will be launched in several leading enterprises, and later, they will be introduced in the remaining wineries in order to derive maximum benefit for the wine production sector and the economy.

The dissertation presents the possible economic effects of adopting a national priority for the development of the Bulgarian wine industry and increasing the export orientation of Bulgarian wine production to improve the financial sustainability of the sector.

2. Object and subject of the study

The present dissertation has as its **object** of study wine production in the Republic of Bulgaria using the example of a leading Bulgarian winery, and as its

subject - the challenges facing the financial analysis and evaluation of exports in the wine production sector for the period of the Republic of Bulgaria's membership in the EU.

3. Research thesis

In the dissertation, the author defends the thesis that the analysis and evaluation of effective investment decisions in the wine production sector are identified with the scale and trend of absorption and export as factors of economic growth.

4. Purpose of the dissertation

The main objective of the study is to present the optimal investment solutions as an important factor of economic growth in the wine production sector.

5. Research objectives and methodology

The implementation of the set goal requires several important tasks:

1. Theoretical explanations of the essence and possibilities for evaluating investment decisions in the wine production sector.
2. Determining the methodology for studying the competitiveness and efficiency of the production potential in the wine production sector in our country.
3. Evaluation of investment decisions and the influence of the institutional environment on the process of absorption and export in the wine production sector.

In the dissertation work, the author uses the following standard research methods such as: the method of analysis and synthesis, the comparative method, the inductive and deductive method, methods for studying and assessing production potential, efficiency and competitiveness, etc. Through the application in the dissertation of graphical and statistical tools in the analysis of public data on the studied subject, the main research thesis is confirmed.

6. Scope of the study

The scope of the study follows a critical review and analysis of the specialized scientific literature in the field of wine production and wine export

development. Strategic opportunities for the sector are explored for the analysis of methods for assessing the production potential and development opportunities of entities engaged in wine production on the Bulgarian market through effective institutional support. Trends and the achievement of positive effects on the financial sustainability of the wine production sector when using good practices for investment activity in innovative technologies and human resources are analyzed and evaluated using the example of a leading winery.

The dissertation focuses on the problems and prospects in the management of investment activity in the wine production sector and the opportunities for institutional support of the business to ensure financial sustainability. By applying the established methodological tools in the course of the study, the presented research thesis is confirmed.

In connection with the completeness of the study and supplementing the conclusions we draw in defense of the author's thesis, we also present a survey, which confirms certain problems and challenges facing the wine production sector, related to the opportunities for increasing the quality of the produced products and exports in the traditional regions for Bulgaria. The processed data from the survey, systematized responses and the results obtained (according to the NSI classifier of economic activities - KID 2008) from a survey on the topic: "Financial analysis and assessment of absorption and export in the wine production sector in the Republic of Bulgaria" can be seen at the link - <https://forms.gle/t3Jqgb68AoJxWuRt5>

The empirical research in the dissertation is limited to the scope of the wine production sub-sector, tracking the trends and prospects for increasing absorption, competitiveness and exports in the Bulgarian wine industry using the example of a leading winery "Chernomorsko Zlato" AD. In support of the study, a survey was conducted, which is based on an analysis and assessment of the expert opinion of managers and consumers from the country for the period 2019-2023.

Outside the scope of this study, there are some issues related to the

technological, marketing and organizational process associated with the production of grapes, wine and the conduct of wine tourism in the wine-growing regions of Bulgaria.

7. Research structure

The dissertation has a total volume of 189 standard pages, structured in three chapters as follows:

СЪДЪРЖАНИЕ

ВЪВЕДЕНИЕ

Глава първа

Теоретични основи за оценяване на абсорбцията и експорта в сектор винопроизводство

ГЛАВА ВТОРА

Методика за секторни анализи и оценки в сектор винопроизводство

ГЛАВА ТРЕТА

Предизвикателства и тенденции пред експорта при винарската индустрия в България след пандемията

ЗАКЛЮЧЕНИЕ

Използвана литература

ПРИЛОЖЕНИЯ

8. Applicability of the research results

Economic growth is a function of the growth of individual industries, where agriculture, the food industry and the wine sector play an important role. The dynamic positive development of wineries can only be based on innovative investment decisions made by financial managers. The leading positions that wine production should occupy in the agricultural sector and the economy of Bulgaria are determined by existing national traditions of development in the industry and new opportunities for revealing its additional potential for the European market. Tracking leading aspects in the development of the wine industry at the end of the

20th and beginning of the 21st centuries reports periods of ups and downs due to new market realities, with the emphasis now being placed on the quality and diversity of the finished product. Support for wineries in Bulgaria can be both financial and through the harmonization of corporate European taxation, which would provide direct incentives for the faster introduction of innovative technologies and improving the competitiveness and quality of finished products among wine producers to achieve good exports and faster economic growth.

II. Main content of the dissertation

CHAPTER ONE

THEORETICAL BASIS FOR ASSESSING ABSORPTION AND EXPORT IN THE WINE PRODUCTION SECTOR

The European food industry at the beginning of the 21st century suffered a number of economic shocks related to local and global crises, a pandemic, the war in Ukraine and disrupted supplies of energy raw materials, labor shortages, dependence on foreign markets, limited access to investments and capital, dynamic changes in consumer preferences, etc. Climate change and the introduction of new environmental protection regulations raise the issue of structural changes in the industry.

There are a number of factors that positively influence the development of the Bulgarian food industry. These are: traditionally well-developed agriculture and organic farming, over 58% of Bulgaria's land is intended for agriculture, increasing purchasing power of the population and consumer demand. The food industry in Bulgaria accounts for one fifth of all industrial production and is an industry worth 7.06 billion US dollars. The sector employs almost one hundred thousand people, with about 6,300 companies. The leading sub-sectors within the food industry are bakery and confectionery, production and processing of dairy products, red meat and poultry products, fruit and vegetable processing, confectionery and wine production.¹

Global measures to combat the pandemic in 2020 caused major losses for businesses in the real sector, which includes viticulture and winemaking. The dynamic changes in global markets and strict measures to combat the pandemic caused an overall decline of about 20-25% in the wine market for the period 2020-2021.

¹ USDA Foreign Agricultural Service (2018), Retail Foods Bulgaria (USDA FAS (2018), Retail Foods Bulgaria)

The overproduction of wine in Europe and the consequences of measures to combat the Pandemic have made grape harvesting increasingly unprofitable for producers. In 2020, contracts were concluded for over 60 projects to support the “Vineyard Restructuring and Conversion” program. It allows for the reorganization of vineyard plantations with replanting to new suitable areas, replacement of varieties and modernization of grape harvesting techniques. Producers who benefit from it will subsequently have the opportunity to meet the market demand for other varieties and improve the production conditions of their farms. The measure is part of the National Program for Support to the Vine and Wine Sector. “Harvest Insurance” is also applied – for the first time during this programming period, and “Investments in Enterprises”, which will enable producers to modernize their production facilities.

The impending economic recession requires the adoption of a new national strategy for targeted support and development of the sector, which includes financial support for grape growers and tax breaks for wine production. They are of utmost importance for the sector because they produce the raw material from which the sought-after wine is made from quality grapes. Wine production must become a national policy that will strengthen control in the gray sector. The overall economic sustainability on a national scale of the agricultural sector and in particular the wine production sector can have a positive impact on the stable development of wine producers.

An important approach defines the sustainability of agricultural systems in different sectors as “the ability to satisfy multiple objectives (over time)” (Brklacich et al., 1991; Hansen, 1996; Raman, 2006). The objectives usually include ensuring food security and reaching a certain standard of living, which determines the existence of a multiple evaluation system, including environmental, economic and social aspects of sustainability (Fuentes, 2004; Lopez-Ridaura, Masera, and Astier, 2002; Sauvenier et al., 2005; Hadzhieva et al., 2005).

Despite the differences and diversity in the individual structures, capacities and types of wineries for wine production (family or corporate) have set high goals, which coincide in their part related to: resource security (supply of raw materials

and materials), financial assistance from the European Commission, profit maximization, seeking public support for projects and programs for regional development, maintaining the leading positions of wine production in the agricultural sector of Bulgaria, etc.

In contemporary economic conditions, in order to consolidate Bulgaria's better positions in wine production and moderate wine consumption, which also includes a better assessment of absorption ² and the export of wine to Europe, quality raw materials and the use of innovative technologies for the production of grapes and wine in the country will be required.

According to data from the Executive Agency for Vine and Wine (EAV), 356 wine producers have already been registered for November 2022. (See table 1).

² absorption: in English: absorption. in Latin: effusio, which is most often used as a term for the absorption or ingestion of fluids.

