

ОПЫТ РЕГИОНОВ**EXPERIENCE OF REGIONS**

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**CONDITIONS, OPPORTUNITIES, AND ISSUES
OF ACTUALIZING THE POTENTIAL FOR DEVELOPING
VITICULTURE AND WINEMAKING IN CURRENT
REALITIES: THE REGIONAL ASPECT
OF THE RUSSIAN FEDERATION***E.L. Grinko, N.V. Alesina, A.V. Kuzmin*

The paper presents the results of studies of the current state, significant trends, development potential, and funding sources of the wine industry in the Russian Federation. At the regional level, economic, natural (soil and climate), and anthropogenic factors are identified as the main factors that determine the potential for the development of viticulture and winemaking in the current conditions. The research identifies the fundamental aspects of government support for viticulture and winemaking. The paper analyzes conditions for developing the wine industry in Crimea and Sevastopol, including the financial component. In particular, the paper examines the results of analytical calculations of the financial leverage ratio for the most prominent winemaking enterprises of the Crimean Peninsula. The government support measures for the Crimean winemaking enterprises in terms of increasing the availability of long-term loans have been analyzed. The paper explores significant trends in the development of the Crimean wine industry as a whole and long-term loans to the local enterprises. The authors propose an economic and mathematical model for quantifying the cumulative effect of the following essential factors on consumer satisfaction with the price-quality ratio of wine products. One assumes that this model can form the basis for assessing the potential for developing the viticulture and wine industry at the regional level in the Russian Federation. Considering the results of the source research and financial and economic analysis carried out in the field, the paper aims to reveal the primary features and issues of the development of enterprises in the wine industry of Crimea

and produce optimal solutions. The paper attempts to formulate a proposal on the expediency of using the presented research results, including a model analysis of the influence of a combination of significant factors on the development of viticulture and winemaking in the regions and develop recommendations for restoring the sustainability of wineries in modern conditions and prolonging the program of further research.

Keywords: viticulture; winemaking; wine industry; wine products; conditions; factors; financial condition; financial stability; lending; government support; agricultural insurance

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УСЛОВИЯ, ВОЗМОЖНОСТИ И ПРОБЛЕМЫ РЕАЛИЗАЦИИ ПОТЕНЦИАЛА РАЗВИТИЯ ВИНОГРАДАРСТВА И ВИНОДЕЛИЯ В СОВРЕМЕННЫХ РЕАЛИЯХ: РЕГИОНАЛЬНЫЙ АСПЕКТ РОССИЙСКОЙ ФЕДЕРАЦИИ

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В статье представлены результаты исследований современного состояния, значимых тенденций, потенциала развития и источников финансирования винодельческой отрасли в Российской Федерации. В качестве основных факторов, определяющих потенциал развития виноградарства и виноделия в современных условиях на региональном уровне, выделены экономические, природные (почва и климат) и антропогенные факторы. В исследовании определены фундаментальные аспекты государственной поддержки виноградарства и виноделия. В статье анализируются условия развития винодельческой отрасли в Крыму и Севастополе, в том числе финансовая составляющая. В частности, в статье рассматриваются результаты аналитических расчетов коэффициента финансового рычага для наиболее известных винодельческих предприятий Крымского полуострова. Проанализированы меры государственной поддержки крымских винодельческих предприятий в части повышения доступности долгосрочных кредитов. В статье исследуются существенные тенденции в

развитии крымской винодельческой отрасли в целом и долгосрочные кредиты местным предприятиям. Авторы предлагают экономико-математическую модель для количественной оценки совокупного влияния основных факторов на удовлетворенность потребителей соотношением цены и качества винодельческой продукции. Предполагается, что эта модель может лечь в основу оценки потенциала развития виноградарства и винодельческой промышленности на региональном уровне в Российской Федерации. Учитывая результаты исследования источников и финансово-экономического анализа, проведенного на местах, цель статьи - выявить основные особенности и проблемы развития предприятий винодельческой отрасли Крыма и выработать оптимальные решения. В статье предпринята попытка сформулировать предложение о целесообразности использования представленных результатов исследований, включая модельный анализ влияния совокупности значимых факторов на развитие виноградарства и виноделия в регионах, и разработать рекомендации по восстановлению устойчивости винодельческих предприятий в современных условиях и продлению программы дальнейших исследований.

Ключевые слова: виноградарство; виноделие; винная промышленность; винодельческая продукция; условия; факторы; финансовое состояние; финансовая устойчивость; кредитование; государственная поддержка; сельскохозяйственное страхование

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Introduction

Issue statement. The viticulture and wine industry – tightly intertwined historically, technologically, and economically – are complementary types of economic activity. Undoubtedly, these areas possess significant potential for the dynamic development of the relevant sectors in the economies of many countries and regions.

A keen interest in their sustainable development is shown by the growing number of research papers on the topic by Russian and international researchers and new specialized publications, scientific communities, and electronic analytical databases.

Winemaking in the Russian Federation is primarily developed in the southern regions with favorable climatic conditions and is an essential and upcoming

industry in the national economy. The issue of sustainable development of viticulture and the wine industry generates numerous research questions in terms of considering economic, legal, economic, biodynamic, and other conditions and factors for unlocking their development potential. The industry faces both the issue of increasing, making the most of their funds and developing a sound, balanced policy in terms of attracting borrowed sources of financing and maintaining a stable financial condition.

Researching these issues in the real economy in general and, in particular, in winemaking and viticulture is relevant in the shadow of the economic and financial instability caused by the consequences of the COVID-19 pandemic. An objective assessment of the financial support potential for this economic sector in the current conditions will enable actors to quickly compensate for the crisis losses and reach the growth dynamics in economic performance indicators. Simultaneously, considering the specific nature of the industry, one should consider its role in the economic development of the respective regions. The authors focus on studying the conditions and potential of financial support for developing viticulture and winemaking in the territory of Crimea and Sevastopol.

This Region has traditionally been considered the center of viticulture and winemaking, as, since the late 19th century, grapes have been one of the leading agricultural crops here, and the wine industry has been one of the leading sectors of the economy. The study of development problems and the search for opportunities to actualize the existing potential of the wine industry in the Region under the conditions of sanctions and restrictions caused by the pandemic is a pressing scientific and practical issue.

A literature review

The problem of developing viticulture and winemaking has been thoroughly studied both in the global aspect and at the macro- and meso-levels, in particular, in the works of such authors as K. Anderson [36], L. Bisson et al. [37], S. Cholette [38], A. Coelho et al. [39], A. Duarte and A. Bressan [40], A. Goncharuk [42], Y. Li and I. Bardaji [45], H. Paul [48], M. Viassone and co-authors [49], etc. Several academic journals specializing in studying viticulture, winemaking, and wine, as well as journals that reflect various economic aspects of the development of this area, such as the International Journal of Wine Business Research, the Journal of Wine Research (the Journal of Wine Research, Journal of Wine Economics, and Econometrica should also be mentioned.

Russian researchers intensively study the issues of developing winemaking and wine industry on the scale of the country as a whole and a specific region.

Thus, L.N. Usenko, Z.N. Udalova [27; 28], V.B. Dryagin, A.A. Nikolenko [11], D.K. Zazirny [14] and other Russian scientists have assessed the current state of winemaking and viticulture in the Russian Federation.

Issues and opportunities for developing viticulture and winemaking in Russia and its regions, studied in terms of increasing competitiveness, are reflected in the works of E.V. Petrova [18], T. S. Shcherbakova, and L.K. Tsvetkova [31–33].

The development of viticulture and enterprises of the wine industry in the regions has been studied in sufficient detail by representatives of the scientific school of these territories.

The results of a comprehensive study of the development of viticulture and winemaking in the Republic of Dagestan are presented in the fundamental works of O.Yu. Antsiferov, N.Yu. Kuzicheva, G.U. Yakhyaev [3; 34], I.P. Shalyapina and co-authors [30].

E.V. Petrova [18], T.S. Shcherbakova, L.K. Tsvetkova [33], S.V. Aluy-an [1], N.Yu. Sukhina, M.V. Kutin, N.P. Artemenko [24]; Stavropol Krai – Zh.Yu. Darienko, M.V. Feskova, Y.V. Darienko [10] analyzed the practice of regulation and improvement of viticulture as an industry and the activity of winemaking enterprises in Krasnodar Krai.

A.A. Efremova [13], M.R. Beisbulatov, M.I. Sablin [4], T.V. Lyashenko [16], A.A. Gaisarova, N.Yu. Filipenko [6], V.I. Ivanchenko et al [15] et al. have studied the current state of the issues and opportunities for the development of viticulture and winemaking in Crimea.

Expressly, the authors point out the scientific and practical contribution of A.M. Avidzba, a Crimean researcher, an expert in the field of viticulture and agricultural economics, whose works provide an in-depth economic analysis of the state of viticulture and wine industry of Crimea, recommendations for improving the regulatory and legislative framework of the industry and government standards [19; 23].

Nevertheless, one should note that there are still many unresolved issues when it comes to the effective implementation of the potential for the development of viticulture and winemaking in current conditions, as well as improving the mechanism of financial and credit support for the industry and finding competent solutions to create a database for decision-making.

I.T. Balabanov, I.A. Blank, A.I. Kovalev, V.E. Leontiev, V.V. Mainulenko, L.N. Pavlova, G.B. Polyak, V.M. Rodionova, G.V. Savitskaya, E.F. Sysoeva, B.M. Sheremet et al. have investigated the issues of sufficient financing of enterprises in the real sector of the economy, characteristic of the wine industry. In addition to that, the primary provisions set forth by the authors, in general,

may be applied to wineries. Simultaneously, the proposed system of analytical support for assessing the financial condition of enterprises, including, as a result, the formation of financial resources, is based primarily on general methods of analysis, which do not consider the peculiarities of developing a particular industry or economic entity.

The perspective of assessing the financial condition of enterprises is of interest from the standpoint of the present study and is partially considered by the authors in previous works [7–9; 46; 47].

One should note that changing socio-economic and political realities and changes caused by the adopted laws and regulations are shaping a new reality for the industry. Additionally, the issues of providing the viticulture and wine industry with financial resources, considering their specifics at the regional level, have not been thoroughly investigated to date.

As for the Crimean wine industry, in particular, most Crimean enterprises specializing in winemaking experience a severe shortage of financial resources in upgrading their outdated equipment and planting new vineyards, which are crucial for the progressive development of the industry and an increase in wine production.

This issue may be solved by developing a system of financial and credit support for the industry, in particular, by means of long-term lending. Simultaneously, loans are often unavailable to enterprises due to their high cost, strict requirements for borrowers, and limited competition between banking structures in the peninsular credit market.

