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# Х А Б А Р Ш Ы С Ы

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**ВЕСТНИК**

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК  
РЕСПУБЛИКИ КАЗАХСТАН

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***NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.***

***Қазақстан Республикасы Ұлттық ғылым академиясы «ҚР ҰҒА Хабаршысы» ғылыми журналының Web of Science-тің жаңаланған нұсқасы Emerging Sources Citation Index-те индекстелуге қабылданғанын хабарлайды. Бұл индекстелу барысында Clarivate Analytics компаниясы журналды одан әрі the Science Citation Index Expanded, the Social Sciences Citation Index және the Arts & Humanities Citation Index-ке қабылдау мәселесін қарастыруда. Web of Science зерттеушілер, авторлар, баспашылар мен мекемелерге контент тереңдігі мен сапасын ұсынады. ҚР ҰҒА Хабаршысының Emerging Sources Citation Index-ке енуі біздің қоғамдастық үшін ең өзекті және беделді мультидисциплинарлы контентке адалдығымызды білдіреді.***

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**MECHANISMS FOR REDUCING ECONOMIC RISKS IN THE DEVELOPMENT  
OF SMALL AND MEDIUM BUSINESSES OF THE REPUBLIC OF KAZAKHSTAN**

**Abstract.** The economy of the Republic of Kazakhstan has been operating in recent years in terms of uneven development of the world economy. The active course of radical transformations in the economy of Kazakhstan, embraced all spheres of Kazakhstani society life and the state. The transition from a centrally managed to a market system of business and management has led to the development of business and, accordingly, to the emergence of various types of economic risks in this area of activity, which especially affects small and medium-sized businesses, as well as the country's economy as a whole. A significant increase in unprofitable enterprises allows us to conclude that they functioned without taking into account the risk factor in the activities of business structures, without which it is difficult to obtain the expected results of activity that are adequate in real conditions. Creating an effective mechanism for the functioning of the enterprise on the basis of the concept of risk-free management is impossible. Therefore, an indispensable condition for small and medium-sized businesses (hereinafter referred to as SMEs) is the freedom of search, mobility and the choice of methods of economic actions with their diversity, taking into account the minimum reduction of risky situations in their activities. It follows that it is necessary not to avoid risk, but to be able to assess the degree of entrepreneurial risk and be able to manage it in order to reduce it, to find effective ways to minimize them in the economy of Kazakhstan, including for small and medium-sized businesses.

**Key words:** small business; medium business; risk; cluster; farm enterprises; inflation

**Introduction.**

The relevance of the research is that today, the development of entrepreneurship meets global mass trends towards creating a flexible mixed economy, combining all kinds of forms of ownership, as well as an adequate economic model that implements a difficult synthesis of a competitive market mechanism and municipal settlement of small and medium-sized enterprises. And if entrepreneurship is the skeleton, the axis of a progressive economy, then all the diversity is the muscles of the economic organism.

Management of the economic risk of small and medium-sized businesses includes changes in market conditions. Note that a general economic recession may lead to a sudden or unexpected loss of income. To improve the management of economic risks of small and medium-sized businesses, it is necessary to maintain an adequate level of capital. This will allow small and medium-sized enterprises to withstand internal problems, such as updating or replacing defective parts, machines, systems, adjusting, or eliminating unforeseen risks, and much more. Beginning enterprises of small and medium-sized businesses always need capital to purchase goods, credit insurance. Kazakhstan is receiving tremendous support from entrepreneurs in Nur-Sultan capital, in all regions and districts. These include: consultation

of government agencies, accounting and taxation, training for beginners and continuing managers of small and medium-sized businesses, invitation of foreign experts with experience in business (restaurant, beer, atelier, pasta shop, cheese dairy, meat processing and much more) where payment for accommodation, meals, flight is carried out by the inviting Kazakhstan side.

**Research problem.** Objectives of the study is to conduct a correlation and regression analysis of statistical data aimed at the mathematical expression and description according to the main indicator of the functioning of the national economy – GDP from the factors, small and medium business in Kazakhstan, to present the problems faced by small and medium businesses at the present stage, the direction of their decisions and the tasks of the state in this mechanism.

