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## Impact of the Pandemic on the Socio-Economic Development of Kazakhstan

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### Abstract

COVID-19 has affected all aspects of public life, sectors of the national economy, and the standard of living of the population in both positive and negative directions. The government of Kazakhstan played a significant role in reducing the negative consequences of the pandemic on the socio-economic situation of the population by implementing state support measures. However, systemic social problems, both globally and nationally, have not been resolved. The World Health Organization was not ready for the global coronavirus crisis. The search in the global world for ways to combat new modifications of the viral epidemic remains relevant. The global community must be prepared for unexpected viral diseases. The purpose of the study is to conduct a qualitative analysis of the main changes in the socio-economicsphere of Kazakhstan associated with the spread of coronavirus in the world in order to determine the necessary socio-economic and institutional processes and impacts that can have a significant impact on society in the long term. The article highlights social problems, the solution of which will contribute to the development of human capital and the economic growth of the country. Complex methods of systemic and empirical analysis were used in this article. Analysis of socio-economic development confirmed the proposed hypotheses. As a result of the study, the features of the socio-economic development in the current situation are determined. An attempt has been made to identify the main trends, and processes necessary for fundamental changes in the socio-economic life of the country in the post-pandemic period.

*Keywords:* Pandemic, Economy, Employment, Entrepreneurship, Social Protection.

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## Пандемияның Қазақстанның әлеуметтік-экономикалық дамуына әсері

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### Түйін

COVID-19 қоғамдық өмірдің барлық аспектілеріне, ұлттық экономиканың салаларына, халықтың өмір сүру деңгейіне оң және теріс бағытта әсер етті. Қазақстан үкіметі мемлекеттік қолдау шараларын жүзеге асыру арқылы індеттің халықтың әлеуметтік-экономикалық жағдайына тигізетін жағымсыз салдарын азайтуда маңызды рөл атқарды. Дегенмен, жаһандық және ұлттық деңгейде жүйелі әлеуметтік мәселелер шешімін тапқан жоқ. Дүниежүзілік денсаулық сақтау ұйымы жаһандық коронавирустық дағдарысқа дайын болмады. Жаһандық әлемде вирустық індеттің жаңа модификацияларымен күресу жолдарын іздеу өзекті болып қала береді. Әлемдік қауымдастық күтпеген вирустық ауруларға дайын болуы керек. Зерттеудің мақсаты – ұзақ мерзімді перспективада қоғамға айтарлықтай әсер етуге қажетті әлеуметтік-экономикалық және институционалдық процестер мен салдарларды анықтау үшін әлемде коронавирустың таралуына байланысты Қазақстанның әлеуметтік-экономикалық саласындағы негізгі өзгерістерге сапалы талдау жүргізу. Мақалада шешуі адами капиталды дамытуға және елдің экономикалық өсуіне ықпал ететін әлеуметтік мәселелерге ерекше назар аударылған. Мақаланы дайындауда жүйелік және эмпирикалық талдау әдістерінің кешені пайдаланылды. Әлеуметтік-экономикалық дамуды талдау алға қойылған болжамдарды растады. Зерттеуде талдау негізінде еліміздің қазіргі жағдайдағы әлеуметтік-экономикалық даму ерекшеліктері айқындалады. Пандемиядан кейінгі кезеңде елдің әлеуметтік-экономикалық өміріндегі түбегейлі өзгерістерге қажетті негізгі үрдістер мен процестерді анықтауға әрекет жасалды.

*Түйін сөздер:* пандемия, экономика, жұмыспен қамту, кәсіпкерлік, әлеуметтік қорғау.

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## Влияние пандемии на социально-экономическое развитие Казахстана

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### Аннотация

COVID-19 оказал влияние на все аспекты общественной жизни, отрасли национального хозяйства, на уровень жизни населения как в позитивном, так и негативном направлениях. Значительную роль в снижении негативных последствий пандемии на социально-экономическое положение населения сыграло правительство Казахстана, осуществляя меры государственной поддержки. Однако системные социальные проблемы как в глобальном, так и в национальном масштабе нерешены. Всемирная организация здравоохранения не была готова к охватившему весь мир коронавирусному кризису. Актуальным остается поиск в глобальном мире путей борьбы с новыми модификациями вирусной эпидемии. Мировое сообщество должно быть готово к неожиданным вирусным заболеваниям. Целью исследования является проведение качественного анализа основных изменений в социально-экономической сфере Казахстана, связанных с распространением коронавируса в мире для определения необходимых социально-экономических и институциональных процессов и воздействий, способных оказать существенное влияние на общество в долгосрочной перспективе. В статье особое внимание уделено социальным проблемам, решение которых будет способствовать развитию человеческого капитала и экономическому росту страны. При подготовке статьи использовался комплекс методов системного и эмпирического анализа. Анализ социально-экономического развития подтвердил выдвинутые гипотезы. В исследовании на основе анализа определены особенности социально-экономического развития страны в нынешней ситуации. Сделана попытка выявления основных тенденций и процессов, необходимых для фундаментальных изменений социально-экономической жизни страны в постпандемийный период.

*Ключевые слова:* пандемия, экономика, занятость, предпринимательство, социальная поддержка.

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### Introduction

Many countries of the world faced a situation caused by the coronavirus infection COVID-19, which showed the absence of a universal system of social assistance for citizens or an effective healthcare and education system. The researchers of the coronavirus epidemic are discussing the long-lasting consequences of the pandemic on the global economy. Even before the coronavirus epidemic, there were substantial problems in the labor market in the world. In 2020, 57% of the world's working-age population (3.3 billion people: 1.3 billion women and 2 billion men) were employed, while 188 million remained unemployed (Policy Brief: The world of work and COVID-19, 2020).

The unexpected and rapid spread of the COVID-19 pandemic in the shortest possible time created an emergency in the health care system, education, and labor market and several sectors of Kazakhstan's economy. The Government of Kazakhstan has taken emergency measures to combat the pandemic since the first days of the virus's spread. On the one hand, a substantial amount of funding was allocated to the healthcare system, the pharmaceutical industry, and the development of tests and vaccines. A Kazakh vaccine was developed. Restrictive measures such as quarantine and self-isolation were introduced. Borders with foreign countries were closed. Additionally, the government provided financial support to the unemployed, supported those workers whose incomes decreased due to restrictive measures, took several measures to support businesses by reducing taxes, etc.

At the same time, pandemic researchers find it difficult to determine the impact of the COVID-19 virus in the coming years. According to researchers, another viral modification in the world is inevitable. And states should act similarly way to the actions they have taken before. Since the pandemic has changed the paradigm of people's lives and society in general, it is necessary to determine the directions for further transformation. The study's novelty lies in the presentation of the post-pandemic world and the identification of the course of the state's socio-economic development. These questions are the most relevant today in this research scope.

This study aims to analyze the pandemic's impact on the socio-economic condition of Kazakhstan's citizens and their living standard and develop recommendations to combat its negative consequences. The study hypothesizes that (1) the pandemic had an impact on the socio-economic development of Kazakhstan in general; (2) the state is taking the necessary measures to mitigate

the consequences of the pandemic, but they are not enough. The article analyzes the impact of the pandemic on the country and attempts to propose support measures in the post-pandemic world.

The scientific significance of the study lies in the systematization of the obtained research materials and the expansion of existing knowledge through empirical data to determine the current state of the socio-economic sphere of Kazakhstan.

The practical significance refers to the fact that government agencies can use the results and recommendations obtained during the study in the fight against accumulated problems in the economic and social environment due to the pandemic.

### Literature review

The self-isolation and quarantine measures accompanying the pandemic had an impact on the quality of life. As a positive impact, one can note the reduction in harmful emissions into the atmospheric air, water resources, and soil. Also, the development of local businesses, domestic tourism, and crime reduction are cases in point. Quarantined and self-isolated people paid attention to online games, increasing the turnover of this industry.

As the analysis of literary sources shows, foreign researchers pay more attention to the health care system, not only to the physiological but also to the psychological state of the health of citizens. During the pandemic, there have been drastic changes in people's modern lifestyles and work habits due to the psychological impact (Balanzá-Martínez et al., 2020). An interesting question is about the "digital divide", which is associated with access to the Internet. It has been noted that people may not have access to technology during a pandemic for reasons other than income (Bennett Gayle et al., 2021). A study aimed at examining the perceptions of teachers and students of the transition to emergency distance learning identified barriers and ways of supporting education (Donham et al., 2022). A study on the effectiveness of educational technologies during distance education notes that quarantine affected the academic performance, emotional status, and educational level of children (Champeaux et al., 2022). A study comparing COVID-19 containment across 50 regions between March 2020 and November 2021 found relationships between the Public Policy and Hygiene Education (GP&HE) indicator and each vital health and socioeconomic indicator. Country success has been associated with nonpharmaceutical interventions, early action, and necessary policy adjustments (Tsou et al., 2022).

In developed countries, much attention in scientific publications is paid to the negative impact of the COVID-19 pandemic on the labor market, gender equality, and the socio-economic status of women (Arntz et al., 2020). It could be due to the closure of children's institutions and educational schools, where the share of woman employees is higher. However, there are also opposing opinions of scholars. Thus, researchers from the USA argue that women suffered more from the pandemic (Cortes & Forsythe, 2020; Farré et al., 2022); other scientists did not find discrimination during the pandemic period (Milovanska-Farrington, 2021; Hupkau & Petrongolo, 2020). Some sources indicate that young workers suffered more during the pandemic period while experienced people remained in the workplace. Others suggest that adult workers suffered since they were sent to retirement before term.

Implementing measures to combat coronavirus infection has affected all levels of education. In Kazakhstan, all educational institutions have been transferred to online education. Different countries have taken various measures to limit people's interaction with each other, ranging from the complete closure of educational institutions in Germany and Italy and the closure of all institutions in the United Kingdom, except for schools that train specialists for workers in key industries (UNESCO, 2020).

More than 100 countries introduced nationwide closures of educational institutions. UNESCO estimates that the closure of educational institutions affected about 900 million students. The pandemic harmed the activities of research organizations, as some research fields not related to COVID-19 were suspended in many countries. For example, clinically trained researchers were sent to fight the pandemic in the United Kingdom (National Institutes of Health (NIH), 2020). The same was done in the USA, where all "non-critical" studies were closed to free up staff and resources for "critically" important health research. In several countries, research in the humanities and social sciences was suspended, and all laboratories at the Faculty of Arts and Sciences were closed at Harvard University (Harvard University, 2021).

Researchers pay attention to such important aspects of people's lives as education and healthcare, which impact human capital development and the country's economic growth. However, the conducted literature review showed that the issues of ensuring employment, the level and quality of life, and social support for vulnerable groups of citizens had not been sufficiently investigated.

### Research methods

Over the past two years, the economies of different countries have been developing in extremely difficult conditions of the coronavirus pandemic. Only repeated observation, and generalization of various information makes it possible to form a correct idea of the current state of affairs. Among the scientific methods used, analysis and synthesis are of great importance. With their assistance, methods of state regulation and conceptual approaches to social development spheres were identified (Shcherbakov, 2021).

Types of general scientific approaches as a diagnostic method and monitoring were used to identify the problem and its scale as well as to determine the success or failure of state initiatives in solving issues related to the consequences of the pandemic.

In 2020, Kazakhstani scientists, within the framework of the Astana Public Service Hub project, conducted a comparative analysis of measures taken by the governments of a number of states to study and generalize government approaches in a pandemic. The modeling method was used to develop recommendations. (Abisheva et al., 2020).

A systematic approach was used to study the instruments of state regulation, their integrity, and their structural elements. In future stages of the study, this approach will be used to verify the results and outcomes of administrative initiatives and policies. An empirical analysis of the dynamics of the development of socio-economic indicators in Kazakhstan was carried out using the method of economic statistics, graphical and comparative analysis. Data was collected for the period of the past 5-10 years.

As part of the study, a questionnaire survey was conducted, in which about 7.5 thousand respondents participated. In a preliminary analysis of the questionnaire's open questions, the pandemic negatively impacted respondents' employment, affected their income levels and increased food prices. Respondents referred to the low level of payments to support the population, the need for not only material, but also psychological support for citizens during the pandemic period. The researchers conducted surveys of the population, experts in terms of assessing the effectiveness of government support measures during the pandemic. The methodology of our study differs from those studied by us in its complexity. The study examines the impact of the pandemic on all aspects of public life that affect the social life of the population in general: the development of the real sector of the economy, employment, education and healthcare, online commerce and domestic tourism. The pandemic has had a positive impact

on a number of industries, and a negative one on others. Based on the use of system-integrated analysis, a number of proposals in the field of public administration have been developed.

Data from the Bureau of National Statistics, international organizations, and State programs were used as the sources of information necessary for conducting a system-comprehensive analysis.

### Results and discussion

Due to a large number of indicators in the system of state regulation, it is often difficult to analyze and, as a result, make rational management decisions. Difficulties with implementing strategic management may arise because of the wrong assessment of the status quo.

In our opinion, the tasks of assessing the consequences of the pandemic in the socio-economic space are:

- determination of the status quo of the social sphere;
- analysis of the socio-economic development in the country and regions;
- analysis of statistical indicators and assessment of the quality of life of the population (the healthcare system, education, and social services);

- analysis of deviations of indicators from planned ones;

- analysis of indicators of the social sphere.

The study used the results of a questionnaire survey to assess the consequences of the pandemic and state support measures for the population and businesses during the COVID-19 period in terms of evaluating the impact of the pandemic on changes in household income. According to respondents, the main problems as a result of the pandemic were unemployment, low wages, higher prices, and the need not only for the material but also for psychological support for people, etc.

### Real Economy Indicators

The pandemic has become an unexpected force majeure factor for the public administration system of many countries, greatly exacerbating their long-existing systemic problems. The consequences of the pandemic harmed the global economy. Thus, the decline in global GDP in 2020 amounted to 4.3%, while during the global crisis of 2008-2009, in 2009 was only 1.7% (Plaksina et al., 2021).

In Kazakhstan, the volume of gross domestic product in 2021 increased by 18.2% compared to 2019 (Table 1).

**Table 1** - Development indicators of the real sector of the economy in 2017-2021(million tenge)

Indicators	Years					2021 by 2019,%
	2017	2018	2019	2020	2021	
1	2	3	4	5	6	7
Gross domestic product	54 378 857,8	61819536,4	69 532626,5	70 649033,2	82 207959,7	118,2
The volume of industrial production (goods, services)	22 790 209	27 218 063	29 380 342	27 028 506	37 047 606	126,1
Mining and quarrying	11 568 785	14 877 068	15 978 061	11 785 557	17 808 987	111,5
<b>Manufacturing industry</b>	9 400 848	10 403 854	11 573 350	13 232 696	16 807 040	145,2
food production	1 525 814	1 527 687	1 708 013	1 957 241	2 216 698	129,8
beverage production	311 675	343 794	398 492	443 428	554 526	139,2
production of tobacco products	106 247	123 620	112 491	211 590	237 138	210,8
light industry	98 090	99 351	115 843	142 721	139 993	120,8
production of chemical industry products	333 328	401 141	475 139	476 329	554 663	116,7
metallurgy industry	4 075 747	4 614 873	4 965 432	5 662 784	7 677 979	154,6
production of finished metal products, except machinery and equipment	233 937	239 609	264 388	291 109	322 231	121,9
manufacture of computers, electronic and optical equipment	37 125	33 053	44 484	40 888	37 058	83,3
production of cars, trailers and semi-trailers	150 108	208 109	360 238	614 038	739 086	205,2
production of other vehicles	101038	88539	124563	216571	333 240	267,5
furniture manufacturing	43 482	38 613	47 997	53 545	59 676	124,3

1	2	3	4	5	6	7
<b>Gross output of agricultural products (services)</b>	4 070 916,8	4 474 088,1	5 151 163,0	6 334 668,8	7 346 672,6	142,6
gross crop production	2 249 166,9	2 411 486,7	2 817 660,6	3 687 310,3	4 232 458,6	150,2
gross livestock production	1 810 914,1	2 050 455,8	2 319 496,7	2 637 460,7	3 104 507,7	133,8
<b>The volume of completed construction works (services)</b>	3 509 296	3 862 995	4 431 666	4 934 069	5 495 181	124,0
<b>Commissioning of social and cultural facilities:</b>						
number of student places in commissioned educational schools	52 291	51 619	33 358	35 728	39 350	118,0
number of places in pre-school organizations commissioned	7 739	12 812	8 431	4 947	4 950	58,7
<b>Commissioning of healthcare facilities:</b>						
number of beds in commissioned hospitals	2 212	1 000	605	838	2 435	402,5
the number of visits per shift in the outpatient organizations put into operation	2 955	1 960	4 445	1 317	885	19,9
Passengers transported, million people	22 744,7	23 013,0	23 835,8	8 396,4	7 577	31,8
Passenger turnover, million pcm	273 193,4	281 484,1	295 516,6	108 711,0	106 813,1	36,1
Carried (transported) cargo, luggage, cargo luggage, million tons	3 946,1	4 103,8	4 222,7	3 944,8	3 999,4	94,7
Cargo turnover, billion t-km	564,0	609,5	597,6	584,0	597,2	99,9
Gross output of transport services, million tenge	6 474 355,6	7 522 986,9	8 534 920,3	6 746 980,2	7 579 332,2	88,8
The volume of communication services, million tenge	752 332,0	782 459,1	854 566,4	926 626,1	1 012 068,4	118,4

Note: Compiled by the authors based on Bureau of National Statistics (2022)

Table 1 demonstrates the development indicators of the real sector of the economy of Kazakhstan for 2017-2021. As table shows, the volume of production of mining (by 11.5%) and manufacturing (by 45.2%) industries increased in 2021 compared with 2019. There is significant growth in all manufacturing industry sectors, except for the production of computers, electronic and optical equipment (decreased by 16.7%). Also, the production of crop production (by 50.2%) and livestock (by 33.8%) in the agro-industrial sector of the economy increased.

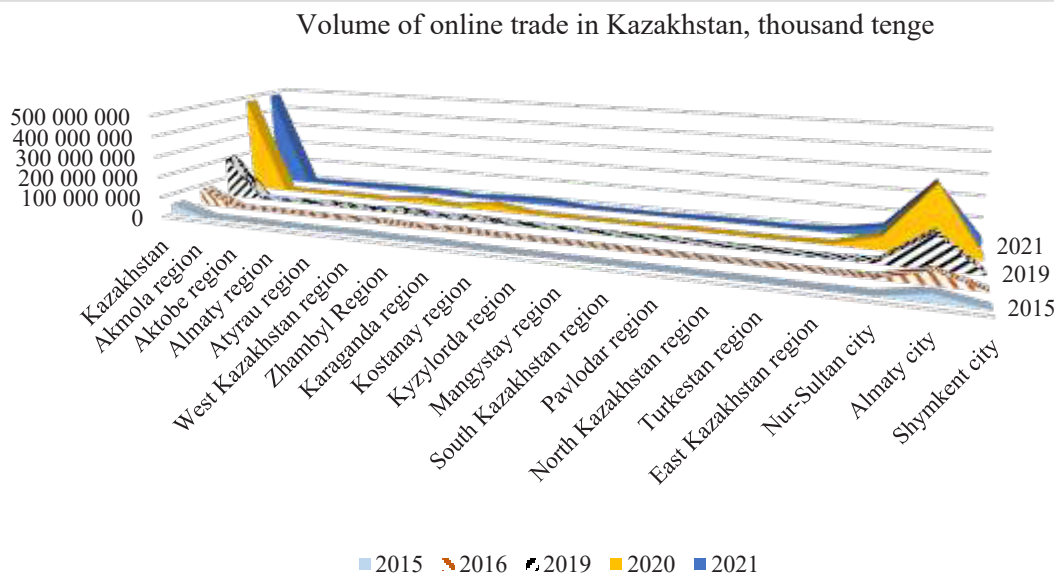
The negative dynamics here are observed in those industries whose activities were affected by the COVID-19 pandemic. Due to the transition to online mode and social distancing, the number of places in kindergartens and nurseries decreased. The number of visits to polyclinics decreased due to the threat of infection with coronavirus. The decline in indicators of the service sector related to servicing the population is explained by the self-isolation of citizens in connection with the pandemic. These are the transportation of passengers and cargo, passenger and cargo turnover, and transport logistics. During the same period, the

volume of communication services increased by 18.4%.

Despite the negative dynamics of the development of several industries, the long-term consequences of the COVID-19 coronavirus have had a positive impact on e-commerce not only in Kazakhstan but also around the world. Globalization has turned e-commerce into a multibillion-dollar industry.

E-commerce is preferable for consumers because of the following reasons: a wide choice of goods and services is provided, prices for goods are much lower, and they are bought directly without intermediaries using modern IT technologies.

The COVID-19 coronavirus epidemic also had a positive impact on domestic tourism, although it began to develop before the pandemic period, as can be seen from Table 2. Compared to 2018, in 2019, the flow of tourists within the country increased by 1.6%. However, self-isolation and quarantine in 2020 reduced the number of tourists within the country by 8.0% compared to 2019. Due to the closure of borders, the number of tourists traveling abroad decreased in 2020 compared to 2017 by 3.6 times (Vechkinzova et al., 2021).



**Figure 1** - Online trading in Kazakhstan

Note: Compiled by the authors based on Bureau of National Statistics (2022)

**Table 2** - Domestic and outbound tourism in the Republic of Kazakhstan for 2017-2020

Indicators	Years				2020, by 2017, %
	2017	2018	2019	2020	
Domestic tourism	8 602 769	8 550 326	8 687 013	7 994 534	92,9
Outbound tourism	2 949 284	3 096 644	2 976 495	811 785	27,5

Note: Compiled by the authors based on Bureau of National Statistics (2022)

Kazakhstan’s domestic tourism provides a developed infrastructure and services, transport accessibility, and security. The importance of the tourism industry as a factor in the country’s economic growth is emphasized by the approval of the State Program for the Development of the tourism industry of the Republic of Kazakhstan for 2019-2025. The amount of 1,385,695.8 million tenge is provisionally allocated for the entire program implementation period.

**State support of SMEs in Kazakhstan**

Table 3 shows the number of operating small and medium-sized businesses. The presented data shows a positive trend. In all regions of Kazakhstan, the number of SMEs increased in 2021 compared to 2019. They are mobile, adaptable, and provide employment for residents of urban and rural settlements, reducing unemployment.

The State Program for Support and Development of Business “Road Map - 2020” was approved in 2018. The program ensures the growth of regional entrepreneurship and creates permanent jobs, provides access to financing for entrepreneurs in rural areas, small towns, and single-industry towns. The Government implemented a lending program for the priority project “Economy of Simple

Things” in 2019, aiming at developing non-primary manufacturing industries.

The implementation of these programs is carried out by the operator of state support measures JSC “Entrepreneurship Development Fund “Damu”. In 2019, the Fund financed over 24 thousand projects for a total amount of loans exceeding 600 billion tenge. The Fund’s own programs are being implemented in the regions to support SMEs. Kazakhstan ranked 25<sup>th</sup> among 190 countries in the Doing Business ranking.

**Table 3** - Number of operating small and medium-sized enterprises by regions of the Republic of Kazakhstan for 2017-2021

Indicators	Years				
	2017	2018	2019	2020	2021
Republic of Kazakhstan	1 156 436	1 233 496	1 330 244	1 357 311	1 431 647
Akmola region	41 754	44 571	45 453	46 564	48 544
Aktobe region	50 430	54 691	59 116	61 797	65 992
Almaty region	111 528	114 919	122 368	123 181	129 716
Atyrau region	43 388	46 779	49 917	50 239	52 031
West Kazakhstan region	37 284	40 298	42 785	43 035	44 260
Zhambyl region	59 706	63 148	69 961	69 338	71 298
Karaganda region	80 589	84 067	88 299	90 196	95 296
Kostanay region	49 185	51 573	52 516	52 495	54 870
Kyzylorda region	37 700	42 585	46 297	48 657	51 063
Mangystau region	47 239	51 012	52 949	52 900	56 521
Pavlodar region	179 704	43 643	45 482	45 809	46 694
North Kazakhstan region	41 638	29 059	30 071	30 331	30 228
Turkestan region	28 146	124 762	141 992	140 605	144 778
East Kazakhstan region	81 310	88 252	88 938	90 453	95 916
Nursultan city	97 197	118 461	134 475	144 769	163 017
Almaty city	169 638	177 200	190 190	197 066	206 109
Shymkent city	-	58 476	69 435	69 876	75 314

Note: Compiled by the authors based on Bureau of National Statistics (2022)

According to the survey results conducted by KPMG aimed at determining the sufficiency of state support measures for business entities during the pandemic, the following was revealed as a barrier to obtaining state support under existing programs: 5% of respondents noted support mechanisms as ill-conceived; 5% of respondents said that the amount of funding is limited; 14% of respondents named requirements for participants tough; 19% of respondents that there are restrictions on industries and types of activities; 21% of respondents noted bureaucracy and administrative barriers as a barrier; 26% of respondents from among business entities called the lack of a “single window” and effective communication (KPMG, 2022).

**Table 4** - Indicators of the implementation of the State program “the Business Roadmap” for 2019-2021

Years	Number of supported projects, units	The total amount of the loan portfolio, billion tenge
2019	4 128	229,8
2020	12 590	623,6
2021	12 689	258,68

Note: Compiled by the authors based on Bureau of National Statistics (2022)

According to the data presented in Table 4, the cost of one project amounted to 55,668,600 tenge in 2019, in 2020 - 49,531,374 tenge, in 2021 - 20,386,161 tenge. The top 10 most profitable small and medium-sized businesses in Kazakhstan today include catering, cleaning, and training enterprises. So, to open a self-service car wash, a start-up capital of up to 8.5 million tenge is required, mainly for renting a suitable location. The opening of a private kindergarten requires more money. Start-up capital of up to 20 million tenge is required, which includes the costs of renting a large room and its repair, buying furniture, a large number of toys, educational materials, and staff salaries. The analysis showed that the financial resources of the State Program “Business Roadmap” have been used inefficiently in recent years.

In remote work conditions, all global business representatives felt the need to transform internal processes and use digital technologies for efficient operation. However, digitalization processes were not going well in all Kazakhstani companies due to a shortage of financial resources and qualified employees.

### ***Healthcare and education in Kazakhstan***

The healthcare sector in many countries has also shown its insolvency. The COVID-19 coronavirus epidemic has revealed chronic problems in Kazakhstan's healthcare. These include the shortage of professional staff in state hospitals due to unacceptably low wages, low equipment during the peak of diseases, shortage of PCR tests, medicines, and lack of time for serving patients among ambulance doctors.

The Code of the Republic of Kazakhstan "On the Health of the People and the healthcare System" was approved on July 7, 2020. This code aims to ensure the implementation of the right to health protection, including affordable and high-quality medical care. The National project "High-quality and affordable healthcare for every citizen "Healthy Nation" is aimed at solving the same tasks (Code, 2020).

On December 26, 2019, the State Healthcare Program of the Republic of Kazakhstan for 2020-2025 was approved. The goal of the Program is to provide high-quality and affordable healthcare. The big problem here is the low wages of health care practitioners, not administrative staff. For example, they substantially increase the salaries of civil servants and administrative employees of budgetary organizations.

By 2021, 16 modular hospitals were urgently introduced, and three infectious diseases hospitals were reconstructed. One hundred eighty-five district hospitals were fully equipped with X-ray diagnostic equipment, 64 oxygen stations were put into operation, and more than 3 thousand ambulances and 459 units of laboratory equipment were purchased (Markova, 2021).

Currently, healthcare is a priority industry, and the emphasis is on the digitalization of medical services. The health ecosystem in the country is segmented in 4 directions and is aimed at:

- health improvement and prevention of diseases;
- early detection of diseases;
- provision of medical care;
- management of chronic diseases and rehabilitation.

For a complete analysis of the activities of healthcare institutions, an analysis of the salaries of medical workers was carried out (Republican Center for Health Development, 2019).

Let's compare the average monthly salary of employees in the whole country for 2018, which amounted to 162.67 thousand tenge. A doctor's salary is 0.89, the average indicator for the country. Increasing the wages of medical workers is a priority task that needs to be solved soon. In

the OECD countries, this indicator is 2.6, that is, the salary of doctors exceeds the average monthly salary of workers in the whole country by 2.6 times. The salary of doctors in our nation depends on specialization and place of work. Wages in public hospitals, polyclinics, and other medical institutions remain low. Since July 1, 2022, the wages of these workers have increased by 30%.

Despite a 30% increase in the medical personnel's salary in public health institutions, it remains very low, despite the important field of activity that ensures the livelihoods of citizens of Kazakhstan. Improving the quality of education is an urgent task. According to foreign experts, during the COVID-19 pandemic, the number of children from 7 to 17 years old who stopped receiving education increased ten times, which in the long term will negatively affect the development of the country's human capital.

In the field of education, the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020-2025 is being implemented. The main goal of the Program in the field of education is to improve its quality and, on this basis, to increase competitiveness in the field of science – to increase the role of science in the country's socio-economic development. As for science, it is important, in our opinion, to introduce the results of scientific research into Kazakhstan's practice. First of all, it is necessary to support functioning research organizations financially.

### ***Indicators of employment and living standards of the population in Kazakhstan***

The pandemic exacerbated existing problems in the labor market of Kazakhstan. The main tasks of state regulation of employment of the population are:

- ensuring employment of the population;
- the fight against unemployment;
- stimulating the opening of new jobs;
- social support for the unemployed.

Table 5 shows employment indicators in Kazakhstan for 2017-2021. The republic's unemployment rate in 2020-2021 amounted to 4.9%. The COVID-19 coronavirus pandemic and related restrictions, self-isolation of the population and quarantine measures, and the cessation of travel outside the country led to a decrease in business activity and a slowdown in economic growth in the world, including the economy of the Republic of Kazakhstan.

According to Table 5, Kazakhstan's population is growing. During the period of a strict quarantine regime, the number of employed people also developed in the country. In the same



period, the decline in the number of self-employed workers and the increase in the unemployed is due to restrictions by the government to reduce the spread of coronavirus. During the analyzed

period, the number of employees increased due to the increase in services to meet the needs of the self-isolated population in food and other necessary goods delivered by couriers.

**Table 5** - Indicators of employment and unemployment in the Republic of Kazakhstan for 2017-2021

Indicators	Years					2021 by 2019, %
	2017	2018	2019	2020	2021	
The population at the end of the year, thousand people	18157,3	18395,6	18631,8	18879,6	19122,4	102,6
Labor force (aged 15 years and older), thousand people	9027,4	9138,6	9221,5	9 180,8	9256,8	100,4
Employed population, thousand people	8585,2	8695,0	8780,8	8 732,0	8807,1	100,3
Employees, thousand people	6485,9	6612,5	6681,6	6 686,7	6710,2	100,4
Self-employed workers, thousand of people	2099,2	2082,5	2099,2	2 045,4	2096,9	99,9
Unemployed population, thousand people	442,3	443,6	440,7	448,8	449,6	102,0
The unemployment rate, as a percentage	4,9	4,9	4,8	4,9	4,9	-

Note: Compiled by the authors based on Bureau of National Statistics (2022)

The problem of poverty in Kazakhstan remains relevant. According to the author of the publication, the poverty rate in the country has increased from 4.0% in 2019 to 12.4% in 2021. In Kazakhstan, poor citizens include those people who have a monthly income below the poverty line, which currently amounts to 70% of the subsistence minimum, equal to 37,389 tenge in 2022. (Iskakova, 2022). Consequently, the poverty line in 2022 is 26,172 tenge and people who earn less than this amount per month are poor. But this

indicator is not ideal and is often criticized, since it is believed that it does not consider the cost of living, family size, is not updated and is not adjusted considering regional differences.

According to Table 6, the average per capita nominal cash income of the population and the subsistence minimum are growing annually in the country. Thus, these indicators in 2021 compared to 2017 increased by more than 1.5 times. But the share of the population living on income below the subsistence level also remains high.

**Table 6** - Indicators of the standard of living of the population in the Republic of Kazakhstan for 2017-2021

Living standards indicators	Years					2021 by 2017.
	2017	2018	2019	2020	2021	
Average per capita nominal monetary income of the population, tg	83 710	93 135	104 282	116 126	131 797	157,4
Share of the population with incomes below the subsistence level, in percent	2,7	4,3	4,3	5,3	5,2	-
Subsistence minimum, tg	23 783	27 072	29 342	32 668	37 266	156,7

Note: Compiled by the authors based on Bureau of National Statistics (2022)

The pandemic has changed the socio-economic space in Kazakhstan. Accordingly, the state is introducing appropriate support mechanisms to reduce the impact of the pandemic on unemployment and the lives of socially vulnerable citizens in the country.

The population's average per capita nominal monetary income increased by 11.9% compared to 2020 (Figure 2). But taking into account the increase in prices for consumer goods and services

over this period by 8.4%, the cash income of the population in 2021 in real terms increased by only 3.5%.

Despite the very low level of the approved living wage in 2021, the number of people with income below the living wage in the country officially amounted to 998 thousand people. However, experts say this number is 1.5 million people or more (Makarov, 2022).

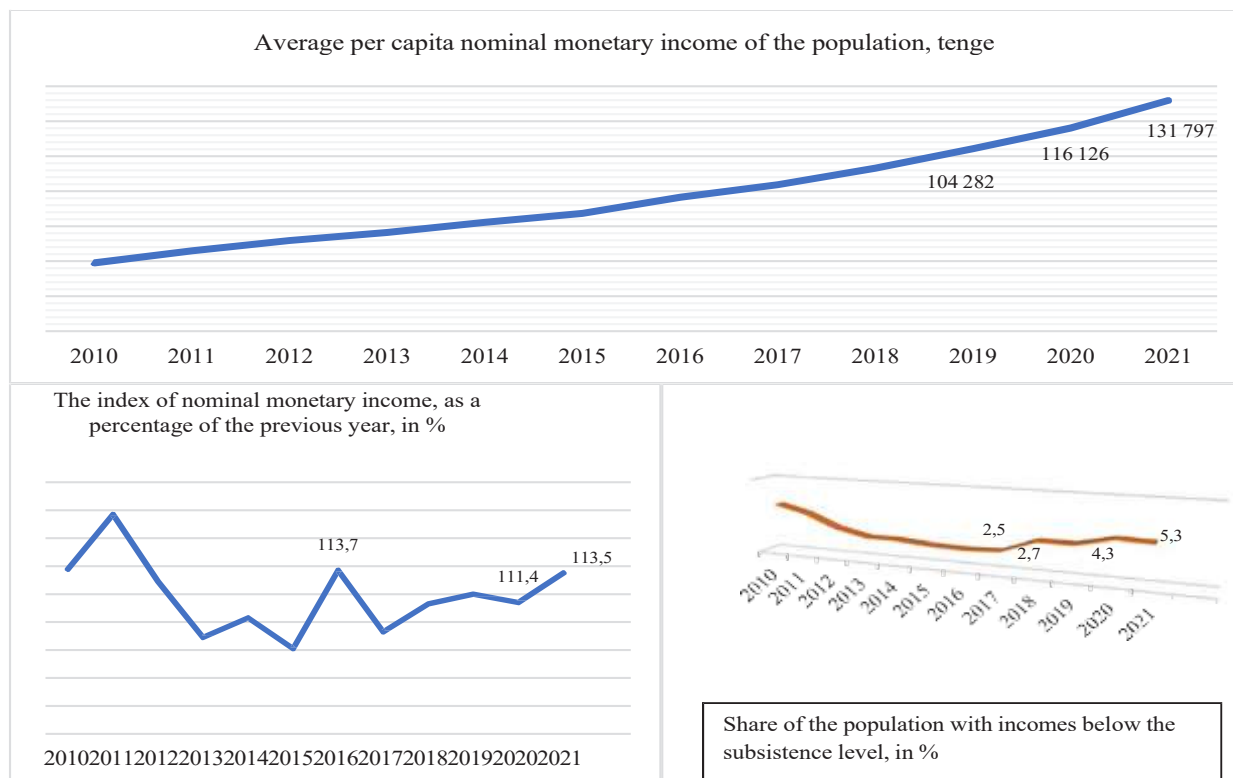


Figure 2 - Dynamics of the leading indicators of the standard of living of the population

Note: Compiled by the authors based on Bureau of National Statistics (2022)

To solve the problem of poverty in the post-pandemic period, it is necessary to raise the poverty line in accordance with the country's GDP and the international standard, increase the subsistence minimum, introduce income tax benefits for low-income individuals, regular indexation of the minimum wage, the introduction of unemployment benefits, etc.

Another vital point is the elaboration of the Social Code in the country. Its main objective is to create a unified legal framework for improving the quality of life by consolidating regulatory documents of the social sphere and ensuring the systematization of social payments and quality services. To date, there is 1 code and 16 laws in the social security field, which creates difficulties in understanding citizens' social rights. Also, public relations in one sphere can be regulated by various legislative acts, which makes obstacles to the orientation of social support measures (Kuzekbay, 2021).

In the future, the Social Code should become a single source of knowledge for citizens about their social rights and obligations and create conditions for taking preventive measures to ensure the social rights of citizens.

### Conclusion

The recent changes in the socio-economic sphere confirm the long-term nature of the pandemic's consequences. It has exposed the existing problems of Kazakhstan in the field of economy, employment, education, healthcare, state support for business, and the social sphere have exacerbated the problem of poverty.

Kazakhstan should pay attention to the strategic development of such sectors of the economy as the production of food, medicines, and medical equipment, transport, and logistics in case of virus modifications. The emergence and outbreaks of new strains of coronavirus are alarming business representatives. And if modifications of the virus are inevitable, then the states' governments should think about the measures that will be periodically necessary to support business in the country.