Therefore, one should note that some issues of the development of the Crimean wine industry are highlighted in the periodical scientific literature and remain in the focus of the scientific and practical interest of many scholars. Nevertheless, despite a significant number of studies in this area, data on the problems and conditions of functioning of the winemaking enterprises of Crimea, their performance, and assessment of the financial condition from the standpoint of long-term lending are limited.

Materials and methods

The authors apply the following methods of scientific knowledge for research purposes: the abstract-logical method, the method of analysis and synthesis (when considering the theoretical aspects of the formation and use of financial resources), economic and mathematical methods – structural-dynamic, statistical, coefficient, the method of deriving partial differential equations (when assessing the conditions and opportunities for actualizing the potential for developing the viticulture and winemaking in the regional context).

To assess the cumulative influence of the primary factors that determine consumer satisfaction with the quality and price ratio of wine products, the authors have built a mathematical model based on calculating partial differential equations.

The authors have assessed the current state and detection of the primary trends in credit provision of the wine industry enterprises by analyzing data on long-term loan balances based on financial statements for the last three years. In addition, the ability of enterprises to repay long-term loans at a fixed interest rate has been assessed using a return on investment capital (ROCI) analysis. The same indicator allows experts to assess the efficiency of the use of own and long-term borrowed capital.

The authors have selected the most prominent wineries only for the research, as their performance has allowed the researchers to objectively assess the existing issues in the industry, as well as consider its development potential at the regional level.

Results

The global wine industry is characterized by moderate growth due to various trends emerging in different countries [50]. According to experts, the performance of the industry depends mainly on trends in consumer demand and, therefore, on factors that influence consumer preferences. Many countries with a high level of wine consumption in their traditions and food culture currently reduce the wine consumption level, while countries traditionally associated with beer consumption, on the contrary, consume more wine.

The rise in wine products consumption in key markets such as China and the United States has contributed to a significant recovery of the industry. In the long term, wine consumption is expected to grow by 1.9% over five years (YOY to \$327.1 billion), despite a 0.7% decline in 2018.

According to IBISWorld's analytical reports, the growth of the viticulture industry (in terms of revenue) in 2015–2019 made up 5.6% in Australia, 6.3% in China, 3.2% in New Zealand, and 16.8% in the UK [51]. The study of winemaking development issues in the Crimean Peninsula requires a thorough preliminary study of the situation in the industry as a whole, including its regional structure and place in the global market of wine producers.

Conditions and opportunities for the development of viticulture and winemaking in the Russian Federation. Traditionally, grape cultivation and winemaking in the Russian Federation was developed in the southern regions – Krasnodar Krai, Crimea, the Republic of Dagestan, the Rostov Region, Stav-

ropol Krai – since they possessed favorable soil and climatic conditions and more than a century of history of wine production. The mentioned territories are leaders both in terms of the availability of vineyard areas (as evidenced by the data in Fig. 1) and the production of grape wines and champagne [5].

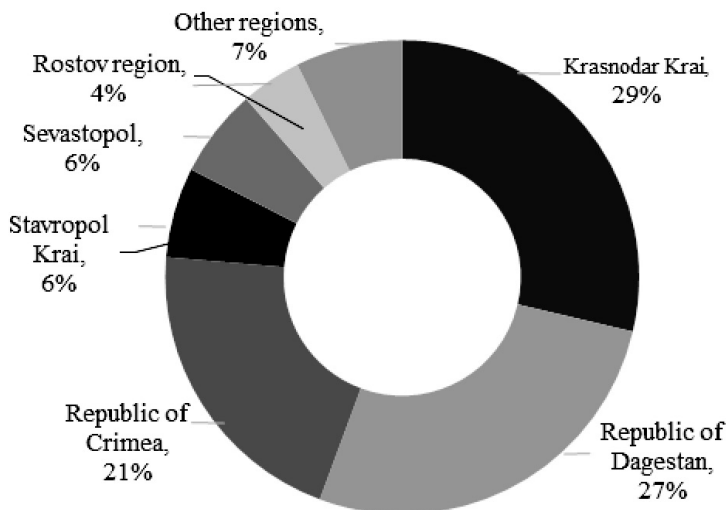


Fig. 1. Areas of vine plantations in the regions of the Russian Federation, 2019

According to the latest statistics and analytical reports, currently, Krasnodar Krai is leading in the sphere of viticulture and winemaking. The vineyard areas here exceed the total area of all vineyards in other country regions (Fig. 1) and account for approximately 29% of all areas. Prominent Krasnodar wine producers provide approximately 48% of the total volume of grape wines and 36% of champagne in Russia. New areas of young vineyards strengthen the leading position of the Region, which has ensured its maximum growth in the last decade.

The Republic of Dagestan has a long history of winemaking. The Region is located in the North-Eastern part of the Caucasus – along the coast of the Caspian Sea. The total area of the Republic is 50.3 thousand square kilometers. At the same time, it ranks second in the country in terms of vineyard area, accounting for more than 50% of the territory of the Region – approximately 25.9 thousand hectares (Fig. 1).

Due to its soil and climatic conditions (terroir), Crimea is a unique area for growing grapes and producing all types of wines, including brand wines, sparkling wines, and cognacs. Therefore, grape cultivation and wine production have traditionally been the leading in the economy of the Peninsula. Wine-making in Crimea is one of the fundamental branches of the economy and agriculture and has been prominent for more than two thousand years. Despite its relatively small area of 26.1 thousand square kilometers, the Region ranks third in terms of the area of vine plantations (19 thousand square kilometers), accounting for more than 76% of the Crimean area and 21% of the total territories in Russia allocated for vineyards (Fig. 1). Together with the federal city of Sevastopol, located on the territory of the Crimean Peninsula, Crimean vineyards constitute approximately 27% of Russian vine plantations and, according to this indicator, share second place with the Republic of Dagestan. Crimea and Sevastopol are renowned for their wines produced at the oldest Russian wineries, which have won prestigious international prizes and awards.

According to the Ministry of Agriculture of the Republic of Crimea, 2.5 thousand hectares of young vineyards have been planted in Crimea over the past five years. Their total area in 2019 in farms of all categories reached 19.9 thousand hectares in Crimea and 5.8 thousand hectares in Sevastopol. The annual yield traditionally exceeds the planned indicator of 70 thousand tons and amounts to more than 80 thousand tons. Furthermore, 67 companies produce grapes in Crimea, and due to the growth of the gross harvest, the increase in the production level of wine materials in the Region has been recorded. These areas have strong potential for growth and further development.

Stavropol Krai is located in the central part of the Ciscaucasia, on the Northern slope of the Greater Caucasus – the mountain system between the Black and Caspian Seas. It has a rather impressive territory (66.5 thousand square kilometers) and a vast area of vineyards, which in 2019 amounted to 5.9 thousand hectares or 6% of all-Russian vineyards. Nonetheless, as experts point out, the Region is not sufficiently represented by the production of wines of the new generation [9].

The Rostov Region belongs to the zone of risky winemaking, and therefore, viticulture is sheltered here. The primary advantage of the Region is its fertile soils [9].

As it has already been noted, attracting a sufficient amount of financial resources for wineries is one of the priority tasks for their high performance, which in modern conditions creates bright prospects for the development of the industry as a whole.

This process depends on many factors, determined by the specifics of the industry. First of all, new vineyards require a significant amount of long-term investment since the cultivation period takes approximately four or five years (from the stage of soil preparation to fruiting). In the Russian Federation, a standard for the operation of a vineyard has been set as 25 years, but the operating life may be reduced due to, for example, the low quality of planting material or its maintenance, which results in recultivation [9].

Modern technologies and advanced agricultural equipment significantly increase yields, labor productivity, reduce losses, and improve product quality, increasing production profitability [9]. Nonetheless, currently, the material base of the industry, including processing and harvesting machinery, has significantly worn off. Moreover, significant areas of vineyards require replacement and recultivation. At the same time, the capabilities for purchasing new equipment are limited due to the low level of solvency of most enterprises.

For this reason, Russia currently does not have sufficient capacity to meet its demand for wine products. Furthermore, Russia does not produce enough wine material and has to import it. According to the International Organization of Vine and Wine, as of 2018, there were 92 thousand hectares of vineyards in Russia, while, for example, Spain had 969 thousand hectares. In 2018, five countries – Spain, China, France, Italy, and Turkey – had 50% of the global vineyards (Fig. 2). In this regard, Russia occupies the 20th place in the global rating.

One can observe a similar situation in the wine production sphere. In 2018, Italy produced more than 54 million hectoliters, while Russia – only 5.7 million hectoliters (Fig. 3, Fig. 4) [35].

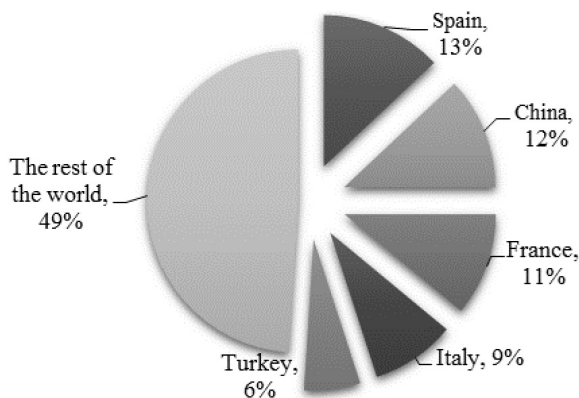


Fig. 2. Leading countries in vineyard areas, 2018

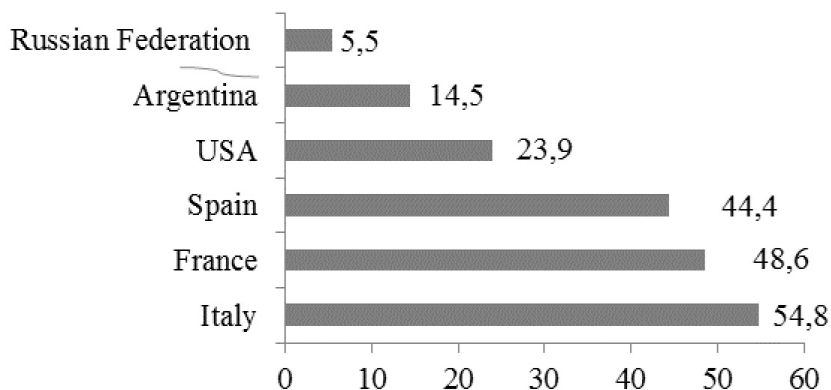


Fig. 3. Volume of wine production in the leading producing countries and the Russian Federation, 2018, in million gallons

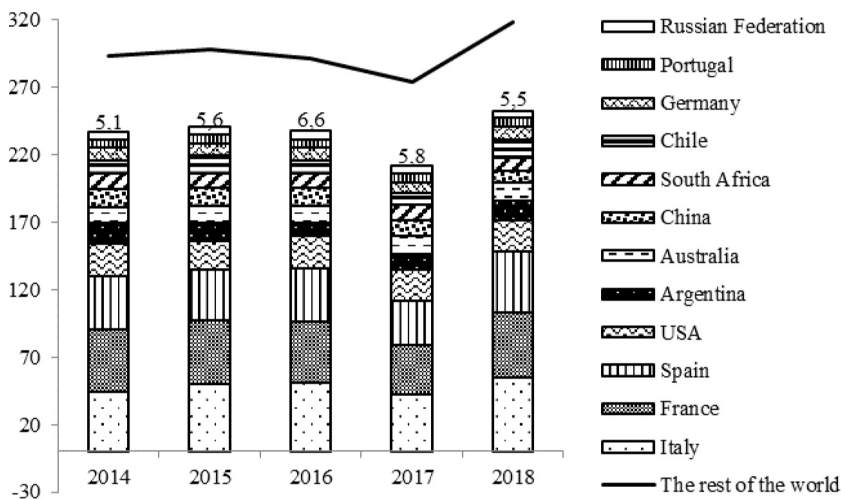


Fig. 4. Global wine production in the 2014–2018 period, in million gallons

However, currently, experts point out a significant overproduction of grapes in Europe. The European Commission pays a subsidy of 15 thousand euros per hectare of cut vineyards to regulate the situation. These circumstances condition low prices for the wine materials. As a result, it has been increasingly profitable for the Russian winemaking enterprises to import wine materials than produce their raw materials and products. That factor was illustrated by the figures for

2018: 30% of all bottled wine and the same share of wine materials were imported to Russia from European countries.

