



Received: 27.12.2021

Revised: 27.1.2022

Accepted: 2.2.2022

Published: 10.2.2022

*Potravinárstvo Slovak Journal of Food Sciences*

vol. 16, 2022, p. 55-68

<https://doi.org/10.5219/1718>

ISSN: 1337-0960 online

[www.potravinarstvo.com](http://www.potravinarstvo.com)

© 2022 Authors, CC BY 4.0

## Entrepreneurial development in the production sphere of the regions of the Republic of Kazakhstan

*Yerkebulan Utegenov, Jamilya Seitkhozina, Madina Ryspekova, Zhuldyz Utegenova, Azhar Baltasheva*

### ABSTRACT

In recent years, in connection with the rise of prices for resources the aggravation of the competition, the concept of enterprise performance management has begun to be actively used. The process of financial diagnostics and assessment of the security level in economic entities' activities is one of the most debatable in the scientific community. This research aimed to study the entrepreneurial development in the milk production sphere in Kazakhstan and to find the most effective tools for ensuring the financial security of enterprises. The databases of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan and the Eurasian Economic Commission were used as the study materials. The main methods were the resource and functional approach, integrated, and financial risk. Within the framework of this study, the dairy industry of Kazakhstan was investigated. Industrial enterprises operate in challenging economic conditions. Therefore, the managerial decisions should be directed towards strengthening the financial and property status and developing strategic potential capable of adapting to unfavourable environmental factors. The scientific novelty of the study lies in the fact that the presence of an organic link between the economic situation in the state and the profit margins requires an increase in the efficiency of using the production capabilities of the enterprise. The study's practical significance lies in using the findings and developments as recommendations for improving the economic aspects of dairy enterprises.

**Keywords:** production efficiency, dairy industry, regional economy, strategic potential, financial security

### INTRODUCTION

The modern financial system of Kazakhstan has not yet acquired the features inherent in a market economy; the disorganization of this system, which goes alongside its criminalization, poses a significant threat to the country's financial security [1]. The imbalance of the state budget, which is the main destabilizing factor of the crisis of public finances, and the malpractice of its untimely annual adoption, the payments crisis, leads to the establishment of the so-called debt economy. The principal debtor is the state. The development of the banking system of Kazakhstan is taking place in the context of constant changes in the economic environment and shortsightedness, which affects the instability of many banks the inability of the national currency to accumulate [2]. Government policy has chosen to criticise predecessors and appease the population with social payments and promises rather than solving real problems that threaten economic security in general and the financial security of milk processing plants as its component [3]. Thus, the internal political aspects at the present stage have a decisive influence on the critical state of the economy. Therefore, there is a constant threat to the entire national security system and the very independence of Kazakhstan and its territorial structure [4].

In 2020, Kazakhstan produced 598.5 thousand tonnes of cream and processed drinking milk, 7.5% more than in 2019. By the end of the year, 189.1 thousand tonnes of processed milk and cream (about 32% of the total production in the Republic of Kazakhstan) was produced in the North Kazakhstan Region. The second place in production was Almaty Region (98.9 thousand tonnes), and the third was Akmola Region (94.9 thousand tons). For example, in the North Kazakhstan Region, more than eighty organized farms are engaged in milk production,

including eighteen modern dairy units. Moreover, new modern dairy complexes are being built in the region, and the share of animal husbandry in farms is increasing.

At present, 15 enterprises of the Akmola Region are engaged in dairy production. Their total production capacity is 146.8 thousand tonnes of products per year. The main share in the production of processed milk is occupied by Tselinograd District (LLP AF Rodina, LLP Maksimovski Molochny Kombinat, JSC Astana Onim) – 42.4%, Zerendinsky District (LLP Milk Project) – 24.9%. The leader in butter production in the city of Kokshetau (LLP Gormolzavod) – 46.3% and Zerendinsky District (LLP Milk Project) – 25%. Also, an important region in milk production is the Kostanay Region. It produced 56.5 thousand tonnes of milk [5].

Based on the estimates above, it can be concluded that the essence of financial security is primarily associated with the environment of the business entity, that is, the relationships that the entrepreneur establishes in the course of business activities [6]. Each author gives their interpretation, but the overwhelming group of scientists considers the financial security of an enterprise as a component of economic security. But the complete definition of financial security was given by I.O. Blank: "The financial security of an enterprise reflects the protection of its activities from the negative influences of the external environment, as well as the ability to quickly eliminate various threats or adapt to existing conditions, which does not adversely affect its activities" [7]. Financial security, as an economical category, can be considered a set of socio-economic and legal relations that provide such an economic condition in which the stability of the enterprise to external threats and risks is revealed with the rational use of its financial resources [8]. The production of cream and processed drinking milk in Kazakhstan is shown in Figure 1.



Figure 1 Production of cream and processed drinking milk, 2020.

The best practices of ensuring the financial security of enterprises at the micro- and macro- levels will be the object for considering the experience of the most economically developed countries [9]. Due to their own national, religious, cultural factors, business entities in developed countries have their specific means of achieving financial security [10]. They have in common that they operate based on the following postulates: scientific knowledge is the key to the future; technology is the driving force for the development of financial security of enterprises; the responsibility of leaders is to foster the advancement of technology and science [11]. In developed countries, the main focus is on creating theoretical, applied foundations for increasing the financial security of an enterprise and the favourable environment for activity [12]. The most successful in this area were enterprises from the USA, Japan, Germany, France [13]. The technological revolution is one of the factors that provided these countries with stable development [5].

Financial security can counteract existing risks and threats that could inflict financial losses, change the capital structure, or liquidate the enterprise [14], [15], [16]. The economic security of an enterprise is an essential component of national security. It acts as an important condition for the further operation and development of entrepreneurship in the economy. It can secure the vital interests of an economic entity from actual and potential sources of danger or economic threats [17]. The financial security of milk processing plants in the narrow sense is their ability to function as economic entities with the current resource provision level and the chosen production specialisation [18]. The financial security of milk processing plants in a broad sense is their ability to achieve an appropriate level of competitiveness at any degree of influence of possible risks and threats. Ensuring financial security at the enterprise level depends on economic, organizational and other government measures to maintain it properly [19]. There is a close connection between market transformations in the banking and finance sector of

the country and an increase in the level of financial security of enterprises. The financial security of the enterprise acts as:

- the degree of integration of the financial system of the enterprise into the national economic and credit sphere;
- to a certain extent, as an entity independent from the banking and financial sector of the country.

This dual role of the financial system of the enterprise has the following manifestations:

- the ability to conduct own financial policy within the framework of the current legislation;
- ability to implement financial measures for urgent financial situations at the enterprise associated with local financial miscalculations at the central level;
- ability to consistently maintain the compliance of the existing financial standards at the enterprise with the generally accepted world's practice;
- ability to respond to crisis changes in the banking and financial sector of the country.

A threat to financial security is a potential or actual action of individuals or legal entities that violate the security of a business entity and could lead to the termination of its activities or financial and other losses [20]. Threats to financial security include components of the external and internal environment and their relationships. They are determined through the number of failures that lead to a decrease in the economic potential of the enterprise [21]. In a general sense, security is a state of an object (enterprise) that can maintain development under conditions of adverse internal or external influence. Security is a degree of protection from the negative impact of any internal and external factors. The ability to fully counteract adverse effects from the external environment without attracting additional funds and personnel [22]. A threat to the financial security of an enterprise is an existing or potentially possible phenomenon or factor that creates a danger for the implementation of the economic interests of an enterprise and disrupts its work at the proper level.