It is necessary to determine the transformation directions and key changes in the post-pandemic world.

To support and develop small and medium-sized businesses using digitalization, it is necessary to improve the legal regulation in the field of data storage and processing, financial support for those lagging behind in the pace of digitalization,

or assistance in the form of grants or subsidies to optimize internal processes. Also, there is a need to use budget resources effectively to develop transport infrastructure, promote tourist facilities, ensure the safety of local and foreign tourists, etc.

Ensuring transparency of state bodies during the implementation of state programs remains relevant. The low efficiency and complexity of evaluating government programs and policies will have a long-term negative impact on the country's development.

Despite the priority of the healthcare sector in Kazakhstan and the increased digitalization of medical services, the study showed the need to create a highly effective scientific, technical and innovative base in this industry based on the use of the best scientific developments of the international scientific community in the field of medicine. The salary of state medical workers remains an issue as well. The position of doctors and medical personnel in public health institutions is still vulnerable.

Kazakhstan needs a plan to ensure the necessary level of employment in the country. It should reflect the primary mechanisms for supporting the population left without work due to the restriction of business activity of subjects in the country. It is necessary to restore the payment of unemployment benefits instead of social benefits for unemployed people for specific reasons. It is required to create favorable conditions for work in rural areas, build roads and hostels, develop infrastructure, and provide high-quality Internet and other attributes of world civilization, thereby solving the unemployment problem.

In the post-pandemic period, it is especially necessary to strengthen measures to ensure social rights and guarantees by creating standard parameters for ensuring social rights, the transition to international standards, and raising the poverty line, as well as improving the legal literacy of the population. Ensuring social payments at the level of international minimum social security standards and the introduction of per capita regulatory financing as part of the modernization of social support for the population will improve the population's welfare in the post-pandemic period.

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## Green Economy and a New Approach to Its Measurement

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### Abstract

The purpose of the study is to propose a model for a comparative assessment of the degree of “greenness” of the economy of each country, to identify weak determinants to increase the degree of “greenness” of the countries included in this model, as well as to scientifically substantiate possible ways of developing weak determinants. However, approaches to the “green” economy model and the method of its measurement differ. It is more appropriate to include indicators related to the sectors of the economy that generate carbon emissions in this model. The article defines 5 subindexes for quantifying the “green” economy model: growth parameters and socio-economic essence, environmental and resource efficiency, natural resources group, environmental quality measurement group, economic opportunities, and policy group. The results of the study show that over the past 30 years, the sub-index “Ecological quality of life”, which is part of the Green Economy Index in Azerbaijan, has significantly decreased. However, as in other oil-rich countries, the main factor preventing the transition to a green economic model in Azerbaijan is related to oil production. As in other countries rich in oil and gas, Azerbaijan’s economy is based on oil and gas rents. The main conclusion obtained during the study is related to the transition of the country’s economy to a “green model”, and it is also recommended to replace economic growth with green growth and invest in the development of industries that reduce the number of pollutants released into the environment.

*Keywords:* Green Economy, Sustainable Development, Quality, Environment, Resource Efficiency, Economic growth

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## Жасыл экономика және оны өлшеуге жаңа тәсіс

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### Түйін

Зерттеудің мақсаты – әр елдің экономикасының «жасылдық» дәрежесін салыстырмалы бағалау моделін ұсыну, осы модельге енгізілген елдің «жасылдық» дәрежесін арттырудың әлсіз детерминанттарын анықтау және әлсіз детерминанттарды дамытудың мүмкін жолдарын ғылыми негіздеу. Алайда, «жасыл» экономика моделінің тәсілдері және оны өлшеу әдісіне көзқарастар әртүрлі. Бұл модельге көміртегі шығарындыларын генерациялайтын экономика секторларына қатысты көрсеткіштерді енгізген дұрыс. Мақалада «жасыл» экономика моделін сандық бағалауға арналған 5 субиндекс анықталған: өсу параметрлері және әлеуметтік-экономикалық мәні, экологиялық және ресурс тиімділігі, табиғи ресурстар тобы, қоршаған орта сапасын өлшеу тобы, экономикалық мүмкіндіктер және саясат. Зерттеу нәтижелері соңғы 30 жылда Әзірбайжандағы жасыл экономика индексінің құрамына кіретін «Экологиялық өмір сапасы» субиндексінің айтарлықтай төмендегенін көрсетеді. Алайда, мұнайға бай басқа елдердегідей, Әзірбайжанда жасыл экономикалық модельге көшуге кедергі келтіретін негізгі фактор мұнай өндірумен байланысты. Мұнай мен газға бай басқа елдердегідей, Әзірбайжан экономикасы мұнай-газ рентасына негізделген. Зерттеу барысында алынған негізгі қорытынды ел экономикасының «жасыл модельге» көшуіне байланысты, сондай-ақ экономикалық өсуді жасыл өсіммен алмастыру және қоршаған ортаға шығарылатын ластаушы заттардың мөлшерін азайтатын өндірістерді дамытуға инвестициялау ұсынылады.

*Түйін сөздер:* жасыл экономика, тұрақты даму, сапа, қоршаған орта, ресурс тиімділігі, экономикалық өсу

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## Зеленая экономика и новый подход к ее измерению

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### Аннотация

Цель исследования - предложить модель для сравнительной оценки степени «зелености» экономики каждой страны, выявить слабые детерминанты для повышения степени «зелености» страны, включенных в данную модель, а также научно обосновать возможные пути развития слабых детерминантов. Однако подходы к модели «зеленой» экономики и методу ее измерения различаются. В эту модель целесообразнее включить показатели, относящиеся к секторам экономики, генерирующим выбросы углерода. В статье определены 5 субиндексов для количественной оценки модели «зеленой» экономики: параметры роста и социально-экономическая сущность, экологическая и ресурсоэффективность, группа природных ресурсов, группа измерения качества окружающей среды, группа экономические возможности и политика. Результаты исследования показывают, что за последние 30 лет субиндекс «Экологическое качество жизни», входящий в состав Индекса зеленой экономики в Азербайджане, значительно снизился. Однако, как и в других богатых нефтью странах, основной фактор, препятствующий переходу на зеленую экономическую модель в Азербайджане, связан с добычей нефти. Как и в других странах, богатых нефтью и газом, экономика Азербайджана основана на нефтегазовой ренте. Основным выводом исследований в ходе исследования связан с переходом экономики страны на «зеленую модель», а также рекомендуется заменить экономический рост зеленым ростом и инвестировать в развитие производств, снижающих количество загрязняющих веществ, выбрасываемых в окружающую среду.

*Ключевые слова:* зеленая экономика, устойчивое развитие, качество, окружающая среда, ресурсоэффективность, экономический рост.

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### Введение

Ученые всего мира уже бьют тревогу по поводу изменения климата. Межгосударственное соглашение об изменении климата (МГЭИК, 2014 г.), действие которого продолжится в ближайшие годы и затронет все отрасли экономики, а также социальную жизнь, (IPCC, 2015) было подробно разъяснено в обширном отчете, подготовленном в 2014 г. Межправительственным Соглашением по Изменению Климата (Global Asthma Report, 2014). Еще до этого документа в исследовании Стерна (2006) подчеркивалось, что единственным важным результатом могут быть коллективные усилия по решению серьезных мировых проблем, связанных с изменением климата. Пандемия COVID-19, прокатившаяся по миру с начала 2020 года и унесшая жизни сотен тысяч человек, также свидетельствует о том, что негативные последствия изменения климата могут усилиться. Тот факт, что темпы использования альтернативных источников энергии в последние десятилетия отстают от темпов глобального прироста населения и качества жизни, говорит о том, что выбросы углерода в окружающую среду не уменьшатся в ближайшее время. Это указывает на то, что изменение климата и глобальные температуры будут продолжать расти.

Главной отличительной чертой практически всех аспектов концепции «зеленой экономики» является то, что защита окружающей среды, экономическое развитие и социальная интеграция в этой концепции не достигаются за счет ограничения качества жизни. Эту концепцию можно использовать в качестве стратегического подхода к достижению целей устойчивого развития как на национальном, так и на региональном и глобальном уровнях.

Одним из важных отличий модели «зеленой» экономики от современной классической экономической модели является то, что ее формирование в рамках одной страны не столь важно. Кроме того, хотя зеленая экономика, созданная любой страной, имеет определенное местное экологическое значение, она гораздо меньше по масштабу. По данным Всемирного банка, объем выбросов углерода в окружающую среду в развитых странах составляет важную часть от общего объема таких отходов. Страны с высоким уровнем доходов являются основными загрязнителями окружающей среды. Высокое развитие промышленности в этих странах резко увеличило количество отходов,

выбрасываемых в окружающую среду. Но, несмотря на это, даже страны с крупнейшей экономикой, например, США или Китай, не в состоянии решить глобальную экологическую проблему, если экономика зелена в изоляции. Потому что ослабление промышленности в этих странах усилит конкурентоспособность в других странах и появятся новые загрязнители. Проблема не может быть решена заменой производителей и загрязнителей для поддержания текущего уровня благосостояния. Для решения проблемы необходим концептуальный подход. Вот почему применение стандартов, связанных с охраной окружающей среды, внутри национальных государств должно осуществляться в сотрудничестве с международным сообществом, даже если это может повлиять на потенциал развития других государств.

Одним из важных принципов модели «зеленой» экономики является открытое осознание воздействия на окружающую среду в стране. Эта информация также должна быть открыта для международных организаций, и ни одна страна не должна создавать экологические проблемы для других стран ради своего экономического развития. Должно быть обеспечено участие населения страны в обсуждении и процессе принятия решений при реализации любых хозяйственных проектов, которые могут затрагивать его интересы.

*Основная цель исследования:* (а) предложить модель для сравнительной оценки степени «зелености» экономики каждой страны; (б) выявить слабые детерминанты для повышения степени «зелености» страны, включенных в данную модель; (в) научно обосновать возможные пути развития слабых детерминантов.

### Литературный обзор

В последние 30 лет участились исследования, посвященные концепциям зеленой экономики и зеленой экономической модели. Основная причина этого заключается в том, что экологические изменения, связанные с изменением климата, становятся все более серьезными. Зеленая экономика стала изучаться более широко в контексте наращивания глобальных усилий, связанных с устойчивым развитием. Некоторые проблемы, связанные с зеленой экономикой и экономическим ростом изучены в исследованиях Поллина и др. (Pollin et al., 2014), Альбеков и др. (Alibekov et al., 2018), Скотта (Scott, 2020), Догару (Dogaru, 2021). Некоторые

проблемы, связанные «зеленой» экономикой и изменением климата, также устойчивым развитием и углеродного рынка изучены Бина (Bina, 2013), МакАфи (McAfee et al., 2016), Купика и др. (Kurika et al., 2019) и т.д. В отдельных исследованиях рассматриваются вопросы формирования «зеленой» экономической модели в развивающихся странах (Megwai, 2016).

Конференция ООН по устойчивому развитию (Рио+20) в 2012 году сыграла важную роль в разработке концепции зеленой экономики. Подчеркнув, что экономика является экологически чистой и инклюзивной, конференция дала импульс политической и финансовой поддержке со стороны стран для развития идеи зеленой экономики. Искоренение бедности в такой экономике является ключевой задачей глобального сотрудничества и каждой страны (Clark, 2013).

С классической экономической точки зрения зеленая экономика представляет собой новую систему научных знаний, системно включающую в себя несколько областей науки. Эта система как элемент системы социальных, экологических и экономических знаний формирует новую научную теорию экономической устойчивости. Эта теория представляет собой научную модель реальной зеленой экономики. Согласно определению, данному Карлом Буркартом (Burkat, 2019), зеленая экономика в основном включает 6 секторов. Это 1) возобновляемая энергия; 2) зеленые здания; 3) устойчивый транспорт; 4) водное хозяйство; 5) обращение с отходами; 6) связанные с землеустройством. Конечно, каждый из этих секторов развивался в то или иное время.

Понятие «зеленый экономический рост» похоже на понятие «зеленая экономика», но отличается от него. В период экономического кризиса 2008-2009 годов, а также ослабления экономической активности в результате COVID-19 был снижен некоторый ущерб окружающей среде. Когда любые колебания, сопровождающиеся снижением экономической активности, как в глобальном, так и в национальном масштабе, устраняются, а активность возрастает, возрастает вероятность нанесения ущерба окружающей среде. Поэтому стратегически модель экономического роста должна быть выбрана таким образом, чтобы защитить окружающую среду. Согласно определению, данному Организацией сотрудничества и развития в Европе (OECD, 2011), «зеленый рост» — это модель экономического развития, при кото-

рой природные ресурсы и окружающая среда служат благополучию страны. Зеленый рост формирует основу для устойчивого развития и создает новые экономические возможности за счет расширения применения инноваций и инвестиций. В основе зеленого экономического роста лежит снижение ущерба окружающей среде, создание новых рабочих мест, применение новых технологических моделей и потребительских моделей, создающих условия для экономического роста (Reilly, 2012).

Существенных отличий в характере участников концепции «зеленого роста», данных OECD (OECD, 2011), Всемирным Банком (World Bank, 2012), UNESCAP (2012), Глобальным институтом зеленого роста (GGGI, 2012), почти нет. Хотя в этих определениях есть разница в выражении, по существу они содержат несколько основных фактов. Во-первых, «зеленый рост» необходим для устойчивого экономического роста и развития. Во-вторых, такой рост должен быть инклюзивным и обеспечивать участие всех членов общества. В-третьих, «зеленый рост» не должен наносить вред окружающей среде и основываться на технологических инновациях, снижающих выбросы углерода. В-четвертых, зеленый рост должен включать эффективное использование природных ресурсов. В-пятых, «зеленый рост» должен стимулировать создание новых рабочих мест. В-шестых, зеленый рост должен расширить использование зеленых технологий и зеленой энергии.

Согласно концепции устойчивого развития, экономический рост и охрана окружающей среды часто противоречат друг другу. Обеспечение экономического роста продолжает оказывать негативное влияние на окружающую среду. Однако, согласно концепции «зеленого роста», защита окружающей среды может происходить не только при экономическом росте, но и стимулировать его. Концепция устойчивого развития шире, чем концепция «зеленого роста». Вот почему в большинстве случаев существуют разные, а в ряде случаев и противоречивые подходы к его сущности. Зервас (2012) объясняет различия между этими двумя концепциями следующим образом: во-первых, концепция «зеленого роста», в отличие от концепции устойчивого развития, не имеет социальной составляющей и фокусируется в основном на экономических и экологических вопросах. Во-вторых, в концепции зеленого роста «рост» относится к экономическому росту,

и в некоторых случаях этот «рост» может противоречить охране окружающей среды.

Основные показатели и методы измерения зеленой экономики

Следует отметить, что для оценки модели «зеленой» экономики предлагаются различные показатели, и каждый из этих подходов имеет определенные преимущества и недостатки. GGEI, который мы используем в этом исследовании, также имеет определенные преимущества и недостатки. Основным недостатком индекса GGEI, а именно то, что для оценки уровня «зеленой» экономики и веса, придаваемого им веса, учитываются не все возможные показатели, характерен и для других методов измерения. Однако следует отметить, что каждый из этих индексов отражает зависимость члена модели «зеленой» экономики от трех важных систем – экономической, социальной и экологической системы.

Мы будем использовать пять индикаторов в качестве ключевых индикаторов, которые по существу имеют отношение к модели «зеленой» экономики. Каждый из этих показателей также охватывает несколько подпоказателей. Эти группы:

1) Параметры роста и социально-экономическая природа Эта группа состоит из 8 подпоказателей: а) ВВП на душу населения; б) объем продукции, произведенной 1 рабочим за 1 час; в) уровень экономической активности населения трудоспособного возраста (в процентах); г) уровень безработицы (в процентах); д) доля минимальной заработной платы в среднемесячной номинальной заработной плате (в процентах); е) уровень бедности (в процентах); ж) уровень образования (в процентах); з) Ожидаемая продолжительность жизни при рождении (возраст).

2) Группа эколого-ресурсной эффективности экономики охватывает 15 субпоказателей: а) Углекислый газ (CO<sub>2</sub>), выбрасываемый в атмосферу от стационарных источников (тыс. тонн); б) объем водопотребления на ирригационные нужды (млн куб. м) ; в) объем потерь воды (млн куб. м); г) объем потерь воды при использовании на ирригационные нужды (млн куб. м); д) объем промышленных отходов на душу населения (кг); д) объем твердых бытовых отходов на человека (кг); е) Общее конечное потребление энергии (тыс. нетто); ж) общее конечное потребление энергии (teracoul); з) Энергоемкость (кг н.э./мин. манат); и) Производство электроэнергии (млн кВтч); й) Производство возобновляемой энергии

(млн. кВтч); к) Количество минеральных удобрений на 1 га посевной площади (кг/га); л) Количество органических удобрений на 1 га посевной площади (кг/га); м) доля поставок возобновляемой энергии в общем объеме поставок энергии (в процентах); н) Стоимость 1 кг произведенной энергии в ВВП (1 манат/кг нефтяного эквивалента).

3) группа природных ресурсов ( включает 10 подпоказателей: а) Пресная вода из природных источников (млн куб. м); б) водопотребление (млн куб. м); в) добыча нефти (тыс. тонн); г) добыча газа (тыс. тонн); д) Структура земельного фонда по целевому назначению: Общая площадь земель страны - всего (тыс. га); е) земли сельскохозяйственного назначения (тыс. га); ж) земли несельскохозяйственного назначения (тыс. га); з) рыболовство (тонн); и) индекс водопользования (в процентах); й) Площадь лесов (в процентах).

4) Группа измерения экологического качества жизни ( ) включает 5 субпоказателей: а) Объем выбросов загрязняющих веществ в атмосферу на душу населения (кг); б) болезни органов дыхания (человек); в) больные острыми кишечными инфекциями: дети в возрасте 0-17 лет (чел.); г) больные острыми кишечными инфекциями: старше 18 лет (чел.); д) Сброс сточных вод без очистки (млн куб. м).

5) Группа экономических возможностей и инструментов политики ( ) охватывает 8 подпоказателей: а) Численность иностранцев и лиц без гражданства (лиц), прибывающих в Азербайджан с туристическими целями; б) Среднегодовая концентрация ионов аммония (NH<sub>4</sub>) в реках: Кура (mg (NH<sub>4</sub><sup>+</sup>)/l); в) Среднегодовая концентрация ионов аммония (NH<sub>4</sub>) в реках: Араз (mg (NH<sub>4</sub><sup>+</sup>)/l); г) доля (доля) инвестиций в основной капитал в общем объеме инвестиций на охрану окружающей среды и эффективное использование природных ресурсов; д) доля туристической деятельности в ВВП (в процентах); е) платежи за загрязнение воздуха (тыс. манатов); ж) Плата за загрязнение воды (тыс. манатов); з) Плата за утилизацию отходов (тыс. манатов).

Используя эти показатели, Составной индекс модели «зеленой» экономики ( ) будет рассчитываться по формуле (1):

$$GECI_t = \frac{GP_t + ERE_t + NR_t + EFL_t + EOP_t}{5} \quad (1)$$

Предположим, что каждый из этих субиндексов, характеризующих «зеленую» экономику, имеет одинаковый вес (20%). С

другой стороны, будем считать, что при расчете субиндексов подиндексы, характеризующие субиндексы, входящие в каждую группу показателей, имеют одинаковый вес. Однако в этом случае  $sI_i = \frac{\sum_{i=1}^n I_i}{n}$ . мы будем использовать формулу, чтобы привести все индикаторы к одному размеру. Таким образом, для каждого субиндикатора выполняется соответствующий субиндекс после операции «нормализации» будет рассчитываться по формуле (2):

$$I_i = \frac{X_i - X_{min}}{X_{max} - X_{min}}, \quad (2)$$

Также с учетом влияния количественных изменений каждого показателя на «зеленую» экономику им будут присвоены знаки «+» или «-». Например, высокий экономический рост на душу населения способствует «зеленой» экономике, в то время как увеличение «бедности» имеет противоположный эффект. Поэтому при расчете соответствующего субиндекса первый из этих показателей включается со знаком «+», а второй со знаком «-». Будем считать, что  $X_{min}$  и  $X_{max}$  являются теоретически наименьшим и наибольшим возможными значениями любого индикатора. Например, для уровня бедности  $X_{min}$  можно принять = 0, а  $X_{max} = 100$ .

Таким образом, Для группы показателей параметров роста и социально-экономического характера ( $GP_t$ ) подиндекс будет рассчитываться по формуле (3):

$$GP_t = \frac{\sum_{i=1}^8 I_i}{8} = \frac{I_1 + I_2 + I_3 + I_4 + I_5 + I_6 + I_7 + I_8}{8}. \quad (3)$$

Здесь,  $I_1$  - ВВП на душу населения. Этот индикатор вводится с помощью «+» и  $I_{1,min} = 250000$  azn. Данные по этому показателю получены из национальной статистической базы (ГСКАР, 2022) данных или официальной статистической базы данных Всемирного Банка (World Bank, 2021).

$I_2$  - Стоимость продукции, произведенной 1 работником за 1 час. Этот индикатор вводится с помощью «+» и  $I_{2,min} = 0$ ;  $I_{2,max} = 300$  azn. Люксембург на данный момент лидирует по этому показателю, а стоимость продукта в этой стране с ППС составляет 242 000 долларов (OECD, 2021).

$I_3$  - Уровень экономической активности населения трудоспособного возраста (в процентах). Этот индикатор также отмечен знаком «+» и  $I_{3,min} = 0$ ;  $I_{3,max} = 100$ .

$I_4$  - Уровень безработицы (в процентах). Этот индикатор вводится с помощью «-» и  $I_{4,min} = 0$ ;  $I_{4,max} = 100$ .

$I_5$  - Удельный вес минимальной заработной платы в среднемесячной номинальной заработной плате (в процентах). Этот индикатор также отмечен знаком «+» и  $I_{5,min} = 0$ ;  $I_{5,max} = 100$ .

$I_6$  - Уровень бедности (в процентах). Этот индикатор вводится с помощью «-» и  $I_{6,min} = 0$ ;  $I_{6,max} = 100$ .

$I_7$  - Уровень образования (в процентах). Этот индикатор также отмечен знаком «+» и  $I_{7,min} = 50$ ;  $I_{7,max} = 100$ . Показатели уровня образования получены из официальной базы данных Всемирного Банка (World Bank, 2021).

$I_8$  - Ожидаемая продолжительность жизни при рождении (0 лет) (возраст). Этот показатель входит в уравнение (+) с «+» и  $I_{8,min} = 20$ ;  $I_{8,max} = 100$  могут быть приняты. Информацию по этому показателю можно получить из официальной базы данных Всемирного банка.

«Параметры роста и социально-экономическая природа» ( $GP_t$ ) Расчет субиндекса (3) на основе тождества приведен по формуле (4):

$$GP_t = \frac{\sum_{i=1}^8 I_i}{8} = \frac{I_1 + I_2 + I_3 - I_4 + I_5 - I_6 + I_7 + I_8}{8}. \quad (4)$$

В соответствии с методологией индексации индексируется каждый подпоказатель  $I_i$  будет рассчитываться по формуле (5).

$$I_i = \frac{E_i - E_{i,min}}{E_{i,max} - E_{i,min}}. \quad (5)$$

На основе этих подпоказателей будет рассчитываться индекс эколого-ресурсоэффективности экономики по следующей формуле (6):

$$ERE_t = \frac{\sum_{i=1}^6 E_{it}}{6}. \quad (6)$$

Каждому подпоказателю будет присвоен одинаковый вес. Однако для каждого субпоказателя  $E_{i,min}$  и  $E_{i,max}$  определения цены используются минимально возможные и максимально возможные значения этих субпоказателей. Для сравнения между странами правильнее было бы рассчитать некоторые показатели на душу населения.

Далее, будет рассчитываться субиндекс «природно-ресурсной группы». Предположим, что субиндекс «природно-ресурсной группы», характеризующий «зеленую» экономику 10 подиндексов имеют одинаковый вес

(10%). Однако в этом случае мы воспользуемся формулой  $I_i = \frac{X_i - X_{min}}{X_{max} - X_{min}}$  для приведения всех индикаторов к одному.

Таким образом, композитный индекс зеленой экономики ( $NR_t$ ) будет рассчитываться по формуле (7):

$$NR_t = \frac{\sum_{j=1}^3 I_j}{3}. \quad (7)$$

Природно - ресурсной группы» ( $NR_t$  10 субиндикаторов по зеленой экономике) они будут отмечены знаками «+» или «-», например, 1) Увеличение водопотребления «+»; 2) Увеличение добычи нефти будем считать «-».

Это также важно, что во время нормализации будем считать, что  $X_{min}$  и  $X_{max}$  являются теоретически наименьшим и наибольшим возможными значениями, соответственно, любого индикатора. Например, для показателя «лесистая местность» можно принять  $X_{min}=0$ ,  $X_{max}=100$ . На основе вышеуказанных ключевых показателей субиндекс композитного индекса зеленой экономики будет рассчитываться по формуле (8):

$$NR_t = \frac{I_1 - I_2 - I_3}{3}. \quad (8)$$

Здесь,  $I_1$  - «объем ежегодного возобновляемого хозяйственно-питьевого сбора пресной воды на душу населения»;  $I_2$  - отношение земель, используемых в сельскохозяйственном секторе, к общей площади земель;  $I_3$  - релевантные показатели «доли нефтегазовой ренты в ВВП». При расчете этого субиндекса  $I_1$  учитывался положительным значением, а  $I_2$  и  $I_3$  с отрицательным значением.

Для каждого  $I_i = \frac{X_i - X_{min}}{X_{max} - X_{min}}$  индексируемого показателя  $X_{min}$  и  $X_{max}$  при его определении учитывались максимально возможные и минимально возможные значения этого показателя.

И наконец, четвертый подиндикатор индекса зеленой экономики - «Группа измерения качества окружающей среды» ( $EFL_t$ ) Поскольку, заболевания органов дыхания чаще вызываются загрязнением воздуха, а острые кишечные инфекции — загрязнением воды.  $S\dot{I}_i$  то данный индекс будет рассчитываться по формуле (9):

$$S\dot{I}_i = -\frac{\sum_{i=1}^2 I_i}{2}. \quad (9)$$

Данный подиндикатор индекса зеленой экономики ( $EFL_t$ ) охватывает: а) объем загрязняющих веществ, выбрасываемых в атмосферу на душу населения (кг); б) Респираторные заболевания (люди). Одним из четырех основных факторов, влияющих на здоровье, является экологическая ситуация. Влияние условий окружающей среды на здоровье приобретает все большее значение по сравнению с другими факторами, т.е. а) образом жизни, б) уровнем развития здоровья, в) генетическими факторами. Нужно учитывать тот факт, что данный фактор больше относится к глобальным проблемам.

### Основные результаты

«Параметры роста и социально-экономическая природа» -  $GP_t$ . Прежде чем рассчитать субиндекс в рамках указанных выше ограничений, сравним ВВП на душу населения (в номинальных и реальных манатах и в долларах США (базовый 1995 год). Однако в реальном выражении (и в манатах, и в долларах) ВВП значительно увеличился. Для сравнения можно сказать, что по сравнению с 1995 годом ВВП на душу населения в реальных манатах увеличился в 6,8 раза в 2020 го-ду и в 7 раз в долларах. Однако рост не был устойчивым на протяжении многих лет. Хотя рост продолжался до 2008 года, был резкий спад в 2009 г. и повторный рост до 2014 г. Реальный ВВП резко упал во время девальвации 2015 г. Рост до 2019 г. снова резко снизился в 2020 г. из-за COVID-19, но на протяжении многих лет рост производительности был почти устойчивым.

В таблица 1 представлены параметры роста и социально-экономического характера.

«Параметры роста и социально-экономическая природа» ( $GP_t$ ). Расчет субиндекса (3) на основе тождества в таблице 1 не приводится. Как упоминалось выше, (3)  $I_4$  и  $I_6$  включено с тем же знаком и знаком минус. Хронология субиндексов охватывает 2005-2019 годы. «Параметры роста и социально-экономическая природа»  $GP_t$ . Расчет субиндекса (4) на основе подобия показывает, что показатель зеленой экономики в Азербайджане по этому субиндексу стабильно развивался.

**Таблица 1-** Параметры роста и социально-экономического характера  
**Table 1 -** Growth and socio-economic parameters

Год	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	$I_6$	$I_7$	$I_8$	$GP_t$
2005	0,005977	0,0054	0,745	0,073	0,243	0,293	0,99	0,655	2.278377
2006	0,008833	0,008	0,731	0,066	0,201	0,208	0,976	0,655	2.305833
2007	0,013186	0,011967	0,72	0,063	0,232	0,158	0,976	0,6625	2.394653
2008	0,018415	0,0167	0,709	0,059	0,273	0,132	0,976	0,6675	2.469615
2009	0,016133	0,014633	0,709	0,057	0,252	0,109	0,976	0,66875	2.470516
2010	0,019012	0,0172	0,701	0,056	0,256	0,091	0,996	0,67	2.512212
2011	0,023012	0,0209	0,694	0,054	0,257	0,076	0,996	0,6725	2.533412
2012	0,023864	0,0216	0,701	0,052	0,235	0,06	0,996	0,67375	2.539214
2013	0,025033	0,023	0,705	0,05	0,247	0,053	0,996	0,6775	2.570533
2014	0,025072	0,022333	0,718	0,049	0,236	0,05	0,996	0,6775	2.575905
2015	0,022826	0,020333	0,717	0,05	0,225	0,049	0,996	0,69	2.57216
2016	0,025078	0,022	0,728	0,05	0,21	0,059	0,996	0,69	2.562078
2017	0,028904	0,025333	0,731	0,05	0,219	0,054	0,996	0,6925	2,588737
2018	0,032625	0,028333	0,734	0,049	0,239	0,051	0,996	0,6975	2,627458
2019	0,033075	0,028667	0,738	0,048	0,394	0,048	0,996	0,705	2.798742

Примечание - Рассчитано автором.

*Субиндекс «Экологическая и ресурсо-эффективность экономики» в Азербайджане и его оценка*

Будучи вторым по важности субиндексом индекса «зеленой» экономики, субиндекс эффективности использования природных ресурсов и ресурсов ( $ERE$ ) охватывает 6 подиндикаторов. Эти показатели являются не только экологическими, но и отражают эффективность использования природных ресурсов. Однако 6 подпоказателей можно разделить на две группы – экологическая и эффективность использования природных ресурсов.

Таким образом, мы можем определить значения индекса «зеленой» экономики по подиндикаторам субиндекса «Экологическая и ресурсная эффективность экономики». Объем двуокиси углерода ( $CO_2$ ) на душу населения, выбрасываемой в атмосферу от стационарных источников (метрическая тонна) - ( $E_1$ ).

Вторым важным подиндексом является «Объем промышленных отходов на душу населения (кг)» - ( $E_2$ ). Для того, чтобы определить максимально возможный  $E_{2,max}$  для этого показателя, хорошо бы посмотреть на динамику этого показателя за последние 25-30 лет в мире. К сожалению, статистика по этому показателю недоступна для большинства стран. Однако, основываясь на данных стран ОЭСР (OECD, 2021). Мы можем определить для этого подиндекса  $E_{2,max}$  и  $E_{2,min}$ . Следует отметить, что объем образующихся отходов также высок в развитых странах, так как потребление и производство выше,

чем в развивающихся странах. Соединенные Штаты и Канада производят больше бытовых отходов, чем любая другая страна. Заранее предположим, что страны ОЭСР будут иметь высокие выбросы на душу населения из-за больших объемов производства. С другой стороны, по мере роста производства в большинстве стран количество отходов может увеличиваться. Поэтому  $E_{2,max}$  при установлении лимита следует учитывать динамику роста отходов. Поэтому можно принять  $E_{2,max}=50$ ,  $E_{2,min}=0$ . В последние десятилетия крупномасштабный экспорт старых электронных устройств и автомобилей из развитых стран в развивающиеся страны облегчил международное перемещение таких отходов. Можно принять за максимальный объем бытовых отходов  $E_{2,max}=50$ , за минимальный объем промышленных отходов на душу населения  $E_{2,min}=0$ .

Одним из важнейших аспектов перехода к модели «зеленой» экономики является эффективное использование ресурсов питьевой воды. Хотя две трети земного шара покрыты водами океана, моря, озер и рек, большинство стран имеют ограниченные водные ресурсы для бытового и сельскохозяйственного использования, и эти ресурсы в глобальном масштабе истощаются. Водные ресурсы Азербайджана также невелики по сравнению с другими странами региона. Основной проблемой является формирование водных ресурсов Азербайджана в других соседних странах. Поскольку большая часть водных ресурсов, используемых Азербайджаном для бытовых

и сельскохозяйственных целей, проходит через Турцию, Грузию, Армению и Россию, проблема загрязнения этих ресурсов промышленными отходами также усугубляет проблему воды в Азербайджане. В частности, река Аракс, протекающая по территории Армении, загрязняется промышленными отходами, а река Кура, протекающая по территории Грузии, время от времени загрязняется бытовыми отходами.

Следующим подиндексом эколого-ресурсоэффективного субиндекса экономики может быть показатель «конечного энергопотребления на душу населения». Одним из подиндексов субиндекса эколого-ресурсной эффективности хозяйства является количество минеральных удобрений (кг/га) на

1 га посевной площади. По данным Всемирного банка на 20018 год, Гонконг опережает другие страны по количеству используемых минеральных удобрений на гектар пашни. По данным Всемирного банка можно утверждать, что количество минеральных удобрений на 1 га пашни (кг/га)  $E_5$  для субиндекса  $E_{5,max} = 4000$  и  $E_{5,min} = 0$  может быть принято.

Одним из важных показателей в модели перехода к «зеленой» экономике является доступность возобновляемой энергии. Оба производства на возобновляемых источниках энергии (млн кВтч). Однако для межстрановых сравнений более уместно использовать долю возобновляемой энергии в общем энергоснабжении-. Конечно по этому показателю можно взять  $E_{6,max} = 100$ ,  $E_{6,min} = 0$ .

**Таблица 2** - Субиндекс экологической и ресурсоэффективности экономики Азербайджана и ее составляющих

**Table 2** - Sub-index of environmental and resource efficiency of the economy of Azerbaijan and its components

Год	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	$I_6$	$ERE_i$
2005	0,0427	0,0102	0,0043	0,0680	0,0033	0,0013	0,0216
2006	0,0404	0,0093	0,0044	0,0680	0,0033	0,0010	0,0211
2007	0,0346	0,0084	0,0050	0,0600	0,0027	0,0011	0,0186
2008	0,0365	0,0085	0,0048	0,0680	0,0052	0,0010	0,0207
2009	0,0342	0,0087	0,0051	0,0600	0,0034	0,0012	0,0188
2010	0,0318	0,0086	0,0053	0,0560	0,0025	0,0018	0,0177
2011	0,0301	0,0100	0,0050	0,0600	0,0039	0,0013	0,0184
2012	0,0268	0,0102	0,0053	0,0640	0,0048	0,0008	0,0187
2013	0,0321	0,0090	0,0054	0,0640	0,0050	0,0007	0,0194
2014	0,0338	0,0078	0,0050	0,0640	0,0079	0,0006	0,0199
2015	0,0290	0,0082	0,0044	0,0640	0,0127	0,0007	0,0198
2016	0,0306	0,0095	0,0042	0,0640	0,0111	0,0009	0,0201
2017	0,0335	0,0088	0,0040	0,0640	0,0092	0,0008	0,0201
2018	0,0372	0,0094	0,0040	0,0640	0,0152	0,0008	0,0218
2019	0,0317	0,0107	0,0040	0,0680	0,0183	0,0007	0,0222

Примечание - Рассчитано автором.

Одним из важных компонентов композитного индекса модели «зеленой» экономики является использование природных ресурсов. Субиндекс «группа природных ресурсов» ( $NR_i$ ) охватывает 3 подиндекса: а) Пресная вода из природных источников (млн куб. м); б) водопотребление (млн куб. м); в) добыча нефти (тыс. тонн); г) добыча газа (тыс. тонн); д) Структура земельного фонда по целевому назначению: Общая площадь земель страны - всего (тыс. га); е) земли сельскохозяйственного назначения (тыс. га); ж) земли несельскохозяйственного назначения (тыс. га); з) рыболовство (тонн); и) индекс водопользования (в процентах); й) Площадь лесов (в процентах).

Опираясь на данные Всемирного банка, мы можем принять 500000 кубометров и «0» кубометров, соответственно, по показателям  $X_{max}$  и  $X_{min}$  «Объем годового возобновляемого хозяйственно-питьевого забора пресной воды на душу населения». Следует отметить, что в этом рейтинге Азербайджан имеет 823,52 кубометра пресной воды на душу населения, что значительно ниже среднемирового показателя (5724,52 кубометра). Ресурсы пресной воды на Ближнем Востоке, а также в странах, близких к экватору, значительно меньше, чем на севере и юге.

По показателю «Отношение земель, используемых в сельскохозяйственном сек-



торе, к общей площади земель»  $X_{max}$  и  $X_{min}$  по можно принять 100% и 0% соответственно. Конечно, ни в одной стране практически невозможно использовать всю землю для сельскохозяйственного сектора. Хотя бы потому, что строительство квартир и дорог занимает определенную часть земли. Однако в некоторых странах, таких как Уругвай и Монголия в отдельные годы этот показатель превышает 90%. Поэтому  $X_{max}$  мы взяли 100%.