The scientific novelty of the research consists in the development of priority mechanisms for the development of clusters of small and medium-sized enterprises implemented within the framework of cluster policy and the development of appropriate organizational and economic tools for their implementation.

Relevance of the research. The relevance of the research is that today, the development of entrepreneurship meets global mass trends towards

creating a flexible mixed economy, combining all kinds of forms of ownership, as well as an adequate economic model that implements a difficult synthesis of a competitive market mechanism and municipal settlement of small and medium-sized enterprises. And if entrepreneurship is the skeleton, the axis of a progressive economy, then all the diversity is the muscles of the economic organism.

Management of the economic risk of small and medium-sized businesses includes changes in market conditions. Note that a general economic recession may lead to a sudden or unexpected loss of income. To improve the management of economic risks of small and medium-sized businesses, it is necessary to maintain an adequate level of capital. This will allow small and medium-sized enterprises to withstand internal problems, such as updating or replacing defective parts, machines, systems, adjusting, or eliminating unforeseen risks, and much more. Beginning enterprises of small and medium-sized businesses always need capital to purchase goods, credit insurance. Kazakhstan is receiving tremendous support from entrepreneurs in Nur-Sultan capital, in all regions and districts. These include: consultation of government agencies, accounting and taxation, training for beginners and continuing managers of small and medium-sized businesses, invitation of foreign experts with experience in business (restaurant, beer, atelier, pasta shop, cheese dairy, meat processing and much more) where payment for accommodation, meals, flight is carried out by the inviting Kazakhstan side.

**Literature review.** The founders of ideas of risk assessment and diagnosis, as well as management of economic risks, are considered to be foreign researchers – A. Smith, E.F. Brigem, F. Black, although a number of classics of economics attached great importance to this aspect of activity (Hampton, Stultz, 2018).

Certain problems associated with the theoretical and practical aspects of economic risks in the economy and its individual sectors were introduced by the scientists of Kazakhstan (Issayeva and Nurpeisova, 2019).

Application functionality. The contribution of SMEs is that without the development of small and medium-sized businesses it is impossible to create a multistructure economy appropriate to a market economy, to ensure the diversity and equality of forms of ownership and management. In modern conditions of modernization of Kazakhstan economy, a very urgent issue is the ratio of various business entities in scale of industrial and commercial activities – small, medium-sized enterprises (Nurzhanova, 2019), (Niyazbekova, 2019).

The arithmetic mean value of losses for the year is calculated when t years of losses or risks are considered

$$R_{average} = (Y_1 + \dots + Y_n) / t \text{ years} \quad (1)$$

where,  $R_{avg}$  – arithmetic mean value of losses for the year, in measurement unit;

$Y; Y_n$  – damage from actions;

t years – number of years under review.

For a more complete assessment and determination of the degree of influence, the percentage of losses is calculated, we use the methodology and take it into account for indicators of entrepreneurial risks in this thesis (table 1).

Table 1. Classification of economic risks by the amount of losses

Risk types	Point P2 losses, misses, consequences	Value of losses $R_{avg}$ (in% of actual indicators of previous years), the coefficient of variation	Value of losses $R_{avg}$ the coefficient of variation, without meas. units V	Legend, color of risk painting
No losses	0	+ ≤ R no 0	+ ≤ R no 0	
Low degree of risk	1	0 ≤ R min 30%	0 ≤ R min 0,30	
Average degree of risk	2	31% ≤ R avg 70%	0,31 ≤ R avg 0,70	
High degree of risk	3	71% ≤ R max 100%	0,71 ≤ R max 1,00	

Note: composed on the base.

Then, we multiply the indicator of the probable losses value in points, which is determined by the matrix "probability-loss" and makes it possible to judge the degree of impact and the level of entrepreneurial risk. Moreover, the risk assessment algorithm involves a comparative analysis of the assessment of marginal, multi-level, normative indicators with actual indicators. The calculation of each indicator was carried out in a single measurement, therefore this assessment is more objective and evaluates the results of entrepreneurial activity within the country, it shows problems and weak points that need to be solved (Gagarina, 2017).