The top five wine-consuming countries traditionally include the following countries: the USA (13.4%), France (10.9%), Italy (8.9%), Germany (8.1%), and China (7.2%). The rating of the top exporting countries includes Spain (19.5%), Italy (18.2%), France (13.1%), Chile (8.6%) and Australia (8%) [43]. The top importing countries include Germany (14%), the UK (12.3%), the USA (10.7%), France (6.6%), and China (6.4%), according to the OIV report [41; 51–53]. Their share is more than half of global consumption, imports, and exports.

Considering the factors that hinder the development of winemaking in the Russian Federation and attract additional financial resources, one should focus on the features of the industry technical re-equipment. Currently, imported equipment is primarily used for technical re-equipment of wineries in Russia.

Since the cost of some equipment units is too high for small regional enterprises and amounts to at least 70–260 thousand euros, and the cost of a complete set of technical aids exceeds 1 million euros per 100 hectares of vine plantations, the introduction of new, highly efficient production technologies is available only to large grape producers supported by the government [25].

The Ministry of Agriculture of the Russian Federation provides new opportunities for developing the wine industry. Therefore, in 2018, the industry received 1.65 billion rubles from the state budget, and in 2019 more than 2 billion rubles were allocated to it. By way of comparison, four years ago, the mentioned amount did not exceed 365 million rubles. Since the government actively supports and finances the industry, viticulture and winemaking are actively developing, and the area of vineyards is increasing annually [9].

In the future, there are plans to increase the number of vineyards in the regions from 90 thousand hectares to 170 thousand hectares, increase the volume of bottled wine to 2 million decaliters per year by 2022. The bulk of the funding will be spent to compensate for part of the costs of planting and managing young vineyards, as it is impossible to increase the production of wine materials without expanding the raw material base [9].

In December 2019, the State Duma adopted the Federal Law “On Viticulture and Winemaking in the Russian Federation”, which came into force on June 26, 2020. The primary objective of the Law is to protect Russian consumers from counterfeit products and provide support to national wine producers.

However, the Law does not consider some risks for national producers associated with the insufficient amount of grapes grown in the country. In particular, the official name – “wine” – can only be applied to grapes grown in the

country. Furthermore, the Law introduces a national system for the protection of wine by geographical indication and place of origin and the procedure for government control and supervision of compliance with legislation in the field of viticulture and winemaking.

Winemaking stands out as an independent industry, which is in line with global practice. From the perspective of the present study of the issue, one should identify the measures and conditions of the government and municipal support for wineries. The primary point is the provisions of the Law on financial, property, information, and consulting support. It also includes measures for the sustainable development of viticulture and winemaking, research, scientific, technical, and innovative activities of enterprises in this area.

Nevertheless, all support measures mentioned above are applied only to those subjects of viticulture and winemaking that produce viticulture products, wine, fortified wine, sparkling wine, and grape must from grapes grown on Russian territory. It is a distinct advantage of the Law, as it ensures the development of the industry, and at the same time a significant limiting factor, given the shortage of grape raw materials on the market of the Russian Federation, which has been mentioned above.

As a result, today, in terms of financial support, small private wineries that process raw materials of their production will benefit, while large producers, forced to use some imported raw materials, will have to reduce production volumes or switch to the production of a cheap segment – winy beverages.

However, the subsidies they may obtain (for purchasing planting material, technical re-equipment, etc.) will provide an economic result in four to five years. Therefore, they will have to deal with the issues of loading their production facilities by their efforts and then with the development issues.

As for the import of finished products (bottled wine), they are classified as winy beverages until they are certified in compliance with the requirements of the Russian standards. On the one hand, this requirement of the Law will help increase the competitiveness of national wine, and on the other hand, it may create a deficit, possibly temporarily, in this segment of the alcoholic beverages market.

Model-based analysis of the influence of main factors on the development of viticulture and winemaking in the Russian Federation. The process of viticulture and winemaking as an entrepreneurial activity is determined by several impact factors (conditions), which can be considered from the standpoint of various criteria. The following factors are distinguished in terms of the source and content: natural, anthropogenic, technological, institutional, managerial (the

level of marketing and management), financial, socio-economic, cultural-historical, legal, and macroeconomic (development trends and potential of the external market). The cumulative influence of these conditions predetermines the choice of regions for the favorable development of viticulture and winemaking.

The restoration of the viticulture and winemaking industry in Russia began in the 2000s with small wineries (vineyard area up to 100 hectares) with the entire cycle of wine production “from the vine to the bottle.” The first wineries appeared in Krasnodar Krai, then in Crimea. The primary drivers of the new development of the industry are the following:

- High demand for fine and high-quality wine (hereinafter, premium wine);
- Availability of highly qualified professionals with international experience;
- Availability of land plots with optimal soil and climatic characteristics for the production of premium wine.

Therefore, in a relatively short period of five to seven years, the first in the history of modern Russia, so-called “elite vineyards and wineries,” created using high-quality imported planting material, equipment and specialists, have emerged. “Imported” has become synonymous with “elite” [12].

However, soil and climate (natural factors) have remained crucial in the quality of the product. The wine of competitive import quality of the middle and higher price categories can be produced only in limited soil and climatic conditions. Such conditions are determined by the physicochemical values of the soil composition and the agro-climatic resources of the land plot and can be expressed analytically to assess their impact on the value of the products – grapes and wine.

In the context of the globalization of the food industry and the digitalization of many other industries, including agriculture and processing, the ability of an enterprise to develop high-quality products for the target group of consumers is crucial for its economic sustainability. In this case, the influence of natural factors is technologically compensated and leveled. Therefore, marketing, management, and innovation precondition the growth and development of an enterprise [44]. Mathematically, this statement can be expressed as follows:

$$z = f(x_1, \dots, x_n, y_1, \dots, y_n) \quad (1)$$

where z is the estimate of the cost of wine, $f(x, y)$ is a function of variables – factors of influence on the estimate of the cost of wine. These factors are the following:

- Resource factors:

x_1 – physical and chemical characteristics of the soil, the climate of the plot (natural factors), and the wine material from it;

x_2 – investments in the industry of premium viticulture and winemaking;
 x_3 – available labor force, its qualifications, and migration policy of the government;

x_4 – land plots;

x_5 – industry legislation, including its subsidies.

• Non-resource factors include the following:

y_1 – the number of players in the premium wine market in Russia;

y_2 – the demand for wine and the purchasing power of the Russian population;

y_3 – the level of technological development.

The $f(x,y)$ function is multidimensional. Its mathematical analysis is also considered multidimensional and is used in many subject areas for model-based analysis and studying high-dimensional systems [29]. Moreover, each variable (factor) of this multidimensional function is also a function, which, by definition, makes the problem of expressing f a problem of solving differential equation of the derivatives of functions included in it as parameters.

However, since a substantial amount of interest is generated by the problem of the dependence of the assessment of the cost of wine z on the factors of its pricing x and y in dynamics, or, in other words, the change in value when one or several factors change (for example, seasonality, market conditions, etc.), then the problem goes to the level of partial differential equations, which describe the limit of the ratio of the increment of a function concerning the selected variable to the increment of this variable when the increment itself tends to zero [17; 29]. The authors provide the following example.

There is the function of the conditional cost of wine in the following form:

$$z = f(x,y) = x^2 + xy + y^2 \quad (2)$$

where x is the level of soil quality in the regions of the Russian Federation, and y is the demand for wine in various regions of the Russian Federation. The function is graphically represented by a surface in Euclidean space and looks as follows (Fig. 5).

Each point on this surface determines the value of the wine Z , produced from plot X with a specific demand Y in the Region where the plot is located. A finite number of tangents (derivatives) can be constructed to each point of the surface. Their tilting angle is the potential speed (positive or negative) increment of Z when modifying X , Y . For this example, the figure shows the price level for different soils in the regions (natural factor) with stable and equal demand everywhere – black lines with $Y = 1$.

A detailed description of the model and its subsequent verification using the example of existing and emerging enterprises of Crimea and Sevastopol

enables researchers to assess the economic effect of the influence of controlled and uncontrolled (natural) factors on the products and the industry as a whole. This issue will become the subject of further research.

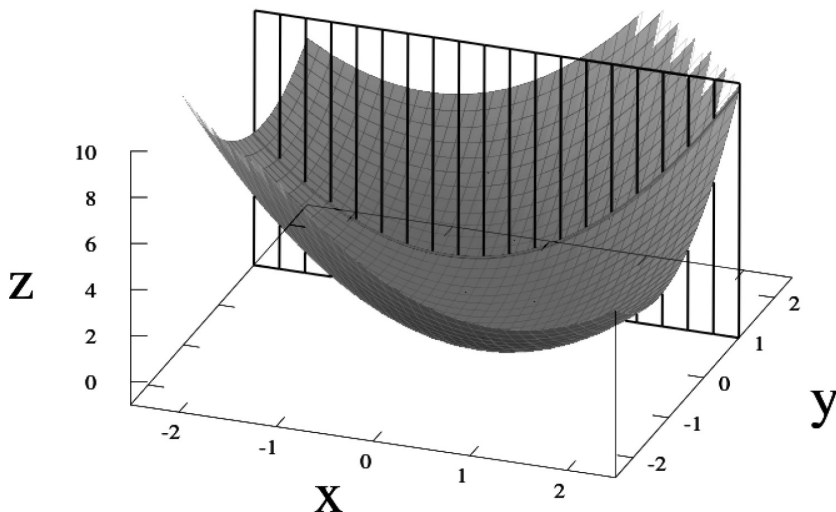


Fig. 5. Example of a mathematical function describing the cost of wine z for given variables x and y

Assessing the conditions for the development of viticulture and wine-making enterprises in Crimea and Sevastopol. Until recently, financial measures of government support have provided primary conditions for developing the wine industry in Crimea and Sevastopol.