Вторым субиндикатором в группе экологического качества жизни являются «Болезни органов дыхания». Этот показатель показывает, насколько чист воздух как в мире, так и в каждой стране. Таким образом, органы дыхания, особенно легкие, очень чувствительны к загрязнению воздуха. XIX и XX века, когда в мире была широко распространена индустриализация, также привели к распространению болезни. Начиная со второй половины XX века перенос вредных производств из развитых стран в развивающиеся и, в большинстве случаев, несоблюдение экологических требований в этих странах привели к масштабным заболеваниям человека. По данным Всемирной Организации Здравоохранения (2007)

более 65 миллионов человек во всем мире страдают хронической обструктивной болезнью легких. 3 миллиона из них умирают каждый год. Более 334 миллионов населения мира страдают астмой (Global Asthma Report, 2014). Вызывает тревогу и статистика по другим респираторным заболеваниям.

По данным ГСКАР (2022), «объем загрязняющих веществ, выбрасываемых в атмосферу на душу населения» в Азербайджане колеблется в пределах 100-120 кг. В 2020 году в результате снижения экономической активности в стране в результате COVID-19 также уменьшился объем выбросов загрязняющих веществ в окружающую среду. Основным источником вредных веществ, выбрасываемых в окружающую среду, являются вредные газы, образующиеся при производстве электроэнергии и эксплуатации автомобилей. Хотя COVID-19 значительно сократил промышленное потребление электроэнергии, в домашних хозяйствах оно относительно невелико. Однако в обоих случаях сокращение повлияло на общий спрос, а затем значительно уменьшило количество вредных газов, выбрасываемых в окружающую среду.

**Таблица 3** - Динамика субиндекс качества окружающей среды

**Table 3** - Dynamics of the sub-index of environmental quality

Год	Общий объем парниковых газов на душу населения (кг)	$I_{1,t}$	«Респираторные заболевания» (на 100 000 человек)	$I_{2,t}$	$EFL_t = -\frac{I_{1,t} + I_{2,t}}{2}$
1	2	3	4	5	6
1990	0,0015	0,0149	114.344	0,1759	0,0954
1991	0,0016	0,0162	121.019	0,1862	0,1012
1992.	0,0011	0,0114	87 890	0,1352	0,0733
1993	0,0012	0,0125	112 280	0,1727	0,0926
1994	0,0011	0,0110	91,175	0,1403	0,0756
1995	0,0010	0,0104	99 520	0,1531	0,0818
1996	0,0009	0,0094	91.191	0,1403	0,0749
1997	0,0009	0,0093	78,337	0,1205	0,0649
1998	0,0009	0,0092	81.197	0,1249	0,0671
1999.	0,0009	0,0091	72,329	0,1113	0,0602
2000.	0,0009	0,0093	76 514	0,1177	0,0635
2001	0,0009	0,0092	74 686	0,1149	0,0621
2002	0,0009	0,0092	76.103	0,1171	0,0631
2003	0,0009	0,0087	77,284	0,1189	0,0638
2004.	0,0009	0,0088	79 547	0,1224	0,0656
2005	0,0009	0,0092	80 799	0,1243	0,0667
2006	0,0009	0,0094	75 827	0,1167	0,0630
2007	0,0009	0,0090	80 793	0,1243	0,0666
2008	0,0010	0,0096	78 560	0,1209	0,0652
2009.	0,0009	0,0093	78 964	0,1215	0,0654

1	2	3	4	5	6
2010	0,0010	0,0096	77.046	0,1185	0,0641
2011	0,0010	0,0098	76 740	0,1181	0,0639
2012	0,0010	0,0097	78 939	0,1214	0,0656
2013	0,0009	0,0094	78 631	0,1210	0,0652
2014	0,0009	0,0092	78 724	0,1211	0,0651
2015	0,0009	0,0088	78 984	0,1215	0,0652
2016	0,0009	0,0086	77 760	0,1196	0,0641
2017	0,0008	0,0083	75 600	0,1163	0,0623
2018	0,0008	0,0081	77 680	0,1195	0,0638
2019	-	-	77 900	0,1198	-
2020	-	-	67 920	0,1045	-

Примечание - Рассчитано автором.

По данным ГСКАР, с 2005 по 2019 годы заболеваемость респираторными заболеваниями в Азербайджане, за исключением некоторых лет, неуклонно росла. По этому показателю количество больных в 2006 году составляло чуть более 643000, а в 2019 году — более 771000. Тот факт, что количество больных увеличилось примерно на 20% всего за 13 лет, не означает, что болезнь быстро распространяется в стране. Такой рост произошел в основном за счет роста населения. Таким образом, если производить расчеты исходя из количества больных на 100 000 населения, то можно быть уверенным, что количество людей, страдающих этим заболеванием в стране, наоборот, увеличивалось и уменьшалось в районе 7000 за последние 15 лет.

### Заключение

Так, за последние 30 лет субиндекс «Экологическое качество жизни», входящий в состав Индекса зеленой экономики в Азербайджане, снижается. Снижение обоих вышеуказанных показателей привело к снижению этого показателя. Однако положительная связь первого показателя с ВВП на душу населения и отрицательная связь второго показателя обусловлены двойственным характером экономического развития. Таким образом, если экономическое развитие основано на перерабатывающей промышленности или добывающей промышленности, которая вызывает загрязнение окружающей среды, то создаваемое ею загрязнение приведет к увеличению заболеваний. Новые болезни окажут негативное влияние на экономическое развитие в долгосрочной перспективе. Поэтому необходимо заменить экономический рост зеленым ростом и инвестировать в развитие производств, снижающих количест-

во загрязняющих веществ, выбрасываемых в окружающую среду.

На основании двух вышеуказанных показателей *EFL*, можно рассчитать субиндекс качества окружающей среды в процессе перехода к Зеленой экономической модели. Таким образом, новизна исследования заключается в разработке модели для количественной оценки зеленой экономики и использовании этой модели для сравнительной оценки и развития отдельных аспектов зеленой экономики. Как и в других странах, богатых нефтью и газом, экономика Азербайджана основана на нефтегазовой ренте. Поэтому переход экономики страны на «зеленую модель» затягивается из-за слабых экологических детерминантов. Необходимо заменить экономический рост зеленым ростом и инвестировать в развитие производств, снижающих количество загрязняющих веществ, выбрасываемых в окружающую среду.

Однако следует отметить, что существуют определенные ограничения в применении представленного метода. Эти ограничения заключаются в основном в сложности получения точной информации о необходимых показателях. Еще один важный недостаток связан с получением данных по одной и той же системе показателей для разных стран. Потому что данные по показателям, использованным в исследовании, могут отсутствовать в статистических базах других стран.

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## Economic Stimulation of Household Business Activity in the Economy of Kazakhstan

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### Abstract

The purpose of the scientific article is to study the problem of increasing the business activity of the rural population in the conditions of the “new” economy of Kazakhstan and to develop proposals for stimulating the economic activity of personal subsidiary farms. The use of classical methods of scientific cognition and literature review allowed us to study the theoretical foundations and reveal the economic essence of the categories of “business activity” regarding its applicability to the economy of the household. Based on the macroeconomic analysis, the main indicators and trends of the development of the economy of Kazakhstan were studied, the share of the agricultural economy in the country’s GDP was determined. It is revealed that the agricultural economy in the overall structure of the national economy can become a priority industry in the long term, which is justified by the effectiveness of the activities of agribusiness entities in conditions of developed competition. It is confirmed that 58% of the rural population are self-employed, and 46% of the population cannot provide for their basic needs, since the only source of income is transfer payments (social benefits) from the state budget. It is determined that the inflation rate has a significant impact on the real income of households. The model of economic stimulation of the business activity of personal subsidiary farms is presented, taking into account their peculiarities of formation and development as a form of agribusiness organization, which clearly affects the agricultural economy of Kazakhstan.

**Keywords:** Economy, Agricultural Economics, Business Activity, Income, Population, Personal Subsidiary Farms.

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## Қазақстан экономикасында үй шаруашылықтарының іскерлік белсенділігінің экономикалық ынталандыруы

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### Түйін

Ғылыми мақаланың мақсаты Қазақстанның “жаңа” экономикасы жағдайында ауыл тұрғындарының іскерлік белсенділігін арттыру проблемасын зерттеу және жеке қосалқы шаруашылықтардың экономикалық қызметін ынталандыру үшін ұсыныстар әзірлеу болып табылады. Ғылыми таным мен әдебиетті шолудың классикалық әдістерін қолдану теориялық негіздерді зерделеуге және оның үй шаруашылығы экономикасына қолданылуына қатысты “іскерлік белсенділік” санатының экономикалық мәнін ашуға мүмкіндік берді. Макроэкономикалық талдау негізінде Қазақстан экономикасының негізгі көрсеткіштері мен даму үрдістері зерделенді, елдің ЖІӨ-дегі ауыл шаруашылығы экономикасының үлесі айқындалды. Ұлттық экономиканың жалпы құрылымындағы ауыл шаруашылығы экономикасы ұзақ мерзімді перспективада басым салаға айналуы мүмкін екендігі анықталды, бұл дамыған бәсекелестік жағдайында Агробизнес субъектілері қызметінің нәтижелілігіне негізделген. Ауылдық жерлердегі халықтың 58%-ы өзін-өзі жұмыспен қамтығандар, ал халықтың 46%-ы өздерінің негізгі қажеттіліктерін қамтамасыз ете алмайтыны расталды, өйткені табыстың жалғыз көзі мемлекеттік бюджеттен трансферттік төлемдер (әлеуметтік жәрдемақылар) болып табылады. Инфляция деңгейі үй шаруашылығының нақты кірісіне айтарлықтай әсер ететіні анықталды. Агробизнесті ұйымдастыру нысаны ретінде жеке қосалқы шаруашылықтардың іскерлік белсенділігін олардың қалыптасу және даму ерекшеліктерін ескере отырып экономикалық ынталандыру моделі ұсынылған, бұл Қазақстанның ауыл шаруашылығы экономикасына бір мәнді әсер етеді.

*Түйін сөздер:* экономика, бизнес, инфляция, ауыл шаруашылығы экономикасы, іскерлік белсенділік, табыс, халық, жеке қосалқы шаруашылықтар.

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## Экономическое стимулирование деловой активности домашних хозяйств в экономике Казахстана

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### Аннотация

Целью научной статьи является изучение проблемы повышения деловой активности населения сельской местности в условиях «новой» экономики Казахстана и выработка предложений для стимулирования экономической деятельности личных подсобных хозяйств. Применение классических методов научного познания и обзора литературы позволили изучить теоретические основы и раскрыть экономическую сущность категорий «деловая активность» относительно применимости его к экономике домашнего хозяйства. На основе макроэкономического анализа были изучены основные показатели и тенденции развития экономики Казахстана, определена доля экономики сельского хозяйства в ВВП страны. Выявлено, что экономика сельского хозяйства в общей структуре национальной экономики может стать приоритетной отраслью в долгосрочной перспективе, что обосновано результативностью деятельности субъектов агробизнеса в условиях развитой конкуренции. Подтверждено, что около 58% населения сельской местности самозаняты, а 46% населения не могут обеспечить свои основные потребности, так как единственным источником дохода являются трансфертные платежи (социальные пособия) из государственного бюджета. Определено, что уровень инфляции оказывает существенное влияние на реальный доход домашних хозяйств. Представлена модель экономического стимулирования деловой активности личных подсобных хозяйств с учетом их особенностей формирования и развития как формы организации агробизнеса, что однозначно влияет на экономики сельского хозяйства Казахстана.

*Ключевые слова:* экономика, экономика сельского хозяйства, деловая активность, доход, население, личные подсобные хозяйства.

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**Конфликт интересов:** авторы заявляют об отсутствии конфликта интересов.

**Финансирование.** Исследование основано на финансовых ресурсах авторов в рамках инициативной темы.

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### Введение

Сегодня Казахстан в свете новых реалий переживает определенные экономические, социальные и политические трудности, что сильно влияет на развитие структурно-производственных отношений отраслей экономики. Глобальные вызовы в контексте новых подходов к управлению экономикой, обуславливают, необходимость осмысления современных научных достижений в практике производственно-хозяйственной деятельности всех субъектов экономики с целью оценки их деловой активности. Рациональность использования ограниченных ресурсов в производстве товаров и услуг и удовлетворение потребностей субъектов экономики, в том числе домашних хозяйств является одним из важных экономических категорий для проведения исследования в рамках новой экономики Казахстана.

Деловая активность личных подсобных хозяйств (домашних хозяйств) зависит от величины заработного дохода, уровень которой зависит от механизмов экономического стимулирования данных субъектов бизнеса и продуктивной занятости в экономике села, что также претерпевают количественные, структурные и содержательные изменения.

Целью научной статьи является изучение проблемы повышения деловой активности населения сельской местности в условиях «новой» экономики Казахстана, а также выработка предложений для стимулирования экономической деятельности личных подсобных хозяйств. Научная значимость данной статьи обосновано тем, что предложена экономическая модель стимулирования деловой активности домашних хозяйств в экономике Казахстана.

Вопросы повышения деловой активности населения в сельской местности не исследованы на должном уровне, так как в современных экономических условиях вести индивидуальный бизнес в действующей инфраструктуре экономики села становится сложнее. Это объясняется влиянием факторов производства и связано с высокой трудоемкостью производства, недостаточностью внедрения цифровых и бережливых технологий для повышения производительности труда и слабым развитием коммуникационной среды.

Результаты исследования экспертов ЕАЭС свидетельствует о том, что деловая активность населения определяется через оценку его заработного дохода. Структура дохода домашних хозяйств зависит от уровня

развития экономики. Доход населения сельской местности от сельскохозяйственной деятельности (поступления от продажи сельхозпродуктов, кормов, скота и т.п.) в 2021 году (доходы снизились на 2,1%) снизилось на 0,3% по сравнению с 2015 годом (доходы увеличились на 2,1%). При этом трансфертные выплаты: социальные выплаты увеличились на 7,2% в 2020 году по сравнению с 2015 годом, из них пенсии увеличились с 13,7% в 2020 году до 20,3% в 2015 году. Другие источники дохода населения сельской местности увеличилось на 0,3% в 2020 году (Kazakhstan's labor market: Development in a new reality, 2021). Если сравнивать доходы населения сельской местности с учетом инфляции, то по итогам 2021 года годовой уровень инфляции сложился на уровне 7,7%, соответственно сохранение высоких темпов инфляции однозначно сказывается на деловой активности населения.

Таким образом, рабочей гипотезой научного исследования явилось рассмотрение механизмов повышения деловой активности населения путем развития индивидуального подсобного хозяйства в экономике сельского хозяйства, что является важным составляющим в общей структуре национальной экономики Казахстана.

### Обзор литературы

В научной и учебной литературе, учеными представлены различные определения к понятию «деловая активность» (более 46 определений было рассмотрено) и содержание данной экономической категории отражает оценку системы эффективной деятельности субъектов аграрного бизнеса.

По мнению представителей научной среды под деловой активностью населения следует понимать реализацию экономической инициативы наиболее активной части населения в пределах конкретного территориального образования в форме малого, среднего, индивидуального, крестьянского (фермерского) предпринимательства и многоуровневую систему с целью измерения эффективности предпринимательской деятельности индивидуальных домохозяйств, предприятия и государства (Gavrilenko, 2012; Fatkhullina, 2014). При этом оценка деловой активности определяется с учетом различных факторов, влияющих на индекс конкурентоспособности экономики, и данные показатели выросли с 35 до 90, которые разместились в 9 крупных группах, в том числе 7 группа представлена показателями оценки деловой активности



населения (Belov, 2011). По мнению исследователей дальнего зарубежья, быстрый рост сельского хозяйства ускоряет экономическую трансформацию в современную экономику, а модернизация сельского хозяйства является основным инструментом ликвидации бедности в сельской местности (Hilden et al., 2012; John & Barrett, 2017). Роль сельского хозяйства, очевидно, отражается не только в его вкладе в ВВП, но и в сложных взаимосвязях того, как оно влияет на жизнь сельских районов (Chernova et al., 2022). При этом должна быть четко определена государственная позиция в области экономического стимулирования личных подсобных хозяйств. Однако данная проблема мало изучена на сегодняшний день отечественными учеными.

Системным показателем определяющий уровень деловой активности домашних хозяйств является среднедушевой объем располагаемых ресурсов, который включает все денежные и натуральные поступления для финансирования своего потребления и создания сбережений, в совокупности это отражается в деловой активности экономики страны (Skalnaуа, 2018). При этом средний заработанный доход населения сельской местности колеблется в пределах от 55 до 75 тыс. тенге в месяц, что определено с учетом особенностей регионального развития инфраструктуры экономики сельского хозяйства, а полученным доходом в виде трансфертных выплат из государственного бюджета обеспечивается 58% самозанятое население.

На уровне института государства в 2018 году было принято решение о стимулировании дохода населения занятых в сфере экономики сельского хозяйства и повышения заработной платы с 115,4 тысяч тенге в 2019 году до 230,8 тысяч тенге в 2025 году (National project, 2021). Глобальные экономические изменения и высокие темпы инфляции, которая достигла в марте 2022 года 12% (National Bank, 2022) сильно отразилась в уровне дохода населения сельской местности и стоимости их потребительской корзины. Необходимым механизмом экономического стимулирования ЛПХ является законодательство, кредитование, субсидирование и страхование, что не отражено ни в одной государственных программах. Данная экономическая ситуация сильно сказывается на развитие экономики страны, поэтому необходимо рассмотреть механизмы экономического стимулирования деловой активности населения сельской местности путем развития такой

организационной формы бизнеса как личное подсобное хозяйство в контексте развития экономики сельского хозяйства.

### Методология

Основой методологических подходов для проведения анализа деловой активности населения сельской местности являются методы научного познания и сравнительный анализ, предполагающее сопоставление значений макроэкономических показателей, характеризующие развитие экономики страны, социальную инфраструктуру развития села и его влияние на рост дохода населения. В этой связи, единственным эффективным и масштабным методом исследования деловой активности, направленное на повышение уровня жизни населения в количественном и качественном измерении, является анализ целенаправленной государственной политика (которая сегодня отсутствует) в области развития и поддержки личных подсобных хозяйств.

Эмпирическая база исследования состоит из статистики макроэкономики и показателей экономики сельского хозяйства, полученные из официального сайта Бюро национальной статистики Агентства по стратегическому планированию и реформам Республике Казахстан. В структуре экономики Казахстана доля сельскохозяйственной отрасли в общем объеме

ВВП составляет 5,3%, а также в сельской местности проживают 39,1% населения Казахстана (Rodina & Adelheim, 2020), что является преимуществом по решению вопросов обеспечения занятости населения. Поэтому исследования деловой активности экономически активного населения сельской местности с учетом его влияние на развитие экономики страны на основе метода системного анализа позволить выявить результативность реализации государственных мер в данной отрасли.

Экономический анализ хозяйственной деятельности населения сельской местности предполагает использование различных показателей для анализа деловой активности личных подсобных хозяйств как фактора развития экономики. Поэтому научный интерес к изучению показателей, определяющие системность экономической эффективности функционирования домашних хозяйств выражается в получении экономического эффекта в натуральной или денежной форме, в виде экономии ресурсов или социального результата (Rodina & Adelheim, 2020).

Результативность хозяйственной деятельности личных подсобных хозяйств сопоставляется с затратами ресурсов на его организацию. Соответственно, экономическая эффективность ЛПХ определяется как отношение результативности от деятельности домашних хозяйств к затратам ресурсов на организацию хозяйства:

$$e = \frac{E}{RE}$$

где  $E$  - результативность;

$RE$  – использованные факторы производства.

Следовательно, данный показатель характеризует рациональность организации и финансовой поддержки хозяйственной деятельности домашних хозяйств, а также влияет на увеличение заработной платы населения сельской местности, что в целом обеспечить рост экономики страны.

### Результаты и обсуждение

В структуре экономики Казахстана агропромышленный комплекс (далее АПК) обеспечивает не только внутренние потребности страны в продовольствии, но и позволяет экспортировать продукцию на внешние рынки (KASE, 2022). Поэтому ведущая роль в АПК отводится именно экономике сельского хозяйства.

Основные макроэкономические показатели экономики страны характеризуется изменчивыми тенденциями развития отраслей экономики в связи с глобальными изменениями. Результаты анализа основных макроэкономических показателей страны с учетом доли экономики сельского хозяйства в структуре ВВП сведены в таблицу 1. Однако, по отдельным макроиндикатором статистические данные не достоверны, что усложняет процесс исследования экономической активности населения сельской местности. Но, тем не менее, характерной особенностью макроэкономического развития страны является результативность микроэкономики, то есть деятельности субъектов бизнеса.

**Таблица 1** - Основные макроэкономические показатели экономики Казахстан за 2019-2021гг.

**Table 1** - The main macroeconomic indicators of the economy of Kazakhstan for 2019-2021

Показатели	Ед. изм.	2019 г.	2020 г.	2021 г.	2021/2019 гг.
ВВП в рыночных ценах	млрд. долл.	181,67	171,08	170,01*	-6,5
ВВП на душу населения	млн. долл.	9 587,0	8 598,8	8 239,3*	-7,7
Объем рынка продукции АПК	млрд. долл.	8,2	9,0	8,9	11,4
Доля сельского хозяйства в ВВП	%	4,5	5,3	5,2	19,2
Население	млн. чел.	18,39	18,8	19,2	1,3
Уровень инфляции	%	5,4	6,7	8,7	-
Урбанизация	%	58,5	57,7	59,1	0,2
Объем розничной торговли	млрд. долл.	26,4	28,4	31,5	-4,1
Объем рынка розничной электронной коммерции	млрд. долл.	1,3	1,4	1,6	72,6
Импорт продукции АПК	млрд. долл.	3,9*	4,1	3,9	4,1
Экспорт продукции АПК	млрд. долл.	3,3	3,5	3,1	-0,6
Товарооборот продукции АПК	млрд. долл.	6,8*	7,3	6,7	2,0

Примечание - Составлено на основании источников [7, 9-13] (\*-приблизительные данные, в Интернет-ресурсах разные показатели)

Таким образом, данные таблицы 1 показывают, что в 2020 году ВВП Казахстана незначительно уменьшился и составил \$171,08 млрд. (в текущих ценах доллара США). В 2019 году значение этого показателя равнялось \$181,67 млрд., то есть по сравнению с предыдущим годом изменение составило -\$10,58 млрд. (-5,83%). Абсолютное максимальное значение ВВП Казахстана было зафиксировано в 2016 году, тогда оно равнялось \$236,63 млрд. Абсолютное минимальное значение ВВП Казахстана было зафиксировано в 1999 году: тогда оно составило

\$16,87 млрд. Максимального значения ВВП за последние десять лет Казахстан достигла в 2013 году: тогда значение показателя составило \$236,63 млрд., а минимального – в 2016 году: \$137,28 млрд. (Sularu, 2022). Доля сельского хозяйства в ВВП увеличилось в 2021 году на 5,2% по сравнению с 2019 годом. По данным таблицы 1 видно, что в периоды превышения реального прироста ВВП динамики потенциального ВВП, наблюдается тенденция ускорения инфляции, что характерно для 2021 года и уровень инфляции составил -8,7% (Alpysbaeva et al., 2021).

Всего население в Казахстане на 1 марта 2022 года составляет 19 160 698 чел., в том числе городское население составляет 11 404 957 чел. (59,9%) и в сельских местностях проживают 7755741 чел. (39,1%). Из числа проживающих в селах трудоспособное население в 2021 году составило 58% или 4 498 329 чел. Структура занятого населения в селе состоит из наемных (31% или 1 394 482 чел.) и самозанятые (58% или 2 609 030 чел.) работников.

Всего субъектов малого и среднего предпринимательства на 1 января 2021 года составило 1 357 311 ед. в т. ч. субъекты агробизнеса составляют 257 515 крестьянских хозяйств и сельскохозяйственных кооперативов.

Таким образом, из 4 498 329 экономически трудоспособного населения, проживающих в сельской местности – 1 394 482 тыс. человек имеют определенный постоянный доход за счет действующих бюджетных и других организаций, расположенных в сельской местности. При этом следует отметить, что из 2 609 030 трудоспособного населения 1513238 чел. заняты в фермерских хозяйствах и сельскохозяйственных кооперативах, а 46% (1095792 чел.) населения сельской местности в большинстве своем не обеспечивают неограниченные потребности.

Результаты исследования позволили выявить, что в разрезе отраслей экономики низкие доходы получают работники сельского хозяйства, где среднемесячная номинальная заработная плата составило 116,1 тыс. тенге (2021г.), а занятые в личных подсобных хозяйствах получают доход от 25 до 35 тыс. тенге в месяц. В 2021г. номинальная заработная плата по стране составила 230,8 тыс. тенге, что выше на 15% показателей аналогичного периода 2020г. Индекс реальной заработной платы 2021г. продолжил свой рост, начавшийся в 2020г. Однако, наблюдавшийся рост был ниже, чем в соответствующем периоде 2019г. (7,4% против 12,2%) (Kazakhstan's labor market: Development in a new reality, 2021). Следовательно, основным источником дохода населения занятых в сфере ЛПХ является заработный доход от реализации собственной продукции и выполнения временно сезонных работ (имеют непостоянные заработки), а также полученный доход, который формируется за счет трансфертных платежей.

Необходимость внесения корректив в меры государственной поддержки экономики сельского хозяйства лежит на поверхности и требует значительных финансовых усилий. Во-первых, имеющийся предпринимательский потенциал домашних хозяйств направлен на повышение качества совокупного потребления в экономике сельского хозяйства. Во-вторых, вопросы обеспечения продовольственной безопасности в мировой экономике требует усиление системных мер со стороны института государства в целях повышения деловой активности личных подсобных хозяйств. Необходимо учитывать, что традиционный образ сельской жизни будет подвергаться внушительной трансформации, связанной с изменением экономического уклада, обусловленного внедрением передовых цифровых технологий и новых моделей трудовых отношений (Kekchebaev & Zhakupova, 2021).

Результаты исследования выявили, что реализуемая Государственная программа поддержки и развития бизнеса «Дорожная карта бизнеса-2025» позволяет охватить ежегодно активными мерами занятости сельского населения в пределах 350–370 тыс. человек, включая краткосрочное обучение и переобучение, обучение в колледжах, молодежную практику. Однако, анализ показателей трудоустройства (на постоянную работу) позволяют сделать вывод о том, что не более 50% населения сельской местности, охваченные активными мерами, имеют

возможности создать личное подсобное хозяйство с получением кредитных ресурсов. Экономическое стимулирование субъектов аграрного сектора осуществляется в основном в рамках субсидирования краткосрочных и инвестиционных кредитов, а именно для личных подсобных хозяйств данные экономическое стимулирование не применяется, так как они не являются коммерческими организациями. Поэтому система государственных мер в области развития ЛПХ должна быть направлена на долгосрочную перспективу повышения деловой активности экономики сельского хозяйства. Объяснением данного факта является то, что наибольшее количество скота (кроме птиц) как основная продовольственная продукция экономики сельского хозяйства, приходится на долю

личных подсобных хозяйств, а количество птиц преобладает на сельхозпредприятиях, прежде всего, это крупные птицефабрики, что подтверждает анализ статистических данных таблицы 2. При этом, необходимо отметить, что на сегодняшний день системных стимулирующих механизмов со стороны государства именно личных подсобных хозяйств отсутствуют. Поэтому необходимо выработать меры по стимулированию экономической деятельности ЛПХ путем создания условий по кредитованию, субсидированию и страхованию, а также внесение корректировок в законодательство, то есть необходимо признание ЛПХ как формы предпринимательства с учетом возможностей его осуществлять коммерческую деятельность.

**Таблица 2** - Численность скота и птицы в Республике Казахстан по категориям хозяйств (на начало 2021 года), тыс. голов

**Table 2** - Number of livestock and poultry in the Republic of Kazakhstan by categories of farms (at the beginning of the year 2021), thousand heads

Год	Крупный рогатый скот	Овцы и козы	Лошади	Верблюды	Свиньи	Птица, млн. голов
Все категории хозяйств						
2017	6 247,2	17 947,1	831,1	2 113,2	172,5	37,8
2018	6 764,2	18 329,0	815,1	2 415,7	193,1	39,9
2019	7 150,9	18 699,1	798,7	2 646,5	207,6	44,3
2020	7 436,4	19 155,7	813,3	2 852,3	216,4	45,0
2021*	8112,8	19 533,1	3256,1	2391,8	217,4	46,2
Сельхозпредприятия						
2017	580,3	771,2	247,0	134,5	14,3	25,5
2018	662,9	835,1	221,1	146,8	13,6	28,7
2019	712,8	830,0	214,3	163,4	14,2	32,4
2020	717,9	874,2	241,0	181,1	15,2	32,8
2021*	719,2	876,4	248,1	189,6	16,8	35,3
Крестьянские или фермерские хозяйства						
2017	1 948,4	6 808,9	117,2	939,2	68,5	0,4
2018	2 224,5	6 731,4	110,5	1 054,0	77,3	0,5
2019	2 409,8	7 061,8	93,2	1 186,5	82,9	0,5
2020	2 624,3	7 573,3	78,7	1 321,2	87,4	0,7
2021*	2 631,2	7 902,1	79,8	1 347,3	88,2	0,9
Хозяйства населения						
2017	3 718,5	10 367,5	466,9	1 039,4	89,6	11,9
2018	3 877,2	10 762,5	483,6	1 214,9	102,3	10,7
2019	4 028,4	10 807,3	491,2	1 296,7	110,5	11,4
2020	4 094,3	10 708,2	493,6	1 349,9	113,8	11,6
2021*	4 300,2	10 908,2	497,2	1 647,3	115,2	11,9

Примечание - Составлено на основании источника (Kekchebaev & Zhakupova, 2021).

Таким образом, данные таблицы подтверждают, что наибольшая доля выращивания скота и птиц приходится на долю личных подсобных хозяйств. Следовательно, анализ данных о количестве скота и птицы по категориям хозяйств подтверждает, представленные Аналитическим кредитным рейтинговым Агентством (АКРА) прогнозы о состоянии экономики Казахстана до 2024 года. В докладе АКРА «Экономика Казахстана — риски рецессии в 2020 году и перспективы выхода из нее» отмечается, что отрасли экономики Казахстана начнут, восстанавливаться с 2021 и по своей динамике будут постепенно приближаться к долгосрочным трендам. Наиболее быстрый рост с 2021 по 2024 АКРА прогнозирует в сельском хозяйстве на 6, при этом следует отметить, что результативность данных показателей возможно развитой инфраструктуры, которая включает в себя все субъектов агропромышленного комплекса, включая институты государства, деятельность которых постоянно, связанные с аграрным сектором экономики, а также мелкие, средние и крупные сельскохозяйственные производители (Nurmukhametov et al., 2022). Следовательно, долгосрочная стратегия развития экономики сельского хозяйства, направлена на экономическое стимулирование деловой активности личных подсобных хозяйств с целью повышения потенциала внутреннего рынка сельскохозяйственной продукции.

Сущность экономического стимулирования предполагает разработку комплекса мероприятий по повышению деловой активности личных подсобных хозяйств, и возможными рычагами воздействия на экономическую активность ЛПХ является развитие инфраструктуры для регулирования рынка сельскохозяйственной продукции, сырья и продовольствия.

Предполагаемая модель (рисунок 1) экономического стимулирования субъектов сельскохозяйственного производства, в первую очередь нацелена на поддержку личных подсобных хозяйств, для которых система институциональных мер являются основным стимулом для повышения деловой активности, последнее отражается в результативности основных макроэкономических показателей Казахстана.

Таким образом, разработанная модель имеет практическую направленность применения в области законодательного и экономического стимулировании деловой активности домашних хозяйств, научная ценность, которой обоснована в контексте анализа

теоретической и методологического подходов развития личных подсобных хозяйств.

Основные инструменты данной модели позволят эффективнее работать с малыми формами хозяйствования на селе, оказывая им финансовую адресную правовую, образовательную, информационную и иную поддержку, стимулируя их развитие, объединяя их в кооперативы и разрабатывая и принимая программы поддержки (Lipatova & Mamai, 2020). Для этого необходимо в первую очередь, совершенствование казахстанского законодательства в части признания ЛПХ как одним из особых видов предпринимательской деятельности в экономике сельского хозяйства. Результаты зарубежных исследователей подтверждают научный факт, что семейные фермы решительно предпочитают сельскохозяйственные субсидии, кредитную поддержку, техническую поддержку, а также хороший канал политической коммуникации (Latruffe et al., 2017). Следовательно, развития института личных подсобных хозяйств, определяет статус особой формы предпринимательства в экономике сельского хозяйства.

Согласно функциональному назначению данной модели, можно определить основную цель ее применение в регулировании деятельности рынка сельскохозяйственной продукции личных подсобных хозяйств в общей структуре национального рынка товаров и услуг.

Основными механизмами экономического стимулирования деловой активности субъектов домашнего хозяйства является создания Специальных фондов и региональных Центров развития для системной поддержки деятельности личных подсобных хозяйств путем применения стимулирующих инструментов бюджетной и кредитно-денежной политики: долгосрочное субсидирование и кредитование, обеспечение социальных гарантий.

Разработка комплексной системы и оптимальной модели развития личных подсобных хозяйств основана также на взаимодополняющем элементе системы как повышение уровня компетенции населения сельской местности путем рационального управления и обеспечение эффективных коммуникационных каналов. Обеспеченность личных подсобных хозяйств компетентной рабочей силой на низком уровне и является сдерживающим фактором внедрения научно-технического прогресса в отрасли, что сказывается на уровне интенсивности ведения аграрного бизнеса (Moiseenko, 2021).



**Рисунок 1** - Модель экономического стимулирования деловой активности личных подсобных хозяйств

**Figure 1** - Model of economic stimulation of business activity of personal subsidiary farms

Совокупность механизмов экономического стимулирования деловой активности ЛПХ можно систематизировать в две основные группы:

1. Организационный – развитие коммуникационной среды и системы управления, обеспечение квалифицированными кадрами и их обучение, обоснования алгоритма взаимодействия на всех этапах институциональной поддержки и развития экономики домашнего хозяйства;

2. Экономический – развитие стимулирующей бюджетной и кредитно-инвестиционной политики, создания социальных гарантий, развитие инфраструктуры производства и расширение инструментов маркетинга для сбыта сельскохозяйственной продукции.

Таким образом, эффективность модели экономического стимулирования выражена в рациональном комбинировании и использования системных мер по стимулированию хозяйственной деятельности и обеспечению устойчивости развития функционирования личных подсобных хозяйств как субъектов экономики сельского хозяйства. Содержание данной модели структурировано отдельными подсистемами, что повышает продуктивность самозанятых и непредпринимательский доход населения сельской местности.

### Заключение

Результаты научной статьи позволяют сделать ряд обоснованных выводов, в частности необходимость развития личных подсобных хозяйств в долгосрочной перспективе обосновано экономическим эффектом

данной формы агробизнеса. Главная задача личных подсобных хозяйств - рациональное использование производственных ресурсов в экономике сельского хозяйства, что влияет на экономическое стимулирование деловой активности домашних хозяйств и повышение конкурентоспособности рынка сельскохозяйственных товаров и услуг.

Макроэкономическая ситуация в Казахстане характеризуется относительными результатами, что выражено в колебании основных показателей экономики за 2021 год, где ярко выражено снижение ВВП с 180,67 млрд.долл. в 2019 до 170,01 млрд.долл. в 2021 году. Данная тенденция объясняется рядом причин, в частности инфляционными ожиданиями в экономике и глобальными изменениями в мировой экономике. При этом прослеживается также снижения показателей экспорта с 4,1 до 3,9 млрд.долл. и импорта с 3,5 до 3,1 млрд. долл. продукции АПК за рассматриваемые периоды.

Общая численность людей, проживающих в сельской местности это самозанятое население в сфере личного подсобного хозяйства, которые выпрашивают более 51% скота в стране, и имеют производственный потенциал для расширения внутреннего рынка сельскохозяйственной продукции и обеспечения продовольственной безопасности. Для сравнения с другими категориями хозяйств - 38,8% скота в крестьянских или фермерских хозяйствах 9,7% - в сельскохозяйственных предприятиях.

Система государственной поддержки и развития личных подсобных хозяйств направлена на развитие механизмов экономического стимулирования деловой активности домашнего хозяйства на основе разработки комплексных мер в долгосрочной перспективе.

Представленная модель экономического стимулирования деловой активности личных подсобных хозяйств, способствует целенаправленного применения институциональных мер путем создания и развития специальных программ и фондов поддержки. Одним из важнейших условий динамичного развития данной формы индивидуального бизнеса является активизация инновационных и инвестиционных процессов ЛПХ, что является основой для дальнейшего исследования в контексте новых парадигм мировой экономики, так как повышается интерес отечественных ученых к проблемам обеспечения продовольственной безопасности в контексте повышения конкуренто-

способности экономики домашних хозяйств. С другой стороны, ученые стран Европы отмечают, что, сельское хозяйство ЕС обеспечивает устойчивое производство продовольствия для всех граждан ЕС и что экспорт продовольствия ЕС способствует продовольственной безопасности в третьих странах. Политика ЕС в области развития сельских районов и сельского хозяйства также поддерживает другие ЦУР: SGD 1 (без бедности), DGS 8 (достойная работа и рост), SGD12 (ответственное потребление и производство) и SGD 15 (наземная жизнь), на наш взгляд данное направление исследования важно и для дальнейшего исследования в казахстанской науке.