The result of the performance was calculated as the arithmetic mean, formula (2):

$$R_{group} = [(A_1 + A_2 + \dots + A_n) / n + (B_1 + B_2 + \dots + B_n) / n + (C_1 + C_2 + \dots + C_n) / n] / K \quad (2)$$

Where A, B, C – threshold and actual indicators of the respective individual groups;

n – number of indicators of each group; K – number of factors group;

P group – the rating of the level of threshold and

indicator measures group, we determine in three ranges, and may have values:

- 1) 0 % – no risks, determinateness condition;
- 2) 1 % – 30% minimal level of risk
- 3) from 31 % to 70 % – average level of risk (weakness zone);
- 4) from 71 % to 100 % – high level of risk (crisis condition zone).

To assess the actual state of SMEs, a set of indicators reflecting its resource and effective components is needed. To determine the level of sufficiency of entrepreneurship potential, a normative model should be developed that characterizes the boundary parameters of its satisfactory and unsatisfactory state.

Assessing the effectiveness of the functioning of entrepreneurial activity involves comparing calculated indicators with normative and planned values, with indicators for past periods of time, as well as with indicators of other enterprises of industry. The final stage of a qualitative risk assessment is the identification of mechanisms for their reduction and the development of measures to improve overall efficiency within their activities (Ślusarczyk, 2019). Then a risk assessment is carried out, the result of which is an integral indicator of the level of risk (Semenyuk, 2019). For a formalized description of the results of assessment of risk level determination, status and effectiveness based on qualitative indicators in the interval from 0 to 1.0, it is recommended to use a verbal-digital scale. The proposed mechanism for assessing risk minimization has the function of detecting deviations and determining adaptation work. In the process of developing corrective measures, using the specified assessment mechanism, you can build a strategy for implementing improvements in the model of effective business operations. The solution to the model allowed minimization of risks on the basis of two assumptions: a rational study of factors groups and ranking of factors within groups according to their degree of weight in relation to the risk situation. This allows SMEs to work in the zone of acceptable risks.

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## ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ШАҒЫН ЖӘНЕ ОРТА БИЗНЕСІН ДАМУДАҒЫ ЭКОНОМИКАЛЫҚ ТӘУЕКЕЛДЕРДІ ТӨМЕНДЕТУ ТЕТІКТЕРІ

**Аннотация.** Қазақстан Республикасының экономикасы соңғы жылдары әлемдік экономиканың біркелкі емес дамуы жағдайында жұмыс істеуде. Қазақстан экономикасындағы түбегейлі өзгерістердің белсенді барысы Қазақстандық қоғам мен мемлекеттің тыныс-тіршілігінің барлық салаларын қамтыды. Орталықтандырылған басқарудан шаруашылық жүргізу мен басқарудың нарықтық жүйесіне көшу бизнестің дамуына және тиісінше осы қызмет саласында әртүрлі экономикалық тәуекелдердің

Moreover, the application of possible risk factors for individual factors groups or indicators within factors depends on the conditions for the growth of risk factors to the main indicators according to the following formula:

$$NI = Ni^* (R^1 + R^2 + R^3 + \dots R^n) \quad (3)$$

NI – the predicted indicator while minimizing risk;

Ni is the actual indicator in question;

R<sup>1</sup>; R<sup>2</sup>; R<sup>3</sup>...R<sup>n</sup> – a group of risk factors affecting the minimization of risks in this indicator.

The development of entrepreneurship focuses mainly on two main areas: the creation of large organizational and economic structures, which should give the economy stability and manageability; development of small and medium-sized businesses, which should create a competitive environment, provide production with flexibility and individualization.

### Conclusion.

1. Implementation of the cluster approach and cluster initiatives when finalizing and updating regional development strategies, in particular, including the goals and development indicators of clusters of small and medium enterprises manufacturing final products in the content of the strategy of the federation subject, as well as the inclusion of the section «cluster creation activities of small and medium-sized enterprises» corresponding to the schematic diagrams in the territorial planning schemes of the regions, allows to put into practice a systematic approach to cluster policy.