Table 1

Wine producers in Bulgaria for 2022

Структура на винопроизводителите към ноември 2022 г. въз основа на регистриран съдов капацитет²

	Брой предприятия	Дял в общия брой предприятия, %	Общ капацитет, hl	Дял в общ капацитет, %
До 100 hl	51	14%	2 260	0,05%
Над 100 до 500 hl	86	24%	22 811	0,46%
Над 500 до 1000 hl	43	12%	31 707	0,63%
Над 1000 до 5000 hl	78	22%	181 140	3,62%
Над 5000 до 10 000 hl	31	9%	212 242	4,24%
Над 10 000 до 100 000 hl	54	15%	1 883 044	37,64%
Над 100 000 hl	13	4%	2 669 181	53,36%
Общо	356		5 002 385	

Източник: ИАЛВ

² За част от регистрираните винопроизводители липсва информация и не са включени в таблицата

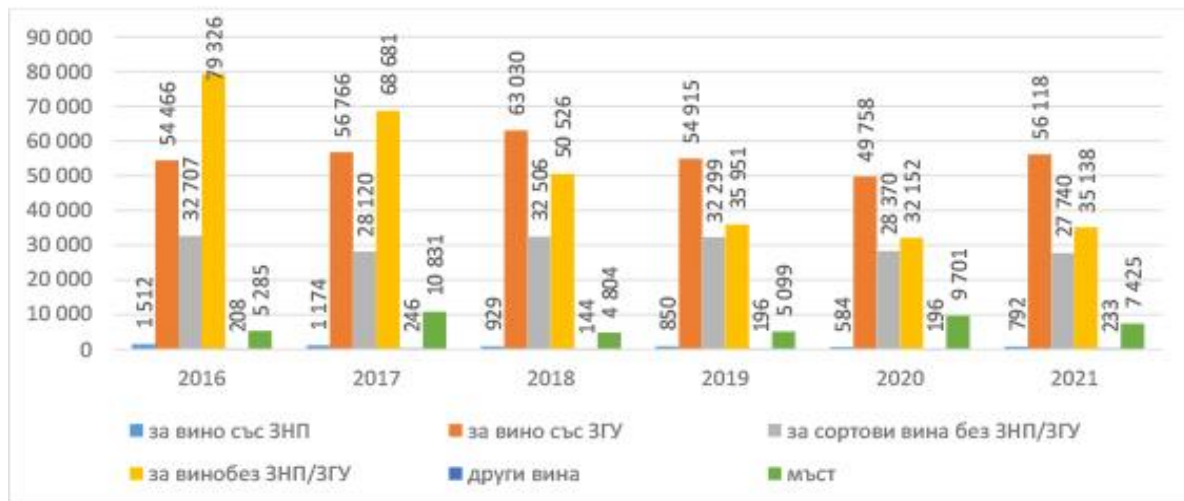
These data show a relative stabilization of the good achievements of Bulgarian wine production during the research period 2017-2023, which corresponds to the increasing interest in quality wines, both on the domestic market and for export. Data from the Executive Agency for Vine and Wine show an increase in the volume of processed grapes by wineries in all areas³. (See table 2).

³ According to data from the Executive Agency for Vine and Wine (EALV) under the Minister of Agriculture.

Table 2

Processed grapes from wineries in Bulgaria for the period 2016-2021

Преработено грозде от винарски предприятия, тона



Източник: ИАЛІВ

To achieve the set research goals in the analysis and opportunities for assessing management efficiency in Bulgarian wine production in improving exports, various indicators of resource availability, activity, effects of public support, etc. can be used. When preparing an analysis and assessment of financial sustainability, the management team must take into account a certain “time” aspect because “if the idea of continuity over time is omitted, then these goals are something other than sustainability” (Hansen, 1996).

The theoretical assumptions for the construction, compilation, analysis and reporting of the country's export and balance of payments are made on the basis of the collected statistical information pursuant to Art. 42 of the Bulgarian National Bank Act (promulgated, State Gazette, No. 46 of 10.06.1997, amended, State Gazette, No. 59 of 2006) and Art. 7 - 10 of the Foreign Exchange Act (FBA) (promulgated, State Gazette, No. 83 of 21.09.1999, amended and supplemented, No. 60). The collected current information is processed by the Balance of Payments

and External Debt Department of the Statistics Directorate of the BNB, while maintaining the necessary confidentiality.⁴

The negative external balance for Bulgaria is a significant macroeconomic problem that has a negative impact on producers from various industries and sectors of the economy, consumers and investors. For a long period of time, the large current account deficit had a negative impact on Bulgaria's fiscal policy and the size of the budget balance, which has a negative effect on the quality of public services offered, taxation, the size of the external debt, etc.

In this scientific study, we will analyze and assess the dynamics of the development of wine production in different regions of Bulgaria and the influence of various factors for increasing the quality of finished products and the opportunities for increasing the relative share in exports. We will present the main challenges facing the wine production sector in Bulgaria in the period after accession to the EU as a logical consequence of the factors for generating growth based on domestic consumption, investments and exports. The pandemic year 2020 led to a crisis in the wine sector, and the changes in the situation are assessed as extremely dynamic. The start of 2020 is very good with a trend of increased demand and sales of wine. This is a logical continuation of the upward trend in the development of the sector for the decade 2010-2019. The closure of establishments in March 2020 was a huge blow to the sector, because through the logistics HoReCa channel⁵ the main amount of wine produced was realized, especially for smaller boutique wineries. Consumption was redirected to people's homes, and sales - to the store network. There was a slight revival of the market in the summer, which made up for the losses from the first half of the year. Although a large part of the tourists from the domestic market chose to vacation in Bulgaria, the lack of foreign

⁴ The Bulgarian National Bank prepares and publishes both the analytical and the standard presentation of the balance of payments in accordance with the fifth edition of the Balance of Payments Manual (IMF, 1993) and the European Central Bank Guidelines², as the methodology for reporting the balance of payments is conceptually linked to that of the System of National Accounts (SNA). The balance of payments items correspond to a large extent with the corresponding elements of the Rest of the World account of the SNA. There is also a close relationship between the International Investment Position and the balance of payments. The financial account of the balance of payments presents the transactions (flows) of an economy related to its external financial assets and liabilities, which are reflected in the amount of external financial assets and liabilities held, reported in the international investment position

⁵ Note: This refers to the customer group Hotel/Restaurant/Cafe (HOTel/REstaurant/CAfé)

customers logically affected both wine and high-alcohol beverages. The repeated closure of establishments, and this in a period when up to 20% of sales are realized - the month of December, is the second serious blow to the industry. The balance is about a 20-25% overall decline in the wine market for 2020, and for 2021 it is even heavier for the sector.

We can present the impact of individual wine groups on total production in Bulgaria during this period. (See Table 3.)

Table 3

Multiple regression statistics of the influence of individual wine groups on total production in Bulgaria for the period 2020-2021

(чрез десетично логаритмуване на годишното изменение)

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.9967
R Square	0.9934
Adjusted R Square	0.9475
Standard Error	0.0659
Observations	9

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Signifi- cance F</i>
Regression	7	0.6568	0.0938	21.6145	0.1642
Residual	1	0.0043	0.0043		
Total	8	0.6612			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	0.0237	0.0428	0.5540	0.6779	-0.5204	0.5678
СЪс ЗНП	0.2220	0.1593	1.3938	0.3962	-1.8019	2.2459
СЪс ЗГУ	-0.2937	0.7688	-0.3821	0.7677	-10.0625	9.4750

Сортови вина без ЗНП/ЗГУ	0.0707	0.1220	0.5796	0.6656	-1.4796	1.6211
Вина без ЗНП/ЗГУ (трапезни)	0.4407	0.2334	1.8885	0.3100	-2.5244	3.4058
Други	-0.2037	0.4719	-0.4316	0.7406	-6.2000	5.7926
Мъст	0.0168	0.0953	0.1768	0.8886	-1.1938	1.2275
Плодови	-0.0116	0.0994	-0.1164	0.9262	-1.2743	1.2512

Source: Ministry of Agriculture, Agricultural Statistics Department

Regression modeling of total production for the period before the pandemic. does not distinguish any of the seven wine categories as a benchmark for influence on the final cumulative result. This is a consequence of the different natural and climatic influences in individual years on individual wine varieties and, respectively. production and the mutual compensatory influence on the final result. When examining the data in hectoliters and by year, from the point of view of a single regression model of dependence, the most popular table wines at the beginning of the studied period are also those with the closest beta of the regression line equation to the beta coefficient of total production. (excluding PDO/PNG), (See Fig. 1)

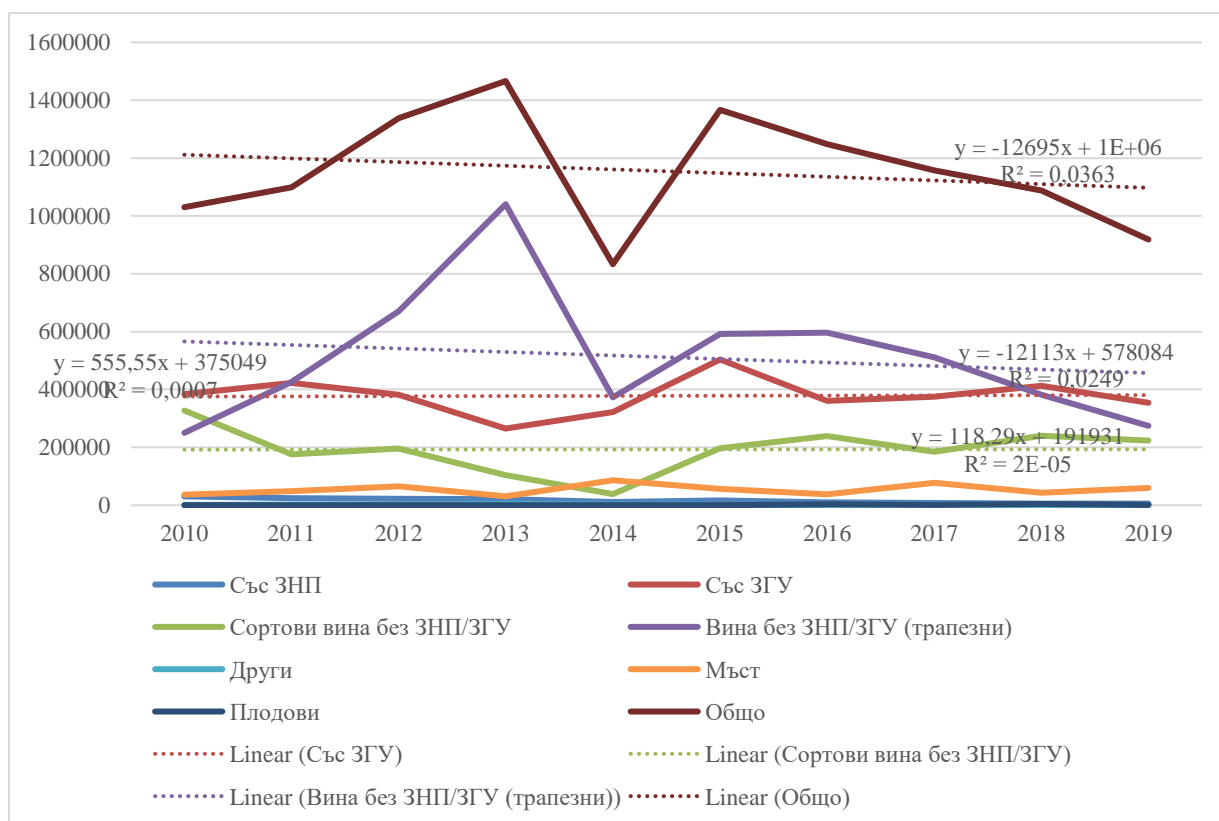


Figure 1. Single regression lines of wine production in Bulgaria (in hectoliters) for the period 2010-2019 according to IALV data

In the crisis year of 2020, a program for "Crisis Storage of Wine" was implemented in cooperation with the Ministry of Agriculture, Food and Rural Affairs to help wine producers - a subsidy that is paid to beverage producers for those quantities of liquids that cannot be sold on the market in the conditions of the pandemic and its consequences. An interesting fact is that this measure is being implemented thanks to the fact that Bulgaria initiated a debate through the European institutions on providing part of the unspent budget from the Rural Development Program. Financial support is also allowed for the wine sector under the extraordinary COVID measures outside the scope of the National Program for Support to the Vine and Wine Sector.