Таким образом, рассмотрены и изучены механизмы экономического стимулирования деловой активности личных подсобных хозяйств, как потенциальных субъектов аграрного рынка, оказывающие положительное влияние на рост экономики сельского хозяйства.

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## The Process of Telemedicine Implementation in the Context of the Digitalization Process in Kazakhstan

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### Abstract

The purpose of this work is to study the process of telemedicine implementation in the context of digitalization of Kazakhstan to identify problems. Development of recommendations for solving these problems, both in the public and in the private sectors of medical services. The scientific significance of the work lies in the contribution of new knowledge on the issue of telemedicine in the example of Kazakhstan, since this issue has been underexplored. The results of this study can be used to further develop the digitalization process of healthcare in the Republic of Kazakhstan. A qualitative method is used, a semi-structured interview with experts in the field of telemedicine implementation was conducted. Atlas.ti software is used for data processing. As a result of the analysis of the interviews, the limitations and problems of the implementation of telemedicine in the country were identified, such as high costs for the provision of IT services and the quality of the Internet, as well as the government's weak interest in cooperation with the private sector. However, despite these obstacles, the private sector is interested in implementing telemedicine. Analysis of world official data showed that the telemedicine market is growing rapidly, and there is a demand for consultations using telemedicine in the Kazakhstani market. Therefore, there is a need to develop this direction. Recommendations were offered to solve the problems of telemedicine implementation in Kazakhstan. Eliminating the identified problems can accelerate the process of healthcare digitalization, which is a contribution to the development of this area.

*Keywords:* Digitalization, Digital business, eHealth, Telemedicine, Economics, Strategy, Digital Transformation.

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## Қазақстандағы цифрландыру үдерісі жағдайында телемедицинаны енгізу процесі

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### Түйін

Денсаулық сақтау саласын цифрландыру бүгінде әлемнің барлық елдері үшін өзекті мәселелердің бірі болып табылады. Жаһандық Ковид-19 пандемиясы және онымен байланысты карантиндік шектеулер салдарынан экономикалық күйзелістер - денсаулық сақтау саласын дамыту қажеттілігін көрсетті. Қазақстан үшін де бұл сұрақ өзекті, сондықтан цифрландыру арқылы денсаулық сақтаудың тиімділігін және бүкіл халыққа медициналық көмектің қолжетімділігін арттыру, атап айтқанда денсаулық сақтау саласының негізгі қызметін ақпараттық жүйелермен біріктіру, мобильді цифрлық технологияларды пайдалану қажет, мобильді қосымшалар, электронды денсаулық паспорттарын енгізу және қағазсыз ауруханаларға көшу қажеттілігі бар. Бұл жұмыстың мақсаты – Қазақстандағы цифрландыру жағдайында телемедицинаны енгізу үдерісін зерттеу. Жұмыстың ғылыми маңыздылығы телемедицина мәселесі бойынша әдебиеттерге Қазақстан мысалында жаңа білімдердің қосылуында, өйткені бұл мәселе аз зерттелген. Осы зерттеудің нәтижелерін Қазақстан Республикасындағы денсаулық сақтауды цифрландыру үдерісін одан әрі дамыту үшін пайдалануға болады. Зерттеу үшін сапалы әдіс қолданылады, оның құралы телемедицинаны енгізу саласындағы сарапшылармен жартылай құрылымдық сұхбат болып табылады. Atlas.ti бағдарламалық құралы мәліметтерді өңдеу үшін қолданылды. Ресми деректерді талдау телемедицинаны пайдалана отырып, консультацияларға сұраныс бар екенін көрсетті, сондықтан бұл саланы дамыту қажет. Сондай-ақ, зерттеу нәтижесінде елде телемедицинаны енгізудің шектеулері мен проблемалары анықталды, мысалы, IT-қызметтерін көрсетуге және Интернеттің сапасына кететін жоғары шығындар, сондай-ақ мемлекеттің жеке сектормен ынтымақтастыққа мүдделілігінің әлсіздігі. Мемлекеттік және жеке сектор үшін қолайлы жаңа медициналық қызметтерді енгізу жүйесін әзірлеу ұсынылады. Бұл проблемаларды жою денсаулық сақтау саласын цифрландыру үдерісін жеделдетуге септігін тигізеді, бұл осы саланың дамуына қосқан үлес болып табылады.

*Түйін сөздер:* цифрландыру, цифрлық бизнес, eHealth, телемедицина экономика, стратегия, цифрлық трансформация.

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## Процесс внедрения телемедицины в контексте процесса цифровизации Казахстана

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### Аннотация

Цифровизация здравоохранения сегодня является одним из актуальных вопросов для всех стран мира. Глобальная пандемия Ковид-19 и связанные с ней карантинные ограничения, а в последствии - экономические потрясения, показали необходимость развития здравоохранения. И Казахстан не исключение, поэтому есть необходимость повышать эффективность деятельности здравоохранения и доступность медицинской помощи для всего населения с помощью цифровизации, а именно интеграции основной деятельности сферы здравоохранения с информационными системами, использования мобильных цифровых приложений, внедрения электронных паспортов здоровья и переход на «безбумажные» больницы. Целью данной работы является исследование процесса внедрения телемедицины в контексте цифровизации Казахстана. Научная значимость работы состоит во вкладе новых знаний в литературу по вопросу телемедицины на примере Казахстана, поскольку данный вопрос мало изучен. Результаты данного исследования можно использовать для дальнейшего развития процесса цифровизации здравоохранения в РК. Для исследования использован качественный метод, инструментом которого является полуструктурированное интервью с экспертами в области внедрения телемедицины. Для обработки данных используется программное обеспечение Atlas.ti. Анализ официальных данных показал, что есть спрос на консультации с помощью телемедицины, поэтому есть необходимость развития этого направления. Также были выявлены ограничения и проблемы внедрения телемедицины в стране, такие как высокие затраты на предоставление ИТ-услуг и качество интернета, а также слабая заинтересованность правительства в сотрудничестве с частным сектором. Рекомендуется разработать систему внедрения новых медицинских услуг, удобную и комфортную для государственного и частного секторов. Устранение данных проблем может ускорить процесс цифровизации здравоохранения, что является вкладом в развитие данной сферы.

*Ключевые слова:* цифровизация, цифровой бизнес, eHealth, телемедицина, экономика, стратегия, цифровая трансформация.

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### Introduction

The concept of digital change has become a key priority for a company's development process. Especially digital business transformation is required in the era of sustainable development. For this reason, all steps which lead to digitalization are led by several changes in several aspects of business management. These are business development model and strategy, company structure, and organizational culture (Vukšić et al., 2018).

In recent years, the digital transformation of economy has covered various fields, including the healthcare system. This article attempts to explore how the digitalization process in the healthcare system, particularly in the private sector, is run in Kazakhstan. The digitalization of healthcare is one of the effective methods to achieve the SDGs. In addition, it provides the most excellent coverage of the population with medical services through which every citizen can get timely access to the multifunctional health care needed without experiencing financial difficulties.

The digitalization of healthcare today is one of the pressing issues for all countries. The global Covid-19 pandemic and the associated quarantine restrictions, and in the aftermath of the economic shocks, have shown the need to develop healthcare. And Kazakhstan is no exception, so there is a need to improve the efficiency of healthcare and the availability of medical care for the entire population through digitalization, namely the integration of the main activities of the healthcare sector with information systems, the use of mobile digital applications, the introduction of electronic health passports and the transition to paperless hospitals. Currently, the State Program for the Development of Healthcare of the Republic of Kazakhstan for 2020-2025 has been adopted to provide quality and affordable medical care. Concurrently, the state program "Digital Kazakhstan" focuses on improving living conditions for people and the economy due to using modern digital technologies in the medium term. It is also focused on transforming the economy on a new path that will ensure the creation of a long-term digital economy.

During the last two decades, in Kazakhstan, there has been a gradual introduction of projects associated with the health informatization of the healthcare system. This is the creation and implementation of the Unified Health Information System. This project did not achieve its goals because there was no integrated and strategic approach that would take into account the institutional development, potential and, while, incentives that could affect all project participants.

Healthcare modernization through digitalization is regarded among important mechanism for domestic medicine improvement. Even though there are successful implementations of projects, the complete introduction of digitization methods in the work of medical institutions remains rather low. Notwithstanding, recently a new concept has appeared in world medical practice - telemedicine. Telemedicine is a system of provision of medical services and interaction between medical workers through the application of telecommunication technologies. For instance, monitoring of condition of patients and consultations (RBC Trends, 2022)

Now patients can consult with any specialists without leaving their homes, and medical staff can exchange experiences, which is relevant, especially in the context of COVID-19 (Bokolo et al., 2021). With the help of telemedicine, the risk of infection through direct contact has been eliminated. Thus the issue of a shortage of specialists can also become secondary. The process of implementation of online consultations into medical practice has also accelerated.

Technologies in telemedicine are applicable almost in every medical sphere. Moreover, they proved to be more useful. For instance, it can be pediatrics (a sick child no longer needs to be taken to a doctor), psychotherapy (psychotherapists conduct online sessions), dermatology (due to high quality images, dermatologists can conduct medical examinations of a patient suffering from psoriasis, eczema, bedsores, etc.), neurology (results of blood pressure are provided to specialists through the usage of remote monitoring, blood pressure indicators) or resuscitation (this is specific to cases when a patient can no longer be transported to another clinic, an urgent video call to a more competent specialist can save the patient's life).

Turnover of the telemedicine market worldwide in 2019 comprised \$49,9 billion. Further forecasts for 2030 predicts that turnover will increase up to \$459,8 billion (Statista, 2021). The forecast shows that the market is growing and will continue to grow. This emphasizes the importance for the Government of the country, representatives of healthcare and IT technologies as well, to direct their focus to the telemedicine market. This is a new market. Therefore, it ensures the diversification of the national economy. Additionally, this obvious fact is regularly reflected in governmental documents at various levels. Nevertheless, project implementation is accompanied by common issues such as legislative and financial obstacles.

Legislative obstacles primarily block the development of new markets. In particular, in the Republic of Kazakhstan, the rules governing telemedicine are very brief. At the same time, in Russia, the law on TM has been in force for several years now, and the State Duma is considering regulations that allow remote diagnosis and treatment.

The purpose of this work is to study the process of telemedicine introduction in the context of the digitalization of Kazakhstan by interviewing experts in this field. Atlas.ti software was used for data processing. The scientific significance lies in the contribution of new knowledge in the literature on the issue of telemedicine in the example of Kazakhstan since this issue is underexplored.

### Literature review

Telemedicine is “a two-way audio and video communication for remote medical consultation. The article will tell you how things are today with telemedicine in the healthcare system of the Republic of Kazakhstan, what equipment is needed to provide remote services, what types of telemedicine consultations exist, and how to implement remote services in medical organizations.

In the old Health Code dated September 18, 2009, No. 193-IV, the term “telemedicine” was used as a set of organizational, financial, and technological measures that provide remote medical services. In this case, the patient or the attending physician receives a remote consultation with another doctor using ICT that do not contradict national standards. However, the new Health Code of July 7, 2020 No. 360-VI abandoned the use of the term “telemedicine” and applied the concept of remote medical services.

Medical services or telemedicine is a field of medicine based on the use of computer and telecommunication technologies based on innovative information technologies for remote online consultations. The exchange of information between medical staff, in particular specialists, can also be added. This ensures the improvement of the quality of diagnosis provided by the specialists and treatment process of specific patients. An important aspect of telemedicine is the use of two-way audio and video communication. Telemedicine involves both online consultations and regular health checks, as well as a remote examination of the patient. Remote medical services are provided in outpatient, inpatient, hospital-replacing conditions, at home, outside a medical organization, in sanatorium and resort organizations at the actual location of the patient or his legal representative.

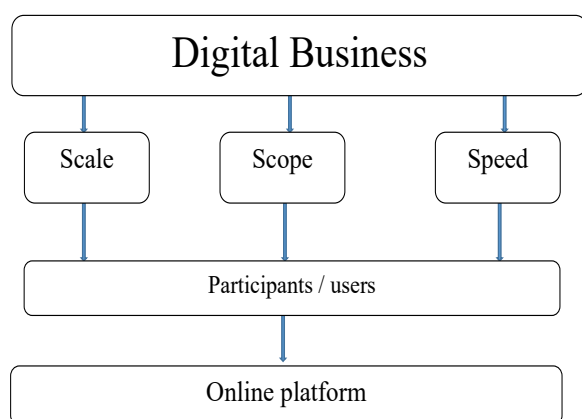
Digital transformation has influenced the global development of the economy. However, provided literature review have shown that authors define digital transformation differently. There are three paths that businesses undergo in terms of the digitalization process. The first approach is more client oriented and their needs. The second approach is related to the company strategy change through operation strategy and system transformation. The third approach is a combination of the first and the second approaches. Most importantly, the processes of client orientation and business model transformation are conducted simultaneously (Berman, 2012).

A model of business digitalization can be divided into four stages. First, the impact of business digitalization, which is related to the business scope, trends, fields that the business is developing in or interested. Second, the digitalization drivers are based on the business scope and identify the further scale of business. Third, the digitalization scenarios are developed through the analysis of digitalization drivers and mostly are created because of the main drivers. Fourth, the digitalization goals are defined through the study of preceding stages (Parviainen et al., 2017).

Some studies relate digital change investigation to its components identified from the definition. Thus, the influence that digital transformation has on economy is investigated with digital products application. There are digital products, which include information and communication technology listed by categories. The categories include the application of digital products in services provision as consumer, productivity, telecommunication, manufacturing, consultancy, rental, and others (Mičić, 2017).

Based on such development there are created business types as digital and non-digital. A growing number of studies are devoted to the investigation of the differences between digital business strategies with non-digital. Thus, three features are identified, which are shown in figure 1.

Firstly, digital business has field boundaries, as it manages a particular scope of business activity. Secondly, scale plays a considerable role in business strategy, requiring particular digital technologies and skills. The digital performance of a company, including digital culture and tools has an impact on the speed of company performance. To a great extent, digital business largely depends on online platforms and the degree of the acquisition of the platform by the users (Bakos et al., 2008; Bharadwaj et al., 2013; Gauthier et al. 2018).



**Figure 1** - Digital business features

Note - compiled by the author

Nevertheless, the application of digital products in a company is usually driven by certain factors such as consumer satisfaction, digital-skills and talents, and impact on the labor force's productivity, profitability and competitiveness. Such selection is explained by the impact of key areas of digital change, such as business development models, consumer service, and a company functioning process. However, digital technologies and digital skills inclusion stand out as the key drivers of digital change. In other words, they assist in identifying the field of business activity (Morakanyane et al., 2017).

A broader description of the digital transformation impact on business is given as well. There are identified ten types of effects on businesses as an outcome of business digital transformation. The results are custom related, management process and staff, business and product development, networking establishment, data management, and marketing. Particular causes drive the impacts of digital skills and digital culture (Pousttchi et al., 2019).

Therefore, the digitalization has impacted many industries, among which there is the healthcare sector (Biesdorf et al., 2014). With the rise of technology implementation in all sectors of the economy, healthcare services are undergoing a digital reorganization of services provision. The application of digital technologies has four significant questions. The first three questions are related to the services provision if they remain available, and the access will increase to minor population. Next is accessibility of the services and acceptability. The last one considers the qualification of the workforce and the ability to provide quality service. Consequently, scientific studies have defined three significant dimensions of digital healthcare

services investigation. They are related to application of digital technologies considering its benefits and drawbacks; the transformation of functioning processes as organizational cycles and management; workforce related changes as digital skills and mindset (Lapão, 2018).

Some scientists stressed the impact of digital platform implementation in healthcare as telemedicine. They claimed that the application of platforms, especially in client-oriented fields could help to reduce costs (Visconti & Morea, 2020). For instance, it reduces time spent on organizational processes as visits to organization or digital documentation reduces expenses on paper. Others put their attention on the use of technologies in eHealth delivery as a positive trend, emphasizing the importance of digital skills level of the employees. Digital technologies and tools application, based on their study can contribute to sustainable eHealth system development. Digital tools implementation help to reduce losses an institution can have due to poorly coordinated management (Beaulieu & Bentahar, 2021). The following could be related to this drugs shortage, reduction of time-spent, patients' management, etc.

Research on healthcare system digitalization in Kazakhstan is not studied enough. There prevail studies which explore the general state of healthcare system digitalization. There has emphasized the importance of digital skills development among medical staff and the population (Kazybayev, 2010). This is associated with using special applications in all aspects of eHealth. For instance, patients' information storage, appointment organization, medical institutions operation management, etc. There has been discussed the importance of healthcare system digitalization for industries. Moreover, the importance of digital platforms application has been underlined in the example of a medical institution in Kazakhstan (Sarsenova, 2020). The importance of telemedicine development in remote regions as a fast way of information transition between patients and medical institutions has also been emphasized (Urazova et al., 2020). Moreover, they emphasized the impact of digital tools on the healthcare service availability as "k-vrach.kz", which allows making appointments online. This study expands the literature by comparing the process of telemedicine implementation in the private and public sectors.

Based on the provided literature review, the main factors of digital development in private sector of the healthcare system are scale, scope, and speed. It seems fair to say that digitalization has a positive effect on business development,

and today the medical services sector is also part of a large and profitable business. Therefore, there is a need for the digitalization of healthcare in general. Research on the issue of telemedicine was mainly carried out in developed countries, developed countries were studied little. Therefore, the scientific significance of this study lies in the contribution of new knowledge in the literature on the issue of telemedicine in the example of Kazakhstan since this issue has been little studied.

### Methodology

The methodology was adapted to current research objectives. Thus, most qualitative studies on digital transformation of businesses conduct three case studies of three firms in different fields. This research, there is provided a descriptive analysis of one particular sector – healthcare. Further, an expert interview will be conducted to provide a deeper analysis of digital transformation in medicine as an emerging market in Kazakhstan. Thus, the current study was carried out in the following two stages:

1. *The first part* is related to descriptive statistics analysis of digital healthcare development, particularly data on the issue of telemedicine at the country and world levels.

2. *The second part* will include a semi-structured interview with an expert on the implementation of digital transformation of healthcare services. The questions will be divided into four groups of questions, which will be based on the provided literature review. Thus, the questions were taken from the research of Parviainen et al. (2017) and adapted to the interview approach described below. Atlas Ti. Software is used for interview results interpretation and analysis.

*The interview will include three main groups of questions: scope, scale, and speed. The last questions will be related to digital skills and mind-set.*

*Scope.* Questions are aimed at the analysis of the directions of private healthcare performance. For instance, there can be fields that are more profitable in digital medicine or those that are expensive in digital transformation.

*Scale.* Questions are directed at analyzing digital medicine dependence on the number of patients and probably will help reveal some hidden challenges.

*Speed.* Questions are directed at the analysis of the speed of activities performance and its effect on the productivity of digital tools.

*Skills and mind-set.* The final group of questions will be aimed at exploring the importance of digital culture in a company. Based

on the literature review, digital skills and culture lie as core conditions of digital tools adoption in a company.

A modern person puts a high priority on mobility, the ability to constantly “be in the know”, keep the state of personal health under control without sacrificing time because waiting in line at the clinic is sometimes very problematic. Therefore, the current development of actions, as eHealth development, shows the following. Consumers’ future expectations are not therapeutic or surgical treatment methods but mobile telemedicine. Remote consultation now makes it possible to use personal time rationally. The following areas are gaining great popularity (60%) in teleconsultations in Kazakhstan: cardiology, cardiac surgery (adult and children), arrhythmology, interventional cardiology, and cardiac resuscitation.

### Analysis

The COVID-19 pandemic has had a serious impact on the telemedicine market. In the first half of 2020, when the practice of social distancing and self-isolation was introduced in many countries around the world, medical institutions were forced to limit the face-to-face admission of patients. Simultaneously, the number of telemedicine consultations began to grow. This spurred the development of the telemedicine market in the “doctor-patient” mode, the volume of which is significantly less than the “doctor-doctor” one.

The main share of the world market is made up of telemonitoring of patients and teleconsultation in the ratio of 48% to 32%. China and the United States are leading countries in terms of telemedicine spending and telemedicine market development.

The dynamics of the development of the telemedicine market are growing rapidly, this can be seen from the data for 2015-2020 (Figure. 2).

In 2015, the market was \$12.8 billion, but in 2020 it has grown to \$60.9 billion, i.e. five times. According to the Global Telemedicine Market Outlook, the telemedicine market will reach \$186.7 billion by 2027. Annual growth will be about 18.2% (Figure 3).

Almost \$13 billion in 2019 came from the telemonitoring segment, i.e. remote monitoring of the patient’s condition. The demand for this service is explained by the increase in life expectancy and, consequently, the number of elderly patients and the increase in the number of people suffering from cardiovascular diseases. In the cardiological segment, the telemedicine market is expected to grow most actively - by 22% per year.



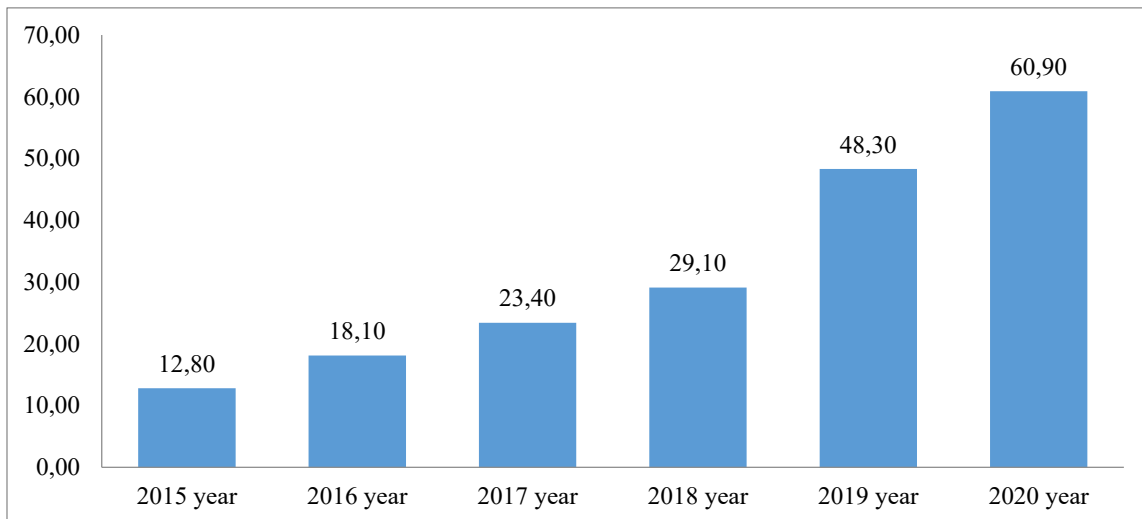


Figure 2 - Dynamics of the French telemedicine market for 2015-2020

Note - compiled by the author based on the source [https://www.mordorintelligence.com]

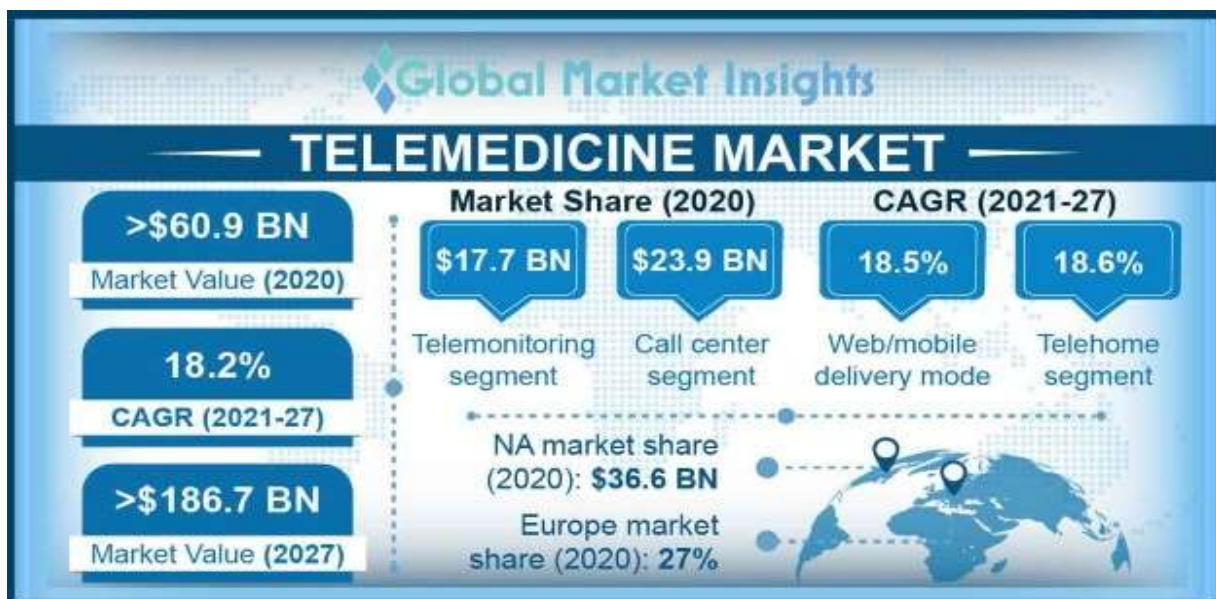


Figure 3 - Global telemedicine market

Note - source [https://www.gminsights.com/]

Another area is telemedicine hospital services or telehospital, which refers to remote consultations of doctors in hospitals with other specialists during the period when the patient is being treated and additional help is required. This segment is expected to grow by 19% per year.

Telephone consultations occupy a significant share of the global telemedicine market — they accounted for \$18 billion in 2019. It includes helplines where professional doctors are involved,

able to provide remote assistance or, if necessary, redirect the call to emergency services.

Also, the development of the market is affected by the increasing spread of smartphones with high-resolution cameras and access to the Internet in the most remote corners of the world. Today, there are many applications that monitor health indicators. The functionality of applications, as a rule, includes clarification of the diagnosis, diagnostics using selfies or skin pictures, online consultation.

GMI (GMI, 2021) predicts that the global mobile health app market will grow to \$312 billion by 2027. It can also be noted that about 40% of the participants in the worldwide telemedicine market do not belong to the healthcare sector. Among the most popular applications in the world are those produced by medical device manufacturers and major IT developers: AT&T, Allscripts Healthcare Apple Inc., Omron Healthcare Inc., Samsung Electronics Corporation, Philips Healthcare, Bayer Healthcare, LifeWatch, AG and others.

Before conducting qualitative analysis, it has great importance to consider official data, related to telemedicine implementation. Getting the picture of medical institutions readiness for digitalization is vital, and can be observed through the data on the process of telemedicine implementation in public medical institutions.

At the beginning of 2019, of healthcare organizations equipped with computer equipment comprised 94.1%. At the level of cities and district centers, 65.8% of healthcare organizations are provided with access to the Internet. In healthcare organizations of the republic, the implementation of medical information systems (MIS) amounted to 65.1%. Data on the regional level showed that 16.3 million electronic health passports had been created and filled in MIS, which is 89% of the total population (Parliament of the Republic of Kazakhstan, 2020). Targeted allocation of funds for investment costs. To conduct digitalization of healthcare is not provided. This reduces the possibility to calculate the amount of funds.

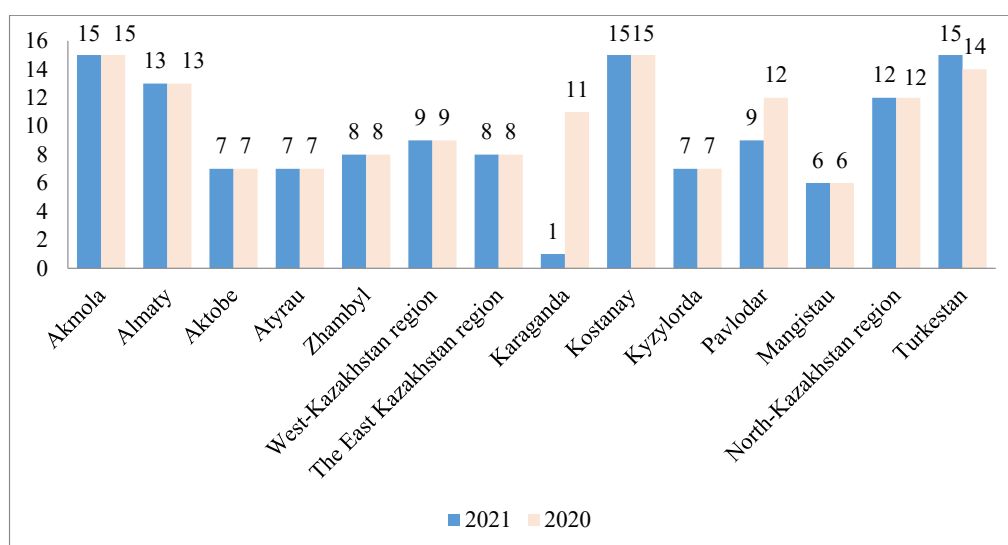
However, healthcare digitalization will use private sector stimulation to encourage IT companies to independently invest in healthcare digitalization, including through public-private partnerships.

Expected effects of digitalization at the end of 2020:

- savings of about 187 million tenge on the purchase of paper on medical paper records;
- reducing the number of purchased consumables for honey. images (fluorography, X-ray, mammography, etc.) for 2 billion 165.6 million tenge;
- reduction in the time of registration of blood sampling by 2.5 times (by 60%) due to electronic services;
- reduction of time spent for obtaining laboratory test results due to electronic services by five times (by 80%);
- reduction of time spent on the appointment of referrals for laboratory and diagnostic studies due to electronic services by four times (by 75%);
- reduction in the time spent on the issuing house calls services (by 80%) by five times;
- reducing the time for making an appointment with a local doctor (by 80%) by four times, when making an appointment with narrow specialists by 86.6% (by seven times) due to electronic services.

Next, data on telemedicine will be considered (Figure 4).

In 2021, the number of inventory items in regional hospitals decreased by 11, i.e. from 144 to 133, compared to 2020, the reduced inventory was in the Karaganda region (10) and one inventory in the Turkestan region.



**Figure 4** - Amount of material asset of regional hospitals in the regions of Kazakhstan

Note - compiled by the author based on the source [<https://www.gov.kz>]

**Table 1** - Data on the number of planned and conducted telemedicine (TM) consultations on regional inventory items for 2020 and 2021

№	Regional goods and materials	2020			2021		
		Plan Actual quantity Execution in %	Plan Actual quantity Execution in %	Plan Actual quantity Execution in %	Plan Actual quantity Execution in %	Plan Actual quantity Execution in %	Plan Actual quantity Execution in %
1	Akmola	300	484	161	1650	1890	115
2	Almaty	260	117	45	1430	7	0
3	Aktobe	140	39	28	770	700	91
4	Atyrau	140	82	59	770	334	43
5	Zhambyl	160	144	90	880	1141	130
6	West-Kazakhstan region	180	398	221	990	2969	300
7	The East Kazakhstan region	160	20	13	880	308	35
8	Karaganda	220	0	0	110	0	0
9	Kostanay	300	327	109	1650	1375	83
10	Kyzylorda	140	210	150	770	1026	133
11	Pavlodar	240	34	14	990	982	99
12	Mangistau	120	141	118	660	848	128
13	North Kazakhstan region	240	282	118	1320	1211	92
14	Turkestan	280	796	284	1650	2878	174
	<b>Total</b>	<b>2880</b>	<b>3074</b>	<b>107</b>	<b>10640</b>	<b>10043</b>	<b>94</b>

Note - compiled by the author based on the source [<https://www.gov.kz>]

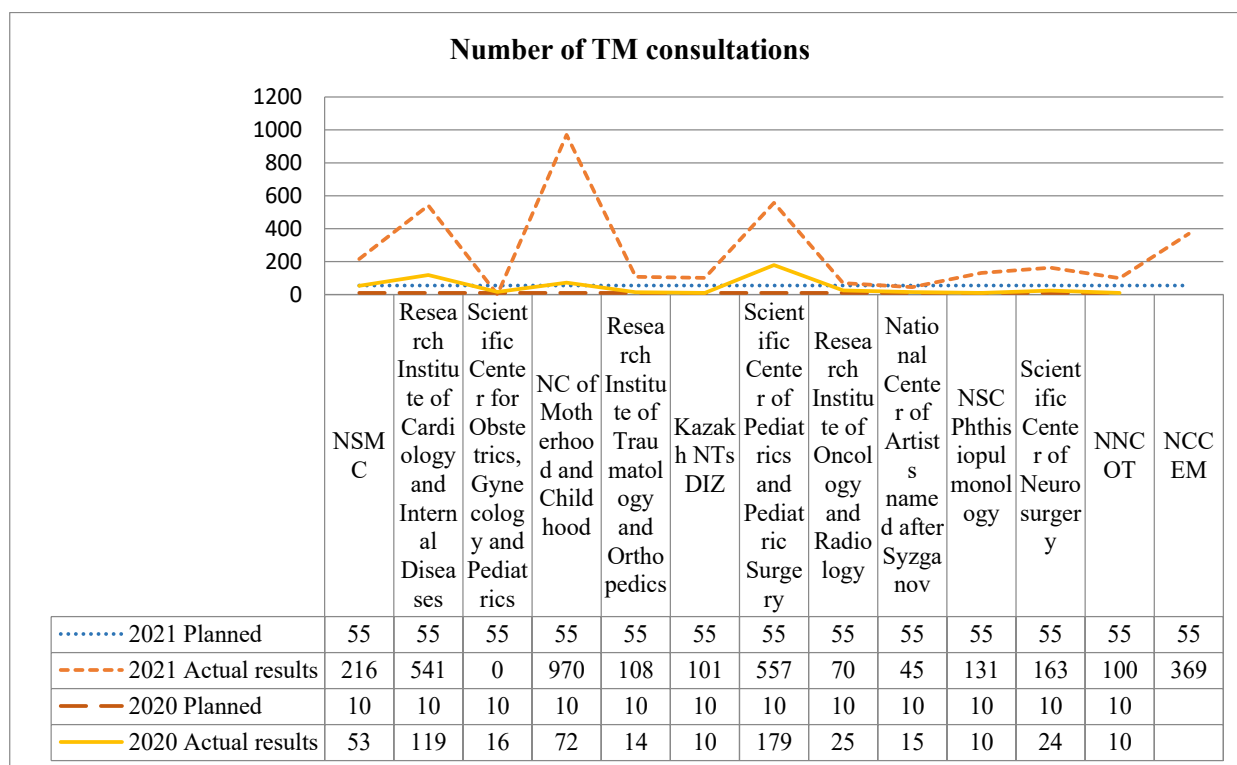
According to Table 1, in 2021 regional hospitals had 10,043 telemedicine consultations out of 10,640 planned. In 2020, these figures were much lower, there were 2,880 planned consultations and 3,074 performed. This means that in 2021, the planned TM consultations were 3.7 times more and conducted 3.2 times more than in 2020. The maximum over fulfillment of the plan in 2021 was in WKO (300%), then Turkestan region (174%), Kyzylorda region (133%), Zhambyl region (130%), Mangystau region (128), and Akmola region (115%). The same areas were in the lead in 2020. Such indicators are associated with the economic and social indicators particular a region, including its territorial location. In Karaganda region, not a single TM consultation was held in 2020 and 2021, as there was no need. The main directions of telemedicine consultations provisions have the following list of specialties:

- functional diagnostics;
- cardiology;
- pulmonology;
- neurology.

Republican clinics had 12 TMCs in 2020, and in 2021 NCCEM joined them, and the number became 13. According to Figure 5, 10 and 55

telemedicine consultations were scheduled at the TMCs of republican clinics in 2020 and 2021, respectively. However, some TMCs are over fulfilling the plan, for example, in 2021, 970 consultations were held at the SC for Maternity and Childhood using digital technologies, and 557 consultations were held at the SC for Pediatrics and Pediatric Surgery. In the same period in 2020, the highest figure was 179 consultations. Regional hospitals fulfilled the Plan for the number of TM consultations by 108%, Republican clinics – by 471%.

In total, 12,289 telemedicine consultations were conducted through the National Telemedicine Network in 2021. Of these, 10,043 consultations were conducted by specialists from regional hospitals and 2,246 consultations by republican clinics. At the same time, transcripts / descriptions of 647 X-rays, 1812 ECGs and 682 ultrasounds are given. In 2020, these indicators were as follows: a total of 3,621 telemedicine consultations were held, of which: 3,074 consultations were conducted by regional hospitals, 547 by Republican clinics. Regional hospitals fulfilled the Plan for the number of TM consultations by 107%, Republican clinics - by 4.5 times.



**Figure 5** - Number of planned and conducted telemedicine (TM) consultations in Republican clinics for 2020 and 2021

Note - compiled by the author based on the source [<https://www.gov.kz>]

These statistical indicators indicate the need and development of telemedicine in the country. It also shows the level of digitalization of healthcare in the country, since the dynamics show that the demand for telemedicine is growing. Since the figures for 2021 are much higher than those for 2020.

**Expert interview interpretation and analysis**

The analysis of the expert interview was directed at exploring the stage of telemedicine development in Kazakhstan. Current research literature review showed that there had been identified main features of digital business as scope, scale, and speed. This has allowed providing comparison of the process of telemedicine implementation in private sector with state medical institutions. Thus, telemedicine implementation in public medical institutions differs from the private sector in all three aspects – scope, scale, and speed. This is mostly the outcome of the goals of institutions.

The participants in telemedicine implementation stand out private and public sectors. The public sector is represented by state medical institutions. Private sector is represented by private businesses which can be divided into service providers and clients, as shown in figure 6.