Incidentally, the number of subsidies allocated for Crimean viticultural enterprises has increased by eight times since the reunification of Crimea with Russia in 2014. Within five years – from 2014 to 2019 – the viticulture enterprises of the Republic have received 1.2 billion rubles.

With the considerable government industry support, the new vineyards area also increased from 250 hectares in 2014 to 880 hectares in 2019.

The government has provided funds to compensate for part of the costs of purchasing planting material, planting, and managing vineyards, which have later enabled producers to increase the raw material base for national wine materials and finished wine products.

As a result, wineries operating in Sevastopol have had the opportunity to provide a systematic renewal of vineyards. In 2018, new wineries appeared,

setting up new vineyards, using that measure of government support. Despite the efforts mentioned above, the issue is still relevant in Crimea due to the significant proportion of vine plantations that require recultivation.

Additionally, within the framework of the socio-economic development strategy of Sevastopol, the Le Terroir Sevastopol priority project has been adopted. The project action plan was adopted in 2018. The project objectives were both to increase the production level of operating wineries and also create 20 new wineries, which, in addition to their main activities, were to become a link in the chain of tourist routes in the city.

These measures have allowed one to solve two issues: on the one hand, to ensure the attractiveness of the tourism sector of the city, and on the other hand, to promote proprietor's wines in the Russian and, in the future, international markets. Global practice demonstrates the high efficiency of these two components of ethno-tourism [9].

However, in the course of practical implementation of the priority project, winegrowers have faced issues related to the intended use of land. Any non-core construction on the allocated agricultural land is prohibited. In particular, the construction of retail facilities and temporary accommodation for tourists, as provided for by the project. As a result, the primary idea of the project reduces to nothing – the connection between the proprietor's winemaking and the touristic component since, at the moment, most private winemakers do not have land for a hotel, shop, and other tourist infrastructure. The current issue should be solved at the level of the Sevastopol government, and the regulatory framework should be modified.

Considering the potential opportunities of using the measures of government support by the Crimean and Sevastopol winemakers, provided for by the Law “On Viticulture and Winemaking in the Russian Federation,” it should be mentioned that, in fact, the proprietor's winemaking has the advantage of obtaining it. In this case, most prominent producers find themselves in a difficult financial situation to some degree due to the forced reduction in production volumes or transition to the production of products in a cheaper segment – so-called “winy beverages.”

Table 1 demonstrates the consequences of adopting the Law “On Viticulture and Winemaking in the Russian Federation” for enterprises in Crimea and Sevastopol.

Lack of water resources is a significant deterrent for developing agricultural industries in Crimea and Sevastopol. After the North Crimean Canal had been closed, most of the agricultural land in the Crimean Peninsula became the zone of risky farming due to a nearly total absence of an irrigation system and the possible impact of atmospheric and soil drought. The use of underground

sources for these purposes is limited because of the scarcity of available water resources and significant environmental risks resulting from their active use.

Table 1.

Consequences of adopting the Law “On Viticulture and Winemaking in the Russian Federation” for various types of enterprises in Crimea and Sevastopol

Enterprise type	Availability of farmland	Availability of processing	Consequences of the adoption of the Law
Agricultural enterprise (viticulture + winemaking)	+	+	Government support for investment purposes; product range maintenance
Agricultural enterprise (viticulture)	+	-	
Agro-industrial association (viticulture + winemaking)	+	+	
Small winery (viticulture + winemaking)	+	+	
Winery (winemaking)	-	+	Government support for investment purposes in the case of processing Russian wine materials; when using imported raw materials – a forced transition to the production of winy beverages.

The situation in Crimean vineyards is similar. The risks of the loss of crops and destruction of vineyards, and, consequently, the deterioration of the financial condition of enterprises in the viticulture and winemaking industry, may be reduced through the use of insurance. Currently, there is a particular insurance program for agricultural crops or their yield with the government support on the insurance market, implemented based on the Federal Law “On Government Support in the Field of Agricultural Insurance” dated July 25, 2011, 260-FZ. Under the Law, the enterprise-insurant pays only 50% of the insurance, and the rest is compensated from the state budget.

Moreover, the latest amendments to the Law have made it possible to develop individual insurance programs depending on the needs of the regions. Therefore, in 2019, the National Union of Agricultural Insurers (NUI) and the Regional Ministry of Agriculture developed a program to protect the viticulture and horticulture of the Kuban, where hail poses a significant risk. It protects both crops and peren-

nial plantations (vineyards), which makes insurance services more profitable for the insurant than a standard certificate. This program is planned to be extended to other regions of the Russian Federation, considering their specific features.

However, in Crimea, the use of this program is currently limited due to the sanctions. Insurance market participants specializing in agricultural insurance with the government support, in particular, “Russian Agricultural Bank Insurance,” a leader in this market segment, and other Russian insurers do not open their branches and do not provide insurance services in Crimea and Sevastopol due to the threat of the sanctions regime.

Assessing the potential for financing the development of viticulture and wine producers in Crimea and Sevastopol. Traditionally, funds that form internal and borrowed resources of any entities in the real sector of the economy constitute principal sources of financial support for viticulture and wine producers. Simultaneously, it is not always possible and advisable to focus exclusively on internal funds, especially for enterprises in the viticultural sector with a long production cycle (more than four to five years).

This approach applies to various investment projects and, in some situations, replenishment of working capital. Simultaneously, attracting external sources implies additional costs, which presents an issue for enterprises in this sector without a full or partial loss of profitability.

The process of monitoring and managing the financial resources of enterprises begins with analyzing their structural component. Financial leverage (FL) is a critical analytical indicator in this regard, and it characterizes financial risks associated with a specific ratio of internal and borrowed funds. This ratio relates directly to the financial leverage effect (FLE), which determines the optimal amount of borrowed funds to generate profits.

Table 2 illustrates the results of analytical calculations for the industry-forming winemaking enterprises of Crimea and Sevastopol.

The presented enterprises differ in the total amount of financial resources, sources of their formation, dynamics, and the implemented financial strategy. The Massandra PJSC State Unitary Enterprise of the Republic of Crimea and Inkerman Factory of Vintage Wines LLC have the most significant volume of equity capital, and the third place goes to the champagne factory Novy Svet JSC. All wineries in the Region, in a particular proportion, use borrowed resources in financing and developing their activities. The Massandra PJSC State Unitary Enterprise of the Republic of Crimea, Inkerman Factory of Vintage Wines, and Evpatoria Factory of Classic Wines LLC demonstrate the highest indicators of the borrowed capital.

Based on the calculated values of the financial leverage effect indicator, the enterprises may be divided into three primary groups. In the first group of enterprises, the share of borrowed capital is less than equity. The group includes the champagne factory Novy Svet JSC, Massandra PJSC State Unitary Enterprise of the Republic of Crimea, Magarach Agrarian Company State Unitary Enterprise of the Republic of Crimea. In the second group, the shares of equity and borrowed capital are approximated, as in the case of VK Satera LLC. In the third group, the share of borrowed capital prevails, as in the case of Crimean Wine House LLC, Evpatoria Factory of Classic Wines LLC, and Inkerman Factory of Vintage Wines LLC.

Furthermore, the borrowed capital of the Evpatoria Classic Wine Factory has exceeded its capital by more than 5 and 6 times in 2017 and 2018. Accordingly, it has formed, for the most part, at the expense of short-term liabilities. This situation indicates the insufficiency of its internal funds and the necessity to attract borrowed funds as the primary source of financing operating activities.

However, the significant adverse value of the financial leverage effect implies the situation of ineffective use of borrowed resources and the acceleration of unprofitable activities. Analyzing the financial leverage effect indicator, one should pay special attention to the difference between the level of profitability of total assets and the cost of the used borrowed capital (the differential in the FLE indicator).

If this element is more significant than zero, then the effect of financial leverage will be positive – the borrowed capital provides the formation of additional profit. Otherwise, if the differential value is negative, there is no point in attracting borrowed capital. However, even with a negative value of the FLE, if an industrial enterprise with a high capital intensity of internal financial resources (in particular, this refers to retained earnings) faces a deficit, raising borrowed funds is considered as a forced measure for both implementing investment projects to expand activity and providing the production process with the working capital.

Analytical data show that some of the wineries have found themselves in this situation. In particular, VK Satera LLC and Evpatoria Classic Wine Factory LLC have a negative FLE indicator for the entire analyzed period. Simultaneously, LLC Crimean Wine House, Massandra PJSC State Unitary Enterprise of the Republic of Crimea, and champagne factory Novy Svet JSC demonstrate a stable positive FLE.

Most enterprises must use long-term loans to develop and maintain production.

Table 2.

Financial indicators of the winemaking enterprises of Crimea and Sevastopol in the 2016–2018 period

Enterprise	Debts on long-term loans, in thousand rubles			Financial leverage		Financial leverage effect		ROIC, in %		
	2016	2017	2018	2017	2018	2017	2018	2016	2017	2018
Evpatoria Classic Wine Factory	-	-	99,725	0.12	0.12	0.81	1.05	57.23	-0.39	0.33
Massandra PJSC State Unitary Enterprise of the Republic of Crimea	-	-	-	1.01	1.01	-3.56	-3.40	13.04	7.46	14.30
Crimean Wine House LLC	-	-	-	0.36	0.3	0.21	1.58	1.43	-94.60	18.22
VK Satera LLC	14,920	38,914	11,935	0.46	0.32	10.79	-0.99	11.38	0.82	1.13
Livadia Wines LLC	360,444	386,603	386,603	3.96	5.67	19.26	5.69	55.69	-3.30	4.81
Champagne factory Novy Svet JSC	38,500	37,637	46,039	5.28	6.68	-20.74	-26.19	11.25	13.60	16.52
Inkerman Vintage Wines Factory LLC	473,684	550,000	650,000	1.92	2.55	11.75	-5.28	59.88	1.56	-16.07

However, Table 2 demonstrates that not all significant winemakers in Crimea and Sevastopol utilize long-term credit resources, using only short-term credits if necessary. In particular, Massandra PJSC State Unitary Enterprise of the Republic of Crimea, which has the most prominent absolute indicator of equity capital, and Crimean Wine House LLC do not resort to attracting long-term loans. In 2018, only Evpatoria Classic Wine Factory LLC received a long-term loan.