### Scientific Hypothesis

The authors aimed to analyse the best practices of the world's major economies and study the entrepreneurial development in the milk production sphere of the regions of the Republic of Kazakhstan. The expected results are that the most effective tools for ensuring the financial security of enterprises are the improvement of the legal framework, implementation of constant measures to prevent threats, a policy of effective use of personnel, using innovations in all areas of economic activity.

## MATERIAL AND METHODOLOGY

### Description of the experiment

The management system of milk processing plants combines various aspects: goals, functions, methods, principles, technologies, which is directed at the enterprise to achieve the established quantitative and qualitative parameters. The effectiveness of the management system of milk processing plants depends on the goals set in managing the enterprise. Therefore, the structure of the management system should be changed so that the management process promotes the maximum level of security and a sufficient level of fulfilment of specific goals. In managing financial security, it is crucial to select the necessary methods for assessing the level of efficiency, which must first meet the criteria of efficiency and reliability. This is because the management, at any time, must have information on the current status of financial security, which is the key to the successful operation of the enterprise in the short term, and the possible risks and threats that impede the achievement of its financial interests in a long time. Accordingly, an enterprise with an unsatisfactory financial condition and a low level of financial security is limited in choosing business partners, attracting investments and loans, and the like.

The dairy industry is one of the leading sectors of the food industry in the Republic of Kazakhstan. In the North Kazakhstan, Almaty, Akmola and Kostanay regions, many enterprises are engaged in the production of milk and dairy products. Since 2010, dairy producers have constantly been expanding their distribution capabilities and adhering to a marketing strategy to reduce sales to wholesale consumers, increase sales through retail outlets and supermarkets, and attract them to cooperation.

The process of financial diagnostics and assessment of the security level in economic entities' activities is one of the most debatable in the scientific community. In various areas of the enterprise's activities, a comprehensive assessment of the level of financial security is rather complicated from a methodological standpoint and always raises controversial questions among scientists and practitioners. The resource and functional approach involve calculations using economic and mathematical modelling. It allows predicting the effectiveness and consequences of the decisions of governing bodies to make the best possible decision. An integrated approach provides for calculation using an integral indicator, expert assessment, cluster analysis, and the theory of artificial neural networks, allowing to review of the state of financial security using various approaches, which, when combined, give an optimal result. The financial risk approach analyses multilateral conflict situations considering their

mutual influence [23]. Actual due processes and their development are modelled when using this method to assess the level of business activity's financial security.

After analyzing the literature sources, it may be concluded that financial security was first studied at the state level. The indicators by which financial security was studied were not sufficiently formed. Kazakhstani scientists assess the financial security of the state by the following indicators: national output and income; the state of national budget execution; internal and external debt; independence from foreign capital; security with money supply; investment activity; the volume of reserve and insurance funds; development of the banking sector, stock and insurance markets.

Scientists from the United States were among the first to suggest such indicators for determining an enterprise's level of financial security. These indicators were: production index (not less than 1); revenue trends (no fluctuations); the amount of receivables and payables (to ensure solvency); market share (taking into account demand, but not decreasing); profitability (positive, at the level of 10 – 50%); investment (constant increase); share of loans [12], [13], [14]. Among these indicators, there are only two indicators that reflect financial condition. This is the amount of debt that can be used to conclude about the solvency of the enterprise, and the share of long-term loans, according to which it is possible to conclude about the structure of the company's capital and its independence from short-term financing. There are, of course, few such financial indicators for a complete assessment of the level of financial security of an enterprise, the level of its solvency, capital structure. The reflection of such indicators as production index, market share, and investment activity in the composition of indicators for determining the level of financial security is positive since these indicators allow assessing the potential that the company has for economic activities in the future [16], [17], [18]. If these indicators are growing, the share of the company in the market does not decrease; it means that the company has correctly defined its development goals and has every chance to increase the amount of profit received.

### Data

We have used the database of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan and the Eurasian Economic Commission.

### Samples

The activities of factories engaged in milk processing in Kazakhstan were analysed. Among them are the following: LLP AF Rodina, LLP Maksimovski Molochny Kombinat, JSC Astana Onim, LLP Milk Project, LLP Gormolzavod, Burnenskaya Molochnaya Kompaniya LLC, Agrofirma-Tau company.

### Statistical Analysis

The risks of the enterprise are assessed based on the statistical approach, which compares the losses with levels of risk. The maximum unacceptable level of risk appears when an enterprise risks its funds, that is, all its property. Analysis of the research results using descriptive statistics Microsoft Excel produced the statistical analysis data.

## RESULTS AND DISCUSSION

Dairy production enterprises were selected to assess the status of development. To analyze the external production environment of milk processing plants in Kazakhstan, it is necessary to study the industry's level and dynamics of action [3]. The main task of the industry is to provide the population with high-grade food products. In the system of agro-industrial production, the manufacturing of dairy products is closely related to agriculture as a producer of raw materials, which indicates that the situation in the agricultural sector significantly affects the activities of milk processing plants. In recent years, the negative trends in the country's economy have had a particularly tangible effect on the processing industries, including dairy products. Dairy production refers to the food processing industries. This food group includes milk processing, butter, and cheese production. Among the food produced, milk and dairy products occupy a leading place in Kazakhstan; since dairy products are important sources of proteins, vitamins, minerals, micro- and microelements, they are widely used in nutrition, especially by certain groups of the population (children, older adults). Several milk processing products (casein, milk sugar) are used in other production industries [1], [2], [3], [4].

For the period 2013 – 2019, the activity of milk processing plants was accompanied by various crisis phenomena, such as a shortage of raw materials, an increase in prices for dairy products, a decrease in population demand, and competition from foreign producers. In Kazakhstan, dairy production is significantly lower than the volume of consumption required by the population [15]. This affects the quality of food for the citizens of the country. Dairy production itself cannot grow rapidly since the profitability of animal husbandry is low, and the country's population is unable to buy the required number of dairy products due to low purchasing power and high prices for dairy products.

Dairy production in the past decade has been characterized by a slight increase in production volume, a lack of expansion of the range of products, a high wear rate of fixed assets, and the absence of a favourable credit policy

in the country. The priority task of researching the market for milk processing plants is to study the demand for dairy products from the population, study the purchasing power of the people, study the possibility of reducing the production cost, and state regulation of prices for manufactured products as a strategically important. Such a survey will allow effective product development programs, quickly respond to the market situation, and effectively counter the competition [16], [20], [23]. To make rational decisions, reliable information on the market needs, consumer groups, existing competitors, and production volumes is necessary. Depending on demographic indicators, groups are distinguished by choice of dairy products. The analysis of milk yield in the Western Region of Kazakhstan for the period from 2013 to 2019 allows us to draw the following conclusions:

–For the analyzed period, milk yields in the considered region decreased much slower than the average in Kazakhstan. As a result, almost a third of its volume is currently produced there, and, therefore, there is a significant raw material potential for milk processing plants;

–the share of the Western Region in the volume of milk production is almost 33% and exceeds the percentage of dairy products, which barely reaches 10%. It can be concluded that local milk processing plants are not using their raw material potential enough, and raw materials (milk) are exported outside the region.

For dairy production in Kazakhstan, the most pressing issue is the provision of dairy raw materials (Figure 2). When supplying raw milk to milk processing plants, the following problems can be distinguished:

1. Changes in the structure of milk supply for industrial processing. At the moment, the largest suppliers are private farms. This indicates the need to improve cooperation with farmers since it is more profitable for the population to sell manufactured products locally or in other regions.

2. With the decrease in milk yields, the competition for the supplier of raw materials has intensified. This indicates the need to improve the pricing policy of milk processing plants and install modern equipment for storing and processing raw materials.