The analysis shows that negative impacts and financial losses are not limited to wine producers. Grape growers also have their own history of problems and the COVID-19 crisis has emerged as a threatening factor for their survival. Studies by

the Bulgarian Wine and Vine Association show that wine vineyards have been uprooted for years, and the reason for this is the high costs of growing them. That is why efforts should be focused on addressing this problem. To this end, the team of the National Vine and Wine Chamber has agreed on two support measures with the Ministry of Agriculture, Food and Forestry (Nenkova, P., Mihaylova-Borisova, B., 2020, pp. 439-448) - one is the de minimis program for farmers growing fruits, vegetables, wine grapes and oil-producing roses. It is implemented with national funds, and the program provides support of 25 leva per decare, but not more than 25,000 euros per beneficiary.

In addition, a subsidy of 30 leva per decare has been agreed for grape growers under the "COVID-1" support measure. The maximum amount under it is 7,000 euros per beneficiary. In addition, the "Green Pruning" measure has also been implemented, but unfortunately a small part of grape growers are taking advantage of it, because the majority of them have already made a serious investment in the processing of their vineyards. We estimate that if this measure is opened earlier, then the interest in it will logically be greater.

The wine sector is the most successful of the European food and beverage industry (with 7.6% of the value of exports in 2020). For the period under review in 2016-2021, the average annual production in Europe is over 165 million hectoliters. The European Union in 2020 accounts for 45% of the world's vineyard area, 64% of production and 48% of world consumption⁶.

Due to the serious challenges and possible new prospects for the development of the wine sector in the EU, a number of support programmes for the wine sector have been introduced, in line with the reform of the first Common Market Organisation (CMO). These programmes include support measures for the wine sector aimed at innovation and the development of new products, processes and technologies that are promoted in Europe, with designations of origin and geographical indications. Measures to expand the scope of restructuring and conversion (including replanting) of vineyards, mutual funds, crop insurance, investments in enterprises, distillation of various products, etc.⁷

⁶ agriculture.ec.europa.eu

⁷ agriculture.ec.europa.eu

As a country with an open economy, Bulgaria is logically an active foreign trade partner in both the import and export of wine. In 2022 and early 2023, exports are growing. This trend is due to the improvement of Bulgaria's reputation as a producer of wines with an excellent balance between price and quality and the winner of numerous prestigious awards from international competitions, as I mentioned.

The important steps towards changing the negative trend of shrinking the volume and declining quality of production in the Bulgarian wine industry will have important socio-economic, regional and national effects. This requires correct management decisions at the micro and macro levels in a short time, following the example of the policy pursued by the Chernomorsko Zlato AD winery. We can say that for the period 2019-2022, the political support of Bulgaria and Europe, which is actively used by the Chernomorsko Zlato AD winery, with the targeted program for informing and advertising the sector in the EU member states, will definitely have a positive effect on the promotion of Bulgarian wine.

What the industry really needs is a strategy for targeted support and development of the sector, with priority for grape growers. They are of utmost importance for the wine industry, because they actually produce the raw material from which wine is made. And despite the attempts of leading producers to go public on the stock exchanges (Nedev, Basic strategies on the Standard & Poor's 500 Index at the Chicago Board Options Exchange (SPX: Standard and Poor's 500® Index), 2015, pp. 1-6) and participation in futures transactions (Nedev, Basic strategies with options and futures, 2014, p. 157), the maxim remains that without quality grapes, there are no quality drinks.

From the research presented so far, we can draw several important conclusions:

First. Wine production in Bulgaria continues to maintain a relatively stable level, in the face of an unfavorable market environment, through the sustained promotion of the identity of the leading wine-growing regions.

Second. The future of Bulgarian wine production is closely linked to supporting the wine sector for the production of quality wines.

Third. The foreign trade balance must maintain positive values by using the large reserves for exports to European and world markets.

Fourth. Enterprises in the wine production sector need an effective national strategy to support grape growers, who are of utmost importance to the wine industry because they produce the raw material from which wine is made..

CHAPTER TWO

METHODOLOGY FOR SECTORAL ANALYSES AND ASSESSMENTS IN THE WINE PRODUCTION SECTOR

The use of theoretical foundations and methodology for statistical evaluation in various sectors of the economy allows for the construction of an effective system of models for objective macroeconomic research of market interaction and dependencies through the tools of economic statistics. The beginning of the application of the first models for the evaluation and analysis of changes in economic indicators at the national level for a certain research period began with François Quesnay (1694–1774) and Léon Walras (1834–1910), who built a theoretical approach to the analysis of the interrelationships between costs and revenues from the agricultural sector in a national aspect and presented a theoretical economic model for the study of the general economic equilibrium. Later, John Maynard Keynes (1883–1946) studied effective demand from a macroeconomic perspective through a system of indicators used in macroeconomics.

The dynamic changes in world markets since the beginning of the 21st century require optimization of management decisions and deepening of financial and economic analysis, which implies the use of various indicators: qualitative (for profitability, cost level, revenue level, etc.), natural and value indicators (indicators that reflect the processes as the object of analysis in value quantities, create a prerequisite for summaries of general changes and trends, for measuring relationships and dependencies). Depending on the type of scientific analysis and the various methods or methodologies used to assess the activities of manufacturing enterprises and their use in scientific forecasts, the indicators can be: structural indicators, indicators of dynamics, indicators measuring market influence and dependencies.

The use by the management team of these indicators for analysis and effective methods, techniques and technologies for assessment, while ensuring up-

to-date information provision for objective study of the capital structure, costs and cost price of the finished product produced, will provide them with good competitiveness and higher financial efficiency.

The specifics of the agricultural sector and in particular in wine production allow the use of certain macroeconomic models for the study of financial flows as an assessment of specific dependencies characteristic of macroeconomic analysis. The existing statistical and economic methodology and the use of certain algorithms and methods in financial analysis will make it possible to fully study the absorption and export in the wine production sector in Bulgaria. The choice of a certain method of financial analysis will determine the construction of an effective methodological foundation for conducting financial and analytical studies as a building block in this technology.

When building a methodology for sectoral financial and economic analyses and assessments, it is necessary to take into account some of the important features of the studied economic indicators, which confirm their reliability.

The two important features are (Minasyan, 2008):

- relevance – determines whether the indicator reflects economic dynamics promptly or with a certain lag and can be used for forecasting;
- sensitivity to economic policy (responsive) – whether changes in macroeconomic policy affect the dynamics of the indicator in the short term.

An inevitably important feature of macroeconomic indicators is the presence of lags in reflecting economic processes. Lags represent a certain delay in reporting changes in the economic situation and can be defined as identifying and influencing. (Minasyan, 2008)

The identification lag is related to establishing the necessary time and nature of economic changes during the period under study for collecting and publishing the necessary economic information. The impact lag is related to the time required for the effects of the economic policy implemented and the measures adopted to manifest themselves.

Related to lags in the economy are the two main types of macroeconomic policy: activist policy/countercyclical stabilization policy, which is associated with the targeted use of macroeconomic policy in order to achieve a certain effect in the event of changes in the business cycle that can be clearly identified even after a certain period of time, and discretionary policy, which is also defined as "built-in" and is characterized by a constant action, which makes it difficult to identify the specific effect in a given year. (Hall, R., J. Taylor, 1993)

Another important specificity of economic indicators, which must be reflected in their study, is the presence of correlation and causality. Correlation represents the dependence in the change of two indicators, and causality represents the change in one indicator, which leads as a consequence to a change in another. The study and assessment of these features and dependencies of economic indicators are of utmost importance in the factor economic analysis of the economic policy being carried out. (Bernanke, B., Abel, A., D. Croushore, 2008)

The improvement of modern methods and models for financial and economic analysis in wine production poses the need to expand the scope to take into account not only data on an annual basis (from the balance sheet, income and expense report, cost of finished products, average yields, labor and technological standards, etc.), but also to take into account the influence of individual factors on performance values, indicators and trends in the development of the sector or industry (implementation of innovative technologies and use of modern software products for up-to-date data on a multi-year basis: production, accounting and statistical data for investments, revenues, costs, profit, average data and benchmarks, analytical data for factors, etc.)

The current information necessary for financial and economic analysis, which modern business has, is growing exponentially. Innovative technologies make it possible to analyze the best amount of electronic information from the global network for the needs of winemaking. Observations in recent years show that modern information technologies can systematize, process

and maintain a single database and software products for the needs of all important units of the enterprise.

For better objectivity of financial and economic analysis, companies most often create a financial module of the company's information system, which allows to present the necessary current and periodic accounting reports and statistical reports and analyzes based on the balance sheet, income and expense report, according to set criteria. Objects of financial and economic analysis are most often the capital structure of the enterprise, strategies and marketing concepts for the development of the activity and markets, sales, human resources, etc. The subjects of financial and economic analysis can be internal and external. The analysis and assessments of internal (financing, investments, production) and external (creditors, investors, auditors, etc.) entities, as well as the control over the economic indicators of the enterprise, determine the effectiveness of various management decisions related to financing and investment projects for the development of the company's activities, assessment of the achieved results and opportunities for maximizing profit.