Based on the interview, insurance companies, and companies in telemedicine are the leading providers of telemedicine. Telemedicine implementation is easy but requires good quality internet access and mobile gadgets available for both service providers and clients. The period for telemedicine implementation takes up usually 12 weeks. The medical staff does not have to pass difficult training. On the contrary, as telemedicine service provision mainly depends on special applications, knowledge of mobile phone usage (various applications, video calls, etc.) might be enough. Nevertheless, the tricky moment is that no company can afford such a service. Small businesses are rare clients of telemedicine as the price for its implementation is very high. Due to this, telemedicine clients are mostly large companies, which need to provide health safety to their employees in remote areas. For instance, such companies as oil and gas mining. Based on the fact that telemedicine is applicable in remote areas, the scope of its functioning can be expanded outside urban territories.

Although the process of telemedicine implementation does not require magnificent restructuring of a medical institution, there are some difficulties and risks described in figure 7.

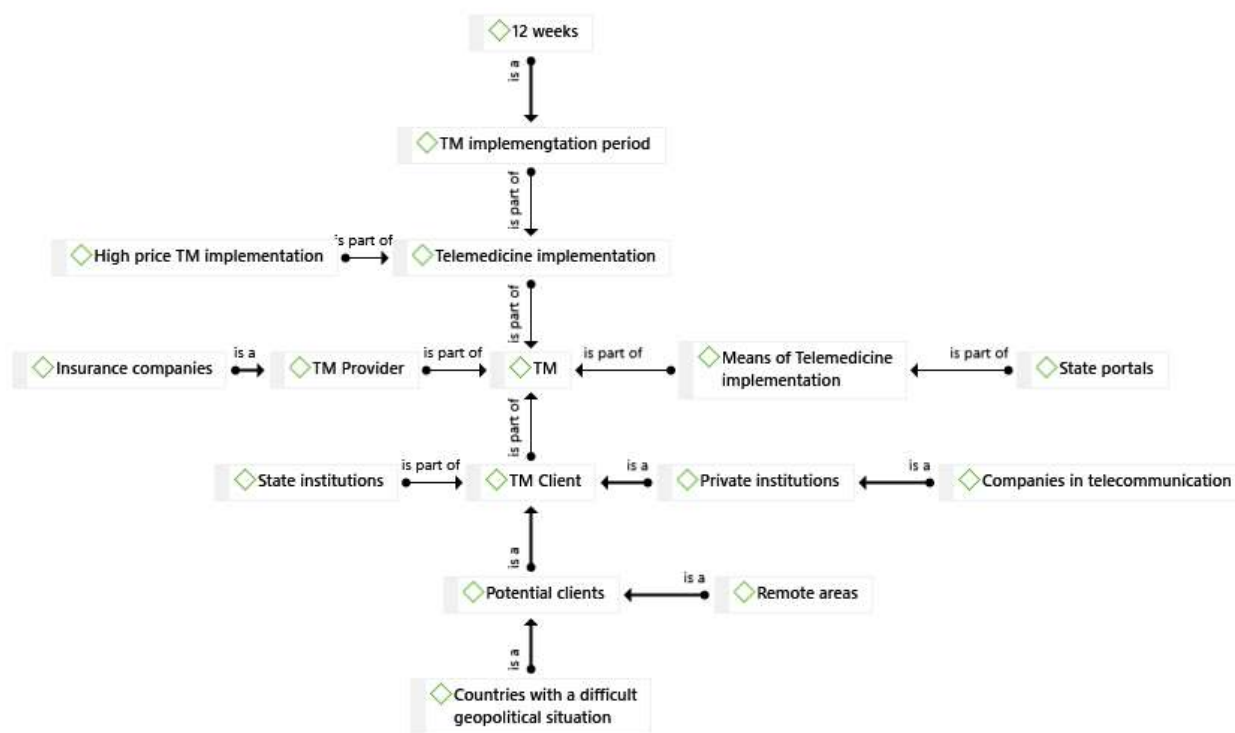


Figure 6 - Telemedicine implementation

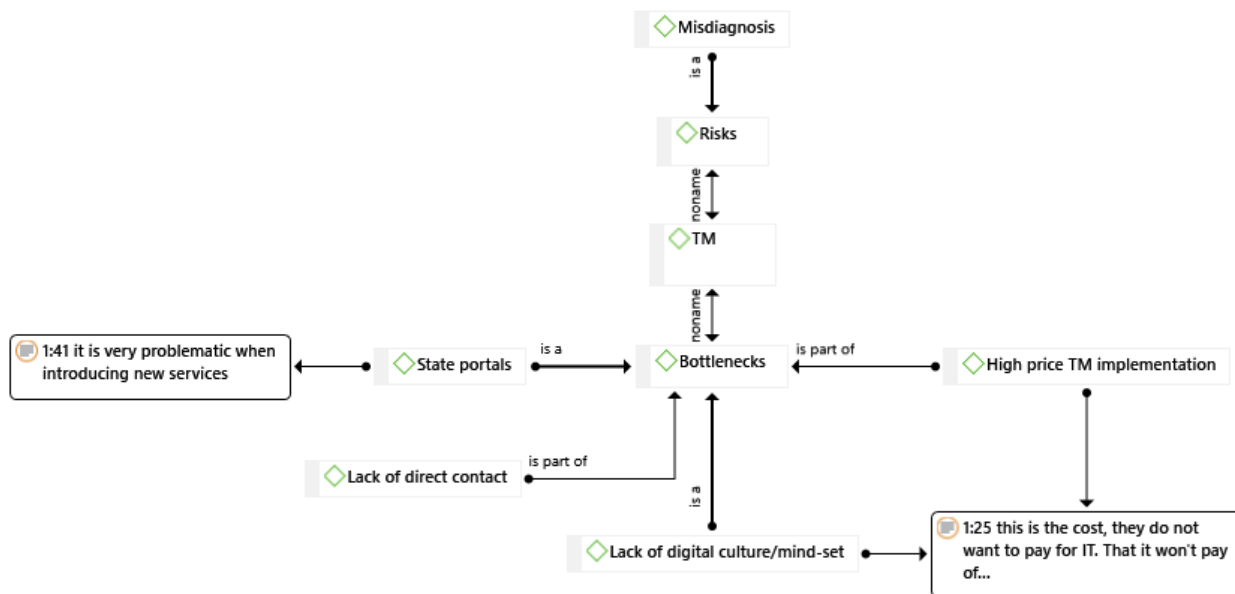


Figure 7 - Telemedicine implementation bottlenecks and risks

There are identified one significant risk as wrong treatment. Part of the reasons for misdiagnosis is because doctors can make quick decisions and miss small but vital details. Among difficulties, there is high price for telemedicine implementation. This is associated with a poor digital mindset and skills. Companies are usually convinced that the investments in this service functioning will not pay off soon, which can cause several financial difficulties. It must be also kept in mind that the traditional process of medical consultations is still among the first

choices. At the same time, online consulting is a pushing factor for companies, especially in remote areas. The significant impact on telemedicine implementation plays government. Telemedicine service introduction is registered through state portals, which the Ministry of Health regulates. The government does not express interest in the participation of the private sector, especially when introducing new services.

Despite the difficulties, there are many advantages of telemedicine implementation, which is fruitful and profitable for the private sector mainly (Figure 8).

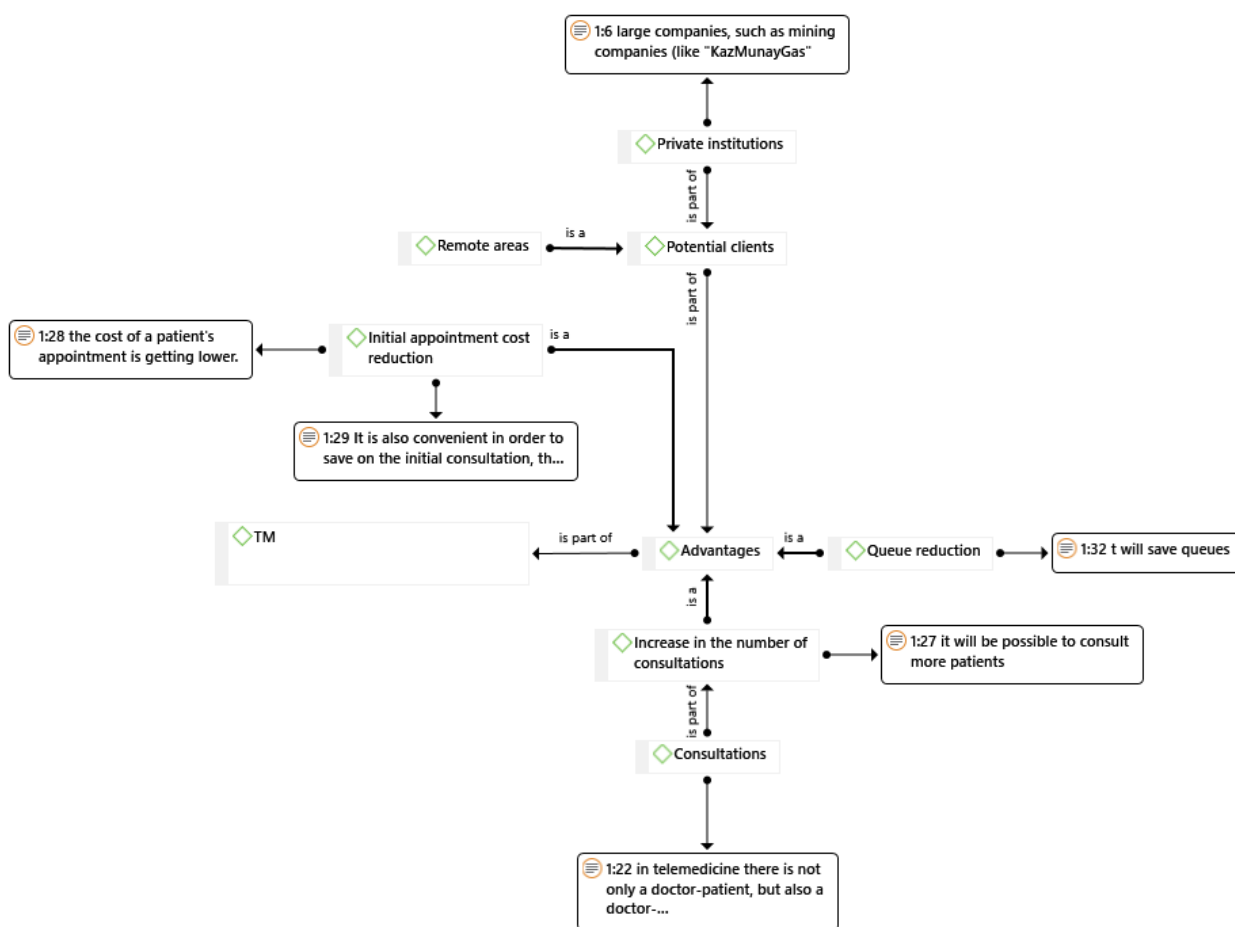


Figure 8 - Telemedicine implementation advantages

Advantages of telemedicine implementation reflect in all three aspects of digital business development: scope, scale, and speed. This is different for the public sector.

Scope (private). The service provision by medical institutions is made through online consultations, with one limitation of surgery provisions. However, private sectors have the possibility to direct their attention to particular

services, which are agreed upon contract establishment with clients. This gives the possibility for medical institutions to manage the employment rate better. A clear vision of a list of services provisions can also help reduce costs. Scope (public). For public medical institutions, it is difficult to choose a set of services to provide, as there are usually standard requirements and services provided as a part of “public goods”.

Scale (private). Online management of consultations helps to reduce the waiting time. The number of consultations increases as the paper work and registration processes are eliminated. For clients, such a way of appointment allocation reduces expenses. Clients are usually given full information about necessary analysis and documents for the first consultation. Whereas, offline consultations do not provide pre-consultations free of charge.

Scale (public). Public medical institutions are not as popular with online consultation of clients. This is doctor-to-doctor consultation or when there is a necessity in a second opinion as analysis results, or x-ray interpretation assistance. All meetings are usually planned and involve medical staff meetings mainly.

Speed (private). Again, as the waiting time reduces, the number of consultations provisions increases, which is profitable for a hospital.

Speed (public). The public sector is not as client oriented. Therefore, some points are still to be achieved. This is first appointment cost reduction, provision of online consultations of patients, etc.

To conclude, it must be mentioned that the public sector is more of functions implementations. It can be predicted that this is a habit of experience. As the public sector follows a particular way of development, it is difficult to develop a digital mindset. Telemedicine implementation is very problematic if a medical institution is not ready for digitalization and functioning. Even the private sector is dependent on a company's culture as digital skills development among staff, readiness for digitalization, etc. The private sector is more client oriented. Therefore, not only convenient both for businesses and clients but profitable as well.

### Conclusions

Summing up this study, it can be said that the digitalization of healthcare is using digital technologies to transform traditional business processes in the healthcare sector. Similar to other sectors of the economy, such as banking or sales, where digital technologies improve services by making them faster, cheaper, and more efficient for customers and service providers, there are many examples in healthcare of how digitalization reduces costs, improves the quality and efficiency of medical services. Telemedicine is an exemplary illustration of that, a relatively new service in Kazakhstan. Notwithstanding, it has billions of dollars of turnover worldwide, which indicates the need to develop the telemedicine market in the country. Therefore, this study was carried out

to identify the problems that are present in the implementation of telemedicine. The interviews with experts allowed to identify the following problems:

- incorrect diagnosis, and consequently treatment;
- the high cost of introduction of telemedicine;
- availability of the Internet;
- telemedicine systems are subject to hacker attacks
- technical problems (providers need to be trained on how to maintain telemedicine systems properly);
- insufficient qualification of doctors;
- the unwillingness of people to share confidential information;
- low level of public awareness.

The following steps are recommended to resolve these issues:

1. In connection with the development of the telemedicine system, the issue of secure personal data arises, access to which should be allowed only by the patient. In this regard, it is necessary to develop blockchain technologies - a data organization system in which each cell is not tied to a common server and is managed autonomously. It will provide for a ban on changing records retroactively to avoid conflicting interpretations of the results of diagnosis and treatment. Telemedicine systems allow organizing a dialogue with an expert doctor (video conference) at any distance and transmit almost all the medical information necessary for a qualified conclusion (extracts from the medical history, radiographs, computed tomograms, ultrasound images, etc.).

2. So far, significant limitations in eHealth development in Kazakhstan are reflected in two factors. First, in high costs of the IT services provision and the quality of the internet. Secondly, the government poor interest in cooperation with the private sectors. It is recommended to develop a system of new medical services implementation convenient and comfortable for the public and private sectors. The government can develop a cooperation system with the private sector to solve the low quality of internet in remote settlements and establish cooperation with the private sector to attract new investments.

3. Public institutions can take the model of digital business development in the process of public institutions digitalization. The experience of telemedicine clients as users of the digital tool is an exemplary illustration of how public medical institutions can organize their functioning through digitalization. Based on the region and

the rate of disease frequency, medical institutions can direct their scope of functioning towards those disease treatments (which are characteristic to regions) and assistance to local hospitals.

4. The private sector differs in service provision from the public, as it is more flexible. The attitude of the private sector is mostly client oriented. Therefore, service provision meets all requirements of private companies. The government is more oriented in services provided without a client-centered approach, which does not attract large businesses and investments. Government can take the experience of European countries where government attracts private sectors in telemedicine implementation. Simultaneously, the government gains not only investors but partners as well. This is because private sectors are interested in expanding their functioning area. Therefore, they will participate in the internet quality improvement process, the attraction of foreign specialists, etc.

Further studies are recommended to include interviews with telemedicine participants. First, with medical institutions, which had a bad experience with telemedicine in Kazakhstan. This will help to reveal hidden problems of telemedicine implementation. Secondly, with medical staff to learn more about the first-hand experience and provide interview with foreign specialists to identify the benefits of telemedicine in attacking foreign specialists. Thirdly, to assess the patient satisfaction level by providing online services.

Because all mentioned problems of telemedicine implementation are highly dependent on technological support, digital skills, and development of digital technologies. Next, it is essential to analyze digital technologies' impact during the process of telemedicine services provision.

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## Managing the Development of the Innovation Market in the Service Sector in the Republic of Kazakhstan

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### Abstract

An ability to innovate is more commonly observed as a crucial element in obtaining a sustainable competitive advantage. Although the issue of innovational development within product companies has been an object of research, there are still questions to answer regarding how innovational management should be conducted in service organizations, especially in the context of the Republic of Kazakhstan. The main aim of this investigation is to develop the new theoretical concept of stimulation of innovative processes among service providers in the Republic of Kazakhstan. Thus, the central question in this paper asks what measures should be taken to increase the competitiveness of domestic companies offering services by virtue of managing the market of innovations taking into account the national peculiarities. The results of this study provide an important opportunity to advance the understanding of the innovation market as the unique sphere from other industries can benefit from. As the result of the investigation, the authors proposed the theoretical concept including the element of a customer, whose role of co-producer is especially important in the service sphere. Also, because of the difference in the innovational activity and economic differences among the territorial division of the country, it is more effective to grant the local innovational offices more power to set the priority directions in service innovation for each region. The current research sets a new ground for the following investigations in the area of innovation management in the service industry in Kazakhstan.

*Keywords:* Economics, Strategic Management, Innovation, Service, Industry, Business

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## Қазақстан Республикасында қызмет көрсету саласындағы инновациялық нарықты дамытуды басқару

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### Түйін

Инновациялық қабілет көбінесе тұрақты бәсекелестік артықшылыққа ие болудың шешуші элементі ретінде қарастырылады. Азық-түлік компаниялары ішіндегі инновациялық даму мәселесі зерттеу тақырыбы болғанына қарамастан, қызмет көрсету ұйымдарында, әсіресе Қазақстан Республикасының контекстінде инновациялық менеджментті қалай жүргізу керектігі туралы сұрақтар әлі де бар. Осы зерттеудің негізгі мақсаты Қазақстан Республикасында қызмет көрсетушілер арасында Инновациялық процестерді ынталандырудың жаңа теориялық тұжырымдамасын әзірлеу болып табылады. Осылайша, осы мақаладағы басты мәселе-ұлттық ерекшеліктерді ескере отырып, инновациялар нарығын басқару арқылы қызметтерді ұсынатын отандық компаниялардың бәсекеге қабілеттілігін арттыру үшін қандай шаралар қолдану керек. Осы зерттеудің нәтижелері инновациялық нарықты басқа салалар пайда көре алатын ерекше сала ретінде түсінуді тереңдетуге маңызды мүмкіндік береді. Зерттеу нәтижесінде авторлар тапсырыс берушінің элементін қамтитын теориялық тұжырымдаманы ұсынды, оның бірлескен продюсерінің рөлі қызмет көрсету саласында ерекше маңызды. Сонымен қатар, инновациялық белсенділік пен елдің аумақтық бөлімшелері арасындағы экономикалық айырмашылықтарға байланысты жергілікті инновациялық кеңселерге әр аймақ үшін инновациялық қызметтердің басым бағыттарын анықтауға көбірек өкілеттік беру тиімдірек. Осы зерттеу Қазақстандағы қызмет көрсету саласындағы инновацияларды басқару саласындағы келесі зерттеулер үшін жаңа негіз қалайды.

*Түйін сөздер:* экономика, стратегиялық менеджмент, инновациялар, қызмет, өнеркәсіп, бизнес

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## Управление развитием инновационного рынка в сфере услуг в Республике Казахстан

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Нур-Султан, Казахстан

### Аннотация

Способность к инновациям чаще рассматривается как решающий элемент в получении устойчивого конкурентного преимущества. Несмотря на то, что проблема инновационного развития внутри продуктовых компаний была предметом исследования, все еще есть вопросы, на которые нужно ответить, как вести инновационный менеджмент в обслуживающих организациях, особенно в контексте Республики Казахстан. Основной целью данного исследования является разработка новой теоретической концепции стимулирования инновационных процессов среди поставщиков услуг в Республике Казахстан. Таким образом, центральный вопрос в данной статье заключается в том, какие меры следует предпринять для повышения конкурентоспособности отечественных компаний, предлагающих услуги, за счет управления рынком инноваций с учетом национальных особенностей. Результаты этого исследования предоставляют важную возможность для углубления понимания инновационного рынка как уникальной сферы, от которой могут извлечь выгоду другие отрасли. В результате исследования авторами предложена теоретическая концепция, включающая в себя элемент заказчика, роль сопроцессора которого особенно важна в сфере обслуживания. Кроме того, из-за различий в инновационной активности и экономических различий между территориальными подразделениями страны более эффективно предоставить местным инновационным офисам больше полномочий для определения приоритетных направлений инновационных услуг для каждого региона. Настоящее исследование закладывает новую основу для следующих исследований в области управления инновациями в сфере услуг в Казахстане.

*Ключевые слова:* экономика, стратегическое управление, инновации, услуга, отрасль, бизнес.

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### Introduction

Over the past century, there has been a dramatic increase in the size of the service industry worldwide. Nowadays, numerous companies strongly associated with manufacturing also perform services including insurance, consulting, staff development, technical support, etc. Traditionally, it is considered that the larger the percentage of the service sector in the national GDP, the more developed the country is. The recent global COVID-19 outbreak and measures to combat it collapsed many industries are pushing some of them to the edge of bankruptcy. It is not a surprise that the service sector, which strongly depends on in-person interaction, is among those which suffered to a great extent. While the healthcare system of the states is overloaded by the influx of patients, tourism, beauty, entertainment, and catering industries are experiencing a shortage of customers and lack of funds. Nevertheless, despite the common negative economic trend over the last year, during the global lockdown, there were some industries performing greatly, including e-learning, IT services, freelance, online retailing, food delivery and online entertainment. The experience of service providers doing well in times of devastating crisis means that proactivity and willingness to innovate are the keys to survival. Innovations market can be described as the system of economic relations arising in the process of creation, development, transfer, and use of innovations that can be in both tangible and intangible form (Doğan et al., 2013).

Despite the common concept saying that Kazakhstan economic system is strongly based on the primary sector, in other words, the export of natural resources, there has been a significant increase in the role of the service sector over the last two decades. However, it should be admitted that there is still a gap in the provision of knowledge-intensive services by local entrepreneurs. These circumstances force Kazakhstan enterprises to import services such as technical engineering and R&D from foreign providers. Taking into account the decision of the government of the Republic of Kazakhstan to enter the list of the 30 most developed countries, in recent years there has been an increasing interest in the service sector as a main driver of the economy. This means the adoption of the holistic approach aimed at the development of this sector which is impossible without innovation as one of the crucial elements. A considerable amount of studies has reported that innovations have the

potential to become the source of competitive advantage by enhancing the existing service as well as creating entirely new offerings (Urbanova, 2013), the current statistical data demonstrate the low involvement of Kazakhstan service providers in innovative activities. One of the reasons for the poor creative performance of domestic service providers is the lack of a structural approach to managing the innovation market within the country.

The main aim of this investigation is to develop the new theoretical concept of stimulation of innovative processes among service providers in the Republic of Kazakhstan. Thus, the central question in this paper asks what measures should be taken to increase the competitiveness of domestic companies offering services by managing the market of innovations considering the national peculiarities. The results of this study provide an important opportunity to advance the understanding of the innovation market as the unique sphere other industries can benefit from.

### Literature review

Due to the complexity of the description of the service as a whole, it seems to us that at the moment it is convenient to use the definition of services by type, where it is possible to more clearly define what is a service, to outline the radius of its action. Among the first attempts to classify services by type, the ideas which were further developed should include the works of Stanton and Judd, published in 1964.

Stanton, Etzel and Walker (2001) divide services provided on a commercial basis into ten groups: housing services; family services, home repairs, landscaping, cleaning of residential premises, etc.); recreation and entertainment; individual sanitary and hygienic services (washing, dry cleaning, cosmetic services, etc.); medical and other health services; private education; business services and other professional services (legal, accounting, consulting, etc.); insurance and financial services; transportation services; communications services.

Judd (1964) proposed his own scheme of classification of services, distinguishing three principal groups: services related to physical goods that the client owns and uses, but not on the rights of the owner; services related to material goods that are the property of the client; services not associated with physical goods.

Lovelock (2005) distinguishes services by the following characteristics: essential characteristics of demand, content and benefits, delivery procedures.

The fact that the service is an undoubted factor determining the comfortable state of society and ensures the well-being of the population, but it is not absolute, and a certain part of researchers have identified various contexts of distinctive characteristics of the service that affect the socio-economic development of the country. As a justification, the relationship between the services provided and the growing needs of society related to the introduction of innovations and competitive advantages in modern conditions of market development is shown (H. Urbancova, Hana, U., 2013). In another context, conceptual approaches were studied in a specific service industry, in particular in the field of tourism (Doğan, H., Nebioglu, O., Aydın, O., & Doğan, I., 2013). These approaches characterize progressive mechanisms in innovation management in conditions of global competition (Dereli, D. D., 2015), (Edvardsson, B., Gustafsson, A., Kristensson, P., & Witell, L., 2010).

Thus, based on the conducted research of the works of scientists and economists, the following hypothesis is proposed: differentiation of services contributes to the qualitative component of the welfare of the country's population, there is a relationship between the services provided and innovation management, the study and implementation of foreign experience significantly increases the competitiveness of the innovation market in the service sector at the regional level.

### Methodology

Before diving into the analysis of the issue, it was decided to run a trial survey among the final consumers of services to understand if innovations in the service industry matter to customers. The results demonstrate that clients do want domestic service providers to be more innovative and consider the current level of innovativeness of domestic service providers insufficient. Also, it revealed that Kazakhstani service consumers associate more innovative companies with those who provide services of higher quality. Moreover, the vast majority of the respondents of the trial claim that they would prefer a company with a higher level of innovativeness, other things being equal.

Interestingly, the medical industry was where the adoption of innovations was considered of utmost importance. In other words, the issue of innovative development in the service industry occupies the minds of final consumers willing to reward those

open to innovations. It was decided that the best method for this investigation would be a qualitative study. The first reason behind this decision is the flexibility that the qualitative approach gives the researcher. Secondly, the selected research method provides instruments to reach deeper insights, experiences and expectations of people involved in the investigation. Taking into account the information received from the trial, we approached the service providers. The group of the respondents addressed within the study was presented by the managers of the companies who are in a position to make decisions regarding innovation adoption. Given the eligibility criteria for people to be participants of the research, the project employed non-probability convenience sampling. It should be noted that snowball which was expressed in addressing new interviewee by recommendations from the previous one. Semi-structured interviews were conducted with 14 managers, predominantly from small size companies. Taking into account the inequality existing among the regions in relation to the development of the service sector in Kazakhstan, the study encompasses the service providers both from the cities where the service industry occupies a considerable share in the economic system and the regions where the service sector is far behind. As a result, the companies whose managers agreed to participate in this research are Almaty, Nur-Sultan, Taraz and Kyzylorda. All interviews were organized in compliance with the basics of voluntariness and anonymity. Respondents were asked questions such as:

1. In what field do they work?
2. How innovative do they think their company is?
3. Are there any innovative methods used in their work?
4. What are the companies of the Republic of Kazakhstan lacking in order to become innovative?
5. What methods of foreign countries will work for us if we apply it?

It should be noted that all the managers who were interviewed unanimously came to the conclusion that innovation is at a low level. And in order to reach the heights, it is necessary to introduce some changes in the sphere of management.

The main method of data analysis within the current study is Grounded Theory. This method has been used because it allows researchers to gain a deeper understanding of phenomena that lacked depth in previous researches (Milliken, 2010). In the same vein, says that the Grounded Theory approach especially benefits exploratory studies (Engward, 2013).

## Discussion

### *A market of innovations*

Innovations traded on the innovative market can be presented by innovative products, know-how, new processes, patents, experience the adoption of which can lead to the increase of the quality of services, cost reduction or creation of completely new ones. Despite such variety of innovative products and services, they have one thing in common which is the stage of successful application of innovative technology for satisfying consumers' needs with the benefit for a provider. As for the subjects of the market of innovations, they can be state and private R&D centres, small innovative organizations, large companies with R&D departments, technology brokers, consulting agencies, patent-licensing organizations, higher educational institutions, individuals, etc. Although the market of innovations is still the market that follows the classic theoretical concepts that should be there are some peculiarities considered. Firstly, the market of innovations can be characterized by the leading role of supply while demand emerges in response to the offer. Frequently, the developers put an innovative technology or service on a market while consumers have not yet discovered its potential. For instance, when such ground-breaking innovation as a personal computer was introduced in the 1970s, people did not pay worthy attention to it. Furthermore, lately in the 1980s large proportion of people were gripped by fear of PCs the term "computer phobia" appeared on the headlines of many newspapers and magazines. In spite of this, it is almost impossible to imagine the modern world without computers which had become a necessity. Regarding the health

industry, which appeared to be of great importance to consumers approached within the trial, vaccination which has become common in the 21st century, still faces strong resistance. Consequently, it can be reckoned that the market of innovations is much more strongly based on long-term relationships between subjects. Secondly, since the innovative technology or idea is not sold directly to the final customer, who rather receives the results of implementing the innovation, the market of innovations is mostly of B2B nature. It should be noted that in spite of the positive outcomes of applying innovative technology or idea such as cost reduction, time-saving of service provision, elevating the level of service, there is still a considerable amount of entrepreneurs who equalize expenditures on innovations not to investments but to financial losses. The reason that stays behind this attitude is a high level of uncertainty and risk which is inherent to the market. Besides, simple extrapolation of innovation management approaches elaborated within the product sphere could be inefficient in the service industry due to peculiarities inherent to this area which are intangibility, heterogeneity, inseparability and perishability. Thirdly, due to the technical complexity of implementing innovations, it is often required for innovation suppliers to provide after-sales services, including monitoring the performance and educating the staff to operate with innovative technology (Doğan et al., 2013).

As it was stated earlier, it takes time for innovation to be adopted by people. In 1962 Rogers proposed the theoretical model classifying the adopters of innovation into 5 categories presented in Picture 1.

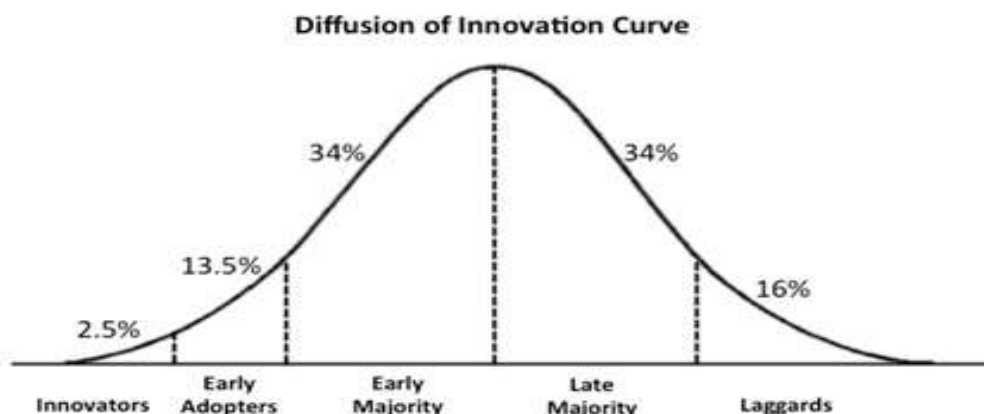


Figure 1 - Diffusion of innovation

Source: Compiled by link Rogers (1962)

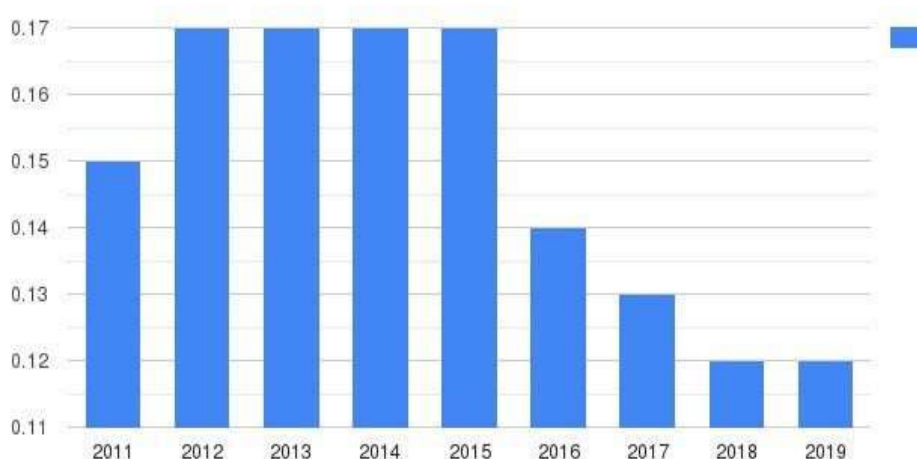


Extrapolating this theoretical model to the market of innovations from the demand perspective it can be derived that innovators are companies that first adopt novelties and work in high risky conditions. However, in the case of successful implementation of innovation, first movers have higher chances to maximally benefit financially from it. Early adopters, the early majority and the late majority can be viewed as imitators divided into categories based on time of adoption. While innovators broaden horizons and set the tone for followers, often imitators determine the fate of innovation and bring the new technology or idea into the masses. As for laggards, they can be defined as companies who adhere to traditional business models and accept innovations in the final stage of their life cycle (The Global Economy, 2019).

***History of innovations development in service industry in Kazakhstan***

For a long time, the Kazakhstan market like other parts of the USSR was a subject of command economy which is characterized by dominating role of the government. In the times of the so-called Cold War, the vast majority of innovations developed within the Soviet Union had a strong military orientation. As result, the Soviet military-industrial complex produced goods and services highly competitive in the global arena.

Unfortunately, the strong military orientation of innovations and low level of their transferability are the reasons that stay behind the wide gap between military and civilian markets. After the decay of the USSR Kazakhstan service providers had to adapt to the new rules of the market economy the most important of which is competition. In terms of innovations, the Kazakhstan service market is predominantly imitative. Despite the achievements reached over the 30 years of independence, domestic companies abstemiously invest funds in research and development activities. According to the data provided by theglobaleconomy.com in 2018 total R&D expenditures of both state and private organizations equal 0.12% of GDP which places Kazakhstan in the 66th position in their country ranking. By comparison Israel, the leader of the ranking, the same year spent more than 18 345 million USD which account for 4.95% GDP. Interestingly, the maximum value of thi index for Kazakhstan was 0.29% of GDP which was demonstrated in 1997. Since 2015 there a clear downward trend which can be due to economic reasons such as the drop of national currency. Considering the expensiveness of innovative technologies and the fact that innovations are implemented mostly on a company’s own funds, economic obstacles highly impact the innovative processes.



**Figure 2** - Research and development expenditure in Kazakhstan for 2011 - 2019, % of GDP

***Inequality among the regions***

The analysis of findings obtained from interviews with service providers revealed that the main constraints staying in the way of innovation adoption are financial problems and the lack of personnel competencies. Due to the high uncertainty of the innovative market, companies have to bear the risks especially financial to adopt a novelty which

can be especially problematic in times of global pandemic when many service providers experience financial problems. Besides, it is clear that the Kazakhstan service market develops disproportionately when 3 locations significantly outperform the rest. Nur-Sultan, Almaty and Atyrau regions produce the service industry much more intensively than other regions (Table 1).

**Table 1** - Total volume of services provided by regions in 2021

	mln. KZT	percentage
<b>The Republic of Kazakhstan</b>	<b>5 317 811.8</b>	<b>100.0</b>
Akmola region	69 396.8	1.3
Aktobe region	91 053.2	1.7
Almaty region	123 731.7	2.3
Atyrau region	493 129.9	9.3
West Kazakhstan region	102 539.8	1.9
Zhambyl region	50 180.1	0.9
Karagandy region	157 419.2	3.0
Kostanay region	67 973.7	1.3
Kyzylorda region	82 620.4	1.6
Mangystau region	184 788.3	3.5
South Kazakhstan region	132 331.7	2.5
Pavlodar region	80 242.7	1.5
North Kazakhstan region	40 037.7	0.8
East Kazakhstan region	137 396.8	2.6
Nur-Sultan	927 184.3	17.4
Almaty	1 131 580.4	21.3

The findings obtained within this research seem to be consistent with the state statistical data.

Talking about this disproportion, one of the interviewees from Zhambyl region said:

*“Given the population size, higher income index per capita and rate of overall economic growth of Almaty and Nur-Sultan, the service providers of these cities have more possibilities for innovation adoption”.*

Interestingly, another respondent who works as a restaurant manager from Almaty city noted the high rate of competition in the city among the service providers which forces them more to adopt innovations to obtain a competitive advantage. He said:

*“No doubt, Almaty gives more possibilities to entrepreneurs for growth but there is one important thing they should bear in mind which is intense competition. Innovations may be a key to survival, especially during pandemic.”*

If now we turn to the information published by the state officials of the Bureau of National statistics, it becomes clear that Almaty and Nur-Sultan region keep leading positions in the volume of companies utilizing innovations expressed in absolute value (Table 2). What is surprising to observe is that in terms of percentage of innovative business units Kostanay, North Kazakhstan and Zhambyl regions are on top of the ranking. It is especially striking considering the opinion of many residents of Zhambyl region that local companies are not innovative.