3. A decrease in the number of cattle is a threat from the external environment to the financial security of enterprises. This indicates the need to create subdivisions for raising cattle or merge such enterprises with farms that raise cattle to increase their number.

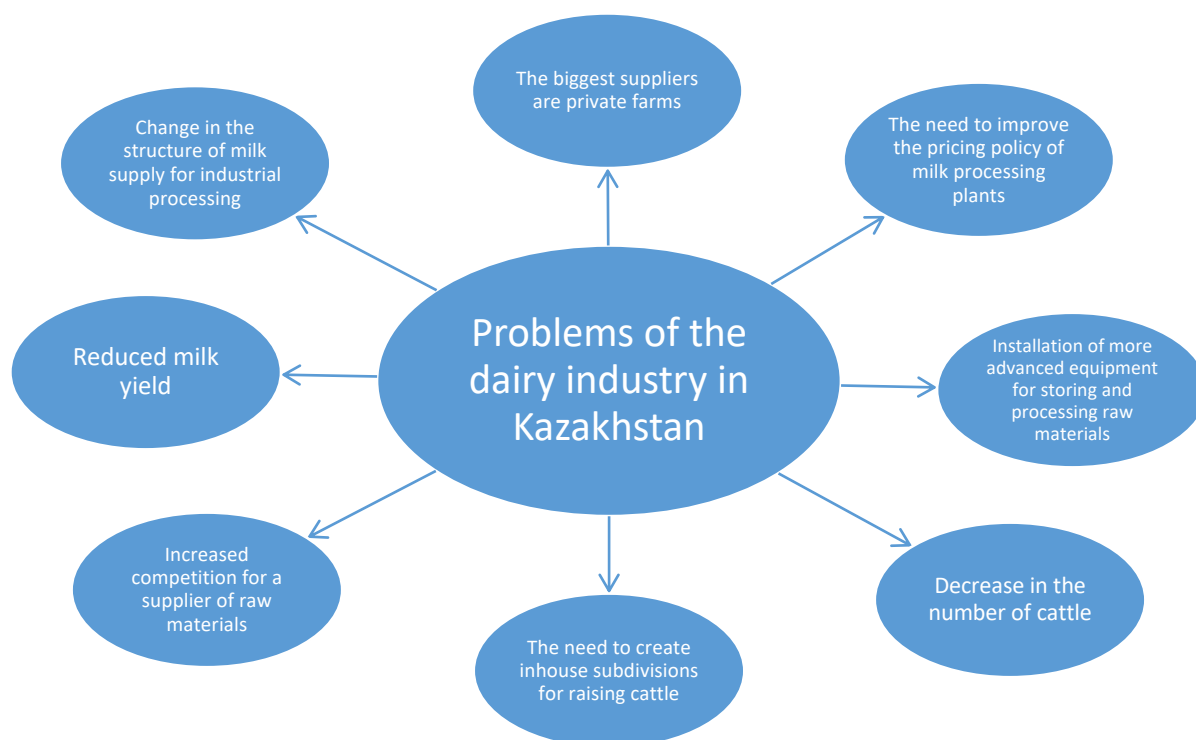


Figure 2 Problems of the dairy industry in Kazakhstan.

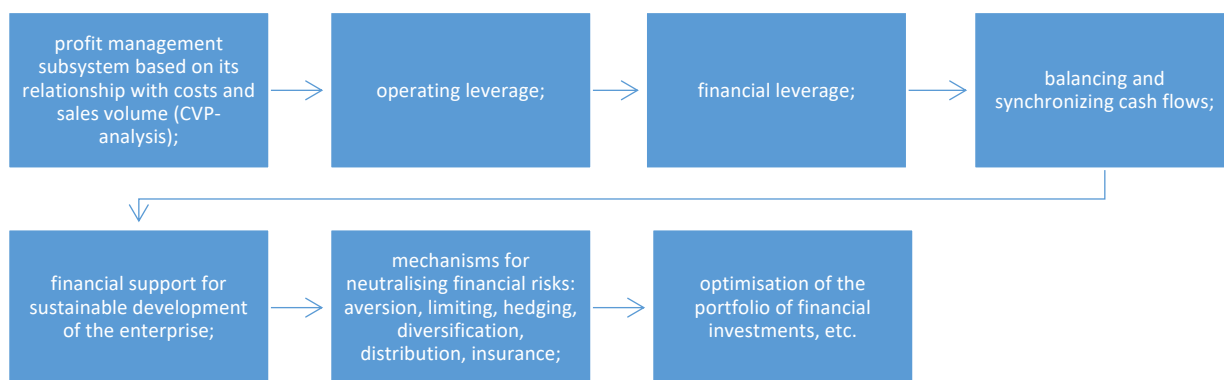
More than 300 factories are engaged in milk processing in Kazakhstan; however, about 80% of these enterprises are united in groups. Today, the Terra Food company is the most influential in milk and dairy products, with total revenue of KZT 3.435 billion in 2015. The company includes 19 whole milk products, cheese, vegetable-butter spreads, and butter. In 2016, the company accounted for a sixth of cheese and cheese products produced in the country. Terra Food company supplies its products to more than 40 countries, including the Middle East, North Africa, the Balkans, China, the USA and North Korea. The Burnenskaya Molochnaya Kompaniya LLC is the leader in milk sales in Kazakhstan (22% of the market). Six enterprises of the company produce and export

dairy products, cheeses, dry milk whey. The company exports its products to 35 countries, including Arab-Muslim countries. In December 2015, it received certificates for the export of dairy products under the Merkenskiy Syrzasovod trademark to China, and since January 10, 2016, the right to export to EU countries. In 2016, the Burnenskaya Molochnaya Kompaniya exported 550 tonnes of butter, 140 of which to the EU, 382 to Morocco and Egypt, and 25 tonnes to the UAE. Total revenue in 2015 amounted to KZT 3.3 billion. The Agrofirma-Tau company is a division of the French food company.

In Kazakhstan, the company processes 150 thousand tonnes of milk annually. It specializes in producing yoghurts, cottage cheese, and baby food. The facilities of Agrofirma-Tau are located in Aktau. Now, these products account for 5% of the total production in Kazakhstan. The total revenue has amounted to KZT 2.1 billion. The JLC-SUT company is one of Kazakhstan’s largest cheese and cheese producers. It occupies 23% of the market. The company includes seven enterprises located in Almaty with a total processing capacity of over 620 thousand tonnes of milk per year. In addition, the company is a leader in the production of butter and spreads with a 16% share. The company supplies its products to more than 50 countries, including the CIS countries and Africa, the Middle East, the USA, Mexico, and Japan. The total revenue amounted to KZT 1.986 billion. The Sairam Sut company includes eight enterprises that produce whole milk products and cheese under the Sairam trademark. The total revenue amounted to KZT 1.780 billion.

There is a tendency to displace smaller milk processing plants and their absorption by larger enterprises in the dairy industry. If this trend continues in the future, only a few enterprises may remain in the milk processing market, which will belong to several companies. To characterise the external environment of milk processing plants, it is necessary to highlight the critical success factors, including raw materials, technology, and the ability to sell. The company's successful activity is based on correct and timely strategic decisions. These decisions have a decisive impact on the competitiveness of products and the enterprise. By overcoming the crisis at milk processing plants, access to foreign economic markets and increased export of products can be achieved [7], [12], [14]. When analyzing the external environment of enterprises, it is necessary to consider the foreign financial market of dairy products.