The subjects of the financial and economic analyses and assessments in this study are leading wine producers in Bulgaria, which allow, based on public information about them, to use different approaches for analysis (factor, cluster, etc.) and classification of production enterprises based on various objective indicators (net working capital, income/expense ratio, turnover ratio of non-current assets, turnover ratio of current assets, profitability ratio of sales revenue, etc.) (Midova, P., V. Perkov, 2021)

Factor analysis can examine different factors synthesized in groups that explain the patterns of correlations within the variables being analyzed, as the purpose of principal component analysis is to use the magnitude of the correlation coefficients between the elements to calculate factors, assuming that they best represent the variables. Therefore, a certain degree of correlation is necessary to

conduct factor analysis using the principal component method (Mooi & Sarstedt, 2011, pp. 202-205).

In cluster analysis, for the study of certain economic entities, they can be grouped based on survey data to synthesize a set of factors in groups using factor analysis - the principal component method with factor rotation.

The Kaiser–Meyer–Olkin (KMO) statistic measures the extent to which correlations between variables can be explained by other variables in the data set. According to the magnitude of this indicator, a conclusion can be drawn about the adequacy of the sample, and it is recommended that it be above 0.5. Bartlett's sphericity test can be used to test the null hypothesis that the correlation matrix is a diagonal matrix (Mooi & Sarstedt, 2011, p. 208).

The use of factor analysis can be applied in the following sequence: (Midova, P., V. Perkov, 2021)

- Implementation of correlation analysis and checking the strength of relationships and dependencies, as well as the significance of the coefficients.
- Interpretation of the KMO test and Bartlett's sphericity test.
- Analysis of the total explained variance in the factors (usually above 50%).
- Interpretation of the rotated matrix and identification of new factors (factors with weights below 0.4 are excluded from the analysis).

Performing a factor analysis in wine production can cover a combination of factors that affect the financial situation of wine producers, as well as the state of the business climate by region and factors belonging to the macro environment that can improve the business environment and relationships between individual entities - a winery, a region, a country. The study and reporting of the influence of these factors that determine financial sustainability on economic agents that produce wine takes a leading position in factor analysis. Situational analysis and the construction of a methodological framework for the study can include the grouping of factors that affect the results of the activities of wine producers.

In the order of their economic development, possible consequences of the interaction between factors can be considered (Andrei Zahariev et al., 2022, p. 99):

1. sales volume;
2. marginal revenue per unit;
3. fixed costs.

Here, various combinations of three-factor impacts on wine producers' profits are possible. Each of these combinations can form an impact specific in its nature and direction (Andrei Zahariev et al., 2022, p. 99).

The most commonly used in scientific circles among research models is the “five-factor model for predicting corporate bankruptcy”, popularly known as Altman’s Z-Score. He uses various coefficients and determines their relative weights in a multifactor regression equation that is based on financial ratios and parameters (Altman, 1968, pp. 589-609) (Altman, E.I., Haldeman, R. G., Narayanan, P., 1977, pp. 29-54). These financial coefficients included in this equation represent the following five indicators:⁸

- liquidity,
- profitability,
- indebtedness,
- solvency and
- efficiency.

We can present these five indicators included in the original five-factor model:

$$Z=1.2X_1+1.4X_2+3.3X_3+0.6X_4+0.999X_5,$$

където:

X₁ is working capital/total assets – characterizes the share of net working capital in assets;

X₂ – retained earnings/total assets – characterizes the profitability of assets based on retained earnings;

X₃ – earnings before interest and taxes (EBIT)/total assets – shows the profitability of assets based on operating profit;

⁸ In developing the model, E. Altman analyzed companies with over 20 analytical ratios at different financial stability levels to predict the possibility of bankruptcy. From these, the five most important indicators for making a forecast were derived and included in the multifactor regression equation.

X4 – market value of equity/book value of total liabilities – characterizes the financing ratio;

X5 – sales/total assets – shows the return on all assets.

Characteristic features of the subjects of financial and economic analyses and assessments that are engaged in wine production are mainly related to traditions, favorable natural conditions, effective regulatory framework to support raw material production and wineries, good export potential, established brands on the world wine market, etc.

We can summarize that the methodology of the analysis is a set of methods (rules, procedures and algorithms for processing data from accounting, statistical and operational reporting, as well as from external sources). Financial and economic analysis provides the management team with the ability to identify the most general changes and the influences of individual factors in order to draw the appropriate conclusions and recommendations for improving the achieved results. The construction of an effective, general management methodology contains methodologies and methods for performing analytical activities.

The external environment usually encompasses many factors located outside the boundaries of the enterprise, and depending on their impact – directly or indirectly it is defined as micro- and macro-environment. The factors of the macro-environment encompass the legal and regulatory aspects of the development of the wine-growing business, the natural and ecological aspects of the environment, technologies and technological innovations, the economic environment and the socio-cultural environment.

The favorable natural conditions (soil and climate) for the two leading wine-growing regions in Bulgaria – the South-Eastern and South-Central regions have a positive impact on wine production.

Here we can also focus on other factors that may be determining for the geographical concentration of wine producers due to spatial dependencies or “spillover” of effects arising from cluster-specific resources and activities (Lock, Mounter, Fleming, & Moss, 2019, pp. 180-190).

In economic analyses, the leading position of two main types of factors that have a strong influence on the quality of the wine produced is very often presented – localization and the scientific-marketing aspect. Localization emphasizes the peculiarities of the terroir, as for many grape and wine producers the quality of the wine is determined by the specifics of the soils and climate relating to a certain geographical region in which the enterprises are located. According to the second marketing approach, quality wine can be produced anywhere, regardless of the climatic and soil characteristics of the terrain on which the vineyard is created (Lock, Mounter, Fleming, & Moss, 2019, pp. 180-190).

An exemplary framework for assessing the innovative activity of the enterprise was developed by P. Midova, analyzing several main factors and many subfactors (Midova, 2013, pp. 253-257);

The scientific literature also examines the main factors that belong to the competitive environment in the wine sector. These are: price, quality, implementation of innovations, etc., as well as the opportunities to create stable connections and relationships with global distributors and networks for the realization of the produced product (Vergamini, D., Bartolini, F., Prosperi P., Brunori, G., 2019, pp. 136-152).

An important place is also occupied by factors characterizing the resource capabilities of wine producers. These factors include: increasing the possible capacity to purchase grapes, the presence of privileged access to limited resources such as land; cheaper, rare production of grapes; unique natural features; lack of pests and plant diseases; the presence of varieties suitable for the region, proven over the centuries; specific content of combinations of substances affecting the quality of the wine, as well as characteristic management practices, expressed in production techniques and the method of growing the vines.

Wineries in Bulgaria are looking for different channels to improve the realization of their product. They can be:

- at the national level – direct sales from the winemaker, direct sales outside the winemaker, contracts with national and international chain stores, sales to commercial enterprises.

- on international markets, with a certain amount intended for export.

Other important factors influencing winemaking enterprises can be presented - the degree of automation of processes on the farm and the winemaking enterprise, reducing energy consumption, optimizing the pressing and fermentation processes; reducing water consumption, etc.; using biotechnologies suitable for the terroir and the region of grape growing; technological innovations for monitoring the quality of wine and the technological processes of its production; alternative technologies for wine production by heating and cooling. (Stasi, A., Muscio, A., Nardone, G., Seccia, A., 2016, pp. 290-297)

With the onset of the pandemic in 2020, the area of vineyards on farms decreased by 6.2% compared to the previous year, to 47 thousand ha, with nearly 14 thousand ha not being cared for, mainly due to economic and social reasons. About 3% of the areas in the farms are young, not yet bearing fruit.

Unmaintained vineyards, as well as those on small and fragmented plots outside agricultural farms before the pandemic were 16,646 ha. (See table 3.)

Table 3

Vineyards in Bulgaria for the period 2017 – 2020

Year	Areas with vineyards on agricultural holdings, ha	Vineyards outside agricultural holdings, ha	Total area with vineyards, ha
2011	52 567	25 901	78 468
2017	51 272	12 680	63 952
2018	50 727	13 676	64 400
2019	50 100	13 912	64 012
2020	47 001	16 646	63 647

Source: Ministry of Agriculture, Agricultural Statistics Department

Data from the Agrostatics Department of the Ministry of Agriculture and Rural Development show that the total area under vineyards in 2020 amounted to 63,647 ha, 0.6% below the level of the previous year. About 77% of the vineyards

on farms are located in the southern part of the country, mainly in the South-Eastern and South-Central regions.

Scientific research on regional characteristics for preserving winemaking traditions has established several factors that have a lasting impact on these processes:

- geographical factors – distance from urban centers, availability of labor (year-round and seasonal), availability of suitable agricultural land, age of grape and wine producers in the region, degree of digitalization of producers, etc.

- terroir – agro-ecological conditions, type of grapes grown, socio-cultural factors of the region, local hereditary practices and techniques for growing grapes and producing wine, geographical names, trademarks and established brands for the respective region, established farmer networks and cooperatives.

- resources – type of enterprise, size of enterprise, production structure, organizational structure, degree of introduction of technological innovations (Vergamini, D., Bartolini, F., Prosperi P., Brunori, G., 2019, pp. 136-152).

In conclusion of the presented scientific research in chapter two, we can draw the following conclusions:

First. Optimization of management decisions can be achieved only with the help of effective financial and economic analysis. Modern methods of analysis and evaluation of the activities of a manufacturing enterprise study various objects and subjects, providing more opportunities for management for investment decisions, forms and sources of financing, opportunities for implementing an up-to-date depreciation policy in the active implementation of innovative technologies.

Second. The accurate analysis of certain market trends and processes presents up-to-date information that determines the positive or negative impact of various factors on the activities of companies and justifies the effectiveness of management decisions.

Third. The use of various generalizing and specific indicators allows for analysis and assessment of the degree of intensive implementation of innovative

technologies to achieve maximum financial and economic effect in the exploitation of available material, labor and financial resources.