2. The implementation of continuous monitoring of the activities of both already formed, recognized clusters and potential ones, the accumulation of information on the basis of the cluster policy center in the region, its use in improving cluster policies and information and advisory support to cluster members seems necessary for the full implementation of the research phase of cluster policy as well as providing feedback in the regional management system.

туындауына алып келді, бұл әсіресе шағын және орта бизнеске, сондай-ақ тұтастай алғанда ел экономикасына әсер етеді. Зиянды кәсіпорындардың едәуір өсуі олардың бизнес-құрылымдардың қызметіндегі тәуекел факторын ескерусіз жұмыс істегені туралы қорытынды жасауға мүмкіндік береді, онсыз нақты жағдайда күтілетін нәтижелерді алу қиын. Тәуекелсіз басқару тұжырымдамасы негізінде кәсіпорынның тиімді жұмыс істеу механизмін құру мүмкін емес. Сондықтан шағын және орта бизнестің (бұдан әрі-ШОБ) міндетті шарты іздеу еркіндігі, ұтқырлық және өз қызметіндегі тәуекелді жағдайларды барынша азайтуды ескере отырып, экономикалық іс-қимылдардың алуан түрлілігі кезіндегі олардың тәсілдерін таңдау болып табылады. Демек, тәуекелден аулақ болу керек, бірақ кәсіпкерлік тәуекел дәрежесін бағалай білу және оны азайту үшін оны басқара білу, Қазақстан экономикасында, оның ішінде шағын және орта бизнес үшін оларды азайтудың тиімді жолдарын табу керек.

**Түйін сөздер:** шағын бизнес; орта бизнес; тәуекел; кластер; ауыл шаруашылығы кәсіпорындары; инфляция

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## **МЕХАНИЗМЫ СНИЖЕНИЯ ЭКОНОМИЧЕСКИХ РИСКОВ В РАЗВИТИИ МАЛОГО И СРЕДНЕГО БИЗНЕСА РЕСПУБЛИКИ КАЗАХСТАН**

**Аннотация.** Экономика Республики Казахстан в последние годы работает в условиях неравномерного развития мировой экономики. Активный ход радикальных преобразований в экономике Казахстана, охватил все сферы жизнедеятельности казахстанского общества и государства. Переход от централизованно управляемой к рыночной системе хозяйствования и управления привел к развитию бизнеса и соответственно к возникновению в этой сфере деятельности различных видов экономических рисков, что особенно влияет на малый и средний бизнес, а так же в целом на экономику страны. Значительный рост убыточных предприятий позволяет сделать вывод о том, что они функционировали без учета фактора риска в деятельности бизнес структур, без этого сложно получение адекватных в реальных условиях ожидаемых результатов деятельности. Создать эффективный механизм функционирования предприятия на основе концепции безрискового хозяйствования невозможно. Поэтому непереносимым условием малого и среднего бизнеса (далее МСБ) является свобода поиска, мобильность и выбор способов экономических действий при их разнообразии с учетом минимального снижения рискованных ситуаций в своей деятельности. Отсюда следует, что необходимо не избегать риска, а уметь оценивать степень предпринимательского риска и уметь управлять им, чтобы уменьшить его, найти эффективные пути их минимизации в экономике Казахстана, в том числе для малого и среднего бизнеса.