The stability of the milk processing industry depends on the strength of the work of each business entity. In turn, the stability of the business entity depends on the efficiency of the financial security management system [11], [18]. The functioning of the financial security management system for milk processing plants should provide for the interconnection of goals and objectives of each level, choosing the best ways to implement decisions. The primary purpose of the functioning of the financial security management system is to ensure financial and economic balance, achieve specific performance efficiency set goals and objectives for the further development of the enterprise, create and implement conditions that provide the financial security of the enterprise. These conditions are determined based on the criteria for assessing the level of financial security. The essential conditions that are considered in the financial security management system structure are minimization of enterprise expenditures and adaptation to innovations. These conditions can significantly impact the company's profit, thereby ensuring its financial security (Figure 3).



**Figure 3** Financial security management system of a milk processing plant with mandatory functions.

From the standpoint of the process and functional approach, financial security management is defined as a phased, continuous process of performing management functions that describe its content. The main functions of

financial security management of a milk processing plant are defined as follows: organization, analysis, planning, motivation, and control. In 2020, Kazakhstan was supposed to switch to a new regulation to assess milk quality [3], [17]. However, at the very end of last year, by the decision of the EAEU Council, the transition was postponed for five years. This does not mean that Kazakhstani milk is of poor quality – it meets all the standards of the Eurasian Economic Union, except for microbiological ones [9], [22]. But to solve these microbiological problems, the dairy industry requires a severe restructuring at the macroeconomic level.

The dairy products market of Kazakhstan experienced significant difficulties in 2019. On December 31, the deadline expired, after which processing plants had to start accepting raw milk of uniformly high quality for processing. Such rules are dictated by the Technical Regulations of the Customs Union 033-2013, which regulates the safety of dairy products in the EAEU. According to this regulation, quality grades of milk are abolished, and one quality is introduced – the highest. Any milk that goes for processing must be entirely safe for humans. To achieve this, Kazakhstan needs to bring milk production standards back to normal and eliminate the microbial environment in milk.

According to the Dairy Union of Kazakhstan, the milk market amounts to 5 million tonnes. Only 1 million tonnes of this are marketable milk, suitable for processing. According to the Ministry of Agriculture of Kazakhstan, currently, 164 enterprises are engaged in milk processing. Thirty-five milk plants have their dairy farms and do not depend on suppliers. The remaining 129 factories (80%) buy raw materials on the open market. The total processing capacity of the factories is about 2 million tonnes of raw materials per year. The factories are half loaded. In winter, due to a shortage of raw materials, the load drops to 20%, which causes some factories to close [5], [6]. The market is currently dominated by small milk producers, which significantly complicates the transformation of the dairy industry. Competitiveness in the market suffers due to the difference in prices for milk production by different factories. Because of this, the profit margin is entirely different for each company.

Upon analyzing the financial condition of milk processing plants in Kazakhstan for 2013 – 2019, it was concluded that it is critical. In the considered milk processing plants, financial security management is carried out by structural, organizational units: the financial and economic department (diagnostics of the financial condition, neutralization of financial risks, etc.); marketing department (monitoring the external environment, competitive intelligence, etc.) and the legal department (legal protection), HR department (personnel selection) and others. A particular unit was not created under such management, which led to critical financial conditions. These problems and an increase in the number of threats, risks, and dangers in economic activities necessitate the creation of a specialized unit (department, service) of financial security at the enterprise [13], [20].

The first step describes the financial strategy of the dairy processing company (the establishment of long-term tasks of economic activities) and depends on the features of the implementation of the company's financial security management. The second step in the implementation of monetary policy is to formulate a strategy for managing financial security, namely: in marketing research, making pricing decisions, focusing on the money market sectors, working capital and return capital, providing financial resources, balancing the timing of the receipt of money, ensuring profitability, and so on. In the third step, a financial department is created, whose functions include determining the monetary tactics of the company and its implementation. In terms of size, such a department can be represented by management, a department, or the department's functions are assigned to a staff unit of the company (manager, assistant, chief accountant). This general model of the company's tactics and the tactics of managing financial resources is updated by the globalization of the economy the internationalization of markets.

Financial security management of milk processing enterprises is defined as a purposeful activity, which consists of the constant process of making and implementing management decisions to reduce the negative impact of risks and threats and achieve the maximum level of economic security of milk processing enterprises. We will divide the logical-structural scheme of financial security management of dairy processing enterprises into current and prospective management. In turn, we will divide the assessment of the level of financial security of an enterprise into evaluations of the actual level of economic instability, assessments of the forecast level and determining the probability of establishing the predicted level of financial instability, which determines the optimal strategy for ensuring the financial security of dairy enterprises. The proposed conceptual approach to the establishment of a financial security management system for milk processing enterprises provides for the implementation of a mechanism for ensuring and assessing the level of financial security, as well as a set of measures aimed at using the capabilities and resources of milk processing enterprises, providing systemic-synergistic effects of protecting its economic interests from identified actual and potential threats of external and internal nature, as well as the achievement of stable and effective functioning and the set goals and objectives for the further development of milk processing enterprises.

The developed approach includes five sequential stages. It consists of the substantiation of the goal and objectives of financial security management, development of the concept of financial security management,

implementation of a mechanism for ensuring financial security management, assessment of the level of financial security, and formation of a set of measures to ensure the financial security of milk processing plants. The financial security management of milk processing plants should be carried out, considering the influence of both individual factors of the external and internal environment and their synergistic effect on activity and development. Protection from the external environment, where factors of a macroeconomic nature operate, includes the state and directions of development of the general economic interests of the state, the conjuncture of the financial and stock markets, the development of the financial and credit system of the state, the impact of international financial and economic institutions. Developing financial institutions' infrastructure requires creating a system monitoring and attracting qualified financial analysts for objective analysis and assessment of trends and consequences of macroeconomic processes. Moreover, it is essential to determine the issues that the enterprise analysts can solve, which is worth attracting external experts.

The protection from the internal environment factors is defined by the problems of interconnection and coordination of the general strategy of activity and development of enterprises with the possibilities of ensuring their investment and financial potential. To ensure the achievement of strategic goals in the activities of enterprises, it is necessary to periodically compare the results of the analysis of external and internal factors and, if necessary, adjust both strategic and tactical intentions. Given the multifaceted nature of the financial security category, the complexity of the interrelationships and interdependencies of its various elements, it is impossible to identify all problematic issues immediately and propose specific measures to eliminate them. In this case, it is advisable to determine the indicators that have significant importance and influence on the support of activity and sustainable development of an enterprise.