Fourth. The use of modern financial and economic analysis and assessment of the activities of manufacturing enterprises allows, through the construction of an effective system of methods and models, to present an objective macroeconomic study of market interaction and dependencies on various factors.

Fifth. National and European financial support for investments in innovative technologies, in support of export and the effective use of natural resources, will ensure the necessary financial and economic stability of manufacturing enterprises in the conditions of dynamic market changes.

CHAPTER THREE

EXPORT CHALLENGES AND TRENDS IN THE WINE INDUSTRY IN BULGARIA AFTER THE PANDEMIC

The financial and economic analysis of companies is associated with the process of making important management decisions that are decisive for their financial sustainability. Increasing the effectiveness and objectivity of the methodology for financial and economic analysis and assessment of the wine production sector requires us to study on a multi-year basis several important objects, entities and indicators, presenting the trends for supporting and developing the industry in different regions and, as a basis for the results obtained, presenting one of the leading enterprises engaged in wine production.

The main stages in the work of the financial manager can be presented as follows (Andrei Zahariev et al., 2022, p. 9):

- stage of preliminary preparation for conducting a financial analysis;
- stage of collecting the necessary information;
- stage of processing this information;
- stage of summarizing the results of the analysis

Increasing the financial sustainability of the winemaking sector in Bulgaria is important for the economy. It combines the opportunities for good financial results

from the business and the millennial interest of societies and civilizations in this fermentation product of grape plantations. With the process of convergence of the country (Dimitrov, 2019) in the EU and an increase in the standard of living, it is logical to expect indicators in the sector that correspond to average sales and consumption data for the union in the direction of increasing value and quality, at the expense of quantity in the low segment.

According to data from the Bulgarian Stock Exchange - the financial indicators of enterprises in the winemaking sector for the research period 2017-2022. are not good and we can summarize it as:

1. The profitability of enterprises in the "Production of wines from grapes" sector is negative, which confirms the unfavorable conditions for wine production, which turns out to be economically inefficient at the macro level.

2. The liquidity of enterprises in the sector is lower than that of non-financial enterprises with: total liquidity – 10.2%; quick liquidity – 43.3%; immediate liquidity – 85.6%.

3. The indebtedness of enterprises in the sector is higher by 68.4% compared to that of non-financial enterprises.

In such market conditions, wine production maintains relatively stable development rates, as data from the 2017 report of the Ministry of Agriculture, Food and Rural Affairs show that 69.5% of the realized exports are bottled wines, followed by 30.1% – draft wines, and 0.5% – sparkling wines. Bulgaria has traditionally exported to EU countries, with a share of 89.2% of all exports, and mainly to Poland - 65%.

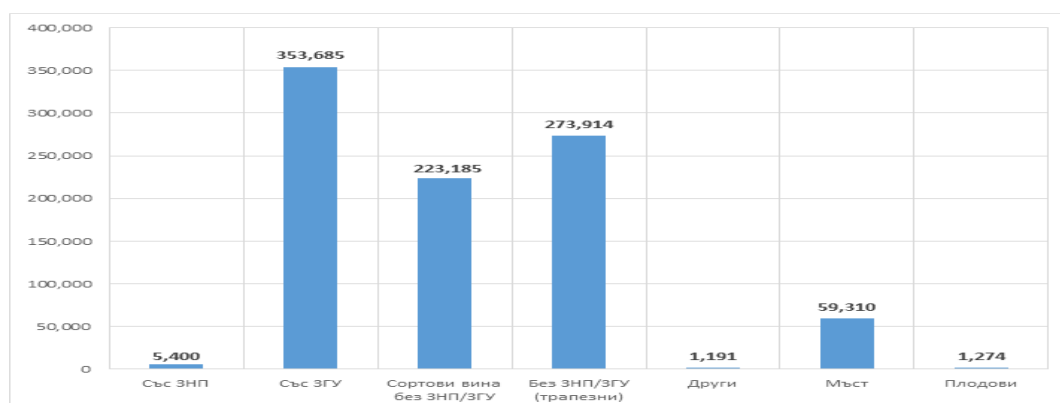
The strong European regulation for the wine sector, covering both the areas and varieties of vineyards in each member state, as well as the quality standards of processing. This is due to the overproduction of wine, which necessitates the common organization of the European market in the wine sector.

With the adoption of the Wine and Spirits Act, the following objectives were set (Wine and Spirits Act, 2012).:

- Increasing the competitiveness of wine producers;

- Regaining old markets and winning new ones within the territory of the Republic of Bulgaria and around the world;
- Creating a wine-growing regime based on clear, simple and efficient rules ensuring a balance between supply and demand;
- Continuing the practice of granting replanting rights when producers undertake to grub up equal-sized areas planted with vines, since the net impact of such plantings on production tends to zero;
- Using reference methods for isotopic analysis, facilitating the interpretation of the results of such analyses.

In 2022, the leading production in Bulgaria is wines with Protected Geographical Indication (PGI), where the two national locations are "Danube Plain" and "Thracian Lowland". It amounts to 353,685 hectoliters, while the volume of wines with Protected Designation of Origin (PDO) is only 5,400 hectoliters. Table wines (273,914 hectoliters) and varietal wines (223,185 hectoliters) are in second and third place in volume within the total production for the year of 917,959 hectoliters. (See Fig. 2)



Source: Report on the activities of the EA for Vine and Wine for 2022 (with amendments) www.bit.ly/3bzCpBJ

Figure 2. Product structure of wine for 2022, volume in hectoliters

The analysis for the period before the pandemic shows that, despite the fact that part of the sector is in the “shadow” economy, Bulgarian wine production has strategic advantages and retains its export potential (Zaharieva, 2020). This is confirmed by the strong and sustainable growth in domestic demand (OIV, 2021) and consumption through supply chains (Laktionova, Dobrovolskyi, Karpova, &

Zahariev, 2019) and retail sales. In the crisis year of 2020, to support wine producers, a program for “Crisis Wine Storage” was implemented jointly with the Ministry of Agriculture, Food and Rural Affairs – a subsidy paid to beverage producers for those quantities of liquids that cannot be sold on the market in the conditions of the pandemic and its consequences.

For the research period 2019-2022. we can conclude that the static study of trends in the winemaking sector in Bulgaria shows a high degree of dynamics of reporting data - therefore, the adoption of effective financial decisions for each production enterprise requires the management team to have detailed knowledge of the factors determining the optimization of the activity from the point of view of choosing a financing method to cover the need for financial resources. Therefore, the process of managing company capital itself is important, which is related to optimizing its structure and ensuring financial stability for the company. Financial management has the important and complex task of optimizing the capital structure of agricultural enterprises by analyzing any change in the proportions between borrowed and equity capital, as well as the level of financial indebtedness of the company, which will affect the amount of future receipts and payments and the cost of financing from various sources.

In the conditions of dynamic market changes, with increased competition on the European market, the only way for wine producers to optimize their financial results is by reducing production costs, minimizing the cost of production and increasing exports. The effective use by financial management of financial planning and analysis of different options for capital structure in wine production will allow for comparisons and evaluation of alternative solutions, reflecting the influence of important factors on the final financial result and financial sustainability, by stimulating exports.

The production and trade of wine and high-alcohol beverages in Chernomorsko Zlato AD - Pomorie has its rich history with popular wine traditions of 25 centuries. The history of the winery "Chernomorsko Zlato" began in 1924 -

in Pomorie, enterprising Bulgarians established the first Vine and Wine Cooperative "Dimyat", and the centuries-old experience in winemaking gave the Pomorie winemakers the confidence to build the first modern cellar in the city in 1932. In the 1950s, "Chernomorsko Zlato" acquired the appearance of a modern factory, whose production was highly valued. Twenty years later, the Pomorie winery has a new reason for pride - a special building with 12,000 oak barrels for aging wine distillate was created. The former cellar from 1932 Today it is the heart of a unique hotel complex for modern wine tourism with a beautiful restaurant, tasting room and museum, known to fans of classy wines as "Via Pontica".

The management of the winery makes innovative investment decisions to consolidate leading positions in winemaking and spirits producers. We can analyze one such progressive and precise investment decision of the financial management of the winery "Chernomorsko Zlato" AD to invest over 5 million euros in the construction of a micro-winery. This began a new stage in the development of the "Zlatoto" brand to the "Favorito" brand. To distinguish the hand-made wines in the micro-winery, "Chernomorsko Zlato" AD chose to mark the bottles with a special "Favorito" sticker. At the heart of everything are investments in well-groomed vineyards of the most famous classic wine varieties, where all processes are carried out manually - from picking, delicate separation of the berries from the bunches to precise sorting of completely healthy and ripe berries.

The analysis of the financial condition of the company under study for the period 2017-2023 shows good financial stability, despite the pandemic period and the impending economic recession. From the presented financial analysis of the revenues and expenses of the company "Black Sea Gold" AD for the development and results of the activity, it is clear that the bad trend in wine production is also reflected in our winery, as the amount of net revenues from the sale of production decreased by 563 thousand BGN for 2019 compared to the previous year 2018, by almost 2%, which continues as a trend until the period 2020-2021. The amount of net revenues from sales from 23,678 thousand BGN for 2018 decreased to 23,076

thousand BGN for 2019, or by 2.5%. The financial management of "Chernomorsko Zlato" AD took important decisions for investments in innovative technologies, which skillfully combined with traditions and the results were not long in coming. For 2021-2022. already show recovery from the pandemic and the data are: realized profit for 2021 - 5047 thousand BGN, and for 2022. the profit is already - 6151 thousand BGN, which is due to the growth in net revenues from the sale of finished products, after improving the activities of the financial management of the enterprise, which retains the leading positions in Bulgaria in the production and sales of quality wines and other alcoholic beverages.