**Table 2** - The volume of innovative enterprises by region for 2020

	Total number of companies	Number of innovative companies	Percentage of innovative companies
Republic of Kazakhstan	28 087	3 236	11.5
Akmola region	1 160	86	7.4
Aktobe region	1 118	124	11.1
Almaty region	1 666	163	9.8
Atyrau region	1 074	108	10.1
West Kazakhstan region	786	46	5.9
Zhambyl region	732	100	13.7
Karagandy region	2 196	281	12.8
Kostanay region	1 337	191	14.3
Kyzylorda region	635	79	12.4
Mangystau region	1 035	82	7.9
Pavlodar region	1 128	101	9
North Kazakhstan region	965	136	14.1
Turkestan region	832	93	11.2
East Kazakhstan region	1 831	236	12.9
Nur-Sultan	3 605	453	12.6
Almaty	6 561	856	13
Shymkent	1 426	101	7.1

### ***Innovations or mainstream***

However, we should keep in mind that since service provision is a complex process the evaluation of which is strongly based on personal perceptions individual and interconnection between them, it becomes more complicated to measure the innovativeness of each enterprise. Moreover, compared to tangible innovations which can be tested in labs before offering to clients, the assessment of service innovations generally requires its deployment in real market conditions. Surprisingly, only 1 of the respondents who participated in the study considers his/her enterprise innovative. This is a director of a small dental clinic located in Almaty employing 11 people, 7 of which are medics. According to the findings, many organizations do perform services using the online system but its application is limited to connection in social media which, according to the respondents, cannot be defined as an innovation. For instance, the owner of the restaurant who agreed to participate in the interview stated:

*“We added the delivery services as since the start of lockdowns like many other restaurants and cafes. There is no innovation in this, it is a mainstream.”*

In addition, there was no positive answer to the question asking if a budget was allocated for research and development activities. It is somewhat surprising that three respondents noted that their customers do not need innovations, what is of utmost importance for their clients is price. It seems quite bizarre given the data of a trial survey among customers of service companies which clearly demonstrates that 63% of consumers agree that domestic service providers should be more innovative. Moreover, the vast majority of respondents from the customer population group assume that innovations make services more available, including financially. However, the group of service providers is of the opposite opinion claiming that the development and implementation of an innovative idea or product require expenditures that inevitably leads to the rise of the costs and price consequently.

It is somewhat surprising that 9 inter-views out of 14 claimed that in case of obtaining an innovation they would make attempts to keep it secret to prevent competitors to imitate it. Thus, the large proportion of Kazakhstan service providers would most likely follow the “outside-in” innovation model described by 8, which is expressed in absorbing external ideas and technologies

(Chesbrough, 2011). Such approach to innovation openness undermines an “inside out” flow of novelties which causes the stagnation of the whole field. Analysis of the results demonstrates that the major obstacle to innovation implementation in Kazakhstan’s service industry is the lack of funds and personnel qualification, especially in the provinces. For instance, the situation in Zhambyl region is an evident demonstration of the negative influence of both factors. First, statistically the in terms of income per capita the region constantly is among the outsiders. Secondly, the region experiences large emigration of young educated population predominantly to Almaty, Nur-Sultan and Shymkent primarily due to economic reasons. This explains why business entities in case of obtaining a beneficial novelty would endeavour to transform it into a sustainable competitive advantage they can capitalize on which results in isolation of information.

Another important finding of this research is that none of the service organizations investigated does not directly collaborate with R&D companies who are supposed to play the role of suppliers of innovations. More than half of the respondents have low trust in domestic organizations focusing on research and development activities, including research institutes and universities. Besides, in most of cases, their innovative proposals involve significant spending due to the technical nature of the innovations offered. One of the reasons behind this is that over the last decade educational and research state programs financially favour predominantly engineering and natural studies rather than social sciences. Under these circumstances, domestic innovation providers mainly focus on technological novelties, the elaboration of which usually consumes more financial resources.

#### ***Tangible or intangible innovations***

In contrast to product innovations with a strong technology orientation, innovations in the service sphere can be presented in a new form of communication approach to a client which may require a service provider to possess person-to-person skills, expertise in foreign language culture and so on. As compared to manufacturing, where a large volume of work is performed by robots that enable standardization and drop of production costs, the inseparable nature of service considerably elevates the importance of client-employee interaction that is to say a new way of treating employees, which leads to an increase of customer satisfaction, client retention rate and rise of the income as a result, can also be considered innovation. In other words, innovations

in the service industry do not necessarily imply the adoption of physical items or software (Engward, 2013). However, one of the interesting discoveries was that the vast majority of the respondents strongly associate service innovation with the implementation of new technologies or processes. For instance, one of the participants who took the position of manager of educational centre with six people employed defined service innovation in the following way:

*“Service innovation is a use of new technology, product, methodology to teach students, the program to register clients and other resources that is new in the region we work in”.*

This statement explains that few service providers pay proper attention to innovations in employee management. Also, the findings show that geographical borders play a significant role in the definition of innovations, i.e., what has become common in one region, when implemented for the first time in another, would be perceived by the local population as an innovation. Repeatedly service providers of the Republic of Kazakhstan have been copying various innovative elements elaborated in developed countries and adapting them to the local environment.

#### ***Innovative customer***

As mentioned earlier, the role of a customer in the service industry is much higher than in manufacturing because of the process of co-creation involving dynamic interaction between a supplier and a client. If we now turn to the service innovation sphere, several authors report that consumers are also co-creators of innovations (Chesbrough, 2011). Moreover, according to some research, there is a positive relationship between service interactivity and opportunities for innovations because the active knowledge sharing process contributes to the invention, research and development of innovative ideas (Mathieu, 2001). The results of the current study indicate that few companies involve customers intensively in the process of innovation discovery, in most of cases the innovative collaboration is limited to surveys using which consumers can express their ideas regarding service improvements. Moreover, nearly half of the respondents question the competence of the customers in the process of innovation elaboration. For instance, the owner of a small-size car service company said:

*“Frequently, clients simply do not possess the necessary expertise in the matter we work in, this is why I have doubts about their recommendations, most of which are about lowering costs and decreasing the repair time”.*

In the same vein, another respondent

who holds the position of a manager in a private clinic said that blindly following customers' ideas can be fatal in such areas as the healthcare industry, which is under heavy pressure due to lockdown. Also, the findings demonstrate that in most of cases customers express ideas that cannot be considered innovative but logical proposals, the implementation of which requires extra budget service providers do not possess. In addition, another respondent stated that customers are prone to evaluate the level of innovativeness of an enterprise predominantly by the front office and especially physical evidence not diving into back-office activities.

#### ***Innovations across industries***

Another important theme that emerged as a result of grounded theory deals with the importance of cooperation among the partners, especially those who represent other industries. Due to the risky nature of the market of innovations, a first-mover should evaluate his capabilities and be prepared to bear the majority of the costs of the discovery and development of innovation. Even though many interviewees confessed that they are more likely to secretly exploit a successful innovative project to bail out the invested funds, they admit that cooperation has more chances to result in something all partners can benefit from. What is more interesting is that more than half of the service providers who participated in the current study positively react to the idea of cooperation with their partners from related industries who are not rivals to them but allies who all together form a value chain of the service offered. At the same time, such an open approach has higher chances of fostering innovation diffusion across several industries. For instance, the manager of the private dental clinic which provides innovative treatment said:

*“The service we provide requires the application of new materials we order from our suppliers who make their best and evolve to catch up with our requirements. Moreover, without their development, we could not create a new offering”.*

Thus, the provision of just one innovative service can be backed up by developing several value chain nodes. It should be mentioned that although the use of modern treatment methods leads to a considerable increase in the price charged, the durability of the result is much longer, allowing a client to save money in the long run.

## **Results**

### ***System of innovations management***

Taking into consideration the analysis of the data received it is possible to work out the set of recommendations for the subjects of the market of innovations in the service industry in the Republic of Kazakhstan aimed at promoting innovation activities in firms. In the first instance, it should be stated that since the sphere of services is a compound of various industries, there are considerable peculiarities arising in innovative management in each case. Besides, the state of the innovations market results from the decisions taken by both government and managers of commercial organizations. In order to improve the efficiency of the innovation process, these parties need to work in coherence. Unfortunately, the traditional way of thinking that only government bodies themselves are responsible for enhancing the innovations market leads to that the large proportion of enterprises stagnate or have to implement the foreign result of scientific and technical progress. Thus, the recommendations developed within the current research encompass the activities of both aforementioned sides. Furthermore, the recommendations presented presume the indirect involvement of the government focusing on non-state activities in the reform of the innovation market. Obviously, when working elaborating the following proposals, the authors reckoned for the actual situation of the service industry and the abilities of the government.

1) First, based on the more proactive behaviour of some regions and innovation diffusion theory, it can be recommended to transform the most active of them in the vanguard of innovative movement across the country. Possessing more funds and qualified labour resources such regions have more potential for innovative activities which consequently can set the tone for other regions. In other words, such locations can be the “test-drive” zones for innovative ideas which in case of successful implementation can be transferred to other regions. Moreover, today both in Nur-Sultan and Almaty there are special economic zones aimed at stimulation of innovation activities. Nevertheless, there is still a large proportion of managers who do not know about the existence of such possibilities what requires the conduction of educational program among them.

2) Secondly, since there is a low probability of service providers disclosing their innovations voluntarily, the state officials should start to motivate the companies performing in-

house research activities to share the developed knowledge with other subjects within the industry. Some of the possible ways are considerable financial rewarding or particular tax relief what requires applying the changes to the existing legislation regulating the innovation management in the Republic of Kazakhstan.

3) As the analysis of the findings revealed that managers in the service industry mainly associate innovations with the implementation of new technology, it becomes relevant to organize educational work among the managers about types of innovations. In addition, the adequate management of the market of innovations is problematic without an effective system of innovation evaluation. Nowadays, the assessment of innovative activities is

4) primarily based on the number of patents and expenditures on research and development. Although such an approach seems lucrative due to its relative easiness, it lacks the tools for evaluation of intan-

gible innovations especially those which are formed in the process of interaction between service supplier and customer.

5) Besides, due to the socio-economic differences among the regions the development of the innovation system of all regions cannot be standardized. Instead, it is adequate to have priority service industries for innovation for each region. This approach would enable the appearance of advanced development zones within a particular territory, which requires the empowerment of local administration bodies. For instance, Zhambyl region, which is usually famous for its orientation to the chemical industry, has large possibilities for the tourism industry, which is rapidly developing nowa-days. However, the recreational resources within the region are presented unevenly, predominantly concentrating on the southern part of the region for historical reasons. The unique attitude would enable the effective exploitation of resources with minimum losses. Figure 3 presents the summary of the management.

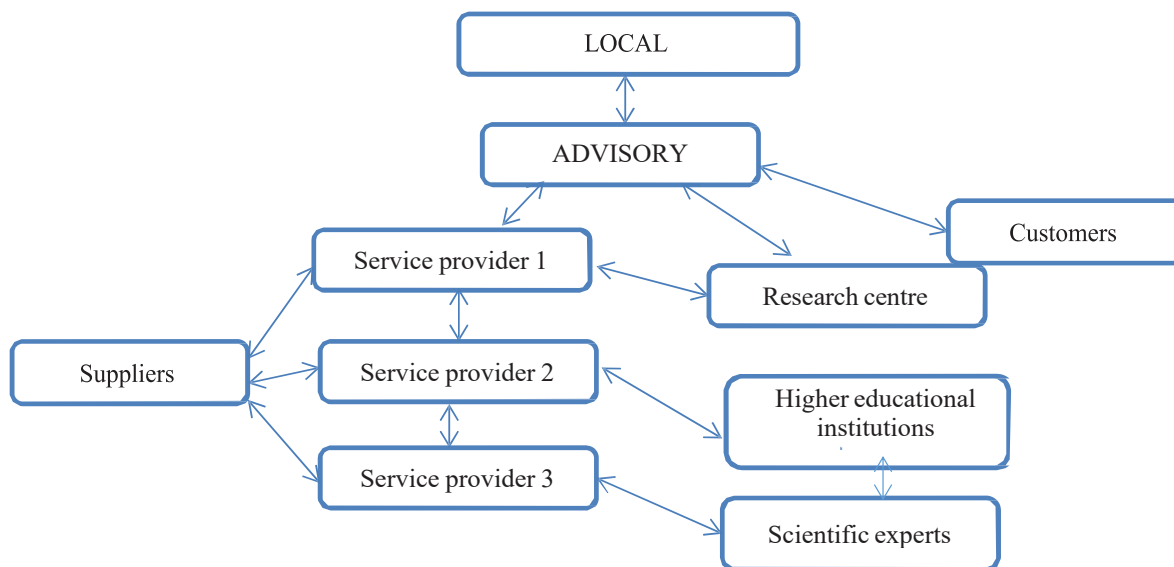


Figure 3 - Scheme of management of innovation process within a region

The scheme presented presumes the free flow of information among participants. Instead of the traditional system where the suppliers of innovative products were the first movers, in the current system, customers can ignite the appearance of a creative idea. Although customers in the service industries play the role of co-creators, many theoretical approaches neglect their role. While many service providers question

the expertise of final customers in innovations, the advisory board monitors the demand for innovations on the market, analyses proposals and offers them both to service providers to employ and those whose job is to elaborate innovations. The business entities operating in the market should be stimulated to work in cooperation which will lead to the distribution of risk and as a result higher readiness of managers to innovate. This

method requires elaborating the current legislation, especially in terms of distribution of the final result in successful development.

### Conclusion

The present study was designed to determine the state of innovation management in the Republic of Kazakhstan and elaborate the recommendations based on the findings. The results demonstrate that the process of innovative development of domestic service providers is still in the nascent stage which results in imitation of foreign ideas. The results of this investigation clearly demonstrate the lack of cohesion between subjects of the market of innovations in the Republic. The major reasons that stay on the way of intensive diffusion of innovations across the service industries are the lack of financial resources of companies, conservative point of view on the nature of innovations which is detached from the realities of the service area and dearth of qualified personnel which are supposed to enforce execute the innovative strategy. The study has gone some way towards enhancing our understanding of the attitude of commercial business entities to the role of innovation as a source of competitive advantage across a number of service fields. Taken together, these results suggest that the collaboration within the network combining subjects of innovative process must be fostered both by private and public entities. While reading the paper there is a number of important limitations that need to be considered.

Firstly, quite a small population group addressed through convenience sampling and investigated within the current research does not enable the effective generalization of findings. Besides, since only one company involved in the research can be defined as innovative there is still a knowledge gap regarding the experience of an organization practicing innovative activities. However, this research has thrown up many questions in need of further investigation. Firstly, since the current study encompassed small and medium enterprises it would be especially interesting to shed the light on the innovative process in large companies who usually possess large resources both financial and human to discover, develop and employ innovations. Another possible area of future research would be to investigate in detail major areas of service industries focusing on peculiarities of a sub-industry. Besides, since the present study was mainly based on findings obtained from interviews with

service suppliers it would be useful to approach other subjects of the market of service innovations such as public representatives, employees of research institutes, non-commercial organizations, etc.

Thus, it is necessary to conclude that innovation in the service sector is introducing new services or improving existing services. The increase in the work, profit and turnover of the company depends on its innovativeness. The management of innovative processes, as well as the application of new management methods in the organization of the company's activities can make a significant contribution to the effective and at the same time stable development of the entire enterprise. It is known that the position of the enterprise and competitiveness directly depend on the measures that the company is taking today to introduce innovative technologies in all areas of its activities.

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## Socio-Economic Factors of Poverty in Rural Areas of Almaty Region and Prospects for their Regulation

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### Abstract

The article reveals the main factors influencing the dynamics of the severity and depth of poverty in rural areas of Almaty region, and proposals for ensuring employment and equalizing the incomes of the rural population. The introduction presents the goal of the research: analysis of the socio-economic factors of poverty in rural areas of the Almaty region and their regulation. Also presents the characteristics of the Almaty region and the relevance of the problem. The literature review provides an analysis of modern research on the problem of poverty in rural areas of the Almaty region, the latest scientific approaches to its solution in the context of urbanization, and changes in traditional business models. The methods and materials describe the characteristics of the research methodology based on the use of analysis, synthesis, and unique economic and socio-statistical methods. The application of economic and statistical analysis, method of relative evaluation is justified. The results of research reveal the analysis of the effectiveness and risks of development schemes for the Almaty region and the impact of factors such as urbanization, redistribution of budget financing schemes, internal migration processes on the depth and severity of poverty. The discussions substantiated the disproportions of the territories of the Almaty region and their risks of increasing the depth and severity of poverty. This requires a state policy to strengthen the transport, trade, and industrial infrastructure of rural areas. The conclusion describes recommendations, integration of depressed rural areas into the trade and production infrastructure and support of backbone enterprises.

*Keywords:* Economic Development, Regulation of Standard Living, Rural Areas, Regulation of Poverty, Factors of Poverty

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## Алматы облысының ауылдық аумақтары кедейлігінің әлеуметтік-экономикалық факторлары және оларды реттеу перспективалары

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### Түйін

Мақалада Алматы облысының ауылдық жерлеріндегі кедейшіліктің қарқындылығы мен тереңдігінің динамикасына әсер ететін негізгі факторлар, жұмыспен қамтуды қамтамасыз ету және ауыл тұрғындарының кірістерін теңестіру бойынша ұсыныстар ашылған. Кіріспеде зерттеу мақсаты берілген: Алматы облысының ауылдық жерлеріндегі кедейшіліктің әлеуметтік-экономикалық факторларын талдау және оларды реттеу. Сондай-ақ Алматы облысының ерекшеліктері мен мәселенің өзектілігін көрсетеді. Әдебиеттер шолуында Алматы облысының ауылдық жерлеріндегі кедейшілік проблемасы бойынша заманауи зерттеулерге талдау, урбанизация жағдайында оны шешудің соңғы ғылыми тәсілдері және дәстүрлі бизнес үлгілерінің өзгеруі қарастырылған. Әдістер мен материалдар талдау, синтез және арнайы экономикалық және әлеуметтік-статистикалық әдістерді қолдануға негізделген зерттеу әдістемесінің сипаттамаларын сипаттайды. Экономикалық және статистикалық талдауды, салыстырмалы бағалау әдісін қолдану негізделген. Зерттеу нәтижелері Алматы облысы бойынша даму схемасының тиімділігі мен тәуекелдерін, сондай-ақ урбанизация, бюджеттік қаржыландыру схемаларын қайта бөлу, ішкі көші-қон процестері сияқты факторлардың кедейшіліктің тереңдігі мен ауырлығына әсерін талдау нәтижелерін көрсетеді. Талқылау барысында Алматы облысы аумақтарының диспропорциясы және олардың кедейшіліктің тереңдігі мен ауырлығының жоғарылау тәуекелдері негізделді. Бұл үшін ауылдық елді мекендердің көлік, сауда және өндірістік инфрақұрылымын нығайту бойынша мемлекеттік саясат қажет. Қорытынды ұсыныстарды сипаттайды; күйзеліске ұшыраған ауылдық елді мекендерді сауда-өндірістік инфрақұрылымға біріктіру, жүйе құраушы кәсіпорындарды қолдау.

*Түйін сөздер:* экономикалық даму, өмір сүру деңгейін реттеу, ауылдық аумақтар, кедейшілікті реттеу, кедейлік факторлары

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**Алғыс:** Авторлар Алматы облысының әкімдігіне кедейліктің негізгі факторларының шеңберін анықтауға және Алматы облысының ауылдық аумақтарының әлеуметтік-экономикалық дамуының негізгі көрсеткіштері бойынша статистикалық ақпаратты жүйелеуге көмектескені үшін зор ризашылығын білдіреді.

**Мүдделер қақтығысы:** авторлар мүдделер қақтығысының жоқтығын мәлімдейді.

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## Социально-экономические факторы бедности сельских территорий Алматинской области и перспективы их регулирования

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### Аннотация

В статье раскрываются основные факторы, влияющие на динамику остроты и глубины бедности в сельской местности Алматинской области, предложения по обеспечению занятости и выравниванию доходов сельского населения. Во введении представлена цель исследования: анализ социально-экономических факторов бедности в сельской местности Алматинской области и их регулирование. Также представлена характеристика Алматинской области и актуальность проблемы. В обзоре литературы представлен анализ современных исследований проблемы бедности в сельской местности Алматинской области, новейших научных подходов к ее решению в условиях урбанизации и изменения традиционных моделей ведения бизнеса. Методы и материалы описывают особенности методологии исследования, основанной на использовании анализа, синтеза и специальных экономических и социально-статистических методов. Обосновано применение экономико-статистического анализа, метода относительной оценки. Результаты исследования раскрывают результаты анализа эффективности и рисков схемы развития Алматинской области, а также влияния таких факторов, как урбанизация, перераспределение схем бюджетного финансирования, внутренние миграционные процессы на глубину и остроту бедности. В ходе дискуссий обоснованы диспропорции территорий Алматинской области и их риски увеличения глубины и остроты бедности. Для этого необходима государственная политика по укреплению транспортной, торговой и производственной инфраструктуры сельских территорий. Заключение описывает рекомендации; интеграция депрессивных сельских территорий в торгово-производственную инфраструктуру, поддержка системообразующих предприятий.

*Ключевые слова:* экономическое развитие, регулирование уровня жизни, сельские территории, регулирование бедности, факторы бедности

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**Конфликт интересов:** авторы заявляют об отсутствии конфликта интересов.

**Финансирование.** Исследование не имело спонсорской поддержки (собственные ресурсы).

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### Введение

Алматинская область является одним из наиболее экономически дифференцированных регионов Республики Казахстан. На площади свыше 200 000 кв. км располагается 86 населенных пунктов, охватывающих населения численностью более 2 млн. человек. Следует отметить, что процессы социально-экономического развития и развития агломерационной инфраструктуры на территории области неравномерны, и предопределяют зоны с различными социально-экономическими характеристиками.

Расположение на территории области Алматинской агломерации – одной из крупнейших в Центральной Азии, накладывает определенный отпечаток на характер и динамику изменения уровня жизни всей области.

При наличии достаточно высокого потенциала дальнейшего развития Алматинская агломерация оказывает достаточно сильное воздействие на торгово-экономические и финансовые аспекты развития экономики региона. Экономико-производственный профиль Алматинской области высокодифференцированный, и представлен как промышленностью, так и аграрным сектором и сферой услуг.

Несмотря на высокий потенциал и темпы развития Алматинской области в целом, сохраняется разность в уровне жизни населения в различных районах, что оказывает сдерживающее развитие социального и экономического потенциала региона в перспективе. Соответственно, выявление факторов изменения уровня жизни сельских территорий, представляется актуальным в свете потребности в реализации перспектив улучшения уровня жизни населения Алматинской области и повышения эффективности мер государственного регулирования.

Как и любой регион, Алматинская область обладает специфическими факторами, характеризующими риски и возможности для роста благосостояния населения или усиления бедности. Мы полагаем, опираясь на объективные данные Бюро Национальной статистики и Акимата Алматинской области, что на протяжении последних десятилетий, сложились несколько крупных отраслей, обеспечивающих основной источник доходов большей части населения:

- сельское хозяйство;
- строительство;
- логистика и транспорт;
- сфера услуг.

Причем сфера услуг находится в прямой зависимости от первых трех крупнейших отраслей. Именно сельское хозяйство и сопутствующие производства, и в меньшей степени – логистика, транспорт и строительство, определяют динамику доходов населения, являясь системообразующими. В отдаленных районах с малой плотностью и слабо дифференцированным производством, профиль социально-экономического развития определяет динамика развития сельского хозяйства и его конкурентоспособности.

Такие отрасли как туризм, химическая и текстильная промышленность развиты в меньшей степени и за последние десятилетия, несмотря на государственную поддержку, не влияют существенным образом, ни на уровень жизни населения, ни на степень развития инфраструктуры. Зависимость доходов населения от слабо дифференцированной экономики региона, вкупе наличием территориальной дифференциации по уровню доходов и доступу к социальной инфраструктуре, предопределила достаточно устойчивую тенденции глубины и остроты бедности сельских территорий Алматинской области. Высока подверженность сельского населения Алматинской области и негативным социально-экономическим факторам, как эндогенным, так и экзогенным, что идет вразрез с концепцией ООН об устойчивом развитии территорий, а также препятствует достижению программных целей государственной политики регулирования уровня жизни.

Целью данного исследования является анализ социально-экономических факторов бедности населения сельских территорий Алматинской области и обоснование перспектив их регулирования. В соответствии с названной целью, в рамках исследования, представленного в данной статье, реализованы следующие задачи:

1. выявление динамики остроты и глубины бедности сельского населения Алматинской области во взаимосвязи со специфическими факторами, оказывающими влияние на неоднородность показателей экономического развития сельских территорий;
2. выделение факторов оказывающих наибольшее влияние на показатели бедности населения сельских территорий Алматинской области;
3. сопоставление рисков и перспектив снижения показателей остроты и глубины бедности населения сельских территорий Алматинской области в свете актуальных

действующих подходов государственного регулирования уровня жизни в регионах.

### Литературный обзор

Алматинская область по мере своего развития привлекала внимание специалистов в области экономики, государственного регулирования экономики и социальных процессов, начиная еще с конца восьмидесятых годов. На рубеже 80-90-х годов 20 века, Алматинская область представляла собой территорию с высоким потенциалом развития, но относящуюся к категории развивающихся, в силу достаточно слабо развитой инфраструктуры и неравномерного распределения показателей плотности населения. Импульсом к развитию региона в период 90-00-х годов послужило активное формирование рыночной экономики и внешнеэкономических связей и их инфраструктуры, что сформировало торговый и логистический кластер как основу для дальнейшего интенсивного роста процессов агломерации, развития дифференцированного по отраслям производства. Тому способствовало пролегание по территории Алматинской области развитой сети международных транспортных коридоров (Esentugelov & Ezhenova, 2007).

Произошло перераспределение производственных ресурсов и переориентация Алматинской агломерации с прилегающими территориями региона на торговые, финансовые и логистические отрасли, развитие дифференцированного малого производства в городах районного значения. Вместе с тем, неуклонно нарастало снижение экономической активности в районах со слабо диверсифицированной экономико-производственной моделью, преимущественно аграрной специализации (Concept of Regional Policy, 1996).

Это привело к постепенному увеличению диспропорции в темпах развития, последующему оттоку сельского населения в крупные районные центры и города. Обозначенный процесс, с одной стороны, создал основу для интенсивной урбанизации на территории Алматинской агломерации, с другой стороны – способствовал дальнейшей дифференциации территорий с высоким и низким уровнем экономического развития.

В частности, в концепции региональной политики Республики Казахстан на 2002-2006 годы было признано, что в период реформ перестроечного и постперестроечного периода, дифференциация в социально-экономическом развитии районов Алматинской

области усилилась, а социально-экономические проблемы обострились. Кроме того, впервые в начале нулевых годов открыто указывалась внутренняя миграция из сельской местности как явление вынужденное, и являющееся существенной проблемой, обостряющей территориальную дифференциацию по уровню жизни (Concept of Regional Policy, 2002- 2006).

Примечательно, что в целом Алматинской области имеет благоприятные экологические и климатические условия, и основным фактором образования депрессивных районов стали изменения в производственной структуре с постепенным вытеснением агропромышленного, промышленного и перерабатывающего комплекса на периферию интересов развивающегося на тот момент делового сообщества.

В условиях сложившихся экономических и политических реалий в 2019-2020 годах Институтом экономики МОН РК была опубликована серия исследований, посвященных предложениям по выравниванию экономического состояния проблемных регионов Республики Казахстан, в том числе и касающихся депрессивных районов Алматинской области. Концептуальной основой выдвигаемых предложений стала выдвигаемая стратегия усиления регионов, в том числе с традиционной сельскохозяйственной направленностью, при помощи которой есть возможность выровнять в целом неравномерное распределение инвестиционных ресурсов и потребностей области. В частности, была представлена серия работ, посвященная практике поддержки депрессивных регионов. Так, проблеме выравнивания территориальных диспропорций посвящена серия работ и монографии А.А. Сатыбалдина, Н.К. Нурлановой, Киреева А.А. (Institute of Economics of the CS MES RK, 2020; Nurlanova et al., 2020).

Коллективом Института экономики МОН РК был предложен ряд системных мер, таких как:

- стимулирование переселения в слабо населенные сельские регионы для поддержания валового производства и соответственно увеличения темпов роста уровня жизни;
- стратегия поддержки депрессивных районов, сосредоточенных в области малых городов, сгруппированных вокруг градообразующих предприятий.

Также были четко обрисованы характеристики депрессивных районов Алматинской области, а именно:

- районы с низкой плотностью населения;
- районы с низкой деловой экономической активностью;
- районы, слабо дифференцированные по уровню экономической активности;
- районы, с высоким уровнем безработицы;
- районы экологического и техногенного бедствия (Institute of Economics of the CS MES RK, 2020).

Следует отметить, что на наш взгляд выделение крупных безвозмездных субсидий из государственного бюджета, которые, по мнению авторов, оказываются безвозвратными, является таковыми по причине несвоевременного или отсутствующего эффективного механизма распределения на практике, слабой обратной связи между населением регионов и республиканскими органами регулирования. Кроме того, до активной цифровизации, недостаточная прозрачность мер регулирования также способствовала снижению эффективности освоения средств регионального и республиканского бюджетов.

Немало дискуссий ведется и вокруг такого фактора как урбанизационные процессы и курс на урбанизацию территорий в Республике Казахстан, в результате принятия обязательств в рамках Стратегического Плана ООН по содействию устойчивой урбанизации. Особенно острый полемический характер носит влияние процессов урбанизации на экономику и уровень бедности сельских территорий. Собственно, именно устойчивая урбанизация и стала основой формирования и первопричиной внедрения селективной политики, как ведущего инструмента государственного регулирования урбанизационных процессов. Но, с позиции многих отечественных исследователей, ситуация не так однозначна.

Так, Нурланова Н.К., Глеубердинова А.Т., Сапарбек Н.К., исследуя специфику урбанизационных процессов в Республике Казахстан в разрезе регионов, отмечают взаимовлияние миграционных процессов и уровня жизни населения. Отрицательное сальдо миграции (-20 136 человек по состоянию на конец 2021 года) в Алматинской области, исследователи связывают с низким уровнем благоустройства сельских территорий, а также неблагоприятными социальными и экономическими условиями. Иными словами, урбанизация Алматинской области, по мнению экспертов, связана в большей степени с оттоком населения из сельской местности в силу внешней и внутренней

миграции, а не с качественными показателями урбанизации сельских территорий. На этот факт косвенно указывает преобладающая доля внутренних мигрантов в структуре прироста населения Алматы – крупнейшего казахстанского мегаполиса, в географической близости агломерационной структуры которого и расположены сельские территории Алматинской области (Satybaldin et al., 2016; Nurlanova et al., 2022).

В то же время, Мусаева Д.М., Алибекова Г.Ж., Tunc Medeni, Дабылова М.И. проливают свет на несколько иной взгляд на системные проблемы социально-экономического развития регионов и практику управления. Исследователи обращают внимание на постепенное и неуклонное сокращение доли социальных наук и социальных исследований, которые могли бы содействовать прикладному решению накопившихся проблем и противоречий в территориальной диспропорции. Нехватка квалифицированных кадров и специализированных исследований, приводит к тому, что проблемы социально-экономического развития решаются ситуативно, в рамках нивелирования наиболее острых вопросов. Многие важные вопросы, требующие продолжительной работы и нацеленные на долгосрочный эффект, зачастую выпадают из поля исследований (Mussayeva et al., 2021). Как итог: проблемы бедности сельских территорий и устойчивая территориальная диспропорция в уровне жизни регионов остаются перманентными, потому как не найдены системные решения, нацеленные на предотвращение комплексных процессов и явлений в основе этих проблем.

Отчасти данная позиция согласуется с мнением С.А. Кожабаевой, Б.Г. Мукана, Р.К. Елшибаева. Рассматривая проблемы развития человеческого потенциала в Республике Казахстан, исследователи выдвигают мнение о том, что диспропорции в отношении доступности таких социальных благ как образование всех уровней, а также непропорциональное распределение доходов, являются существенным фактором неравенства доходов (Kozhabaeva et al., 2021). В этой связи, упомянутые негативные стороны урбанизационных процессов, отсутствие их существенного качественного развития, а также отсутствие комплексного подхода к регулированию социально-экономического развития на практике, выступают важнейшими факторами устойчивой стагнации в сфере борьбы с бедностью сельских территорий Алматинской области.

### Материалы и методы

Методология исследования включает эмпирические методы исследования уровня жизни, такие как экономико-статистический и социально-статистический анализ динамики показателей глубины и остроты бедности и их интерпретацию, а также факторный анализ полученных эмпирических данных. В основе методологии исследования лежит объективизация процессов, оказывающих влияние на экономическое развитие Алматинской области, и в частности – сельских территорий.

Наряду с познавательными методами, также применены общенаучные методы, позволившие установить и описать закономерности развития динамики уровня жизни населения. Экономико-статистический и социально-статистический анализ позволили выявить взаимосвязи между различными факторами социально-экономического развития и их влиянием, как текущим, так и потенциальным, на показатели уровня бедности.

Частным специальным методом, примененным в исследовании, является метод относительной оценки доходов домохозяйств сельских территорий Алматинской области по квинтильным группам. Данный метод выбран ввиду наличия официальной статистики, отвечающей требованиям полноты и репрезентативности. Метод учета потребительских расходов был включен в методологию исследования для контроля достоверности статистической информации на предмет расхождений между заявленными уровнями доходов домашних хозяйств и расходов.

Как отмечает Л. Эйка, именно отсутствие достоверных данных о расходах является основной причиной снижения достоверности и информативности обследований благосостояния домашних хозяйств (Eika, 2020). В то же время, К. Херманссон в своем исследовании влияния внешних и внутренних источников потребления на состояние доходов и расходов, отмечает, что на современном этапе для более глубокого понимания уровня жизни необходимо учитывать не только объем и динамику потребительских расходов, но и их структуру, так как в зависимости от доли внешних расходов меняется и картина рисков снижения уровня жизни (Hermannsson, 2022). Р. Шарон-Шенье выделяет несколько групп видов расходов, динамика и соотношение которых с одной стороны, указывает на

уровень жизни и социально-экономический профиль домохозяйства, но с другой стороны – также дает возможность, сопоставив со структурой производства региона, выявить скрытые статистические погрешности в исследовании. Так, например исследователь отмечает, что если в структуре домашнего хозяйства существенная часть расходов приходится на повышения социального и культурного капитала (образование, культурные мероприятия), это вовсе не означает поступательного повышения уровня жизни домохозяйства, как и адекватного расхода на покрытие основных потребностей в продовольственных и непродовольственных товарах (Charron-Chénier, 2018).

Вышеизложенное на современном этапе позволяет поставить под сомнение целесообразность применения одного метода (в особенности прямого количественного) исследования уровня жизни, и особенно – глубины и остроты бедности. Так, семьи с невысоким уровнем дохода, находясь у черты бедности могут инвестировать в будущие перспективы для улучшения уровня жизни – в переезд в более крупный населенный пункт, оплату обучения и т.д. Либо же семья может тратить существенную долю своих расходов на образование, но лишь потому, что социальная инфраструктура близ места обычного проживания неразвита. В таком случае структура потребительских расходов изменится, что не будет одновременно указывать на прирост реального благосостояния и сокращения влияния факторов бедности. Соответственно, нами был сделан вывод, что при оценке глубины и остроты бедности, необходимо дополнительно рассматривать социально-экономические факторы, влияющие на структуру доходов и расходов, уникальные для Алматинской области.

Нормативный метод был использован частично, так как его информативность существенно снижена в виду расхождения между реальной стоимостью потребительской корзины домашних хозяйств и расходов на потребление. Учет прожиточного минимума не позволяет объективно оценить состояние и динамику показателей бедности. Как отмечено в руководстве ЕЭК ООН по измерению уровня бедности, использование различных показателей и методологических подходов к изучению уровня бедности может давать различные результаты, однако, определение доли людей, живущих за чертой бедности, является одним из наиболее важных измерений (United Nations, 2017). Соответственно



изучение коэффициента глубины бедности, показывающего распространенность бедности и степень приближенности бедного населения к черте бедности, дает важную информацию о тенденции и характеристике бедности сельских территорий Алматинской области. В то же время, показатель остроты бедности, указывающий на степень разброса доходов бедного населения от их среднего значения, дает информацию о масштабах недопотребления. Следует отметить, что в Республике Казахстан не все рекомендуемые ООН показатели бедности рассчитываются на постоянной основе. Однако, глубина и острота бедности, а также расходы на потребление и доходы по квинтильным группам представлены в достаточном объеме и с достаточной периодичностью, что также стало немаловажным фактором их включения в методологию исследования.

#### Результаты исследования

В настоящее время, принятая в рамках программы управления территориями Алматинской области селективная политика, несет как потенциальные возможности, так и риски относительно изменения динамики уровня жизни (Nurlanova et al., 2020).

К позитивным моментам можно отнести перспективы развития инфраструктуры, а также экономико-социальных связей между районами Алматинской области. Этому спо-

собствуют целенаправленные меры по поддержке опорных населенных пунктов районов, что создает условия для контролируемой урбанизации.

В то же время, существуют и риски, связанные со снижением уровня жизни в малонаселенных сельских районах.

Концепция селективной политики косвенного регулирования без достаточно развитой организационной составляющей несет риски безвозвратной потери эффективности межбюджетных потоков средств, выделенных на развитие депрессивных районов. Методы косвенного регулирования борются, в первую очередь, с последствиями возникновения депрессивных тенденций в экономическом развитии, нежели их первопричиной (Asylbayeva, 2017).

Иными словами сбалансированное территориальное развитие, опирающееся на усиление роли самоуправления, наталкивается на проблему организационно-управленческой изоляции депрессивных районов. Меры регулирования уровня жизни, отраженные, в том числе и в целевом и адресном субсидировании, не приводят к поступательному развитию проблемных территориальных зон. Ниже представлена динамика глубины и остроты бедности в районах Алматинской области (Рисунки 1, 2) (Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, 2022).