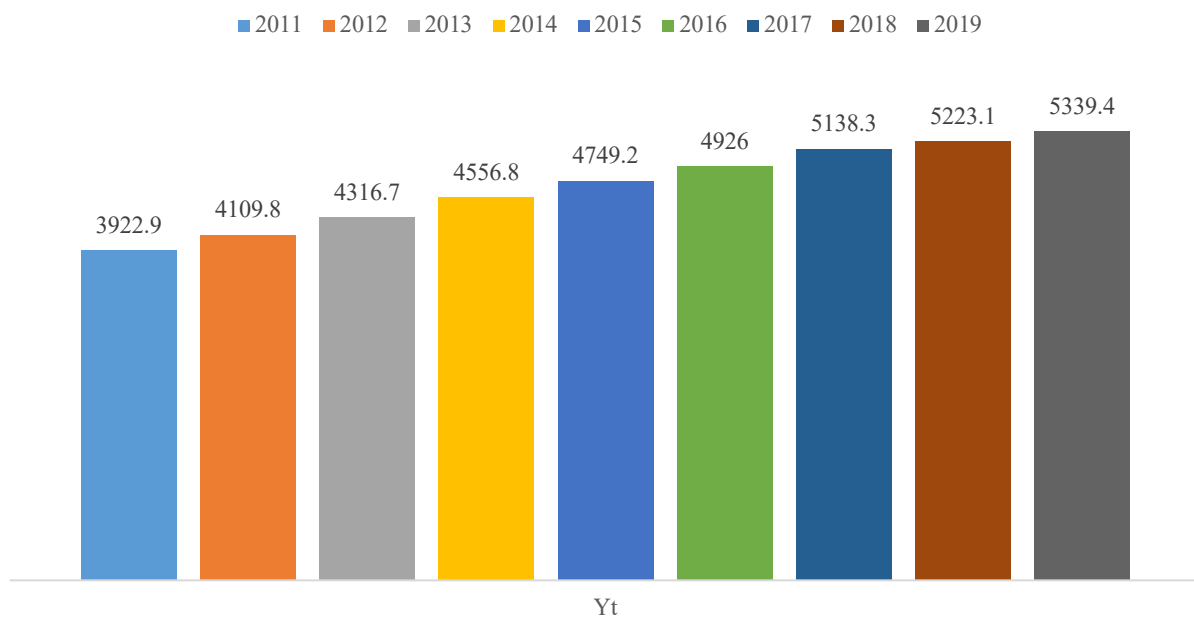
In the economic literature [1], [2], [3], [8], [10], there are various approaches to the formation of a system of indicators of economic security, while the criteria for financial security are the least studied. This study suggests that these criteria should include, first of all, essential resource and performance indicators. They must define the stability of the state's economic system (and even its structure) as a whole and its regions – as characteristics of the development of socio-economic processes at the macro level. Such features are of significant importance for business entities in the form of financial and credit institutions and entrepreneurial structures of the production direction since they characterize the dynamism of the development of the financial and economic mechanism of the state, its adaptability and effectiveness of influence on inflationary processes, the stability of the national currency, the development of foreign economic relations in the legal and trade areas. The system of indicators that are formed at the level of business entities should include those that are documented in the system of financial, managerial, statistical, and operational accounting organized at the enterprise, as well as the predicted values of private and integral indicators obtained using economic and mathematical modelling and forecasting [19]. At the same time, in the financial management system of enterprises, special attention should be paid to and tracked the dynamics of the financial condition of financial institutions, counterparties in the scheme of technical and technological relations, intermediaries, and the like.

The financial security strategy should clearly define the facilities and the level of threats caused by the actions of the external and internal environment and how to ensure each facility's security. It should be noted that it is impossible to establish the threat level's quantitative characteristics for all objects. This is because the classification of threats has qualitative attributes of the feature. These pairs of threats should be referred to them: explicit – implicit; real – virtual; external – internal; objective – subjective; spontaneous (random) – those that are characterized by purposefulness; those that can be eliminated – those that cannot be eliminated yet; single-aspect (simple) – multi-aspect (complex); based on symmetric or asymmetric information; brief – constant (that is, short – or long term); progressive – degressive; those that require the development of measures and the organization of continuous monitoring – those that need periodic diagnostics [21].

The difficulty in determining the nature of threats is because they result from the motives that cause their occurrence and the action of various subjects: the state, financial institutions, counterparties – business entities. Based on the nature of threats, it is necessary to determine the main consequences of their influence. In addition to that, promising and latent threats should be given qualitative and, if possible, quantitative predictive characteristics of the probability of their occurrence. For the attributes of threats that may affect the level of financial condition and financial results in the current calendar period, variable (within the coordinates: maximum-minimum) quantitative estimates should be determined. Ensuring the financial security of the activity and development of dairy enterprises should not be considered a problem of one functional unit of the enterprise. Financial security is influenced by decisions made at all management system levels (along with the system of vertical-horizontal and functional-horizontal links). Therefore, when organizing an effective financial security system, the specifics of the organizational and managerial management structure should be taken into account and promptly changed.



Considering the multiplicity and diversity of factors affecting the financial security of enterprises and their situational nature, each organization should create its bank of possible threats in the context of objects and a bank of possible options for measures to eliminate them. Especially effective is developing a bank of proactive and preventive measures. There is no doubt about creating such a bank, taking into account the provision of prompt decision-making in the current response system to a certain financial or production and economic situation. The main conditions for applying the extrapolation method are the invariability of the development trends of business entities (indicator), a clear manifestation of such trends and their positive character, the correspondence of the nature of the indicator. This method is applied when developing a plan for income and expenses. Thus, having considered the content of the above methods of strategic planning, the following conclusions can be drawn: the choice of a method is determined by many factors, for example, the duration of the planning period, the goals of the plan, the availability of the necessary information, the possibility of using software products, the qualifications of specialists carrying out strategic financial planning. Therefore, before deciding on a method of strategic financial planning, a business entity must approach it carefully and take into account the factors that affect its development. Forecasting milk production in Kazakhstan by extrapolation is presented in Figure 4, using time series data from 2011 – 2019.



**Figure 4** Milk production in the Republic of Kazakhstan for the period 2011-2019, thousand tonnes. Note: Source [23].

Using the trend dependence equation (1), time series smoothing is obtained as one of the main methods of regression analysis – the least-squares method [9]:

$$\hat{Y}_t = 3323.393 + 201.657t \tag{1}$$

The extrapolation method consists in substituting the trend equation for the value of the independent variable  $t$ , which corresponds to the value of the forecast period (Figure 5). The regression model assumes that the predicted values fall within the upper and lower bounds interval based on which the forecast was made, with a confidence level of 0.9 (or 90%) (Figure 6).

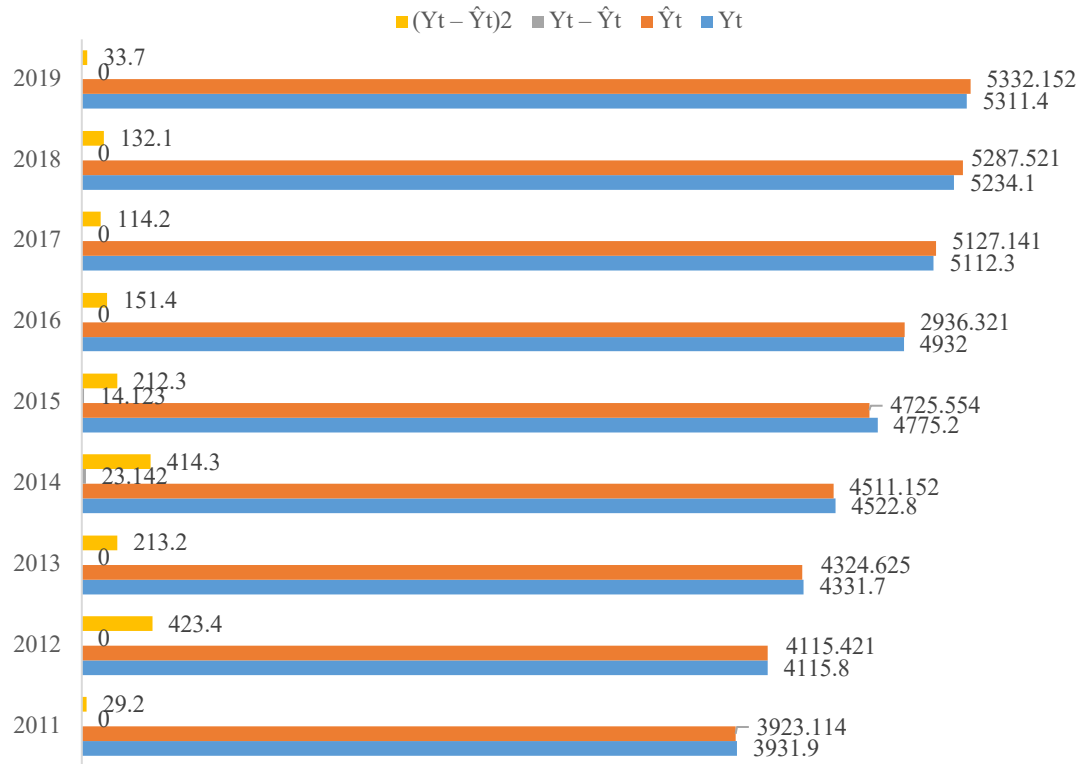


Figure 5 Estimated parameters of the model.