In general, for the considered group of winemaking enterprises, there is an increase in the volume of long-term lending (Table 2, Fig. 6). Nevertheless, if the company generates sufficient profit to finance investment needs and provides an acceptable level of business profitability, it does not have to attract loans (Fig. 6). Despite the optimistic estimates of the profitability of the wine business as a whole, provided by Deloit [2], in recent years, due to restrictions and pro-embargo, bank long-term lending rates have turned out to be significantly higher than the industry average return on investment in the wine sector.

Moreover, the winemaking industries of Crimea and Sevastopol need a significant equipment upgrade (according to experts, its deterioration has exceeded

70%). Provided the need to improve the material and technical equipment of the wine industry in Crimea and Sevastopol, it is challenging to ensure an acceptable level of profitability for the dynamic business development. The industry needs an integrated approach to solve its numerous issues.

RNKB PJSC is recognized as a leader in lending to the wine industry in Crimea and Sevastopol, and the bank has a monopoly in the banking sector of the Region. The following operations for lending to wineries of the Crimean Peninsula in 2019 should be pointed out – primarily, a credit line for Evpatoria Classic Wine Factory LLC in the amount of 280 million rubles for a period of 36 months.

The primary purpose of the loan is to replenish working capital, including capital for the purchase of wine materials. One should note that this enterprise is one of the top 5 major wine producers in Crimea. Furthermore, the bank has provided credit resources in the amount of 80 million rubles to the Crimean Vineries LLC within the framework of the preferential support program for agricultural enterprises at the rate of 5%. The loan repayment period is five years. The first credit line is open to cover the costs of maintaining existing vineyards, the second – for planting new vineyards [9; 16; 26].

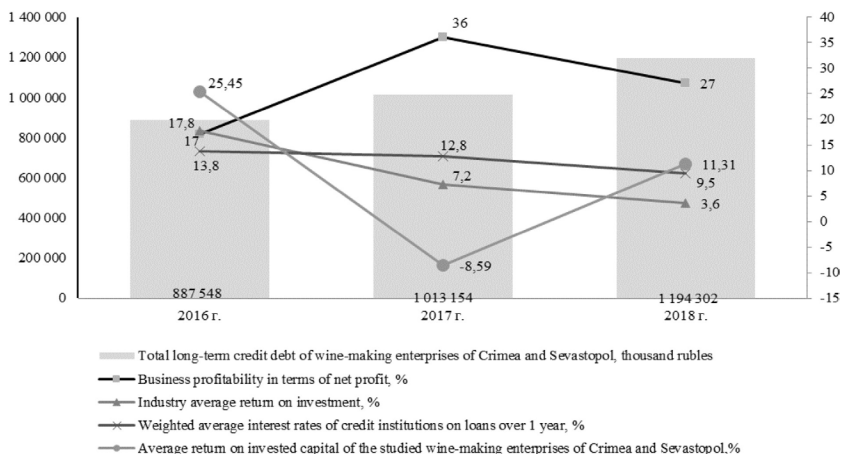


Fig. 6. Dynamics of long-term credit debt of winemaking enterprises of Crimea and Sevastopol compared with financial indicators of profitability and lending rates in the 2016–2018 period

Bank loans are granted based on assessing the borrower's creditworthiness, which is carried out, first of all, by the enterprises themselves to assess the possibilities and risks of attracting borrowed funds, and then by the bank [2; 20; 21].

One of the critical indicators of such an assessment in terms of the ability to repay long-term loans is the rate of return on capital invested in the company – ROIC.

Table and Fig. 6 demonstrate the results of the indicator analysis for the enterprises of the winemaking industry of Crimea and Sevastopol.

As one may infer from the presented data, the return on invested capital fluctuates widely, which is a consequence of significant fluctuations in the parameters of the wine sales market (price, demand, supply, and market share for each enterprise), fluctuations in grape yield, and other resource and non-resource factors.

Lending to the wine industry, especially agricultural enterprises, classifies as high-risk lending for financial and credit institutions. The fact that viticulture and winemaking enterprises have an extended payback period is also taken into consideration, and there are also specific features of the collateral assessment. Processing-oriented wineries are of greater interest to banks, but primarily as clients of settlement and cash services. From the standpoint of lending, incomplete-cycle enterprises are more attractive for banks.

After acquiring a loan, the company often has to repay it from the profit generated by previous investments. The unstable dynamics of profitability determine the high risks of attracting credit resources to finance investment needs, including for the wineries of Crimea and Sevastopol.

Discussion

Viticulture and winemaking are specific spheres of the economy, and their functioning is determined both by the specifics of the activity, the multiplicity of impact factors, and the interest of the government in its development. Viticulture and wine businesses, like any other, are subject to various risks, which are amplified by the simultaneous impact of both the risks inherent in agribusiness in general and the risks associated with any production activity. Taken jointly, the conditions for developing viticulture and winemaking result in specific issues in the industry development, which, on the one hand, are systemic and, on the other, are specific to each Region (Fig. 7).

Restoration of the economic sustainability of a winery can be achieved by managing the factors that influence the consumer's assessment of the cost of wine: technological, socio-economic, managerial, anthropogenic, etc.

As for natural (uncontrolled) factors, their influence is not always predictable and manageable. However, they play a significant role and should be considered in the proposed factor model for estimating the value of wine. The direct influence of natural factors has a decisive impact on the technical and

phenolic maturity of grapes. The first reflects the accumulation of sugar and the corresponding potential alcohol content in the wine, the second - reflects the spectrum and concentration of phenolic substances which are responsible for the taste and aromatic qualities of the wine.

The indirect influence of natural factors is expressed in the complexity and cost of agrotechnical operations (for example, uncovered viticulture and risky covered viticulture, arid against waterlogged, etc.), protection of plants from pests, pathogens, and adverse environmental factors. It is also possible to attribute the classification of vineyards by geographical feature to the influence of natural factors. The classification was introduced in the Russian Federation several years ago; it regulates marketing features and aims to bring the point to the buyer about certain levels of wine quality and its price declared by the producers.

A subsequent verification using the example of enterprises of Crimea and Sevastopol enables researchers to assess the economic effect on the products created by these enterprises and the industry as a whole. The planned study will be conducted considering the fact that in the globalization and digitalization, the influence of natural factors is leveled and compensated for by the technological component; the growth and development of the enterprise are carried out mainly through marketing, management (including financial), and innovations.

Studying the conditions of financial security, including the conditions of lending, makes it possible to identify the following critical issues in financing Crimean and Sevastopol enterprises of the wine industry:

- Most of them possess the legal status of a limited liability company, which significantly reduces the possibility of attracting additional investment resources;
- Financial support within the framework of government programs implemented in Crimea and Sevastopol primarily focuses on providing subsidies for planting new vineyards, while industrial processing enterprises also possess an urgent need for financial resources to update and expand the material base for the production of wine products [8; 16];
- High financial risks caused by competition in the wine market due to the supply of imported wine materials and wine at dumping prices affect the fluctuations in sales volumes and profitability of domestic producers, and as a result, the level of interest rates, as well as general requirements of commercial banks for borrowers – wine industry enterprises. As a result, the availability of credit resources reduces, especially for Crimean and Sevastopol enterprises of viticulture and winemaking since a minimal number of credit organizations is operating on the territory of the Peninsula;

- Lack of an opportunity to use the mechanism of long-term lending for borrowers in the field of viticulture and winemaking as in the case with a mortgage for the agro-industrial complex. First of all, it is because agricultural mortgages only provide an opportunity to acquire a limited type of objects: finished real estate, real estate with a land plot, and a land plot for housing construction in rural areas.

Conclusion

Based on the factors mentioned above, it seems appropriate to implement the following measures on the territory of Crimea and Sevastopol to ensure the effective development of the wine industry of the Peninsula:

- Recommendation of medium-sized wineries, in particular those realizing the complete production cycle and receiving state subsidies, reorganization of the companies in terms of changing their organizational and legal form to a public joint-stock company, which will expand the opportunities for raising capital from the stock market and improve their image in the business community [9];
- Government support for measures of expanding the area of vineyards, modernizing wineries, and introducing modern resource-saving technologies. Additionally, it includes analyzing the possibility of government support for small wineries for introducing digital agriculture on the territory of the Peninsula, in particular, its element – a digital vineyard, which provides for the use of digital technologies for growing grapes based on a unique vineyard control system operating from the moment of planting to ripening and harvesting using special electronic hardware and software systems. This measure will ensure an increase in the quality of grape raw materials and decrease prices for products of proprietor's winemaking. This system is currently widely implemented in global practice;
- Development and implementation of a financial mechanism of supporting the mortgage lending system in the agricultural sector using state (budget) and regional sources of financing;
- Taking into consideration the effect of the sanctions imposed on the economic complexes of Crimea and Sevastopol, a particular insurance program for agricultural crops and their harvest with the use of government support, provided for by the Law "On Government Support in the Field of Agricultural Insurance" of July 25, 2011 260-FZ should be adapted to the regional specific conditions. The possibility of creating an insurance company specializing in agricultural insurance at RNKB Bank PJSC should be analyzed.