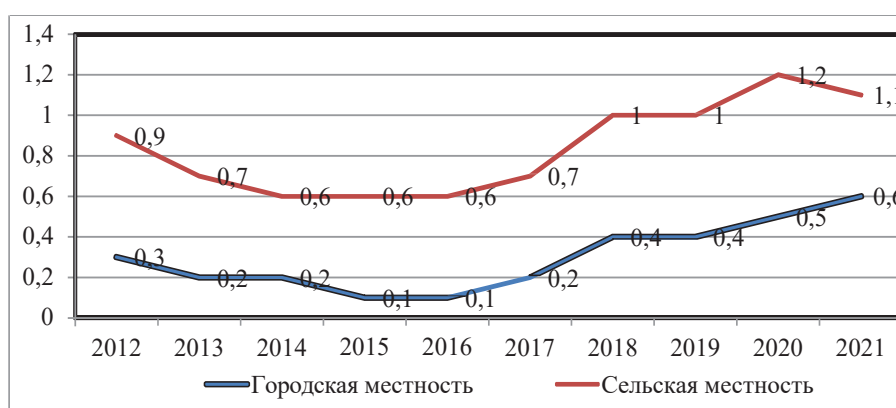
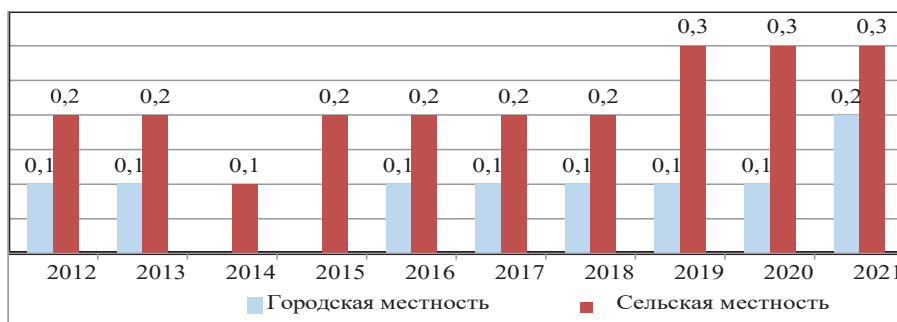


Рисунок 1 - Динамика глубины бедности Алматинской области за 2017-2020 гг.

Figure 1 - Dynamics of the depth of poverty in the Almaty region in 2017-2020

Примечание – Составлено по данным Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан (2022)



**Рисунок 2** - Динамика остроты бедности Алматинской области за 2017-2020 г.г.

**Figure 2** - Dynamics of poverty severity in Almaty region in 2017-2020

Примечание – Составлено по данным Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан (2022)

Как следует из динамики показателя глубины бедности, он существенно выше в сельской местности. С учетом невысокого процента урбанизации области и высокой концентрации агломерационных процессов на территории Алматинской агломерации, это свидетельствует о наличии существенной территориальной диспропорции. При этом, темпы роста показателя по сельским территориям также выше. Аналогичная ситуация складывается и по остроте бедности (Рисунок 2).

Наблюдаемая картина по остроте бедности свидетельствует о более неравномерном распределении доходов на потребление в сельской местности, причем диспропорция в уровне бедности, так же как и сам коэффициент остроты бедности населения сельских территорий имеет тенденцию к неуклонному росту.

Приведенные выше данные свидетельствуют о справедливости рассмотренной критериальной характеристике депрессивных районов, выдвинутой Институтом экономики МОН РК. Соответственно, сельские территории на данном этапе подвержены риску снижения уровня жизни и в большей степени – к переходу в статус депрессивных (если уже не являются таковыми).

Несмотря на то, что Алматинская область является одной из наиболее развитых в экономическом отношении, в продолжении дискурса о факторах неблагополучия сельских территорий, можно выделить следующие критерии, наряду с указанными ранее:

- степень изолированности районов от системы производства и распределения продукции и услуг. Это районы, несвязанные или слабо связанные экономически с другими районами Алматинской области;

- степень системности производства и производственной специализации. Районы, не имеющие опорных отраслевых направлений, обладающих четким вектором развития, даже при наличии территориальной близости к более развитым районам, фактически остаются в статусе депрессивных. Отсюда вытекает ранее упомянутый фактор безработицы.

Соответственно, можно выделить экономическую изоляцию от системы производства, распределения и потребления урбанизированных территорий как важный фактор ухудшения состояния сельских территорий. Причем, развитие транспортной инфраструктуры и ее доступность как для частного, так и для коммерческого потребителя выступает одним из ключевых оснований для усугубления ситуации.

Упомянутая вынужденная миграция сельского населения в города, имеющая длительную историю и сложившаяся как устойчивая тенденция, оказывает влияние сразу на несколько моментов:

1. Обеспечение роста урбанизации населения в численном показателе.

2. Снижение численности и соответственно замедление и сокращения ВВП районов с преимущественно сельским населением.

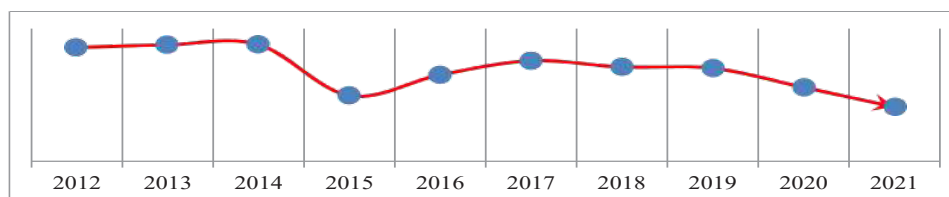
3. Усугубление остроты и глубины бедности в виду неуклонного снижения деловой активности в депрессивных районах, и. соответственно-рабочих мест.

Согласно стратегии развития территорий, Алматинская агломерация относится к Жетысуйской урбанизированной зоне, которая включает в себя опорные центры: Каскелен, Конаев, Талгар, Есик, села Узынагаш, Жетыген и Отеген батыр (Decree of the Government of the Republic of Kazakhstan, 2019). Но

данные территории исторически обладают наиболее развитой высоко диверсифицированной производственной средой. Между тем, урбанизация Алматинской области в разрезе регионов Республики остается низкой – всего 23,8%. Это означает, что процессы урбанизации имеют тенденцию к концентрации на ограниченных по площади территориях и наблюдается острая диспропорция в охвате населения урбанизационными процессами. Кроме того, не стоит забывать, что контролируемая урбанизация означает не компактное размещение основной доли населения в городах, а повышение качества социально-значимой инфраструктуры небольших населенных пунктах. Именно выравнивание в уровне и качестве жизни между городом и селом, доступность и открытость агломераций для перемещения населения вне зависимости от проживания, указывает на контролируемость и эффективность урбанизации. Например, урбанизация в странах Юго-Восточной Азии в этой связи является не вполне контролируемой и не может высту-

пать в качестве образцовой практики регионального регулирования. Высокая концентрация населения в городах не приводит к повышению качества жизни большинства жителей, а лишь создает ажиотаж на рынке недвижимости и снижает стимулы для развития территорий вне мегаполисов (World Bank, 2018).

Следовательно, не умаляя достоинств селективной политики регионального управления, следует учесть, что оценка потенциала и динамики урбанизационных процессов должно проходить как в разрезе количественных, так и в разрезе качественных показателей. Скопление населения в крупных городах и повышение его плотности при одновременном оттоке из сельскохозяйственных районов не является само по себе залогом интенсивного экономического развития, а лишь усиливает диспропорцию территорий. Здесь стоит обратить внимание на динамику занятого населения трудоспособного возраста сельских территорий Алматинской области (Рисунок 3).



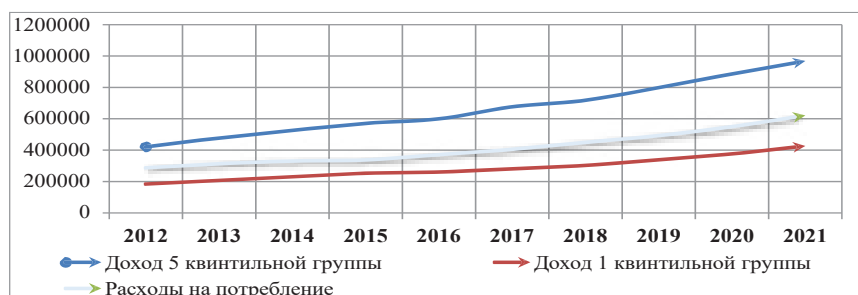
**Рисунок 3** - Динамика доли занятого населения от населения трудоспособного возраста сельского населения Алматинской области за 2017-2020 г.г., в %

**Figure 3** - Dynamics of the employed population of working age in Almaty region in 2017-2020, %

Примечание – Составлено по данным Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан (2022)

Как иллюстрирует вышеприведенный график, доля занятого сельского населения от сельского населения трудоспособного возраста медленно, но неуклонно сокращается и этот тренд прослеживается как достаточно

устойчивый. В то же время, обращает на себя внимание разброс доходов по 1 и 5 квинтильным группам среди населения сельских территорий Алматинской области, а также по расходам на потребление домашних хозяйств (Рисунок 4).



**Рисунок 4** – Динамика доходов по 1 и 5 квинтильной группе и расходов на потребление населения сельских территорий Алматинской области, в тг.

**Figure 4** - Dynamics of income for the 1st and 5th quintile groups and consumption expenditures of the population of rural areas of the Almaty region, in tenge

Примечание – Составлено по данным Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан (2022)

Данные, представленные выше, наглядно иллюстрируют, что на протяжении анализируемого периода доходы первой квинтильной группы в 2,5 раза меньше, чем в пятой группе. Причем данная диспропорция весьма устойчива на протяжении исследуемого десятилетия, что свидетельствует об устоявшейся социально-экономической ситуации бедности, наиболее ярко выраженной в депрессивных сельских районах. В то же время, доходы первой квинтильной группы в 1,5 раза меньше среднедушевых доходов на потребления населения сельских территорий Алматинской области. На наш взгляд, данные показатели достаточно наглядно показывают устойчивость и глубину тенденций бедности населения сельских территорий. Следует также отметить, что доходы населения сельских территорий Алматинской области в 1,5 раза меньше аналогичных показателей среди городского населения, что иллюстрирует ранее упомянутую диспропорцию, которая является устойчивой на протяжении всего анализируемого периода. Причем темпы роста расходов на потребление превышают темпы роста доходов по первой квинтильной группе, в то время как по пятой квинтильной группе разрыв в темпах роста не так ощутим.

### Обсуждение

С учетом выявленных объективных показателей доходов и расходов в контексте изучения уровня бедности, нормативный подход очевидным образом не отражает объективной ситуации. В Республике Казахстан нормативный метод опирается на показатели минимальной потребительской корзины и

прожиточного минимума, определяющего черту бедности. Потребительская корзина, на основе которой рассчитывается прожиточный минимум не учитывает реальную потребительскую активность и уровень цен, и кроме того, минимальные нормы потребления не учитывают фактическую потребность и адекватные нормы потребления, рекомендованные ООН и ВОЗ. На конец 2021 года по Алматинской области средний прожиточный минимум в 40,2 тыс. был почти в 16 раз меньше расходов на потребление на аналогичную дату. Однако, статистически прожиточный минимум покрывается доходами первой квинтильной группы, что естественно, не говорит о фактическом материальном благополучии сельского населения. Очевидно, что нормативный метод может быть использован для оценки бедности только в случае пересмотра порядка его исчисления через соответствующий пересмотр содержания и стоимости минимальной потребительской корзины. В текущей же ситуации его сопоставление с относительными показателями бедности и расходом на потребление лишь не только иллюстрируют тревожные и устойчивые тенденции динамики бедности населения сельских территорий, но и позволяет предположить недочеты в методике ее оценки. В связи с этим, реальные показатели бедности могут быть значительно выше.

Одной из весомых причин неуклонного роста показателей бедности сельского населения Алматинской области является сокращение занятости в традиционных отраслях – сельском и лесном хозяйстве, рыболовстве. За последние два десятилетия население, заня-

тое в сельском хозяйстве стремительно сокращалось, что способствовало потери традиционной специализации ряда территорий, которые ныне признаются как депрессивные. В дальнейшем, сокращение сельскохозяйственных территорий способствовало усилению оттока сельского населения.

Сокращение населения фактически занятого в сельском хозяйстве, наносит существенный урон продовольственной и экономической безопасности не только депрессивных районов, но и всей области в целом, увеличивает потребность в экспорте продовольственной продукции. Снижение возможности к трудоустройству сельского населения в виду их массового оттока, способствует маргинализации пригородов, усиливая глубину и остроту бедности и расширяя территории депрессивных районов.

В период локдауна наиболее остро проявилась проблема территориальной диспропорции в уровне жизни. Проявления панических настроений за пределами городских территорий и стремления сельского населения к нахождению в условиях ограничительных мер в городах, отражает наиболее существенные триггеры ухудшения уровня жизни на селе в Алматинской области: безработица, снижение деловой активности, недостаточность развития социально-значимой инфраструктуры. Острота названных проблем в первую очередь связана со следующими факторами:

- упомянутое ранее отсутствие тесной экономической связи ряда районов;
- слабая инфраструктурная связь, которая не позволяет рассчитывать на достаточный уровень медицинского обслуживания и образования;
- фактически полная остановка малых и микропредприятий, при отсутствии возможностей реализации в сельском хозяйстве, что создало угрозу резкого углубления показателей бедности в депрессивных регионах;
- исходная диспропорция в развитии территорий, которая может быть нивелирована только включением сельских территорий в систему агломерационных связей на уровне производства и потребления товаров и услуг.

В планах до 2050 года, согласно схеме кластерного развития, основные индустриальные зоны и зоны целевого развития, расположены в районах с относительно высоким потенциалом и исходным экономическим уровнем (Decree of the Government of the Republic of Kazakhstan, 2019). Соответственно, продолжают развиваться

условия для углубления диспропорции в экономическом развитии. Паритетным решением может стать более равномерное распределение кластерных зон по территории Алматинской области и включение депрессивных районов в инфраструктурные и агломерационные связи с позиции сельскохозяйственной целевой специализации. В частности, в Илийском районе уже приняты некоторые шаги по формированию малых и средних предприятий, включенных в производственный комплекс Алматинской области (Akimat of the Ili district, 2020).

Производственный комплекс сельскохозяйственных территорий должен включать всю цепочку сельскохозяйственного производства, что позволит укрепить имеющийся ресурсный потенциал, и сформировать условия для сокращения безработицы сельских территорий, повысить контролируемость процессов урбанизации.

Очевидным образом, сельскохозяйственная отрасль требует целенаправленной государственной организационной поддержки, с привлечением сельского населения в данную отрасль через развитие как крупных, так и малых предприятий. Кроме того, необходимо формирование ресурсной карты для развития опорных предприятий в малонаселенных районах. Усиление контроля над освоением бюджетных средств и средств, направленных на целевое субсидирование фермерских хозяйств, а также контроль частных агропромышленных комплексов является необходимым условием, без которого формирование агломерационных связей не будет полным и эффективным.

### Заключение

Сложившаяся ситуация высокой дифференциации уровня жизни территорий Алматинской области проистекает из неоднородности потенциала развития и его реализации в отношении территориального управления. Достаточно слабые и неоднородные агломерационные, торгово-экономические связи между отдельными районами не формируют устойчивой основы для поступательного и равномерного развития территорий. Имеющаяся сельскохозяйственная специализация ряда депрессивных районов наталкивается на отсутствие государственной поддержки и демографические проблемы, связанные с перманентным оттоком сельского населения в города и крупные населенные пункты. Таргетированная, а не многовекторная селективная модель под-

держки подразумевает дальнейшее ухудшение ситуация в депрессивных районах, отток населения и создание социальной напряженности. Кроме того, диспропорция структуры кластерного развития, сосредоточенного в зонах с высоким потенциалом в рамках более развитой агломерации, усиливает слабую конкурентоспособность депрессивных и преимущественно сельских районов и формирует в настоящем предпосылки для будущего усиления разрыва в показателях уровня жизни. Необходимо включение сельских территорий в систему производства и потребления товаров и услуг. Очевидными направлениями реализации этой потребности являются развитие транспортной сети и социально-значимой инфраструктуры, а также формирование и поддержка системы опорных предприятий на сельских территориях, в том числе обрабатывающих.

В этой связи целесообразно говорить о необходимости выделения так называемых системообразующих предприятий – производств с потенциалом агрегации кадровых, финансовых, научных и технических ресурсов и развития соответствующей инфраструктуры обслуживания и потребления.

Действительно, территории Алматинской области, обладают существенными природно-климатическими, агротехнологическими и кадровыми ресурсами. Однако, распределение ресурсов и их агрегация крайне неравномерна. Низкая степень включенности в систему производства и распределения сопровождается негативную динамику депрессивных сельских территорий. Выделение и государственная поддержка опорных предприятий позволит решить комплекс задач по нивелированию социально-экономических рисков и территориальной диспропорции доходов населения Алматинской области, придав системный характер мерам регионального развития. Развитие опорных предприятий позволит сформировать локальные кластеры, обеспечивающие население близлежащих малонаселенных районов возможностью трудоустройства. Соответствующее развитие производственно-обусловленной инфраструктуры будет также способствовать развитию и социально-значимой инфраструктуры, а также росту емкости локальных рынков и их включенности в производственно-сбытовую структуру не только Алматинской области, но и близлежащих регионов. Вопрос специализации и диверсификации производства сельских территорий, целесообразно решать, учитывая три ведущих фактора: природно-

климатические условия, географическое расположение с выделением потенциала и направлений взаимосвязанной с территориями других регионов (а возможно – и государств) инфраструктуры, обеспеченность кадровым ресурсом и его преобладающая специализация.

Очевидным образом, преобладающая сельскохозяйственная специализация требует пересмотра в сторону создания на базе сельскохозяйственных угодий производств полного цикла, которые способны обеспечить всесезонную занятость, что станет первоочередным шагом к снижению остроты и глубины бедности. Кроме того, всесезонная занятость будет способствовать повышению платежеспособности населения сельских территорий, что повлечет за собой рост потребления и развития сферы услуг, наряду со вспомогательными производствами и подсобным хозяйством. Это в свою очередь, позволит связать депрессивные сельские районы с социальной, экономической и транспортной инфраструктурой области, будет способствовать более равномерному распределению доходов и выравниваю миграционного сальдо. Опорные производства могут стать прочной социально-экономической основой для устойчивого, качественного и равномерного урбанизационного процесса. Как показывает мировая практика, наиболее эффективно процессы урбанизации протекают не в условиях бесконтрольного роста городского населения, а в условиях развития инфраструктуры и агломерационных связей сельских территорий.

Например, современный опыт Китая показывает, что массовый и бесконтрольный отток населения в города и сокращение сельских территорий приводит к серьезнейшим экономическим, экологическим и социальным последствиям, усугубляет проблемы безработицы, создает условия для социальной напряженности (Xiao, et al., 2022). Кроме того, концентрация большей части населения на территории крупных городов создает условия для усиления продовольственных и эпидемиологических рисков, усложняет систему контроля над производственным балансом региона, способствует неравномерному и неэффективному распределению кадровых, финансовых и природных ресурсов.

Наиболее логичным и эффективным представляется контролируемый урбанизационный процесс, в котором под урбанизацией подразумевается уравнивание

сельских и городских территорий в доступности основных социально-экономических факторов обеспечения уровня жизни: развитости инфраструктуры, возможности трудоустройства, получения медицинской помощи, сбыта и потребления. В данном направлении за прошедшие десятилетия предпринято немало важных шагов: возведение ряда областных и районных учреждений здравоохранения, создание новых предприятий приоритетных направлений. Однако, для усиления эффекта предпринятых мер нужно систематическое и целенаправленное воздействие государства, создание карты опорных предприятий и плана их развития с учетом современных социально-экономических тенденций, приоритетов, вызовов и рисков.

Лишь при таком, комплексном и системном подходе, селективная политика регионального развития сможет стать действительно эффективным инструментом интенсификации роста уровня жизни и обеспечить устойчивую динамику снижения уровня бедности населения сельских территорий, воздействуя на самую первопричину данного явления.

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## Border Settlements of Kazakhstan as an Impulse to Balanced Territorial Development

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### Abstract

The article is devoted to the development of the border territories of Kazakhstan, in particular, the study of the border territories of settlements of the North Kazakhstan region. The author presents his own vision of the development of border depressive regions and develops proposals for improving state policy and management of regional development of territorial spaces. An organizational and institutional mechanism for the development of border territories based on the formation of special economic zones as investment and innovation platforms for the development of production and infrastructure facilities is proposed. The problem with the formation of such special zones is the lack of economic resources consisting of production and human potential. The Northern macroregion has great potential in the development of the agro-industrial complex, however, the lack of human resources, due to large migration to neighboring regions of Russia and other regions of Kazakhstan, as well as the deterioration of the socio-economic situation of the population, due to a lack of investment and budgetary resources, environmental problems can lead to the extinction of many settlements of the North Kazakhstan region. The solution to such problems, while remaining the prerogative of the state, requires their solution at the present moment. The development should be based on cross-border cooperation of neighboring countries based on the modeling of foreign economic relations based on the functional features of borders in the new conditions of cross-border and integration interaction of countries.

*Keywords:* Border Area, Balanced Development of Territories, Neighboring Countries, Special Economic Zones, Settlements.

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## Қазақстанның шекара маңындағы елді мекендері теңдестірілген аумақтық даму серпіні ретінде

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### Түйін

Мақала Қазақстанның шекара маңындағы аумақтарын дамытуға, атап айтқанда Солтүстік Қазақстан облысы елді мекендерінің шекара маңындағы аумақтарын зерттеуге арналған. Шекаралас депрессивті өңірлерді дамытудың өзіндік пайымы ұсынылды және мемлекеттік саясатты жақсарту және аумақтық кеңістіктердің өңірлік дамуын басқару үшін ұсыныстар әзірленді. Өндірісті және инфрақұрылымдық объектілерді дамыту үшін инвестициялық-инновациялық алаңдар ретінде арнайы экономикалық аймақтарды қалыптастыру негізінде шекара маңындағы аумақтарды дамытудың ұйымдастырушылық-институционалдық тетігі ұсынылды. Мұндай арнайы аймақтарды қалыптастыру проблемасы өндірістік және адами әлеуеттен тұратын экономикалық ресурстардың жетіспеушілігі болып табылады. Солтүстік макроөңір агроөнеркәсіптік кешенді дамытуда үлкен әлеуетке ие, алайда Ресейдің көршілес облыстарына және Қазақстанның басқа да облыстарына үлкен көші-қон салдарынан адам ресурстарының жетіспеушілігі, сондай-ақ халықтың әлеуметтік-экономикалық жағдайының нашарлауы, инвестициялық және бюджеттік ресурстардың жетіспеуі себебінен экологиялық проблемалар Солтүстік Қазақстан облысының көптеген елді мекендерінің жойылуына әкеп соғуы мүмкін. Мемлекеттің құзырында қала отырып, мұндай проблемаларды шешу қазіргі уақытта оларды шешуді талап етеді. Дамудың негізінде елдердің трансшекаралық және интеграциялық өзара іс-қимылының жаңа жағдайларында шекаралардың функционалдық ерекшеліктері негізінде сыртқы экономикалық байланыстарды модельдеу негізінде шектес елдердің шекара маңы ынтымақтастығы жатуы тиіс.

*Түйін сөздер:* шекара маңы аумағы, аумақтардың теңгерімді дамуы, шектес елдер, арнайы экономикалық аймақтар, елді мекендер.

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## Приграничные населенные пункты Казахстана как импульс к сбалансированному территориальному развитию

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### Аннотация

Статья посвящена развитию приграничных территорий Казахстана, в частности исследованию приграничных территорий населенных пунктов Северо-Казахстанской области. Представлено собственное видение развития приграничных депрессивных регионов и разработаны предложения для улучшения государственной политики и управления региональным развитием территориальных пространств. Предложен организационно-институциональный механизм развития приграничных территорий, на основе формирования специальных экономических зон, как инвестиционно-инновационных площадок для развития производства и инфраструктурных объектов. Проблема формирования таких специальных зон заключается в нехватке экономических ресурсов, состоящих из производственного и людского потенциала. Северный макрорегион имеет большой потенциал в развитии агропромышленного комплекса, однако нехватка людских ресурсов, вследствие большой миграции в соседние области России и другие области Казахстана, а также ухудшение социально-экономического положения населения, по причине нехватке инвестиционных и бюджетных ресурсов, экологические проблемы может привести к угасанию многих населенных пунктов Северо-Казахстанской области. Решение таких проблем, оставаясь прерогативой государства, требует их решения на современный момент. В основе развития должно лежать приграничное сотрудничество сопредельных стран на основе моделирования внешнеэкономических связей на основе функциональных особенностей границ в новых условиях трансграничного и интеграционного взаимодействия стран.

*Ключевые слова:* приграничная территория, сбалансированное развитие территорий, сопредельные страны, специальные экономические зоны, населенные пункты.

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### Introduction

Kazakhstan has a fairly extensive territory (about 3.0 thousand square kilometers – 9th place in the world), but at the same time the population density index (6.48 people per 1 square kilometer) is very low compared to other countries (184th place), which indicates one of the problems of uneven territorial settlement. Practice shows that most of the concentration of human resources occurs in territories with natural resource potential for the creation of industrial enterprises, and the formation of infrastructure and services for the socio-economic development of the territorial unit. As a result, there is an uneven distribution of economic resources, a decrease in the pace of development of the national economy, which deepen the disproportions in the development of territories and generate further polarization in the socio-economic development of territorial units – regions, districts and settlements under their administrative subordination (urban and rural).

The organizational and institutional mechanism for decision-making to eliminate negative trends and problems in territorial development is the state's prerogative, which is important in a market economy. Currently, National priorities, the National Development Plan of the Republic of Kazakhstan until 2025 (National Plan), the National Security Strategy of the Republic of Kazakhstan have been developed and approved. The National Plan provides for a Nationwide Priority 10. "Balanced territorial development", within the framework of which it is planned to implement a set of measures aimed at unlocking the potential of regions in order to increase their competitiveness. At the same time, by 2025, it is planned to make the transition "from central management to increasing the independence of the regions" and "from regional imbalances to ensuring external and internal connectivity, stimulating business activity." Two Regional Policy Concepts have been developed and implemented, the purpose of which was to eliminate contrasts in the level of development of regions, districts, urban and rural settlements. It would seem that at the regulatory and legal level, the state has created conditions for eliminating the unevenness in territorial development. However, the focus of the measures taken is one-sided and mainly involves supporting successful territories in the form of "growth points" (macro-regions, hub cities, agglomerations, cities of the "first, second and third level") while overcoming problems and eliminating negative trends faced by the backward, both in economic, so, in social terms, the regions remain unresolved for long periods.

This is especially true of settlements located at great distances from administrative centers on border territories. Agriculture and trade remain the predominant and often the only vector of development in the territory of border areas. At the same time, the border area is not only a "buffer" preventing negative processes in the implementation of interstate interaction but also solving the problems of the local population on both sides of the border. Such local issues may include the development of socio-cultural ties, the management of local public affairs, the regulation of migration flows, the solution of infrastructure issues, and providing the population of border areas with various types of energy, transport, and communication, medical, educational, public services, environmental protection. In addition, "local special economic zones" of mutually beneficial trade, economic, scientific, technical, and tourist cooperation are being created in the border territories. Border territories as an object of regional management were considered for the first time in the Program of development of regions of Kazakhstan until 2020 (Regional Development Program, 2020). In accordance with this program, the types of economic territories are defined, among which border territories are identified – administrative-territorial entities and settlements located at a distance of up to 50 km from the state border. This program aims to create conditions for the development of the socio-economic potential of the regions of Kazakhstan through the formation of a rational territorial organization of the country, stimulating the concentration of population and assets in the centers of economic growth.

In each case, the effective development of the border area will give a new impetus to the development of the entire economy of the state based on the use of the mechanism of intensification and increase in the volume of various kinds of exchanges and interaction of neighboring countries. For Kazakhstan, such neighboring countries are Russia and China. Most of the border of Kazakhstan falls on Russia. Based on the fact that at the moment there is a military situation between Russia and Ukraine, it can be assumed that the unpredictability of further military actions radically changes the economic situation in Kazakhstan. This involves the development of new areas of cross-border cooperation and ensuring the economic security of the adjacent territories of Kazakhstan with Russia. These questions are the subject of another study. Now we need to indicate the results of the conducted research on the PTF Program of the CS of the Ministry of Education and Science

of the Republic of Kazakhstan <sup>1</sup>. Our survey of the border territories of the North Kazakhstan region allows us to identify the socio-economic situation in the region and the prospects for cross-border cooperation of neighboring countries for the development of their border territories, contributing impact to the development of the entire national economy.

There are settlements in the North Kazakhstan Region that tend to completely fade away, mainly these are not only rural, but also in the past town-forming settlements or small towns (district centers) - Bulayevo, Mamlyutka, Tayynshy, Sergeevka, which, according to the proven methodology for identifying the level of vulnerability and depressiveness of settlements, are defined as depressive. The authors of the conducted research on the PTF Program selected the following algorithm for applying the methodology, which consisted of the following seven steps: the first step is the justification of criteria for the implementation of the rating assessment and on its basis the sampling of settlements by their main groups; the second step is the sampling of settlements by their following groups: a) small towns with a population of up to 50 thousand people; b) single-industry towns, the development of which depends on the functioning of the city-forming enterprise; c) border, strategically important settlements located at a distance of up to 50 km from the State border of the Republic of Kazakhstan; d) villages and rural support settlements; the third step is the substantiation of a system of relative indicators for analysis; the fourth step is the development of analysis tools, including questionnaires for conducting express surveys and expert assessments of socio-economic development of selected localities; the fifth step is to conduct express surveys and expert assessments and summarize their results; The sixth step is to collect information and in-depth analysis of the level and main trends of socio-economic development or the decline of the economy and social sphere of modern settlements of Kazakhstan; the seventh step is to identify problems and risks that hinder development and lead to the decline of the economy, infrastructure and social sphere in settlements of Kazakhstan. Residents of the above-mentioned small towns equate themselves more with the rural population. The root cause of this trend is: low population density, low standard of living of the population, high unemployment, low level of industry as a result of the shutdown of production due to lack of investment resources, both private

and public, moral and physical depreciation of fixed assets, underfunding of proposed construction projects, including underutilization of budget funds and exhaustion of natural and labor resources. The negative point is the intensification of migration processes – outflows of the population both inside the country and the region, and abroad, mainly to Russia, which is geographically close, due to the above reasons. In addition, there is a lag in socio-economic indicators from other “central” regions of the country, weak infrastructure provision (the main problem is roads, provision of water, heat, central sewerage). The problems of development of the border regions of Kazakhstan, their lag in socio-economic development from the average republican level is currently one of the priorities in the state policy on foreign economic relations and cross-border cooperation.

It should be noted that the importance of the Russian-Kazakh border area as a potential core of Eurasian integration will objectively increase under the influence of economic shifts taking place in the post-Soviet space, and it is necessary to create institutional and infrastructural conditions for its full use.

#### Literature review

Based on the survey methods, an extensive literature review was conducted, which allowed us to determine the scientific approach for identifying the main theoretical and methodological provisions and scientific concepts on the subject of the study. In the context of the growing process of globalization and worldwide informatization, the spatial redistribution of resources and the results of sustainable growth are not the basis of regional policy. Modern concepts of regional development in Europe proceed from the need for effective participation of individual regions in the global processes of the international division of labor and in increased international competition, which deepens the processes of cross-border relations in the direction of interregional and intercountry cooperation. For example, this is discussed in the following works, (Hall & van der Wee, 1995; Agnew, 2001), Also of interest is the work of Perkmann (2003). The 1990s have seen a strong surge in the number of cross-border regions all over Western and Eastern Europe. The article analyses the emergence of these local cross-border institutions in public governance by addressing their context, dimensions and causal underpinnings. First, it offers a brief background on the history of cross-border regions in Europe and related EU policies to support them. The work

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(Blatter, 2004) states that at the present moment there is a trend toward glocalization. The modern political system that has separated the world is turning into clearly divided spatial places. Spaces, and places, as territorial states, are no longer the only conceivable basis for the creation and definition of primary political communities and institutions. Johnson (2009) showed that trans-boundary regions play an important role in territorial restructuring in Central Europe, but not necessarily in the way EU regional policy intends.

The studies reflecting the processes of cooperation between Kazakhstan and Russia in various fields, including economics, politics, economic security, education, the formation of infrastructure projects, etc., have been studied. Problems related to political, historical processes and integration cooperation and trade and economic relations between Kazakhstan and Russia, integration interaction of neighboring countries are studied in the works of both Russian scientists, and so are the Kazakh ones. For example, Russian scientists studied cross-border cooperation within the framework of EU and CIS cooperation programs, as well as integration processes between the countries such as Vardomsky (2008) and Libman (2006). Kazakhstani scientists described regional development which is closely related to the theories of regional economics and regional management (Bozhko, 2010; Turkeeva, 2017). The collective monograph of the authors (Imanbayev, Novikov, & Kharlamov, 2020). Here it is necessary to note chapter 2 of the monograph and the article by the authors A.S. Kharlamov and B.B. Imanbaev "Cooperation between Russia and Kazakhstan in the field of space and high technologies." For Kazakhstan, the export of high-tech goods is very important. But, so far, Kazakhstan has not been able to switch to high-tech exports. The volume of high-tech and medium-tech goods in the manufacturing industry in all exports of Kazakhstan is no more than 0.41%. The conclusions and proposals of the authors are very timely and relevant. It is also necessary to pay attention to the work of Russian scientists (Gusakova, & Maslova, 2019) The article reveals the change in the role of Russia in Kazakhstan and identifies its positions in trade, investment, and humanitarian assistance to the country. The economic potential of Kazakhstan, which is most often found in a foreign economy, is described. Certain key countries seeking to increase their presence in Kazakhstan have compared their place and role in trade and direct investment in Kazakhstan.

The work has an undeniable practical sensibility. Thus, the literature review showed that the problem of interest to the authors is partially reflected in the works of other authors. The economic and political relations between Kazakhstan and Russia are dependent, a historical and political process, which began in 1991. and a comprehensive study of the problems and their priority interests in bilateral governance is supposed, as well as the features in the adjacent border areas, which are becoming increasingly important today.

### Methods

Survey methods include the use of a wide range of qualitative methods of analysis and evaluation based on structural, functional, and institutional approaches. An extensive literature review was conducted: scientific publications, including articles by foreign authors, state programs, and regulatory legal acts on this issue in the Republic of Kazakhstan and abroad. All scientific literature in accordance with the study was reviewed and studied on the topics of «depressed territories», «border territories», «rural territories», «environmental disasters», etc. In foreign and domestic theory and practice, there is and is used a wide range of general methodological approaches to determining the specifics, scale, and level of use of the economic potential of the territory, assessing the impact of various factors on socio-economic processes in the region.

In this article, we focus primarily on quantitative indicators that were collected during 2009-2019. Among the important advantages, according to the author's concept of considering the region, we distinguish the following:

- (1) the openness of data, the possibility of visualization, including virtual data;
- (2) multilevel data acquisition (external, internal, interregional, interstate);
- (3) specificity determined, among other things, by the social resources of the region (human resources, infrastructure, social capital, etc.);
- (4) inertia, characterized even within the framework of a limited economic approach, including in the system of «center-region» relations.

It should be noted that there are specific methodological approaches to conducting regional economic research. In particular, at the regional level, criteria-based approaches and groupings of indicators are most often used, based mainly on assessing available data. Therefore, in this study, we decided to use a system of factors and indicators of development/extinction.

As a result of the study, factors were identified and selected, such as: social, economic, infrastructural, environmental, on which the socio-economic development of certain regions of Kazakhstan generally depends. In our case, we focused more on socio-economic factors. For the extended study, all of the above factors were applied based on indicators. In total, 34 quantitative indicators were identified, which were grouped based on the main factors, in our opinion, and grouped into key blocks: social (11), economic (11), infrastructural (7), environmental (5). Based on all the grouped indicators, it is possible to analyze the state and trends of development/decline of settlements and identify the main factors whose influence determines the vulnerability of a particular area of socio-economic development. The information basis for the calculation of indicators, their analysis for the purpose of further use of its results at all levels of government in Kazakhstan were: official statistics; departmental information (akimats of city and district levels, ministries and departments, etc.); information obtained from the websites of regions, cities, districts, and villages; information based on sociological surveys of the population and other methods, as well as scientific publications and developments on this issue.

In general, the study showed that a single methodological identification of depressive and sensitive areas is not endangered. Moreover, the methods used to assess the region's socio-economic situation and its development potential differ significantly. The most common methods are: comprehensive assessment of the potential by type of resources; rating assessment method, which is the most widespread, because it allows for a comparative assessment by region; integral assessment methods, which have the advantage that, on the one hand, allow for a comprehensive assessment, on the other, make it possible to compare the results by region; methods for evaluating the effectiveness of potential used based on the multiplicative criterion.