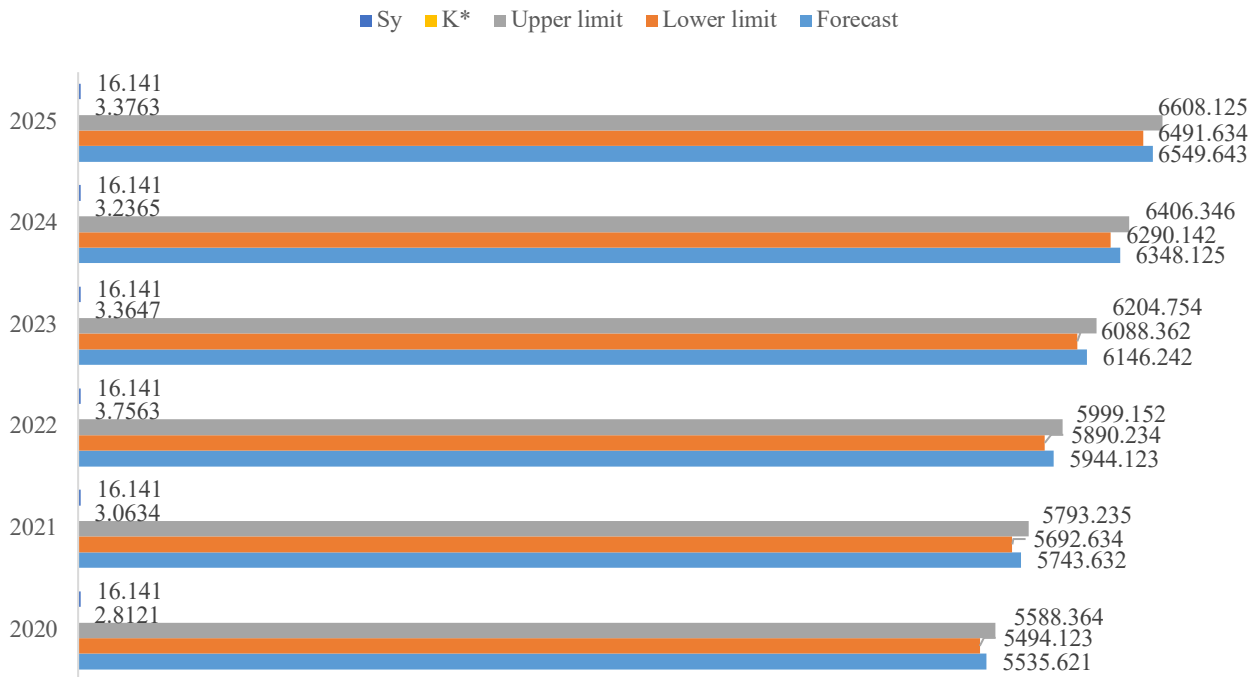


Figure 6 Forecast of milk production in the Republic of Kazakhstan for the period 2020 – 2025, thousand tonnes.

The study suggests that strategic financial planning can be called long-range or advanced, but not every long-range financial plan can be strategic. The horizon (and the range) of planning is the period it spreads. On this basis, long-range (1 – 5 years ahead), medium-range (3 – 12 months in advance) and short-range (1 – 3 months) planning are distinguished. In some cases, other ranges are also used – for example. A long-range plan is drawn up for ten years in advance or for the current coming week. Studying the standard features of financial planning and forecasting reveals the unity of goals and objectives. Forecasting creates the basis for planning management decisions generates development options based on possible directions.

The differences between them are due to the time factor, and the level of uncertainty since forecasting is the research base for planning through the anticipatory nature of the forecast relative to the plan. In addition, forecasting has a variant content, and planning is an unambiguous decision, even if developed on a variant basis. The projected indicators of milk production in Kazakhstan for 2020 – 2025 are presented in Figure 7, taking into account the upper and lower boundaries of the interval. Extrapolation allows seeing the trend with the exponential smoothing method. The comparison of the projected values for each aspect of dairy production is presented in Figure 8. Statistical information on cattle and average annual milk yield was used to calculate [23].

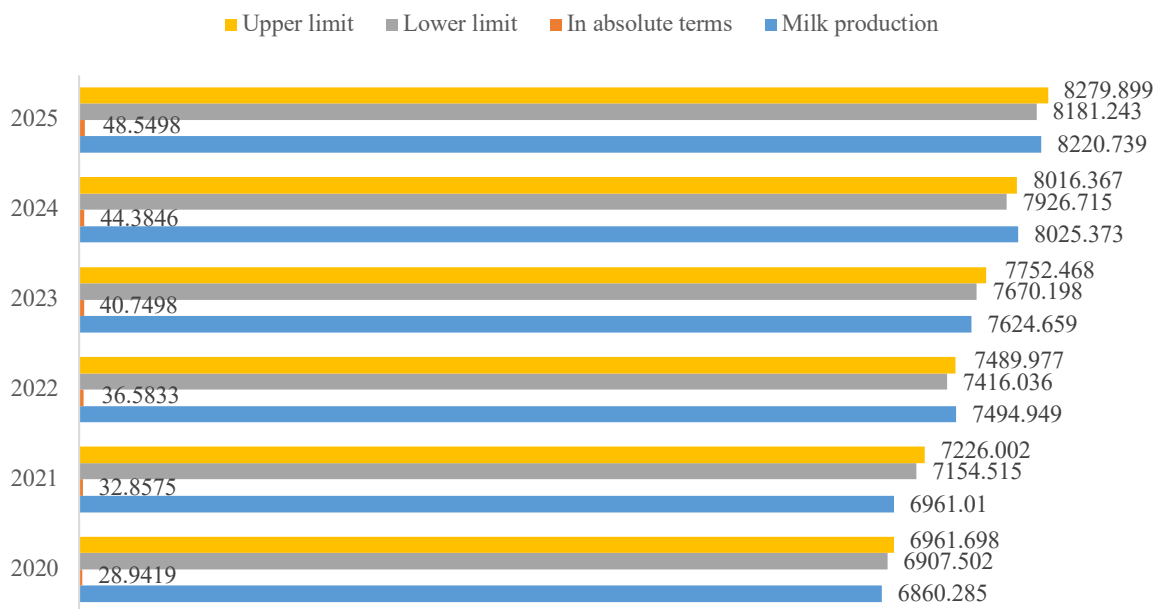


Figure 7 Forecast of milk production in the Republic of Kazakhstan for the period 2020-2025, thousand tonnes.