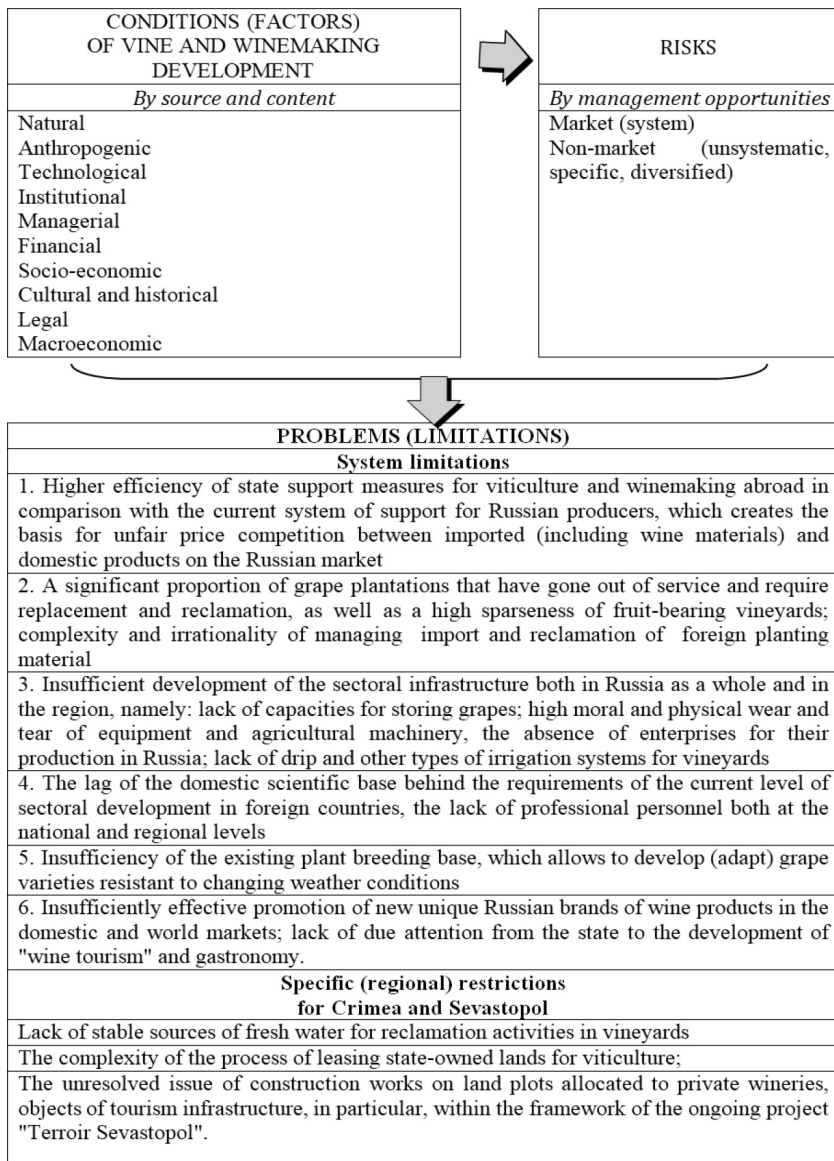


Fig. 7. Factors, risks, and limitations of the potential for developing viticulture and winemaking in Russia and the regional specifics of Crimea and Sevastopol

- Solving the issue of changing the target use of land for small wineries by introducing appropriate changes to the regional regulatory framework to implement the Le Terroir Sevastopol project fully;
- Training of highly qualified specialists for the viticulture and winemaking industry.

A high interest rate for Crimean and Sevastopol winemakers is objectively justified by the high risks of this category of borrowers. Therefore, without its partial subsidizing by the government, credit mechanisms will not be efficient. Simultaneously, implementing subsidized credit programs in the context of the sanctions imposed on the territory of the Peninsula is carried out on a limited scale, and for some types of lending (mortgage) is not implemented at all.

Currently, the issues of financial support for the development of winemaking enterprises in Crimea and Sevastopol may be solved by employing government support in mortgage lending to the agro-industrial complex, which includes the sectors of viticulture and winemaking.

In this respect, three primary directions can be considered. First of all, the support provided directly to banking structures operating or interested in expanding their activities in the Peninsula; second, support in the formation of a specialized infrastructure; third, support for wineries in the form of subsidizing interest rates on mortgage loans [8; 22].

Incidentally, it will be possible to actualize the local development potential of the industry, which will provide additional tax revenues and create new jobs, including jobs for the rural population of the Region, where the unemployment issue is more topical than in urban areas.

References

1. Aluyan S. V. K voprosu o regulirovaniy gosudarstvennogo razvitiya prioritnykh chastnykh ekonomik (na polucheniye vinodel'cheskikh predpriyatiy Krasnodarskogo kraya) [On the issue of state regulation of the development of priority sectors of the regional economy (on the example of winemaking enterprises of Krasnodar Krai)]. *Ekonomika I Predprinimatel'stvo* [Economy and Entrepreneurship], 2014, vol. 1-2, no. 42, pp. 312-315.
2. *Analitiki nazvali vyrashchivaniye vinograda naiboleye likvidnym sektorom v APK, 2020 g.* [Analysts called grape cultivation the most profitable sector in the agro-industrial complex, 2020]. URL: <https://www.rbc.ru/business/17/07/2019/5d2d94ee9a7947f18a0c0852>
3. Antsiferova O. Y., Kuzicheva N. Y., Yakhyaev G. U. Razvitiye vinogradno-vinodel'cheskogo podkompleksa Respubliki Dagestan: tendentsii, problemy, tochki rosta [Development of the grape and winemaking subcomplex of the

- Republic of Dagestan: tendencies, problems and growth points]. *Mezhdunarodnyy Sel'skokhozyaystvennyy Zhurnal* [International Agricultural Journal], 2018, vol. 61, no. 2(362), pp. 28–31.
4. Beisbulatov M. R., Sablin M. I. Ekonomicheskiy potentsial i perspektivy razvitiya vinogradarstva v Krymskom Federal'nom Okruge [Economic potential and prospects for the development of viticulture in the Crimean Federal District]. *Uchenyye Zapiski Krymskogo Federal'nogo Universiteta Imeni V.I. Vernadskogo. Ekonomika i Upravleniye* [Scientific Notes of the VI Vernadsky Crimean Federal University. Economics and Management], 2016, vol. 2, no. 68, pp. 3–10.
 5. *Valovoy sbor sel'skokhozyaystvennykh kul'tur, 2019 g* [Gross crop harvest, 2019]. URL: <https://www.fedstat.ru/indicator/30950>
 6. Gaisarova A. A., Filipenko N. Y. O problemakh i perspektivakh razvitiya otrasley vinogradarstva i vinodeliya Respubliki Krym [On the problems and prospects of the development of viticulture and winemaking industries in the Republic of Crimea]. *Agropromyshlennaya Ekonomika* [Agri-Food Economy], 2017, vol. 1, pp. 90–99.
 7. Grinko E. L. *Finansovyye resursy predpriyatiy vinodel'cheskoy otrasli. Mezhdunarodnyye innovatsionnyye issledovaniya* [Financial resources of enterprises of the wine industry. International innovation research]. Proceedings of: The 19th International Scientific and Practical Conference “Science and Education.” Penza, 2019.
 8. Grinko E. L., Sushko K. E. Dolgosrochnoye kreditovaniye vinodel'cheskoy otrasli Kryma: tekushcheye sostoyaniye, problemy i perspektivy [Long-term lending to the Crimean wine industry: Current status, problems and prospects]. *Proceedings of: The 2nd Scientific and Practical Conference with International Participation: Innovative Technologies in the Development of Socio-Economic Systems*. Sevastopol, 2020. 143–148 p.
 9. Grinko E. L., Sushko K. E. Osobennosti formirovaniya finansovykh resursov predpriyatiy vinodel'cheskoy otrasli [Features of the formation of financial resources of enterprises of the wine industry]. *Proceedings of: All-Russian Scientific and Practical Conference: Challenges and opportunities for financial support for stable economic growth*. Sevastopol, 2019. 128–134 p.
 10. Darienko Z. Y., Feskova M. V., Darienko Y. V. Analiz razvitiya vinogrado-vinodel'cheskoy otrasli Stavropol'skogo Kraya [Analysis of the development of the winemaking industry of Stavropol Krai]. *Ekonomika Selskogo Khozyaystva Rossii* [Economy of Agriculture of Russia], 2015, vol. 4, pp. 38–44.
 11. Dryagin V. B., Nikolenko A. A. Sostoyaniye vinogradarstva Rossiyskoy Federatsii [State of viticulture in the Russian Federation]. *Magarach. Vinogradarstvo I Vinodelie* [Magarach. Winemaking and Viticulture], 2017, vol. 1, pp. 28–30.

12. Ermakova D. *Otkryt' vinodel'nyu v Rossii: skol'ko stoit uchastok i oborudovaniye i na chom mozhno sekonomit'*, 2018 g [To open a winery in Russia: How much is the site and equipment and what can be saved on – 2018]. URL: <https://vc.ru/offline/54396-otkryt-vinodelnyu-v-rossii-skolko-stoit-uchastok-i-oborudovanie-i-na-chem-mozhno-sekonomit>
13. Efremova A. A. Analiz sostoyaniya vinodel'cheskoy otrasli Respubliki Krym i yeye potentsiala [The condition of economic potential and the development of vineyards in the Crimea]. *Uchenyye Zapiski Krymskogo Federal'nogo Universiteta Imeni V.I. Vernadskogo. Ekonomika i Upravleniye* [Scientific Notes of the VI Vernadsky Crimean Federal University. Economics and Management], 2018, vol. 4, no. 70, pp. 68–74.
14. Zazirny D. K. Proizvodstvenno-ekonomicheskoye sostoyaniye i tendentsii povysheniya konkurentosposobnosti podotrasli vinogradarstva v Rossiyskoy Federatsii [The production and economic state and trends in increasing the competitiveness of the viticulture sub-industry in the Russian Federation]. *Nauchno-tehnicheskkiye Vedomosti Sankt-Peterburgskogo Gosudarstvennogo Politehnicheskogo Universiteta. Ekonomicheskkiye Nauki* [Scientific and Technical Bulletins of the Saint-Petersburg State Polytechnic University. Economic Sciences], 2012, vol. 3, pp. 42–48.
15. Ivanchenko V. I., Matchina I. G. Sostoyaniye vinogradarstva i povysheniye yego effektivnosti dlya proizvodstva konkurentnoy vinodel'cheskoy produkt-sii [The current state of viticulture in Magarach of the Bakhchisaray Region of the Autonomous Republic of Crimea]. *Magarach. Vinogradarstvo I Vinodelie* [Magarach. Winemaking and Viticulture], 2009, vol. 3, pp. 6–7.
16. Lyashenko T. V. Mekhanizm effektivnogo upravleniya otrasli vinogradarstva Respubliki Krym [The mechanism of effective management of the viticulture industry of the Republic of Crimea]. *Azimuth Nauchnykh Issledovaniy: Ekonomika i Upravleniye* [Azimuth of Scientific Research: Economics and Management], 2018, vol. 2, pp. 211–218.
17. Mizohata S. *Teoriya Uravneniy s Chastnymi Proizvodnymi* [Theory of Partial Differential Equations]. Moscow: Mir, 1977. 507 p.
18. Petrova E. V., Litvinova T. V. Osnovnyye faktory i parametry otsenki konkurentosposobnosti otrasli vinodeliya Krasnodarskogo kraya [The main factors and parameters for assessing the competitiveness of the wine industry in Krasnodar Krai]. *Rossiyskoe Predprinimatelstvo* [Journal of Russian Entrepreneurship], vol. 11, no. 2, pp. 170–174.
19. Avidzba A. M., Borisenko M. N., Yalanetskiy A. YA., Yakushina N. A., Matchina I. G. *Programma razvitiya vinogradarstva i vinodeliya Respubliki Krym do*