According to data from the Executive Agency for Vineyards and Wine, in the negotiations with the European Union for full membership, Bulgaria was assigned areas with vineyard plantations in the farm amounting to 153.2 thousand ha (including wine and dessert varieties, as the area planted with wine varieties is - 135.76 thousand ha, including the existing rights to replant and new planting as of 31.12.2006).⁹ The analysis of information from Agrostatistics, in 2022 the leading red wine varieties on the Bulgarian wine market are Merlot with 31.3% of the share of red wine varieties, Cabernet Sauvignon (29.1% of red wine varieties) and Pamid (21.9%)¹⁰.

The dynamic economic changes at the beginning of the 21st century and the weak financial support from Bulgarian and European institutions have affected the realized yields from the harvested vineyards for the period before the pandemic, which are far below the potential for plantations in Bulgaria. A series of factors also have a negative impact, such as: climate change and related adverse natural phenomena, the deteriorated age structure of the vineyards and the ineffective agrotechnical processing of the areas in our country, which does not allow reaching the optimal production potential. (V. Roychev and A. Ivanov, 2017, pp. 36-37) This provides the logical explanation for the underestimation of the quantity of wine produced and declared by registered wine producers for 2022, which amounts to

⁹ According to data from a report by the Executive Agency for Vineyards and Wine (EAVW).

¹⁰ Structure of vineyards in Bulgaria, final results. MAF, 2015, bulletin 318, September 2017.

1,207,785 hectoliters¹¹ with the Southeastern region retaining a leading position - with about 59% of the total industrial wine production, followed by the South Central region - with 18% and the North Central region - 3.7%.

The dynamic changes in global wine markets before the pandemic were driven by several factors:

1) The emergence of new competitive wine producing and exporting countries such as Australia, Canada, Chile, California, New Zealand, South Africa, which increase the competitiveness of the products produced and place them in the category of leading world wine exporters.¹²

2) All analyses of the European wine market during this period show a trend towards a decrease in wine consumption in European countries, which is due to¹³ :

- a change in preferences towards other alcoholic beverages, whose market share is growing and

- a change in lifestyle related to avoiding unhealthy habits.

Despite these negative trends, the European Union retains its leading position as a leader in wine production, accounting for 56% of global wine production, 54% of global consumption and 74.7% of exports in 2022, with France, Italy, Spain and Germany holding the leading positions in terms of wine exports.¹⁴

The largest losses for wine production in Europe and Bulgaria from the global measures taken to combat the pandemic in 2020 are those caused by about 20-25% overall decline in the wine market for the period 2020-2021, which prompted European and national institutions to implement a number of projects and programs to support the sector, such as the "Crisis Wine Storage" Program - through a subsidy paid to beverage producers for those quantities of liquids that cannot be sold on the market in the conditions of the pandemic and its consequences. Funding is provided under the Rural Development Program, as

¹¹ According to data from a report by the Bulgarian Wine Association: wine production from the 2016 harvest is 8% less than the previous year, with the production of white wines decreasing by 8%, to 608,285 hectoliters, and that of red wines and rosés – by 7%, to 599,500 hectoliters.

¹² https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1036&context=agecon_etds

¹³ <https://www.sciencedirect.com/science/article/pii/S2212567115000209>

¹⁴ Distribution of world wine production in 2022- <http://www.oiv.int/public/medias/5479/oiv-en-bilan2022.pdf>; <http://www.oiv.int/public/medias/5958/oiv-state-of-the-vitivinicultureworld-market-april-2022.pdf>

financial support for the wine sector under the extraordinary COVID measures is outside the scope of the National Program for Support to the Vine and Wine Sector.

Bulgarian grape growers, who provide the raw material for the sector, are also facing many challenges. The COVID-19 crisis has increased the problems for their survival, after analyses have already shown a significant decrease in wine vineyards due to the high costs of their cultivation. This has necessitated the implementation of national support policies through the Ministry of Agriculture. The “de minimis” program for farmers growing fruits, vegetables, wine vineyards and oil-producing roses has been adopted. It is implemented with national funds and provides support of 25 leva per decare, but not more than 25,000 euros per beneficiary. A subsidy of 30 leva per decare has also been provided for grape growers under the “COVID-1” support measure. The maximum amount under it is 7,000 euros per beneficiary and the “Green pruning” measure for grape growers. Despite the low effectiveness of these measures in addressing the challenges and problems in the industry, they are a good start for the viticulture sector.

During the period under review, contracts were concluded at the European level for over 60 projects for support from the "Vineyard Restructuring and Conversion" program. It provides an opportunity for the reorganization of vineyard plantations with the replanting of new suitable areas, replacement of varieties and modernization of grape harvesting techniques.

The Ministry of Agriculture has taken action to include a new measure - "Information in the Member States", which organizes information campaigns to increase interest in Bulgarian wines. The main goal is to improve the image and increase interest in Bulgarian beverages on the territory of the EU, through the worthy presentation of the country in the most renowned wine competitions. The implementation of such effective financial support and the making of good investment decisions by wine producers will allow for the optimization of Bulgarian wine exports and reaching the levels of 2019 and the beginning of 2020.

The implementation of the state policy to improve the reputation of Bulgarian wines, which have an excellent balance between price and quality, as a priority, will ensure numerous awards from prestigious international competitions.

Efforts to optimize exports should be directed at larger wine consumers such as China, Japan and other countries in Asia, which are coping faster with the COVID-19 epidemic by increasing the advertising and supply of Bulgarian wines, since the unsatisfactory state of the marketing and distribution system on the Bulgarian market since the beginning of the 21st century poses the need to make effective management decisions to maintain the leading position of this sub-sector in agriculture by optimizing the competitive capabilities of wine production and exports to the European and world markets. The implementation of such a policy will make it possible to preserve the importance of the entire wine sector within the framework of Bulgarian agriculture and the economy as a whole.

An important part of the financial support for restructuring the wine production sector includes investments for the development of wine tourism, combined with cultural, historical and SPA. With the end of the pandemic measures, there is a trend of increasing interest in active tourism, associated with visits to various tourist sites outside the location of accommodation, which will have a positive impact on the development of wine tourism in Bulgaria, where there is enormous potential for advertising quality Bulgarian wines. The main prerequisite for this are factors such as: history, traditions, nature and good food. Wine producers in Bulgaria are qualified in the production of still, sparkling and special wines, as the main share of the total production in Bulgaria - 93.9% is taken up by wine produced from fresh grapes. The upcoming economic recession, a consequence of the pandemic and the war in Ukraine, requires the adoption of a new national strategy for targeted support and development of the sector, which also includes financial support for grape producers, with tax breaks and other emergency measures in their support, because they produce the raw material from which good wine is made. The ongoing tax harmonization and the use of certain tax incentives to encourage investment, research and development activities, combined with financial support for grape growers and wine production in Bulgaria, will save many of the additional costs associated with corporate restructuring, double taxation and will ensure better competitiveness of Bulgarian wine and more effective export to the European market.

The European Commission can optimize the legislative framework for a more effective fight against excise violations by the grey sector and aggressive tax planning to increase the efficiency of tax collection and ensure better tax fairness, which requires full compatibility with national tax systems and information exchange systems between tax authorities in EU member states in order to be more effective in the fight against tax fraud.

Theoretical approaches for analyzing and assessing the effective management of the agricultural sector in Bulgaria, which includes wine production, must take into account various factors that influence the financial sustainability of the industry. These are factors such as public support (national and European support - financial assistance, export subsidies and other aids), regulatory framework for the sector, dynamic development of markets, economic and climatic specifics of the business, etc. Sustainable development of wine production requires adaptation to new market realities, modernization and restructuring to the dynamically changing natural and institutional environment.

Increasing the financial sustainability of wine producers is an important process for the Bulgarian economy, in the context of a past pandemic, the war in Ukraine and an impending recession, which can be achieved with national and European support in making effective investment decisions to stimulate wine exports, following the example of the Chernomorsko Zlato AD winery.

The Chernomorsko Zlato AD winery we studied is making permanent efforts to search for new markets in addition to the countries to which Bulgaria exports the largest quantities of bottled wine for the period under study (Poland, Russia, Romania, the Czech Republic and the United Kingdom), because in these countries the consumption of other alcoholic beverages (beer or vodka) is starting to exceed the consumption of wine in terms of value. (Grigg, 2004, pp. 99-110) This explains why the aggressive advertising of the quality products produced by wineries should be directed to the countries with the greatest growth in the domestic wine market over the past ten years. These are: China (by 79.8%), Hong Kong (by 48.3%) and the USA (by 12.4%). Russia (by 18.3%) and the UK (by 17.1%) are among the

countries that have recorded the largest decline in the value of imports during this period. (Grigg, 2004, pp. 99-110)

A great advantage of the Black Sea Gold winery AD is, in addition to the geographical location of the enterprise and the owned own vineyard massifs - in the best for this business Southeastern wine-growing region, near the sea coast as one of the good terroirs for growing white grape varieties.

Growing quality grapes is a major factor in the production of quality wine and therefore the company made an important investment decision to create 650 hectares of its own vineyards, including classic wine varieties such as Chardonnay, Sauvignon Blanc, Muscat Ottonel, Gewürztraminer, Cabernet Sauvignon, Merlot, Syrah, Cabernet Franc and the local Thracian Mavrud. From these quality grape varieties, the Black Sea Gold winery AD already produces five types of main series of fresh wines - Chardonnay, Muscat Ottonel, Merlot, Cabernet Sauvignon and elegant Rosé. New wines from the Rakovina series are presented at prestigious international competitions and exhibitions, which remind of the proximity of the sea and the way in which it shapes the quality character of Bulgarian wine. The production of new series of quality wines Pentagra (Chardonnay, Pinot Gris, Viognier, Traminer and Merlot, Cabernet Sauvignon, Pinot Noir and Syrah) is launched, which include hand-made wines presenting the specific mineral finesse of the Pomorie terroir. A series of high-quality Premium and super premium white wines are also created, which are created from hand-selected grapes in the villages of Zornitsa and Razboyna, located on sandy soils with good drainage in the Southern Black Sea region.

These important investment decisions marked the beginning of the successes in international markets for the Chernomorsko Zlato AD winery, a result of the skillful combination of traditions and investments in innovative technologies to improve the quality of the finished product and the establishment of a series of professionally presented wines, which are complemented by: brandy, liqueur wines and aperitifs with different alcohol content.