**Ключевые слова:** малый бизнес; средний бизнес; риск; кластер; сельскохозяйственные предприятия; инфляция.

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## REFERENCES

- [1] Al-Tit, A. A. (2020). E-commerce drivers and barriers and their impact on e-customer loyalty in small and medium-sized enterprises (SMES). *Business: Theory and Practice*, 21(1), 146-157. <https://doi.org/10.3846/btp.2020.11612>
- [2] Burkaltseva D., Borsch L, Blazhevich O, Frolova E., Labonin I. (2017) Financial and economic security of business as a primary element in the economic system. *Revista: Espacios* 38 (33): 3- 20.
- [3] Igalievaya Laura, Shakizada Niyazbekova, Madina Serikova, Zita Kenzhegalievaya, Galym Mussirov, Anna Zueva, Yuliya Tyurina, Leila Maisigova. *Entrepreneurship and sustainability issues*. ISSN 2345-0282 (online) <http://jssidoi.org/jesi/> 2020 Volume 7 Number 4 (June) [http://doi.org/10.9770/jesi.2020.7.4\(61\)](http://doi.org/10.9770/jesi.2020.7.4(61)) Towards environmental security via energy efficiency: a case study.
- [4] Ministry of National Economy of the Republic of Kazakhstan. URL; <https://www.gov.kz/memleket/entities/economy?lang=en>
- [5] Kaukab, M. E., Adawiyah, W. R., Setyanto, R. P., & Suroso, A. (2020). Accelerating small firms' production process improvement through international market knowledge and valuable, rare, inimitable, and organized resources and capabilities. *Business: Theory and Practice*, 21(1), 322-328. <https://doi.org/10.3846/btp.2020.11652>
- [6] National Chamber of Entrepreneurs of the Republic of Kazakhstan "Atameken". URL: <https://atameken.kz/>
- [7] Nurzhanova A.N., N.K.Shamisheva, B.K.Issayeva. Risks in the development of small and medium-sized businesses. *news of the national academy of sciences of the Republic of Kazakhstan. Series of social and human sciences*. ISSN 2224-5294 <https://doi.org/10.32014/2020.2224-5294.19> Volume 1, Number 329 (2020), P.167 – 173
- [8] Niyazbekova Shakizada, Asem Nurzhanovna Nurzhanova, Bibigul Issayeva, Sobol Tatyana S. and Kaldenova Gulzhanat. *Economic Risk Mitigation Mechanism in the Development of Small and Medium Enterprises.2020.*
- [9] <https://ibima.org/accepted-paper/economic-risk-mitigation-mechanism-in-the-development-of-small-and-medium-enterprises/>
- [10]Burkaltseva D.D., L.A. Maysigova, L.A. Bekbotova. Methods of state financial control in the context of digitalization of the financial sector: new opportunities and prospects. *International Scientific and Practical Conference: DIGITAL FINANCE 2020 (DF2020). (Influence of blockchain technology on the financial and bank sphere) // Features of relations between government authorities, business and civil society in the digital economy*, P. 52–56.
- [11]Maysigova Leyla A., Lidiya A. Bekbotova, Visita A. Khamzatov, Ira H. Kerefova, Svetlana F. Kokova. Génesis de la formación y desarrollo de agrupaciones científico-educativas regionales (Генезис становления и развития региональных образовательных научных групп) // *Revista Dilemas Contemporaneos: Educacion. Politica y Valores*. Año: VI Número: Edición Especial Artículo no 10.: 4, Agosto, 2019.
- [12]Maisigova Leila A.,; Niyazbekova Shakizada,; Bunevich Konstantin,; Saiymova Meiramkul,; Blazhevich Oleg,; Issayeva Bibigul,; Rey I.Yu. Features of economic development and monetary policy of Singapore \ \ *Bulletin of the National Academy of Sciences of the Republic of Kazakhstan*. ISSN 1991–3494. Volume 6, Number 388 (2020), 195 – 203. <https://doi.org/10.32014/2020.2518-1467.200>
- [13]Stepanov Alexey Alekseevich, Diana Dmitrievna Burkaltseva, Sivash, Olga Sergeevna, Irina Vladimirovna Kurianova, Dmitry Valerievich Nekhaychuk, Andrey Sergeevich Tyulin, Shakizada Niyazbekova. Trends and consequences of introduction of automation and digitalization of enterprises, industry, and economy. *Sivash Olga (ISSN 07194706–Chile–WoS)*, 02, 697277
- [14]<http://www.archivosrevistainclusiones.com/gallery/2%20vol%207%20num%20vallesespecialleabrijunio2020revinclusi.pdf> *Revista inclusiones ISSN 0719–4706 Volumen 7 – Número especial – abril/ju*

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**Экономика – Экономика - Economics**

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