- 2025 goda (proyekt) [Program for the Development of Viticulture and Winemaking in the Republic of Crimea Until 2025 (project)]. Yalta: Я.: Printing group FGBUN VNNIIV iV "Magarach" RAS, 2015, 58 p.
20. *Protsentnyye stavki po kreditam i depozitam i struktura kreditov i depozitov po srochnosti, 2020 g* [Interest rates on loans and deposits and structure of loans and deposits by maturity, 2020]. URL: https://cbr.ru/statistics/bank_sector/int_rat/
 21. *RNKB predostavil finansirovaniye gruppe kompaniy "Yevpatoriyskiy zavod klassicheskikh vin," 2019 g* [RNKB provided funding to the Evpatoria Classical Wines Group of Companies, 2019]. URL: <https://creditpower.ru/banknews/20190410/rnkb-predostavil-finansirovanie-gruppe-kompanij-evpatorijskij-zavod-klassicheskikh-vin/>
 22. Rodin D. Y., Glukhikh L. V., Mikhaltsova N. V. Realizatsiya organizatsionno-finansovogo mekhanizma gosudarstvennoy podderzhki sistemy zemel'no-ipo-technogo kreditovaniya v agropromyshlennom kompleks [Implementation of the organizational and financial mechanism of state support for the system of land and mortgage lending in the agro-industrial complex]. *Zhurnal Kubanskogo Gosudarstvennogo Agrarnogo Universiteta* [Journal of the Kuban State Agrarian University], 2016, no. 117, pp. 3–5.
 23. Avidzba A. M., Dryagin V. B., Matchina I. G., Kushnir L. P., Antonyuk I. I. Sostoyaniye vinogradarstva Kryma v 2014 godu [State of the Crimean viticulture in 2014]. *Magarach. Vinogradarstvo I Vinodelie* [Magarach. Winemaking and Viticulture], 2015, vol. 4, pp. 3–5.
 24. Sukhina N. Y., Kutin M. V., Artemenko N. P. Analiz razvitiya predpriyatiy vinodel'cheskoy promyshlennosti Krasnodarskogo Kraya [Analysis of the development of enterprises in the wine industry of Krasnodar Krai]. *Vestnik Adygeyskogo Gosudarstvennogo Universiteta. Seriya 5: Ekonomika* [Bulletin of the Adyghe State University. Series 5: Economics], 2010, vol. 4, pp. 137–145.
 25. Sushko K. E., Grinko E. L. Analiz finansovogo sostoyaniya predpriyatiy vinodel'cheskoy otrasli g. Sevastopolya [Analysis of the financial condition of the enterprises of the wine industry in Sevastopol]. *Proceedings of: The 4th National Scientific and Practical Conference: Sectoral Features of the Development of the Regional Economy*. Kerch, 2018. 83–89 p.
 26. *Tendentsii deyatel'nosti krupneyshikh vinodel'cheskikh predpriyatiy Rossii, 2019 g* [Trends in the activities of the largest wineries in Russia, 2019]. URL: <https://credinform.ru/ru-RU/Publications/Article/77bd45e6fe69>
 27. Usenko L. N., Udalova Z. N. Analiz sostoyaniya vinogradovinodel'cheskogo podkompleksa APK Rossii [Analysis of the state of the winemaking subcomplex of the agro-industrial complex of Russia]. *Uchet I Statistika* [Accounting and Statistics], 2018, vol. 1, no. 49, pp. 21–31.

28. Usenko L. N., Udalova Z. N. Vozrozhdeniye vinogradarsko-vinodel'cheskoy otrasli kak odno iz perspektivnykh napravleniy razvitiya APK Rossii [Revival of the viticulture and wine industry as one of the promising directions of development of the agro-industrial complex of Russia]. *Uchet I Statistika* [Accounting and Statistics], 2017, vol. 3, no. 47, pp. 74–82.
29. Fikhtengolts G. M. *Kurs Differentsial'nogo i Integral'nogo Ischisleniya. T.1: Uchebnik Dlya Vuzov* [Course of Differential and Integral Calculus. Vol. 1: Textbook for Universities]. Saint–Petersburg: Lan, 2020, 608 p.
30. Shalyapina I. P., Kuzicheva N. Yu., Yakhyaev G. U. Riski razvitiya vinogradarstva i vinodeliya v Respublike Dagestan [Risks of the development of viticulture and winemaking in the Republic of Dagestan]. *Mezhdunarodniy Nauchno-Issledovatel'skiy Zhurnal* [International Scientific Research Journal], 2017, vol. 3–2, no. 57, pp. 110–113. <https://doi.org/10.23670/IRJ.2017.57.064>
31. Shcherbakova T. S., Tsvetkova L. K. Konkurentosposobnost' rossiyskogo vinodeliya: problemy i vozmozhnosti razvitiya [Competitiveness of Russian winemaking: Problems and opportunities for development]. *Vestnik Rossiyskogo Universiteta Druzhy Narodov. Seriya: Ekonomika* [Bulletin of the Peoples' Friendship University of Russia. Series: Economics], 2014, vol. 3, pp. 75–85.
32. Shcherbakova T. S., Tsvetkova L. K. Mekhanizm povysheniya konkurentosposobnosti vinodeliya Krasnodarskogo Kraya [Mechanism for increasing the competitiveness of winemaking in Krasnodar Krai]. *Mezhdunarodniy Sel'skokhozyaystvennyy Zhurnal* [International Agricultural Journal], 2017, vol. 3, pp. 1–18.
33. Shcherbakova T. S., Tsvetkova L. K. Novyye vozmozhnosti povysheniya konkurentosposobnosti vinodeliya Krasnodarskogo kraya [New opportunities for increasing the competitiveness of winemaking of Krasnodar Krai]. *Zhurnal Kubanskogo Gosudarstvennogo Agrarnogo Universiteta* [Journal of the Kuban State Agrarian University], 2015, vol. 107, pp. 1474–1488.
34. Yakhyaev G. U. *Razvitiye Vinogradno-Vinodel'cheskogo Podkompleksa Respubliki Dagestan* [Development of the Grape-Wine-Making Complex of the Republic of Dagestan]. Voronezh, Voronezh Publishing House Voronezh GAU, 2019. 139 p.
35. *2019 Statistical Report on World Vitiviniculture, 2019*. URL: <https://www.oiv.int/public/medias/6782/oiv-2019-statistical-report-on-world-vitiviniculture.pdf>
36. Anderson K. *The world's wine markets: globalization at work*. Cheltenham: Edward Elgar Publishing, 2004. 335 p. [http://dx.doi.org/10.1016/S1698-6989\(06\)70282-X](http://dx.doi.org/10.1016/S1698-6989(06)70282-X)
37. Bisson L., Waterhouse A., Ebeler S. M., Walker A., Lapsley J. T. The present and future of the international wine industry. *Nature*, 2002, vol. 418, pp. 696–699. <https://doi.org/10.1038/nature01018>

38. Cholette S., Castaldi R., Frederick A. Globalization and the emergence of new business models in the wine industry. *International Business and Economics Research Journal*, 2005, vol. 4, no. 3, pp. 21–30. <http://dx.doi.org/10.19030/iber.v4i3.3577>
39. Coelho A., Montaigne E., Rastoin J. Globalization of the world wine market and restructuring of the supply-side. *Research in Economics and Rural Sociology, INRA Social Sciences*, 2006, vol. 5–6, pp. 1–4. <http://dx.doi.org/10.2139/ssrn.295482>
40. Duarte A. A., Bressan A. Resilience in the context of Italian micro and small wineries: An empirical study. *International Journal of Wine Business Research*, 2015, vol. 27, no. 1, pp. 40–60. <http://dx.doi.org/10.1108/IJWBR-08-2014-0035>
41. *Global wine manufacturing industry: Market research report, 2021*. URL: <https://www.ibisworld.com/global/market-research-reports/global-wine-manufacturing-industry/>
42. Goncharuk A. *The challenges of wine business in research, 2017*. URL: <https://www.semanticscholar.org/paper/The-Challenges-of-Wine-Business-in-Research-Goncharuk/9830127ea694a2d8eb402cd97db78b18d5df1f0e>
43. *Grape growing in Australia: Market research report, 2021*. URL: <https://www.ibisworld.com/au/industry/grape-growing/7/>
44. Jenster P., Smith D. E., Mitry D. J. *The Business of Wine: a Global Perspective*. Copenhagen, Copenhagen Business School Press, 2008. 198 p.
45. Li Y., Bardaji I. A new wine superpower? An analysis of the Chinese wine industry. *Cahiers Agricultures*, 2017, vol. 26, pp. 1–9. <http://dx.doi.org/10.1051/cagri/2017051>
46. Manuylenko V. V., Kabardokova L. A., Koniagina M. N., Glaz V. N., Sadovskaya T. A. Modification of universal toolset for evaluation of financial sustainability of corporations in their strategic planning. *Journal of Applied Economic Sciences*, 2018, vol. 2, no. 56, pp. 454–464.
47. Manuylenko V. V., Kabardokova L. A., Loktionova M. A., Sobchenko N. V., Sadovskaya T. A. Methodological tools for evaluation of strategic target structure of financial resources in corporations with limited liability. *European Research Studies Journal*, 2017, vol. 1, pp. 439–466.
48. Paul H. W. *Science, Vine and Wine in Modern France*. Cambridge: Cambridge University Press, 2002. 338 p.
49. Viassone M., Vrontis D., Papisolomou I. The relationship between wine sector and regional competitiveness. *Global Business and Economics Review*, 2016, vol. 18, pp. 269–276. <http://dx.doi.org/10.1504/GBER.2016.076228>
50. *Wine production in Australia – Market research report, 2021*. URL: <https://www.ibisworld.com/au/industry/wine-production/117/>

51. *Wine production in China industry trends (2015–2020)*, 2021. URL: <https://www.ibisworld.com/china/market-research-reports/wine-production-industry/>
52. *Wine production in New Zealand – Market research report*, 2021. URL: <https://www.ibisworld.com/nz/industry/wine-production/117/>
53. *Wine production in the UK – Market research report*, 2021. URL: <https://www.ibisworld.com/united-kingdom/market-research-reports/wine-production-industry/>

Список литературы

1. Алуян С.В. К вопросу государственного регулирования развития приоритетных отраслей региональной экономики (на примере винодельческих предприятий Краснодарского края) // Экономика и предпринимательство. 2014. Т. 1-2. № 42. С. 312-315.
2. Аналитики назвали выращивание винограда самым рентабельным сектором в АПК, 2020 г. URL: <https://www.rbc.ru/business/17/07/2019/5d2d94ee9a7947f18a0c0852>
3. Анциферова О. Ю., Кузичева Н. Ю., Яхьяев Г. У. Развитие виноградно-винодельческого подкомплекса Республики Дагестан: тенденции, проблемы, точки роста // Международный сельскохозяйственный журнал. 2018. Т. 61. № 2.(362). С. 28-31.
4. Бейбулатов М. Р., Саблин М. И. Экономический потенциал и перспективы развития виноградарства в Крымском Федеральном Округе // Ученые записки Крымского федерального университета имени В.И. Вернадского. Экономика и управление. 2016. Т. 2. № 68. С. 3–10.
5. Валовой сбор сельскохозяйственных культур, 2019 г. URL: <https://www.fedstat.ru/indicator/30950>
6. Гайсарова А. А., Филипенко Н. Ю. О проблемах и перспективах развития отраслей виноградарства и виноделия Республики Крым // Агропродовольственная экономика. 2017. № 1. С. 90–99.
7. Гринько Е. Л. Финансовые ресурсы предприятий винодельческой отрасли. Международные инновационные исследования // Тезисы докладов 19-й Международной научно-практической конференции: “Наука и образование.” П., 2019.
8. Гринько Е. Л., Сушко К. Е. Долгосрочное кредитование винодельческой отрасли Крыма: текущее состояние, проблемы и перспективы // Тезисы докладов II научно-практической конференции с международным участием: инновационные технологии в развитии социально-экономических систем. С., 2020. 143–148 с.