The financial management of the winery achieves financial stability in the conditions of dynamic market changes by emphasizing the achievement of a gold

standard of quality in a traditional Bulgarian business. The management policy for the period under review is aimed at achieving perfectionism in making wines that will put Pomorie and Bulgaria on the world map for high quality of finished products. To achieve good financial results, the winery has a well-prepared team of financial managers, qualified technologists, employees and workers, with an optimized and effective management structure.

Chernomorsko Zlato AD is quickly becoming a well-known European and global brand for the production of wines, brandies, other alcoholic and non-alcoholic beverages.

For the period under review, the winery is starting to optimize costs for 2019, with the most significant share of material costs remaining - 57% of total operating costs, and for 2022 they are - 55%. Referred to the revenue from the sale of production, the costs of raw materials and materials for 2019 occupy - 56%, and for 2022 - 49% relative share. Total costs by economic elements, as a result of effective financial decisions taken by management, have increased compared to 2019, as in 2022 they are already in the amount of 29,578 thousand BGN, and those for 2021 are in the amount of - 22,761 thousand BGN.

A profit of - 2,270 thousand BGN was realized from financial activities in 2019. For the period 2021-2022, the revenue from financial activities decreases by 15%, as the main share in financial revenues is the income from interest - 94 thousand BGN for 2022 and the revenue from financing under a government program to overcome the consequences of the crisis.¹⁵

The optimization of financial expenses is confirmed by the data for 2020, when they amounted to BGN 1,738 thousand and the main share in the structure was taken by “Interest expenses” of BGN 1,135 thousand, with a negative difference from a transaction with financial assets of BGN 500 thousand, which arose from the assignment of a receivable from the consortium Balkan Eco Energy Company Ltd. to Polenitsa Ltd., while financial expenses for 2022 already amounted to BGN 474 thousand, with the main share in the structure being taken by “Interest expenses” – BGN 302 thousand. For this period, income from financial

¹⁵ Annual financial statements of the Chernomorsko Zlato winery AD for the years under review 2021-2022.

activities decreased to BGN 94 thousand, which is 15%, compared to 2021, when interest income had the main share.¹⁶

We can summarize that the financial success during the analyzed period is due to the preservation of the main priorities in the activities of the management of "Black Sea Gold" AD, which are aimed at strengthening the leadership position in the country in the production and sales of wines and other alcoholic beverages, by offering products with a traditional and unique taste, also known on international markets.

Cost optimization and successful investment decisions increase sales at the end of the research period 2021-2022. The analysis of the financial condition for this period and the main risks facing the company in future periods confirm the good financial management, which determines the company's condition as financially stable.

The preservation of such financial stability during the analyzed period is due to the main priorities set in the activities of the management of "Black Sea Gold" AD, which are aimed at strengthening the leadership position in the country through the production and sales of quality wines. The analysis of public data on the financial condition of the winery during the period 2019-2022. and the management of investment risks by the company's management show a good opportunity to maintain relative financial sustainability in the medium and long term.

The basis for these conclusions is based on the study of public data from the annual financial statements (AFS) of Chernomorsko Zlato AD and the achieved financial results for the research period 2019-2022 (see table 19):

- *the company's total liquidity ratio*, which according to the balance sheet data as of 31.12.2019 is 1.00. As of 31.12.2018 it is 1.06. or for every 1 BGN. short-term liabilities there is 1.00 BGN. short-term assets. According to the balance sheet data as of 2022 *the total liquidity ratio* of the company is 2.14, and as of 31.12.2021 it is 1.76, which means that for every 1 BGN in short-term liabilities, 2.14 BGN in short-term assets correspond.

¹⁶ There too.

- *the financial autonomy ratio* as of 31.12.2019, which is 0.85. Or 1 lev of attracted capital corresponds to 0.85 lev of own capital, for comparison, as of 31.12.2018, this indicator is 0.72. For 31.12.2021, *the financial autonomy ratio* is 1.20 or 1 lev of attracted capital corresponds to 1.20 lev of own capital, and as of 31.12.2022, this indicator is 1.37.

The liquidity risk study shows a low probability of problems in the fulfillment of the company's obligations related to financial liabilities. Public reporting data confirms the regular servicing of obligations under lease contracts and commercial loans, as bank loan obligations are repaid within the permissible delay of 5 days, which means that credit indebtedness does not threaten the financial independence of Chernomorsko Zlato AD because the financial management takes active measures against counterparties that delay their payments by introducing credit limits, which are strictly monitored by the Sales Department.

The company's financial stability also shows effective financial management of human resources for the research period 2017-2023. The staff of workers and employees of the winery is optimized in a good age structure and qualification with optimal numbers (219). (See table 4 and table 5)

Table 4

Total number and age structure of the company's personnel for the research period 2017-2023.

Years	20-29			30-39			40-49			50-59			над 60			общо		
	men	women	total	men	women	total	men	women	total	men	women	total	men	women	total	men	women	
Number	5	5			17		30	42	72	23		53	25	13	38	112	107	219
	2.3	2.3	4.6	13.2	7.8	21.0	13.7	19.2	32.9	10.5	13.7	24.2	11.4	5.9	17	5	48	100

Source: Financial statements of the Chernomorsko Zlato AD winery for the research period 2017-2023.

Table 5

Structure of personnel for the research period 2017-2023 by groups

Categories	Managers	Specialists	Technical and application	Administrative support staff	Employees	Skilled workers	Operators	Qualification	Total
	17	24	27	10	5	25	98	13	219

Source: Financial statements of the Chernomorsko Zlato AD winery for the research period 2017-2023.

The financial analysis of human resources management during the period under review shows stable results, as the management's desire is to increase spending during the period 2023-2024 for staff training and deepening scientific research, to assist in making effective investment decisions in innovative technologies and to improve opportunities for creating new brands for international markets that will increase online sales. The implementation of these decisions will strengthen the leading position of Chernomorsko Zlato AD in Bulgaria.

During the research period, the winery implemented several important, successful projects, such as the project "Energy Efficiency and Sustainable Development Measures", financed by the Norwegian Financial Mechanism, as well as the implementation of an ambitious investment program, with the support of national and European financial programs.

If at the beginning of the research period 2019, Chernomorsko Zlato AD made investments with European support and self-financing worth 1,198,729.92 BGN, the data from the Financial Statements and audit reports for the investments made in 2023 are already in the amount of 1,706,701.80 BGN, with own funds being¹⁷:

- Construction of a wastewater treatment plant - 500,000 BGN.
- Construction of a gas installation – 260,000 BGN.
- 8 gas boilers – 250,000 BGN.

¹⁷ Source: Based on data from the annual financial report of the Chernomorsko Zlato AD Winery for 2023

- Construction of a photovoltaic park for electricity production with a maximum output of 980 KWh – 1,300,000.

An important step towards absorbing financial support under European programs in 2023 is being taken under several projects:

- measure Investments in enterprises to the State Agricultural Fund SFA (approved with a subsidy of 70%) with the total amount of investments in new technologies amounting to - 1,165,745.77 BGN, with a subsidy of 816,022.74 BGN.

- under the Innovation and Competitiveness Program of the Ministry of Innovation and Growth with a subsidy of 50% - provided grant aid for "Recovery of SMEs through improving energy efficiency" worth 136,604.86 BGN and a total project value of 273,209.71 BGN.

- purchase of new machinery and vessels with a subsidized amount of BGN 564,248 under a Project with registration number in the ISM BG-RRP-3.004-0325 and with a total value of BGN 1,128,496.

- The company uses the financial support provided by the European personnel training programs in the amount of - 71,745.55 BGN.

From the analysis made in the study, we can make the following arguments and conclusions, which confirm the financial sustainability of the winery towards the end of the research period, in the conditions of an impending recession. The most important of them are:

- there are no risky financial assets in the total amount of assets;

- The company's assets and liabilities denominated in another foreign currency have been repaid as of the reporting date, and the rest are denominated in euros, which reduces currency risks.

- We assess the credit, price and currency risks for the company for the period until 2023 as equal to and lower than normal for the industry.

- The total liquidity ratio as of 31.12.2019 is 1.00, and as of 2022 it is 2.14, and as of 31.12.2021 it is 1.76. The financial autonomy ratio as of 31.12.2019 is 0.85, and as of 31.12.2022 the financial autonomy ratio is 1.20 or 1 BGN of attracted capital corresponds to 1.20 BGN of equity, which gives reason to consider that the enterprise is financially stable.

- effective financial management of human resources, maintaining a good age structure and qualifications at an optimal number (219) of employees and workers.

Certain gaps are noted for the research period 2017-2023 in the field of research and development activities, which should support investment decisions in innovative technologies to ensure the preservation of leading positions in the Bulgarian market. The management of the Chernomorsko Zlato AD winery poses several important questions in the development of a new, effective strategy for supporting and developing the viticulture and winemaking sector, with priority to grape growers in Bulgaria.

From the author's research, we can confirm that the implementation of effective management policies by the management of the Chernomorsko Zlato AD winery, with skillful combination of investments in innovative production technologies, with good Bulgarian traditions in the winemaking sector, can achieve optimization of wine exports in the conditions of dynamic market changes. The analysis of the public reports of the winery gives us reason to confirm the financial stability of the company, which maintains leading positions in winemaking.

Within the framework of the presented scientific study, we can present the following summarized scientific results, conclusions and findings:

First. Wine production in Bulgaria can maintain relatively stable financial sustainability, in the conditions of an unfavorable market environment through effective national support for the sustainable promotion of the identity of the leading wine-growing regions.

Second. The future of wine production in Bulgaria can have a successful perspective, with the implementation of a policy towards the production of quality wines, in accordance with European subsidies and administrative measures to support the wine-growing sector, equivalent to those for the leading wine-

producing countries to support the wine-growing sector, in response to the decreasing production capacity of wineries, which are mostly micro- and small enterprises.