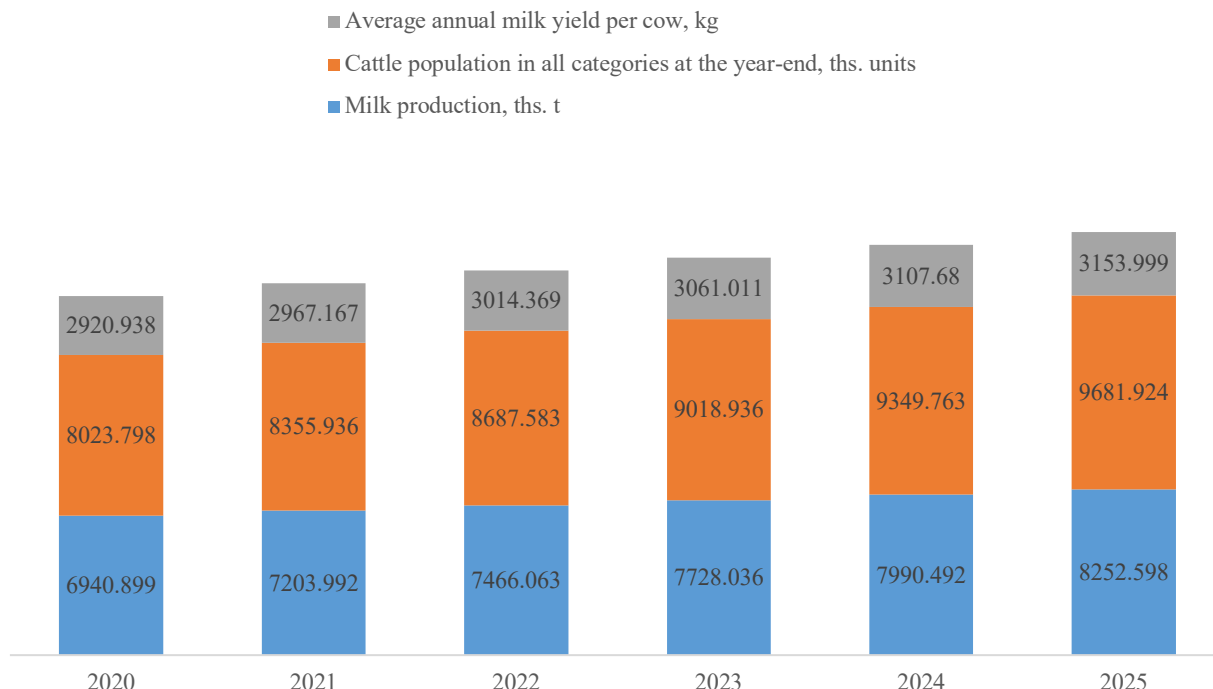


Figure 8 Forecasted values of dairy products in the Republic of Kazakhstan according to the given forecasting methods.

Using the extrapolation method, a 19% increase in milk production in Kazakhstan is expected by 2025. This is directly related to the increase in cattle population by 21.2%. The expected milk yield per animal is likely to be in the range of 250 litres per year, which is also a significant increase in the baseline values.

**CONCLUSION**

Financial security, as an integral part of the economic security of an enterprise, should be considered and solved based on an interdisciplinary approach. It includes, first, aspects of a legal, financial and economic, informational, socio-psychological nature. All methods and organizational forms of protection should not go beyond the limits of the current legislation. In the last case, non-compliance with this requirement leads to protracted litigation and arbitration processes that undermine not only the financial and economic but also the moral and ethical positions of the enterprise in the business space. Of note is that the financial and economic security of the activity and development of economic entities is inextricably linked with the general strategy and tactics of the action and development of the enterprise. It is formed, first, by such components of their policy as marketing, investment and innovation, personnel, information, etc., the efficiency of which is provided by their inherent methods and tools.

In this study, the dairy industry in Kazakhstan has been investigated. Problems of the dairy industry in Kazakhstan were analysed and their possible solutions were suggested. Forecasting of the projected indicators of milk production in Kazakhstan for 2020 – 2025 was presented. It can be stated that in managing investment and financial resources, it is necessary to adhere to a policy of strategic consistency, which should be based on the principles of adaptive and aggressive behaviour of a business entity. Such a sequence should consider the aspects of the enterprise's adaptability to changes in the external economic conditions while not excluding the introduction of innovative, aggressive measures within the framework of compliance with the current legislation. Combining these two approaches does not contradict the policy of forming a conservative and progressive policy of managing financial resources of market environment entities, adopted in the world practice of financial management: the state, credit and financial institutions, individual enterprises and their associations.

**REFERENCES**

1. Titova, Y. G., Arynova, Z. A., Kaidarova, L.K., & Komarov, O. E. (2018). Development of the meat and dairy area of the processing industry in the Republic of Kazakhstan under modern conditions. In *Journal of Applied Economic Sciences* (Vol. 13, No. 1, pp. 207–215). ASERS Publishing.
2. Ongayev, M., Sultanova, Z., Denizbayev, S., Ozhanov, G., & Abisheva, S. (2019). Engineering and process infrastructure of the agro-industrial complex. In *International Journal of Emerging Trends in Engineering Research* (Vol. 7, No. 12, pp. 879–885). World Academy of Research in Science and Engineering. <https://doi.org/10.30534/ijeter/2019/257122019>
3. Sukoot, A. H., Suleimenova, R. Z., & Zhanys, A. B. (2020). Optimization model for dairy farms of Northern Kazakhstan. In *IOP Conference Series: Materials Science and Engineering* (Vol. 934, No. 1, article number 012053). IOP Publishing. <https://doi.org/10.1088/1757-899X/934/1/012053>
4. Assembayeva, E. K., Galstyan, A. G., Nurmukhanbetova, D. E., Bazilbayev, S. M., Strizhko, M. N., & Seidakhmetova, Z. Z. (2019). Principles of development of osmotically and biologically active compositions for technologies of fermented milk drinks. In *News of the National Academy of Sciences of the Republic of Kazakhstan. Series of Geology and Technical Sciences* (Vol. 2, No. 434, pp. 191–198). Kazakh National Research Technical University named after K. I. Satpayev. <https://doi.org/10.32014/2019.2518-170X.54>
5. Ospanov, A. B., & Kulzhanova, B. O. (2020). Modernization of the food industry in the republic of Kazakhstan, on the example of combined products from sheep milk. In *Systematic Reviews in Pharmacy* (Vol. 11, No. 12, pp. 1801–1805). EManuscript Technologies. <https://doi.org/10.31838/srp.2020.12.272>
6. Nurakhova, B. (2017). An efficient marketing strategy for competitiveness of the milk and dairy industry: case of the Republic of Kazakhstan. In *Espacios* (Vol. 38, No. 48, pp. 37–48). Sociacion de Profesionales y Tecnicos del CONICIT.
7. Zimon, G., Kmiotek, K., & Jurgilewicz, M. (2020). Financial security management in central units of purchasing groups. *WSEAS Transactions on Business and Economics* (Vol. 17, pp. 910–920). WSEAS Press. <https://doi.org/10.37394/23207.2020.17.89>
8. Fadeev, A. A. (2012). Analysis of the current state of dairy production and processing in the republic of Kazakhstan and the ways for its further development. In *Actual Problems of Economics* (Vol. 135, No. 9, pp. 526–530). National Academy of Management.
9. Kazkenova, A., Ainakanova, B., Kuzmenko, S., Yerdenbekova, B., & Kassenova, A. (2015). Analysis of dairy and meat products in the republic of Kazakhstan. In *Asian Social Science* (Vol. 11, No. 19, pp. 90–97). Canadian Center of Science and Education. <https://doi.org/10.5539/ass.v11n19p90>
10. Yan, X., & Nanyun, X. (2020). Application of cloud accounting in comprehensive budget management of agricultural enterprises under big data. In *E3S Web of Conferences* (Vol. 214, article number 01026). EDP Sciences. <https://doi.org/10.1051/e3sconf/202123503052>