9. Гринько Е. Л., Сушко К. Е. Особенности формирования финансовых ресурсов предприятий винодельческой отрасли // Тезисы докладов Всероссийской научно-практической конференции: вызовы и возможности финансового обеспечения стабильного экономического роста (финансы-2019). С., 2019. 128–134 с.
10. Дариенко Ж. Ю., Феськова М. В., Дариенко Я. В. Анализ развития виноградо-винодельческой отрасли Ставропольского Края // Экономика сельского хозяйства России. 2015. № 4. С. 38–44.
11. Дрягин В. Б., Николенко А. А. Состояние виноградарства Российской Федерации // Магарач. Виноградарство и виноделие. 2017. № 1. С. 28–30.
12. Ермакова Д. Открыть винодельню в России: сколько стоит участок и оборудование и на чём можно сэкономить, 2018 г. URL: <https://vc.ru/offline/54396-otkryt-vinodelnyu-v-rossii-skolko-stoit-uchastok-i-oborudovanie-i-na-chem-mozhno-sekonomit>
13. Ефремова А. А. Анализ состояния винодельческой отрасли Республики Крым и ее потенциала // Ученые записки Крымского федерального университета имени В.И. Вернадского. Экономика и управление. 2018. Т. 4. № 70. С. 68–74.
14. Зазирний Д. К. Производственно-экономическое состояние и тенденции повышения конкурентоспособности подотрасли виноградарства в Российской Федерации // Научно-технические ведомости Санкт-Петербургского государственного политехнического университета. Экономические науки. 2012. № 3. С. 42–48.
15. Иванченко В. И., Матчина И. Г. Состояние виноградарства и повышение его эффективности для производства конкурентной винодельческой продукции // Магарач. Виноградарство и виноделие. 2009. № 3. С. 6–7.
16. Ляшенко Т. В. Механизм эффективного управления отраслью виноградарства Республики Крым // Азимут научных исследований: экономика и управление. 2018. № 2. С. 211–218.
17. Мизохата С. Теория уравнений с частными производными. М.: Мир, 1977. 507 с.
18. Петрова Е.В., Литвинова Т.В. Основные факторы и параметры оценки конкурентоспособности отрасли виноделия Краснодарского края // Российское предпринимательство. 2010. Т. 11. № 2. С. 170–174.
19. Программа развития виноградарства и виноделия Республики Крым до 2025 года (проект) / Авидзба А. М., Борисенко М. Н., Яланецкий А. Я., Якушина Н. А., Матчина И. Г. // Я.: Печатная группа ФГБУН ВНИИИВ иВ “Магарач” РАН, 58 с.

20. Процентные ставки по кредитам и депозитам и структура кредитов и депозитов по срочности, 2020 г. URL: https://cbr.ru/statistics/bank_sector/int_rat/
21. РНКБ предоставил финансирование группе компаний “Евпаторийский завод классических вин,” 2019 г. URL: <https://creditpower.ru/banknews/20190410/rnkb-predostavil-finansirovanie-gruppe-kompanij-evpatorijskij-zavod-klassicheskikh-vin/>
22. Родин Д. Я., Глухих Л. В., Михальцова Н. В. Реализация организационно-финансового механизма государственной поддержки системы земельно-ипотечного кредитования в агропромышленном комплексе // Журнал Кубанского государственного аграрного университета. 2016. № 117. С. 3–5.
23. Состояние виноградарства Крыма в 2014 году / Авидзба А. М., Дрягин В. Б., Матчина И. Г., Кушнир Л. П., Антонюк И. И. // Магарач. Виноградарство и виноделие. 2015. № 4. С. 3–5.
24. Сухина Н. Ю., Кутин М. В., Артеменко Н. П. Анализ развития предприятий винодельческой промышленности Краснодарского Края // Вестник Адыгейского государственного университета. серия 5: экономика. 2010. № 4. С. 137–145.
25. Сушко К. Е., Гринько Е. Л. Анализ финансового состояния предприятий винодельческой отрасли г. Севастополя // Тезисы докладов IV Национальной научно-практической конференции: Отраслевые особенности развития экономики регионов. К., 2018. 83–89 с.
26. Тенденции деятельности крупнейших винодельческих предприятий России, 2019 г. URL: <https://credinform.ru/ru-RU/Publications/Article/77bd45e6fe69>
27. Усенко Л. Н., Удалова З. В. Анализ состояния виноградовинодельческого подкомплекса АПК России // Учет и статистика. 2018. Т. 1. № 49. С. 21–31.
28. Усенко Л. Н., Удалова З. В. Возрождение виноградарско-винодельческой отрасли как одно из перспективных направлений развития АПК России // Учет и статистика. 2017. Т. 3. № 47. С. 74–82.
29. Фихтенгольц Г. М. Курс дифференциального и интегрального исчисления. Т.1: учебник для вузов. Спб.: Лань, 2020. 608 с.
30. Шалапина И. П., Кузичева Н. Ю., Яхьяев Г. У. Риски развития виноградарства и виноделия в Республике Дагестан // Международный научно-исследовательский журнал. 2017. Т. 3–2. № 57. С. 110–113. <https://doi.org/10.23670/IRJ.2017.57.064>
31. Щербакова Т. С., Цветкова Л. К. Конкурентоспособность российского виноделия: проблемы и возможности развития // Вестник Российского университета дружбы народов. Серия: Экономика. 2014. № 3. С. 75–85.
32. Щербакова Т. С., Цветкова Л. К. Механизм повышения конкурентоспособности виноделия Краснодарского Края // Международный сельскохозяйственный журнал. 2017. № 3. С. 1–18.

33. Щербакова Т. С., Цветкова Л. К. Новые возможности повышения конкурентоспособности виноделия Краснодарского края // Журнал Кубанского государственного аграрного университета. 2015. № 107. С. 1474-1488.
34. Яхьяев, Г. У. Развитие виноградно-винодельческого подкомплекса Республики Дагестан. В.: Воронежский государственный аграрный университет, 2019. 139 с.
35. 2019 Statistical Report on World Vitiviniculture, 2019. URL: <https://www.oiv.int/public/medias/6782/oiv-2019-statistical-report-on-world-vitiviniculture.pdf>
36. Anderson K. The world's wine markets: globalization at work. Cheltenham: Edward Elgar Publishing, 2004. 335 p. [http://dx.doi.org/10.1016/S1698-6989\(06\)70282-X](http://dx.doi.org/10.1016/S1698-6989(06)70282-X)
37. Bisson L., Waterhouse A., Ebeler S. M., Walker A., Lapsley J. T. The present and future of the international wine industry // Nature, 2002, vol. 418, pp. 696–699. <https://doi.org/10.1038/nature01018>
38. Cholette S., Castaldi R., Frederick A. Globalization and the emergence of new business models in the wine industry // International Business and Economics Research Journal, 2005, vol. 4, no. 3, pp. 21–30. <http://dx.doi.org/10.19030/iber.v4i3.3577>
39. Coelho A., Maigne E., Rastoin J. Globalization of the world wine market and restructuring of the supply-side // Research in Economics and Rural Sociology, INRA Social Sciences, 2006, vol. 5–6, pp. 1–4. <http://dx.doi.org/10.2139/ssrn.295482>
40. Duarte A. A., Bressan A. Resilience in the context of Italian micro and small wineries: An empirical study // International Journal of Wine Business Research, 2015, vol. 27, no. 1, pp. 40–60. <http://dx.doi.org/10.1108/IJWBR-08-2014-0035>
41. Global wine manufacturing industry: Market research report, 2021. URL: <https://www.ibisworld.com/global/market-research-reports/global-wine-manufacturing-industry/>
42. Goncharuk A. The challenges of wine business in research, 2017. URL: <https://www.semanticscholar.org/paper/The-Challenges-of-Wine-Business-in-Research-Goncharuk/9830127ea694a2d8eb402cd97db78b18d5df1f0e>
43. Grape growing in Australia: Market research report, 2021. URL: <https://www.ibisworld.com/au/industry/grape-growing/7/>
44. Jenster P., Smith D. E., Mitry D. J. The business of wine: a global perspective. Copenhagen, Copenhagen Business School Press, 2008. 198 p.
45. Li Y., Bardaji I. A new wine superpower? An analysis of the Chinese wine industry // Cahiers Agricultures, 2017, vol. 26, pp. 1–9. <http://dx.doi.org/10.1051/cagri/2017051>

46. Manuylenko V. V., Kabardokova L. A., Koniagina M. N., Glaz V. N., Sadovskaya T. A. Modification of universal toolset for evaluation of financial sustainability of corporations in their strategic planning // Journal of Applied Economic Sciences, 2018, vol. 2, no. 56, pp. 454–464.
47. Manuylenko V. V., Kabardokova L. A., Loktionova M. A., Sobchenko N. V., Sadovskaya T. A. Methodological tools for evaluation of strategic target structure of financial resources in corporations with limited liability // European Research Studies Journal, 2017, vol. 1, pp. 439–466.
48. Paul H. W. Science, vine and wine in modern France. Cambridge: Cambridge University Press, 2002. 338 p.
49. Viassone M., Vrontis D., Papisolomou I. The relationship between wine sector and regional competitiveness // Global Business and Economics Review, 2016, vol. 18, pp. 269–276. <http://dx.doi.org/10.1504/GBER.2016.076228>
50. Wine production in Australia – Market research report, 2021. URL: <https://www.ibisworld.com/au/industry/wine-production/117/>
51. Wine production in China industry trends (2015–2020), 2021. URL: <https://www.ibisworld.com/china/market-research-reports/wine-production-industry/>
52. Wine production in New Zealand – Market research report, 2021. URL: <https://www.ibisworld.com/nz/industry/wine-production/117/>
53. Wine production in the UK – Market research report, 2021. URL: <https://www.ibisworld.com/united-kingdom/market-research-reports/wine-production-industry/>

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