Third. The foreign trade balance for the trade in Bulgarian wine during the research period 2017-2023. maintains a downward trend, but is still positive. A larger percentage of the wines produced in Bulgaria are sold on the domestic market, which indicates a large reserve for optimizing the export of quality wines.

Fourth. The optimal use of national and European projects for financial support of wine production and internal sources of financing for investments in innovative technologies for the sector are a prerequisite for increasing the quality of finished products, competitiveness, exports and economic growth in the agricultural sector.

Fifth. Achieving optimal results from wine exports is related not only to improving the qualifications of employees and workers engaged in wineries, but also to the financial support of European and national institutions with targeted programs and projects for presenting Bulgarian quality wines in the EU member states, which will significantly increase sales.

Sixth. The use of good practices to achieve better financial results - following the example of what was achieved by the Chernomorsko Zlato AD winery in the post-pandemic period can ensure growth in wine exports for other Bulgarian wineries.

Seventh. Enterprises in the wine production sector need to create a new national strategy to optimize exports through adequate support for grape growers, who are of utmost importance to the wine industry, because the quality raw material from which wine is made must be produced.

As good results achieved in the study, we can present the analysis of effective management decisions related to the positive results for production and the realized finished product of the Chernomorsko Zlato AD winery, which gives hope for the potential to increase the share of exports in Bulgarian wine production by improving the functional literacy of management and human capital. The positive results achieved highlight the possibilities for following this effective policy in

optimizing wine exports, after COVID-19 significantly reduced the trade turnover of the EU-28 and Bulgaria and had a negative impact on the foreign trade of Bulgaria and the EU-28.¹⁸

CONCLUSION

The scientific study presents a trend of unsatisfactory competitiveness of Bulgarian wine on international markets, as the share of wine exports in the country's total exports is decreasing and for the period 2017-2023 it marked a decrease from 0.13% to 0.09%. The share of Bulgarian grape and wine production in the gross output of the agricultural sector for the studied period has a permanent trend of decline due to the poor age structure of the vineyard plantations and the progressive decrease in the total area of vineyards. Despite this negative trend, we can confirm that in the conditions of dynamic market changes, with increased competition on the European market, the Chernomorsko Zlato AD winery manages to optimize its financial result by reducing production costs, minimizing the cost of production and increasing exports. Effective financial management of a winemaking enterprise applies financial planning and analysis of different capital structure options, which allows for comparisons and evaluation of alternative solutions reflecting the influence of important factors on the final financial result and financial stability, with high quality of the finished product and the possibility of export.

Based on the analysis of the results achieved by the Chernomorsko Zlato AD winery - wine production in Bulgaria has its potential to increase the share of exports in the agricultural sector while improving the functional literacy of management and human capital in terms of competitiveness for the public benefit.

From the presented study of trends outlined by the review of wine production, sales and exports of wine in Bulgaria, as well as in the context of good traditions and leading good practices presented by the Chernomorsko Zlato AD winery, we can draw several important conclusions:

¹⁸ www.trademap.org

- Wine production in Bulgaria continues to maintain a relatively stable level, in the face of an unfavorable market environment, through the sustained promotion of the identity of the leading wine-growing regions.
- The future of Bulgarian wine production is closely linked to European programs and measures to support the wine sector for the production of quality wines.
- The foreign trade balance must maintain positive values by using the large reserves in exports to European and world markets.
- There are reservations about improving export results, which depend on effective financial management decisions of enterprises engaged in wine production and on the support of the Bulgarian government with the targeted program for informing and advertising the sector in EU member states, which will definitely have a positive effect on the promotion of Bulgarian wine.
- The implementation of innovative technologies for the needs of winemaking makes it possible to analyze the best amount of electronic information from the global network. Observations in recent years show that modern information technologies can systematize, process and maintain a single database and software products to improve the activities of all important units of the enterprise.
- Continuous improvement of modern information systems is an important element of effective business management with the use of integrated information systems (ERP - use of up-to-date internal and external company information) in the preparation of financial and economic analysis.

In conclusion, we can confirm that with the analysis of good practices and leading trends in Bulgaria and Europe, wine production can develop its export potential and take the place of a leading sub-sector in the economy. The dissertation explores some of these opportunities for increasing the consumption of Bulgarian quality wines, the export orientation of Bulgarian wine production, improving the financial sustainability of the sector and the growth of the economy.

III. Directions for future research on the topic of the dissertation

The following can be mentioned as guidelines for future research on the topic:

1. Increasing the potential for technological modernization of Bulgarian wineries to be established as an important national priority for the development of the Bulgarian wine industry in terms of export and the lasting establishment of our wines on world markets.

2. Study of the possibilities for implementing leading marketing policies to achieve better competitiveness of Bulgarian quality wines with limited production capacity, but with potential for investments in innovative winemaking technologies.

IV. Reference to the scientific and applied scientific contributions in the dissertation work

First. Argumentative presentation of the opportunities for wine production in Bulgaria to maintain relative financial sustainability, in the conditions of an unfavorable market environment through effective national support for the permanent promotion of the identity of the leading wine-growing regions on the European and world markets.

Second. Substantiation of the connection for a successful perspective for the wine production of quality wines in Bulgaria with European subsidies and administrative measures to support the wine-growing sector, equivalent to those for the leading countries in wine production as a response to the decreasing production capacity of boutique wineries, which are mostly micro and small enterprises.

Third. Derivation of the foreign trade balance for the trade in Bulgarian wine during the research period 2017-2023. , which maintains a downward trend, since a larger percentage of the wines produced in Bulgaria are sold on the domestic market, and this indicates a large reserve for optimizing the export of quality wines.

Fourth. The optimal use of national and European projects for financial support of wine production and domestic sources of financing for investments in innovative technologies for the sector are a prerequisite for increasing the quality of finished products, competitiveness, exports and economic growth in the agricultural sector.

Fifth. Presentation of achieved optimal results from wine exports, which are related to the improvement of the qualifications of employees and workers engaged in wineries and with national financial support for presenting Bulgarian quality wines in EU member states, which significantly increases sales in a leading winery.

Sixth. The use of the good investment projects and practices presented in the study to achieve optimal financial results in the post-pandemic period will ensure growth in wine exports.

Seventh. Substantiation of the need to create a new national strategy to optimize exports through adequate support to grape growers, who are of exceptional importance to the wine industry, with the production of quality raw materials from which quality wine is made.

V. List of publications of the doctoral student

Studios

1. Chorbadzhiyski, Y. "Optimization of exports in the wine production sector based on the example of Chernomorski Zlato AD winery". *ANNUAL ALMANAC "SCIENTIFIC RESEARCH OF DOCTORAL STUDENTS" - Volume XVI, 2023, BOOK 19 (STUDIES AND ARTICLES) AI TSENOV*, ISSN: 1313-6542

Reports

1. Chorbadzhiyski, Y. "*Analysis of Trends in Wine Production (2010-2019) - Financial and Sectoral Aspects*". Scientific Journal "Society and Health" Year II (2021), Issue 4, Regional Library "Lyuben Karavelov" - Ruse © University Multiprofile Hospital for Active Treatment "Kanev" AD - Ruse ISSN 2683-0892

2. Chorbadzhiyski, Y. "*The COVID-19 epidemic and the wine industry in Bulgaria: challenges and trends.*" PROCEEDINGS OF THE SCIENTIFIC CONFERENCE "LOGISTICS AND SOCIAL SYSTEMS" 25-27, February 2021,

Electronic edition Veliko Tarnovo, Publishing Complex of the National University
"Vasil Levski" ISSN 2738-8042, 1084 - 1096 pp.

VI. Certificate of compliance with the national requirements under the Regulations for the Implementation of the Act on the Development of Academic Staff in the Republic of Bulgaria

Studies: 1 pc. (independent) – 15 points

Scientific reports: 2 pcs. (independent) – 20 points

Minimum number of points: 30

Achieved number of points under Indicator 7 (Articles and reports published in non-refereed journals with scientific review or published in edited collective volumes), according to Annex to Art. 1a, para. 1 of the Regulations for the implementation of the Law on the Development of the Scientific Staff in the Republic of Bulgaria with Minimum national requirements for the scientific, teaching and/or artistic or sports activities of candidates for acquiring a scientific degree and for occupying the academic positions of " chief assistant professor", " associate professor" and " professor" in scientific fields and/or professional fields in Area 3. Social, economic and legal sciences, Professional field 3.1. Sociology, anthropology and cultural sciences, 3.2. Psychology, 3.3. Political Science, 3.4. Social Activities, 3.5. Public Communications and Information Sciences, 3.6. Law, 3.7. Administration and Management, 3.8. Economics, 3.9. Tourism

Studio - 15t.

Report - 10 items.

$$15+10+10 = 35 \text{ т.} > 30\text{т.}$$

PARTICIPATION OF THE DOCTORAL STUDENT IN SCIENTIFIC FORUMS

1. Participation in the Doctoral Scientific Session - 20.11.2021, SA "D.A. TSENOV" Svishtov, and presentation of the Annual Almanac "Scientific Research of Doctoral Students" AI TSENOV, ISSN: 1313-6542
2. Participation in the seminar "Research Methodology", held on 09.10.-11.10.2020.
3. Participation in the doctoral scientific session 2022 as a listener.

VII. Declaration of originality of the dissertation work

The dissertation work entitled: "*FINANCIAL ANALYSIS AND ASSESSMENT OF ABSORPTION AND EXPORT IN THE WINE PRODUCTION SECTOR IN THE REPUBLIC OF BULGARIA*" is authentic and represents the author's own scientific production. It uses original ideas, texts and visualization through graphs and tables, complying with all the requirements of the Copyright and Related Rights Act by duly citing and referring to other authors' ideas, as well as data, including:

1. The results achieved in the dissertation work and the contributions made are original and have not been borrowed from research and publications in which the author has no participation.

2. The information presented by the author in the form of copies of documents and publications, personally compiled references, etc. corresponds to the objective truth.

3. The scientific results that have been obtained, described and/or published by other authors are duly and in detail cited in the bibliography.

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(Dr. Yordan Chorbadjiyski)