11. Abazi, B., & Kő, A. (2019). Semi-automated Information security risk assessment framework for analyzing enterprises security maturity level. In *Lecture Notes in Business Information Processing* (No. 375, pp. 141–152). Springer. [https://doi.org/10.1007/978-3-030-37632-1\\_13](https://doi.org/10.1007/978-3-030-37632-1_13)
12. Meimankulova, Z., & Umirzakov, S. (2018). Strategic management and development market of dairy products on the basis of increasing domestic and innovation production. In *Journal of Applied Economic Sciences* (Vol. 13, No. 7, pp. 1984–2003). Spiru Haret University.
13. Tekenov, A., Baimagambetova, L., Tekenov, U., & Daurenbekova, A. (2019). Features of development marketing strategy in the conditions of economy modernization. Example of the dairy industry of Almaty. In *Journal of Environmental Management and Tourism* (Vol. 10, No. 8, pp. 1825–1838). ASERS Publishing House. [https://doi.org/10.14505/jemt.v10.8\(40\).13](https://doi.org/10.14505/jemt.v10.8(40).13)
14. Seitkhodzina, J. A. (2013). Human capital assessment under economic crisis. In *Actual Problems of the Economy* (Vol. 12, No. 150, pp. 500–505). National Academy of Management.
15. Seitkhodzina, J. A. (2014). Gender asymmetry at the labor market in the Republic of Kazakhstan. In *Actual Problems of the Economy* (Vol. 1, No. 151, pp. 368–375). National Academy of Management.
16. Turovskaya, S. N., Galstyan, A. G., Radaeva, I. A., Petrov, A. N., Illarionova, E. E., Ryabova, A. E., Assembayeva, E. K., & Nurmukhanbetova, D. E. (2018). Scientific and practical potential of dairy products for special purposes. In *News of the National Academy of Sciences of the Republic of Kazakhstan. Series of Geology and Technical Sciences* (Vol. 5, No. 431, pp. 16–22). Kazakh National Research Technical University named after K. I. Satpayev. <https://doi.org/10.32014/2018.2518-170X.31>
17. Nagyzbekkyzy, E., Abitayeva, G., Anuarbekova, S., Shaikhina, D., Li, K., Shaikhin, S., Almagambetov, K., Abzhalelov, A., Saduakhassova, S., Kushugulova, A., & Marotta, F. (2016). Investigation of acid and bile tolerance, antimicrobial activity and antibiotic resistance of lactobacillus strains isolated from Kazakh dairy foods. In *Asian Journal of Applied Sciences* (Vol. 9, No. 4, pp. 143–158). Science Alert. <https://doi.org/10.3923/ajaps.2016.143.158>
18. Guo, X. (2019). Research on enterprise financial risk control based on intelligent system. In *Proceedings – 2019 12th International Conference on Intelligent Computation Technology and Automation, ICICTA 2019* (pp. 529–534). Institute of Electrical and Electronics Engineers Inc. <https://doi.org/10.1051/e3sconf/202125301065>
19. Shen, L., Wang, H., Wang, X., & Liu, Q. (2018). Research on the economic benefits of ecological regional agricultural products processing industry. In *Ekoloji* (Vol. 27, No. 106, pp. 605–611). Cevre Koruma ve Arastirma Vakfi.
20. Elmira, A., Nuradin, A., Svitoyus, A., & Galymzhan, A. (2020). Genetic typing of South Kazakhstan populations' dairy camels using DNA technology. In *Animal Biotechnology* (Vol. 31, No. 6, pp. 547–554). Taylor and Francis Ltd. <https://doi.org/10.1080/10495398.2019.1669625>
21. Polyanskaya, I. S., Sorokina, N. R., & Popova, V. L. (2019). Starter culture phagolysis in dairy industry. In *Journal of Hygienic Engineering and Design* (Vol. 29, pp. 41–45). Consulting and Training Center – KEY. <https://doi.org/10.37442/978-5-6043854-1-8-2020-1-432-437>
22. Nurtayeva, Z. S., Karybekova, K. E., Mukhtarova, Z. E., Shulenbayeva, F. A., & Nurpeisova, A. A. (2018). Formation and development of the dairy market and its economic efficiency in North Kazakhstan (Akmolinsky region). In *Journal of Applied Economic Sciences* (Vol. 13, No. 7, pp. 1959–1971). ASERS Publishing.
23. Kodasheva, G., Parusimova, N., Rispekova, M., & Uchkampirova, A. (2017). Actual problems of development of the banking sector in the economy of Kazakhstan. In *Banks and Bank Systems* (Vol. 12, No. 3, pp. 257–268). Business Perspectives. [https://doi.org/10.21511/bbs.12\(3-1\).2017.10](https://doi.org/10.21511/bbs.12(3-1).2017.10)

**Funds:**

This research received no external funding

**Acknowledgments:**

None

**Conflict of Interest:**

The authors declare no conflict of interest.

**Ethical Statement:**

This article does not contain any studies that would require an ethical statement.

### Contact Address:

\*Yerkebulan Utegenov, L.N. Gumilyov Eurasian National University, Department of Economics and Entrepreneurship, Satpayev Str., 2, 010008, Nur-Sultan, Republic of Kazakhstan,  
Tel.: +77172709500

E-mail: [utegenov@toronto-uni.com](mailto:utegenov@toronto-uni.com)

ORCID: <https://orcid.org/0000-0002-6670-9165>

Jamilya Seitkhozina, L.N. Gumilyov Eurasian National University, Department of Economics and Entrepreneurship, Satpayev Str., 2, 010008, Nur-Sultan, Republic of Kazakhstan,  
Tel.: +77172709457

E-mail: [seitkhozina@lund-univer.eu](mailto:seitkhozina@lund-univer.eu)

ORCID: <https://orcid.org/0000-0002-6268-6138>

Madina Ryspekova, L.N. Gumilyov Eurasian National University, Department of Economics and Entrepreneurship, Satpayev Str., 2, 010008, Nur-Sultan, Republic of Kazakhstan,  
Tel.: +77172709528

E-mail: [m.ryspekova@lund-univer.eu](mailto:m.ryspekova@lund-univer.eu)

ORCID: <https://orcid.org/0000-0002-0082-2296>

Zhuldyz Utegenova, Sh. Ualikhanov Kokshetau University, Department of Economics and Accounting, Abay Str., 76, 020000, Kokshetau, Republic of Kazakhstan,  
Tel.: +87162721112

E-mail: [zh-utegenova2@singapore-uni.com](mailto:zh-utegenova2@singapore-uni.com)

ORCID: <https://orcid.org/0000-0002-1476-7910>

Azhar Baltasheva, Abay Myrzakhmetov Kokshetau University, Faculty of Economics, M. Auezov Str., 189a, 020000, Kokshetau, Republic of Kazakhstan,  
Tel.: +77162254259

E-mail: [a.baltasheva@singapore-uni.com](mailto:a.baltasheva@singapore-uni.com)

ORCID: <https://orcid.org/0000-0003-3878-8297>

Corresponding author: \*

© 2022 Authors. Published in [www.potravinarstvo.com](http://www.potravinarstvo.com) the official website of the *Potravinarstvo Slovak Journal of Food Sciences*, owned and operated by the Association HACCP Consulting, Slovakia, [www.haccp.sk](http://www.haccp.sk). The publisher cooperate with the SLP London, UK, [www.slplondon.org](http://www.slplondon.org) the scientific literature publisher. This is an Open Access article distributed under the terms of the Creative Commons Attribution License <https://creativecommons.org/licenses/by/4.0>, which permits unrestricted use, distribution, and reproduction in any medium provided the original work is properly cited.