### **Discussion and result**

Based on the theoretical aspects of foreign and domestic scientists, the author's understanding of the scientific definition of "border territory" suggests the following. Border territory is the area of the territory of any country that is located near the border of states, both by land and by water. It must have functional features and features that define it. The signs consist of the following. Such a territory should be adjacent to the land and water space, where there is a boundary line that provides a

border regime based on the national security of the country, including economic security related to material and financial flows. This implies the functional features of the border - dividing, connecting, conflict resolution, filtering of cross-border flows of labor, commodity and other resources. However, in conditions of increasing interregional trends and deepening of cross-border and integration processes, the border as such does not become a barrier; but on the contrary, its mechanism manifests itself in contact and integration functions. That is, the forms, directions, and tasks of interaction between states for the purpose of the socio-economic development of border territories are changing. The border area is not a lifeless spatial enclave. Still, a space consisting of settlements, which can be cities and towns, that is, administrative-territorial entities forming a separate border area and having specific development features.

It is possible to identify such specific features, but at the present moment, for the most part, this specificity lies in the state orientation of the measures taken, which, as we indicated above, mainly involves the support of successful territories in the form of "growth points" (hub cities, agglomerations, cities of the "first, second, third level"), while overcoming problems and eliminating negative trends faced by backward regions, both economically and socially, remain unresolved for long periods of regional policy, conducted by the state.

Practice confirms the need for an adequate state regional policy for the development of remote areas from the center, and especially border areas, where it is necessary to constantly monitor and assess the implementation of state programs on territorial development.

This follows from the fact that strategic tasks on the allocation of productive forces for the creation of new enterprises, on rational financing of regions are not always realized, which indicates a low management mechanism, there are problems with effective management by regional and local authorities, the underdevelopment of the self-government system. Back on September 1, 2020. President K. Tokayev in his Address to the People of Kazakhstan noted that it is necessary to significantly restructure approaches to the territorial and spatial development of the country. Our regions differ in economic and industrial specialization, the standard of living, and quality of public services. Therefore, territorial development should be built taking into account the competitive advantages of different regions. Almost 30 million people live in the

border regions of Kazakhstan and Russia, and several million-plus cities are located. Close cooperation with Russian authorities and organizations to promote Kazakhstani goods and attract investment is a very important factor in the development of Kazakhstan's border area»<sup>2</sup>.

Meanwhile, the nature of socio-economic differences between the border regions of Kazakhstan varies. In general, these differences are determined by such factors as the geo-economic situation of the region, which allows servicing transit flows of people and goods, attracting investments; accumulated economic and cultural potential; export potential and financial base of development; creative potential of the social environment of regions and regional managers; the established international relations of Kazakhstan, carried out through border areas. In practice, in accordance with the choice of the concept of border formation, the principles and nature of the development of border areas are determined. It seems that for the development of border areas, there is a special need to form new forms to realize the economic potential of such areas. As a result of the study, it was revealed that this form would be new institutional and infrastructural formations, for example, such as special economic zones (SEZ). The creation of SEZs in economically backward regions can change the "balance of power" between the developed regions of the country and the "periphery" towards the latter. The existing system of SEZ benefits will attract investments in the form of financial resources, technological, managerial, and social innovations, giving impetus to the development of backward regions. Their formation within the border territories and on the border, the availability of raw materials from the states, creates conditions and prerequisites for attracting investment not only in the enclave zones of the SEZ but also creates requirements for attracting investment in lagging industries of national economies. This is an undoubted plus. But, as the situation in some regions of the country shows, it is not always possible to create such enclave zones to attract significant investments. Economic resources consisting of production and human potential are needed. Based on the economic potential of the North Kazakhstan region we are studying, the implementation of the resolutions of the Government of the Republic of Kazakhstan on the creation and functioning of such zones is not only possible but also necessary at the moment. The North Kazakhstan region is part of the

<sup>2</sup> [https://www.akorda.kz/ru/addresses/addresses\\_of\\_president/poslanie-glavy-gosudarstva-kasym-zhomarta-tokaeva-narodu-kazahstana-1-sentyabrya-2020-g](https://www.akorda.kz/ru/addresses/addresses_of_president/poslanie-glavy-gosudarstva-kasym-zhomarta-tokaeva-narodu-kazahstana-1-sentyabrya-2020-g)

Northern macro-region of the national economy. Geographically it borders with Omsk, Tyumen and Kurgan regions of the Russian Federation, which significantly affects the dynamics of population, migration and employment in cities such as Petropavlovsk, Bulayevo, Mamlyutka and adjacent villages. In addition, the imbalance studied by us in these indicators directly affects the creation of the Internal Regional Product of the region (GRP) and socio-economic stability. This macro-region specializes most of all in agriculture (grain), but at the same time, the region also has industrial potential, which was a prerequisite for the creation of the SEZ "QYZYLJAR" in 2019. This is the first and only special economic zone in the border region of Kazakhstan and Russia. Its operation has been designed for 25 years. The long-term practice of attracting investments in SEZ indicates that their formation within the border territories and on the border, including land and sea border zones, and the availability of raw materials from states, creates conditions and prerequisites for attracting investments not only in the enclave zones of SEZ but also creates prerequisites for attracting investments in lagging industries national economies. This is an undoubted plus. The negative point here is the underdeveloped economy of the border regions, the peculiarities of social instability, the paucity, which is not attractive for significant investments. In order to develop bilateral trade and economic relations between states, it is necessary to develop infrastructure based on consulting and other services: financial, insurance, legal, and information.

The planned specialization of the SEZ activities in the North Kazakhstan region will be aimed at producing and processing food products, building materials, furniture, electronics, and mechanical engineering. The analysis of macroeconomic indicators of the North Kazakhstan Region showed that today the region's share in the country's GDP is the smallest compared to other regions – 1.6%. GRP per capita amounted to 332.8 thousand tenge, which is the 13th indicator among 16 regions. The mechanism for implementing investment projects of FEZ participants will allow establishing a socio-economic situation, providing jobs to the population, which will stop the outflow of people and give impetus to the development of the entire region. Today, the population decline in the region already poses a threat of extinction to several settlements. For example, we can name the district of North Kazakhstan region – the district of M.Zhumabayev, where the city of Bulayevo is located. The constant outflow of the population



will lead to the fact that the city will have to change its status to a village. The reason is low salaries (on average 80 thousand. tenge) and lack of work. The population of Bulaevo, according to the statistics for 2020, is 7653 people. Of these, an average of 4,300 people are employed. The unemployment rate is 5.0%. Based on the fact that half of the active population is unemployed,

the above figure of 5.0% is questionable. At the same time, most of the population is engaged in agriculture, and its volume per capita exceeds the industry volume twice. We can say that there is virtually no industrial production except for the production and processing of agricultural products. The table clearly shows the factors and indicators of the development/extinction of Bulaevo for 2015-2020.

**Table 1** - System of factors and indicators of development/extinction of Bulaevo for 2015-2020

Item	Indicator	unit of measurement	2015	2016	2017	2018	2019	2020
Socio-economic	Population size	person	7 666	7 704	7 722	7 738	7 722	7 653
	Average monthly nominal salary of one employee	tenge	71 515	75 203	88 266	91 444	94 073	135 090
	Number of employed population	person	4 271	4 327	4 338	4 584	4 264	4 542
	Unemployment rate	%	5,6	5,2	5,0	5,5	5,9	5,0
	Balance of population migration	person	-26	-26	-44	-94	-29	-50
	The volume of industrial output per capita	Thousand tenge	113,4	149,1	142,1	127,1	191,6	190,3
	The volume of agricultural products per capita	Thousand tenge	258,1	292,9	372,6	398,4	511,4	688,5

The volume of industrial output per capita is 152 thousand tenge on average over the years from 2015 to 2020, while the volume of agricultural products per capita is twice as high. Housing in the city is not actually being built, which is one of the factors of the outflow of the population for the most part to the border territories of Russia or within the region and the country. As in the whole region, the population has decreased by 2 thousand people over the past 20 years.

The rating assessment carried out as a result of the study on the system of factors and indicators of development / extinction of the districts of the North Kazakhstan region also revealed another city close to the border with Russia, Mamlyutka, which is the center of the Mamlyutsky district. This locality is classified as «depressive» by socio-economic indicators, although it is located only 40 km from the regional center of Petropavlovsk. It is the only administrative urban locality in the district, the other localities of the district are villages. The population is constantly decreasing. If in 2015. the population was 7,027 people, then by 2020, the population was 6,731 people (table).

For 6 years from 2015 to 2020, 300 people have left and the outflow continues. For the most part, as in the above-mentioned settlements,

the population is employed in the production of agricultural products. The volume of agricultural products per capita exceeds the volume of industry by 3 times. The investment opportunities of the city are extremely small, there are no permanent investments. There is a housing problem and related problems with water, heating and light. Practically, the commissioning of housing per capita is in the critical 0.4 sq.m. for a long period. According to a survey of residents, the status of the city does not solve the problems of the population. Financing per capita from the local budget according to statistics in 2015., in 2016. was not carried out. The budget is extremely insignificant in subsequent years. In 2017 - 4.7 thousand tenge, 2018 - 7 thousand tenge, 2019 - 24.5 thousand tenge, 2020 - 63.3 tenge.

These data allow us to conclude that the studied settlements have the same problems. Based on the analysis of the socio-economic situation, it was revealed that the most serious problem in the development of the region is the negative nature of demographic processes. In addition, there is a strong neglect of the urban life support infrastructure. The situation with the obsolescence of the heat and water supply network is aggravated, sewage systems in all cities have wear at the level of 70-90%.

**Table 2** - System of factors and indicators of development/extinction of Mamlyutka for 2015-2020

Item	Indicator	unit of measurement	2015	2016	2017	2018	2019	2020
Socio-economic	Population size	person	7 027	7 058	6 955	6 870	6 833	6 731
	Average monthly nominal salary of one employee	tenge	72 736	85 133	84 856	89 828	113 041	132 383
	Number of employed population	person	4 052	3 909	3 706	3 836	3 840	3 637
	Unemployment rate	%	5,3	6,5	5,8	5,2	4,8	5,8
	Balance of population migration	person	-35	-44	-37	-32	-31	-36
	Volume of industrial output per capita	Thousand tenge	198,7	249,8	195,6	262,0	308,1	193,2
	Volume of agricultural products per capita	Thousand tenge	281,6	319,7	410,5	437,1	610,0	766,5

High risks of social and labor conflict associated with the limited social and labor mobility of the population. There is a problem of using abandoned housing due to the imperfection of legislation: abandoned apartments cannot be used to improve the living conditions of the remaining or newly arrived residents, since it has been impossible for years to get a waiver of the property of former tenants.

Due to the marginalization of the population, the outflow of skilled workers and specialists, as well as the influx of unskilled labor from villages, the professional and intellectual quality of labor resources has deteriorated. In turn, this trend leads to the reduction of settlements and the aging of the population, etc. In the future, in order to increase the socio-economic potential of the region, it is necessary to take active measures to improve the standard of living of the population by increasing incomes and creating a convenient infrastructure for the life of residents of the region. Apparently, it is necessary to take measures at the level of local state bodies, as mentioned above.

Industrial production, which had a specialization in mechanical engineering, is completely absent. For several years now, the "BioOperations" plant for the production of biofuels of the "KazFoodProducts" group of companies has been put into operation. Solving the problem requires not only private business investment, but also direct government support. In Mamlyutka, a flour mill - elevator for storing grain, silage and other agricultural crops requires modernization. If it is upgraded, it can take up to 300 thousand tons of grain for processing and further export, which will increase employment and social status of the population and the economy of the region.

In the future, to increase the region's socio-economic potential, it is necessary to take active measures to improve the standard of living

of the population by increasing incomes and creating a convenient infrastructure for the residents of the region.

### Conclusion

Thus, the study of settlements of the North Kazakhstan Region – small towns bordering Russia showed that they have the same problems. Bulayevo, Mamlyutka, are underfunded by the budget, so there is no social infrastructure, or socially significant cultural facilities.

If we talk about the root cause of the study of the border settlements of the North Kazakhstan Region, first of all, it is that it is a border region with Russia. Therefore, the modeling and construction of foreign economic relations between Kazakhstan and Russia should proceed from the tasks of economic efficiency, solving issues of social and political stability for these states, especially for Kazakhstan. This requires the choice of specific methods and tools for modeling these relationships. The algorithm of their modeling provides, first of all, analysis and assessment of the current socio-economic situation of the state as a whole. Further, based on the specifics of the economic and social relations of neighboring states, identifying priority areas for the development of border territories, favorable factors for full-fledged cross-border cooperation are determined.

Thus, Kazakhstan needs to adapt to the experience of the European Union, where the principle of subsidiarity (more decisions at a lower level) is one of fundamental ones. Thus, in Kazakhstan, local self-government bodies have limited powers, respectively, and more limited financial and managerial resources to solve problems of local importance. If the degree of centralization of power is high, such a model turns out to be ineffective. The authorities should ensure international activities and properly provide financial support for the

implementation of projects. Practice shows that the budget of our country's border regions does not have sufficient capacity to implement relevant projects. To implement such a model, it is necessary to harmonize interests regarding the strengthening of the central government and the expansion of powers to local self-government bodies.

To enhance the effectiveness of foreign economic relations of neighboring countries, new methods are required in the organization of cross-border cooperation. This is especially important for depressed territories. To do this, it is necessary to develop principles and cooperation areas based on various organizational mechanisms to deepen mutually beneficial ties and interests. The partner countries' norms, rules, and legislation should become the basis. Practice shows the need to form an institutional framework for cross-border cooperation (working groups, meetings, consultations, meetings). The development and strengthening of border institutions at the level of interaction of neighboring states should be based on four priorities: a) a new policy in the field of communications; b) preparation of the region for the implementation of a new policy in the field of environmental protection and land use, c) protection of natural and cultural heritage; d) synthesis of cultures, involving an updated policy in the field of culture, including training, mass media, and exchange between public organizations. By developing greater openness, border institutions should ensure the reduction of barriers within their region, rebuild the economic potential on each side of the border and enable the development of weak structures. In this way, they will help to develop a new policy in the field of investment and development, coordinated with state and international institutions.

In general, a comprehensive solution to the problems of the border regions of Kazakhstan is possible with the phased preparation and implementation of targeted state programs for the development of depressed regions. It is necessary to provide regulatory and legislative support for the development of the self-government system, the improvement of inter-budgetary relations, the formation of full-fledged development budgets in depressed regions, and the provision of various benefits.

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## A Critical Analysis of Regional Program Evaluation Practice in Kazakhstan

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### Abstract

In recent years the development of public program evaluation has received growing attention in Kazakhstan. An institutional and legal base for program evaluation has been established. However, the examination of literature has evidenced that there have been rudimentary attempts to interrogate evaluation practice, particularly at the regional level. It is still not well known how effective or valuable it is. It is imperative to run a diagnostic and assess the evaluation system to answer this question. This article aims to evaluate the quality of regional program evaluation practice in Kazakhstan. It applies a meta-evaluation tool to understand the extent to which such practice complies with three fundamental and recognized evaluation standards: namely, value, validity, and utility. As a sample, the study used evaluation reports conducted by regional Audit commissions. This research is the first attempt to apply established evaluation standards to the Kazakhstani context. Therefore, it was assumed that some discrepancies with the standards may occur. Having confirmed this hypothesis, the findings indicate that regional program evaluation falls far short of these standards. The paper identified many conceptual and methodological problems, which seriously compromise the validity and soundness of evaluation practice. It is expected that it will stimulate discussion in academic and subject matter expert circles. Furthermore, having identified key areas for improvement, the study may help reform the evaluation field and contribute to better policy- and decision-making, thus saving taxpayers' money and improving people's wellbeing. In the end, the research put forward several recommendations for strengthening evaluation practice.

*Keywords:* Evaluation, Effectiveness, Public Programs, Kazakhstan, Meta-Evaluation, Practice

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### Түйін

Соңғы жылдары Қазақстанда мемлекеттік бағдарламаларды бағалау тақырыбына назар артуда. Бағдарламаларды бағалаудың институционалдық және құқықтық базасы қалыптастырылды. Алайда, әдебиеттерге шолу бағалау практикасын зерттеуге, әсіресе аймақтық деңгейде, аз ғана талпыныс жасалғанын көрсетеді. Оның қаншалықты тиімді және пайдалы екендігі аз зерттелген. Бұл сұраққа жауап беру үшін бағалау жүйесін диагностикалау және бағалау өте маңызды. Осы мақаланың мақсаты - Қазақстандағы аймақтық бағдарламаларды бағалау тәжірибесінің сапасын бағалау. Мақалада қолданыстағы бағалау тәжірибесінің үш негізгі және танылған стандартқа, атап айтқанда құндылықтық аспекті, жарамдылық және пайдалылық стандарттарына қаншалықты сәйкес келетінін түсіну үшін мета-бағалау құралы қолданылады. Іріктеме ретінде өңірлік Тексеру комиссияларының дайындаған бағалау туралы есептер пайдаланылды. Аталған зерттеу қазақстандық мәнмәтінде бағалаудың танылған стандарттары мен мета-бағалау стратегияларын қолданудың алғашқы әрекеті болып табылады. Осыған байланысты стандарттардан кейбір айырмашылықтар болуы мүмкін деп болжанған болатын. Алынған нәтижелер, осы гипотезаны растай отырып, бағдарламаларды аймақтық деңгейде бағалау осы стандарттардан едәуір артта қалатынын көрсетті. Мақалада аймақтық бағдарламаларды бағалаудың дұрыстығы мен негізділігіне нұқсан келтіретін көптеген тұжырымдамалық және әдіснамалық мәселелер анықталды. Мақала академиялық және сараптамалық топтардағы пікірталастарды ынталандырады деп күтілуде. Сонымен қатар, жетілдіруді қажет ететін негізгі бағыттарды анықтай отырып, мақала бағалау саласын реформалауға және саясатты және шешімдерді сапалы әзірлеуге ықпал етуі мүмкін. Осылайша салық төлеушілердің ақшасын үнемдеуге және адамдардың әл-ауқатын жақсартуға әсерін тигізе алады. Соңында мақалада бағалау практикасын жаңғырту бойынша бірқатар ұсынымдар беріледі.

*Түйін сөздер:* бағалау, тиімділік, мемлекеттік бағдарламалар, Қазақстан, метабағалау, практика

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## Критический анализ практики оценки региональных программ в Казахстане

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### Аннотация

За последние годы тема оценки государственных программ получает все большее внимание в Казахстане. Была сформирована институциональная и правовая база оценки программ. Однако, обзор литературы свидетельствует о том, что были предприняты лишь малые попытки исследования практики оценки, в особенности на региональном уровне. Остается малоизученным то, насколько она эффективна и полезна. Для ответа на этот вопрос, безусловно, важно диагностировать и оценить саму систему оценки. Цель данной статьи – оценить качество практики оценки региональных программ в Казахстане. В статье использован инструмент метаоценки для понимания того, насколько действующая практика соответствует трем фундаментальным и признанным стандартам оценки: ценностное измерение, валидность и полезность. В качестве выборки использованы отчеты об оценке, составленные региональными Ревизионными комиссиями. Данное исследование является первой попыткой применения признанных стандартов оценки и стратегий метаоценки в казахстанском контексте. Ввиду этого, предполагалось, что могут иметь место некие расхождения со стандартами. Полученные результаты, подтвердив данную гипотезу, свидетельствуют о том, что оценка программ на региональном уровне значительно отстает от данных стандартов. Статья определила множество концептуальных и методологических проблем, которые серьезно подрывают валидность и обоснованность оценки региональных программ. Ожидается, что статья будет стимулировать дискуссии в академических и экспертных кругах. Более того, определив ключевые направления, требующие совершенствования, статья может помочь в реформировании сферы оценки и способствовать более качественной разработке политик и решений, тем самым экономя деньги налогоплательщиков и улучшая благополучие людей. В завершении статья выдвигает ряд рекомендаций по модернизации практики оценки.

*Ключевые слова:* оценка, эффективность, государственные программы, Казахстан, метаоценка, практика

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### Introduction

Program evaluation in Kazakhstan has become an essential aspect of public management (Nygmetov, 2014). Early in 2020, under the Office of the President of Kazakhstan, the Centre for Analysis and Monitoring was created and assessed the Government's programs and reforms. An analogous structure, named the Centre for Evaluation of Public Programs and Reforms, was founded within the ruling political party Amanat (Nur Otan until March 2022) in 2019. The establishment of such institutions, when there are already evaluation bodies operating at the national (Accounts committee) and regional level (Audit commissions), can be viewed as an indirect indication of the insufficient effectiveness in the existing program evaluation practice.

Furthermore, both mentioned Centers have tended to focus on state-level interventions. The same discourse can be observed in expert and academic circles when discussions center around nationally implemented programs (Vechkinzova, 2008; Bopiyeva & Kazakova, 2009a; Bopiyeva & Kazakova, 2009b; Gayfutdinova, 2017; Pokidayev, 2020; Kaldiyarov & Turgambekova, 2019; Yessimova, 2009; Baimbetov, 2019). However, public spending on programs at regional or local (such terms are used interchangeably) levels represents a considerable portion of the country's total national budget. Therefore, investigating the practice of evaluating regional programs deserves considerably more attention, not least for financial accountability purposes (OECD, 2021).

Some concerns were expressed by the President of Kazakhstan Kassym-Jomart Tokayev, who said "The Government develops reforms, implements them, and then evaluates the quality itself. This situation needs to be changed" (Akorda, 2020, p.1). Furthermore, Mr. Tokayev recently called for developing a methodology for assessing state expenditures' social and economic effectiveness, thus emphasizing the importance of improving evaluation in the public sector.

It should be acknowledged that evaluation is a relatively new field in Kazakhstan's public policy arena, with significant developments in this domain has taken place during the last decade. As with any professional enterprise, it should be subjected to proper scrutiny to identify if practices suffer from flaws or mistakes. Building on the theoretical and methodological literature, this research will attempt to fill the existing gap in the literature and examine the practice of

evaluation of regional programs<sup>1</sup>.

Thus, this paper aims to critically analyze and identify areas for improvement in the program evaluation at the local level. The author will utilize a meta-evaluation checklist to address it and assess three fundamental assessment standards: values, validity, and utility.

To achieve this purpose, the following research questions have been put forward:

1. How well does regional program evaluation conform with established evaluation standards?
2. How justified and appropriate are the values used in program evaluation?
3. How valid are program evaluation design and conclusions?
4. How useful are program evaluation conclusions and recommendations?

### Literature review

The literature examination illustrates a shortage of systematic and in-depth studies devoted to the program evaluation, especially at the regional level. One of the few attempts to question evaluation practice in Kazakhstan was made by Nygmetov (2014), who argues that, although many efforts have been made to establish an evaluation system, their effectiveness is far from satisfactory since evaluation is perceived as a form of control and monitoring and not aimed at assessing a real impact of a program. Kari (2015) believes that the potential of evaluation remains unrealized and notes that there are inconsistencies between existing methodologies and the overlapping functions of evaluation bodies that prevent evaluation from being conducted systematically. Kari (2015) concurs with Nygmetov (2014) and points out that current evaluation practice emphasizes assessing short-term outcomes, while impact evaluation is not well developed.

Studies of specific programs usefully illuminate the limitations of evaluation practice. Pritvorova and Bektleyeva (2017) investigated 'Youth Internship' programs providing new graduates with six-month paid internships in state-owned organizations. They argue that while the program has been evaluated based on the number of participants, its longer-term effects (i.e., the job prospects of participants) were not considered.

<sup>1</sup> According to the latest amendments in the system of state planning in Kazakhstan in 2021, state programs have been renamed national projects. However, for the purposes of this paper, the term "program" will be used since the sample consisted of state programs, which were in force before the adoption of national projects. The term "regional program" refers here to any state-funded program implemented at the regional level.



Similarly, dosekova et al. (2018) show that the evaluation of startup commercialization programs needs to be focused not only on input additionality (i.e., the resources spent by firms in addition to state subsidies) but also on outcome additionality. Thus, it is seen that the existing evaluation practice might not adequately address the complexity and multiple aspects of programs.

Some discussions have taken place about tailoring evaluation to the context of evaluated programs (Kaldiyarov & Turgambekova, 2019). In healthcare, for instance, Murzaliyeva and Karshalova (2018) argue that medical organizations in Kazakhstan, such as sanatoriums, in-patient facilities, and polyclinics, have different scopes and objectives; therefore, applying 'one-size-fits-all' indicators to assess their programs is not a justifiable way to judge their effectiveness express the importance of reforming evaluation approaches (Rakhmatullayeva et al., 2015). They discuss an alternative method for assessing the social impact of direct foreign investment in Kazakhstan based on the mathematical modeling method. Although they address state-level interventions, these studies raise important questions about the flexibility and adaptability of evaluation to various settings, including the regional level. To investigate this issue in more depth, it is vital to explore how evaluations are designed and the values that underpin them.

In addition to the above, there is also quite substantial literature written by OECD, which constitutes a valuable source of policy advice but says relatively little about evaluation practice. Nevertheless, its recommendations include creating an evaluation research unit within local executive bodies. It also indicates a weak culture of evaluation and continuous improvement in the public sector (OECD, 2021).

Audit commissions play a central role in program evaluation at the regional level - state entities mandated to conduct both audits and assessments. Therefore, it is vital to review the literature devoted to their activities. It has been found that few works deal with the limitations of the audit system regarding the conduct of program evaluation. The literature mainly investigates its potential role. It is agreed that its capacity has been substantially enhanced, but little is known about its effectiveness in practice. In this respect, some researchers (Dosayeva, 2019; Shakirova et al., 2019; Alibekova et al., 2019) state that the audit concept is a fundamentally new area for Kazakh science, and its capacity and weaknesses are yet to be explored. This illustrates the need for empirical and in-depth studies on the program evaluation dimension of the audit system.

Overall, the papers discussed provide some insights on evaluation practices in Kazakhstan, but they do not give an in-depth analysis of the problems identified, and more research is necessary. This is true for evaluating national and regional programs - although the former has received more attention in the literature. Nevertheless, examining both levels would not be feasible within a single article; thus, its scope is limited to the local level. Furthermore, since 2015, there have been changes in evaluation methodology and legislature (Adilet, 2020). Consequently, there is a clear need to reexamine the theory and practice of evaluation in light of these developments.

### Methodology

The sample was drawn from publicly available evaluation reports conducted by regional Audit Commissions. It included three forms of evaluations: expert opinions, evaluation reports on budget implementation, and performance audit reports with evaluation sections. In performance audit reports, only the evaluation sections were subjected to the analysis.

Evaluation reports are published and openly accessible on the official websites of Audit Commissions. Initial searches demonstrated that some websites contained outdated reports, while several of them were not accessible. Therefore, missing reports were requested from relevant Commissions by completing an online form in the electronic government of Kazakhstan portal.

Initial data collection resulted in 87 evaluation reports. The reports represented 16 regions and cities of national significance. To identify which evaluation reports were applicable to answer the research question, the author has applied inclusion criteria, similar to Scott-Little et al.'s research (Scott-Little, 2002). Table 1 presents inclusion criteria and their description.

**Table 1** - Inclusion criteria

Criteria	Description
Temporal relevancy	Evaluation reports must be published no earlier than 2018
Evaluation report characteristics	Evaluation reports must contain a detailed description of: (i) criteria and standards, their application; (ii) sources of data, methods of analysis (ii) conclusions; (iii) recommendations

Note - Adapted by the author from Scott-Little et al. (2002)

Legislature in the field of evaluation has gone through some amendments; therefore, the author considered only recent reports published after 2018 to reflect those changes. Secondly, reports had to be sufficiently detailed to allow for analysis. After applying these criteria, 39 reports were selected, which formed a sample for the meta-evaluation. Evaluation methodologies in Kazakhstan have not changed significantly since 2020. Therefore, the results of the paper may be relevant to this day.

### Research methods and instrumentation

A systematic review of the evaluation reports was conducted to evaluate their quality by determining their adherence to the evaluation standards described below. As an instrument, the study has used the adapted and synchronized version of Scriven's Meta-evaluation checklist (Scriven, 1991) and Davidson's meta-evaluation tool (1995). Scriven's Meta-evaluation checklist (Scriven, 1995) includes five main criteria of quality: validity, utility, propriety, credibility, and cost. Assessing appropriateness, credibility, and cost standards were not feasible since this information was not reflected in evaluation reports.

Thus, two standards remained: validity and utility. Validity consists of multiple aspects, of which one is the values or criteria upon which the quality of the program is measured. Fournier noted that "criteria can make or break an evaluation because they...directly affect the validity of claims"(Fournier, 1995, p.19). Considering the significant contribution of values, it has been decided to examine this dimension separately. Consequently, the resulting checklist consisted of three standards: values, validity, and utility. Each of the standards was strengthened by adding relevant points from the Key Evaluation Checklist (Scriven, 1991) and the Program Evaluation Standards (JCSEE, 2011), particularly accuracy, utility, and evaluation accountability.

### Results

Before presenting the findings, it is important to look at how evaluation is interpreted in the context of Kazakhstan. According to the Government Decree on the system of state planning (Adilet, 2020, p. 13), evaluation is "an instrument of determining the extent to which state programs achieve effectiveness and efficiency". Efficiency is understood as the accomplishment of best outputs and outcomes using the approved budget, while effectiveness implies the achievement of performance indicators prescribed by plans, programs, and strategies

(Adilet, 2020). This interpretation is clearly distinct from the widely recognized definition of evaluation, i.e., systematic determination of merit and worth of a thing (Scriven, 1991). The implications of this contrast are illustrated throughout the research.

### Values

#### *Where do values come from?*

The data analysis has shown that evaluations of regional programs have drawn upon a minimal set of values, such as program targets, procedural requirements, and institutional and legislative norms. As evidence of failure to address multiple relevant values in evaluations, attention may be drawn to the business development program in Karaganda region, which was evaluated based upon the achievement of program targets, such as the increased number of recipients of entrepreneurship training and microloans for starting businesses (unpublished analytical papers of state bodies). However, the evaluation did not address the values from the perspective of potential impacts; specifically, it might be useful to look at how the program helped to enhance employment opportunities and overcome social and economic problems in the region.

The problem with limiting evaluation scope to pre-determined criteria is that evaluations may overlook numerous symptoms and causes contributing to the achievement of program objectives. As an illustration, the Healthcare Development Program of Karaganda region addressed only five targets (unpublished analytical papers of state bodies). However, the list could be extended to include other relevant objectives. For instance, Aymagambetov and Tyngisheva (2019) claim that the region has serious health issues associated with respiratory and circulatory systems.

Table 2 describes the criteria used to evaluate the Healthcare development program in Karaganda region.

It indicated an array of causes of cardiovascular diseases. However, the scope of evaluation was limited to assessing public education activities, which can be the solution for only one of the causes - specifically, a deficit of awareness about factors leading to cardiovascular diseases. It is important to note that the existing methodologies do not limit evaluators in selecting criteria. Evaluators can develop additional measures to assess programs using various sources (Adilet, 2020). However, the analysis has demonstrated that the potential of this practice has not been fully realized since evaluations have included in their repertoire only those

criteria already prescribed by methodologies (for example, program goals and legislative norms).

**Table 2** - Criteria used in the evaluation of the Healthcare development program of Karaganda region

Criteria	Planned values (for 2018)	Actual values 2018
Life expectancy	72.6	71.7
Maternal mortality per 100 000	11.3	26.2
Child mortality per 1000	9.4	7.4
Mortality from malignant tumours per 100 000	93.1	93
Prevalence of HIV/AIDS in 15-49 age category	0.48%	0.434%

Note - Compiled by the author based on data (unpublished analytical papers of state bodies)

To summarize, the analysis revealed that there had been no evidence of (i) conducting a needs assessment, i.e., identifying and analyzing the priority needs of program impacts, or (ii) scrutinizing causes of problem areas of programs. This produces risks to the validity and accuracy of evaluation findings.

#### ***Achievement of program goals***

Program objectives have acted as a primary criterion for determining the effectiveness of programs. Essentially, evaluations examined whether indicators were achieved and then calculated the percentage of achieving targets, which served as the basis for further conclusions. It is important to note that indicators are not differentiated or ranked. Such an objective-based approach can have serious problems since some objectives may be more significant or relevant than others; giving them equal weight may distort the validity of findings (Davidson, 2005; Stufflebeam & Coryn, 2014).

The above can be demonstrated in the following example. The Education Program of Karaganda region (unpublished analytical papers of state bodies) includes two different criteria upon which its effectiveness is measured (Table 3).

Both targets are relevant, however, the former does not reflect qualitative changes and illustrates only the program's outputs. The first target is more difficult to achieve than the second and more significant since PISA has proved to be an effective and valid knowledge assessment tool internationally (OECD, 2021). Failing to meet

the first target and achieve the second does not necessarily mean that the program performed poorly. However, the analysis has illustrated that evaluations did not grade targets depending on their significance, difficulty, or relevance.

**Table 3** - Criteria of the Education program in Karaganda region

No.	Criteria of the education program in Karaganda Region
1	Achieving better results in the test of the OECD's Program for International Student Assessment (PISA) in the following subjects: Math, Reading, and Science
2.	Ensuring a rise in the percentage of students of vocational education institutions covered by dual education

Note - Compiled by the author based on data (OECD, 2021)

Another critique concerns the justifiability of criteria. An example could be the criterion of 'life expectancy' found in the evaluation of the healthcare program of West Kazakhstan region (unpublished analytical papers of state bodies). The program is unlikely to have significantly impacted it within a reporting period, as the target is global and influenced by various factors (Ho & Hendi, 2018). It must be assessed comprehensively and from a more long-term perspective. Therefore, applying this criterion to gauge program performance annually is questionable.

The research also found that even when objectives are in place, performing evaluation has not always been possible. Evaluations have primarily relied upon official statistical data to assess the achievement of goals and make claims about a program's effectiveness. When statistical data was unavailable, programs were not subjected to further investigation. This has been the case in many evaluations, which had the caveat that assessment of certain aspects of a program was not feasible due to the absence of official data (unpublished analytical papers of state bodies). Similarly, some programs' lack of measurable indicators has prevented evaluators from assessing them (unpublished analytical documents of state bodies). For instance, the program for controlling stray dogs and preventing zoonotic diseases in the Terekti district in West Kazakhstan region lacked any indicators and, therefore, no evaluative activities were undertaken.

To conclude, there was no evidence that various programs' goals were checked for relevance and significance. Further, dependence on program goals has seriously impaired the flexibility of evaluators.

***Legislative norms and standards***

The analysis of the data has demonstrated that an inordinate emphasis has been placed on the assessment of the adherence to legislative guidelines. This indicates the dilution of evaluation practice with elements of a compliance audit. For example, the expert report on evaluating the microloan and entrepreneurship development program in Mangistau region (unpublished analytical papers of state bodies) was predominantly assessed for conformity of program outputs with program specifications and lending regulations. Evaluators have examined the legality of granting microloans within the program by checking the eligibility of program participants. They then looked at whether grants complied with program conditions in creating new jobs by utilizing the funds received for the intended purpose. However, no inferences have been made regarding the impact and value of the program for the sphere of entrepreneurship and business climate in the region in general. The same trend can be seen in many evaluations, which, apart from assessing program objectives, verified the compliance of programs with provisions of the Budget Code and procedural norms for program planning and implementation (unpublished analytical papers of state bodies).

It is argued that this approach may only help to determine a program's merit or intrinsic value. To illustrate this, attention may be drawn to the evaluation of the innovation development program in Karaganda region (unpublished analytical papers of state bodies). It described some activities of the program, such as introducing an electronic ticket system on public transport and installing air pollution control sensors. The program may have conformed with its technical specifications and served its intended purpose; however, the evaluation did not investigate how the program activities had contributed to meeting the needs of the consumer population. The point is that even if legal requirements, technical specifications, or accepted standards of quality are followed, a program nonetheless 'might not be worthy' (Stufflebeam & Coryn, 2014, p. 9).

***Validity******Evaluation logic***

The author investigated the basic logic underpinning evaluative judgments in assessing the validity of the evaluation. To do that, the author relied on the principles of the general logic of the assessment (Stufflebeam & Coryn, 2014). The data analysis evidenced the presence of the first principle of the evaluation logic, i.e., the determination of criteria, although the criteria

selection approach has had serious limitations, as shown earlier. The author has identified some problematic issues regarding the second principle, application of standards of quality. Evaluative conclusions have been limited to stating the fact of the achievement or non-achievement of program goals; or labeling programs as effective/non-effective or efficient/non-efficient, mainly based on the assessment of targets. Evidence suggests that no attempt has been made to set gradation or ranking to judge the performance of programs.

Utilizing a single cut-off level of performance (for instance, effective/noneffective), can hardly be described as good practice (Scriven, 1995; Davidson, 2005). The approach taken in the program evaluations does not provide a complete picture of the performance of programs and does not allow for explicitly evaluative conclusions.

Another problematic point is the difficulty of determining and justifying the cut-off level. For instance, as shown in Table 4, some district programs in Zhambyl region have been evaluated as efficient mainly owing to the highest percentage of achieved indicators, while others fell short of their targets and have been found inefficient (unpublished analytical papers of state bodies). In this regard, a reasonable question may arise as to whether the programs that achieved less than 100% of their indicators performed badly or why programs with over 90% of their targets met cannot be considered efficient. The lack of explicit reasoning and justification of the cut-off score seriously weakens the validity and credibility of conclusions.

As for the fourth element of evaluative reasoning - synthesizing performance results to make an overall judgment - the analysis has shown that the program evaluations have simply reported findings on all evaluative components, including the assessment of goal achievement and implementation of legislative standards. For instance, the evaluation of the regional program of Zharminsk district (unpublished analytical papers of state bodies) concludes that there had been ineffective use of budget funds, ineffective planning, non-achievement of some indicators, non-compliance with standards of developing programs, but no attempt was made to weigh and synthesize evaluation findings. Given that some aspects of performance may be of less significance, it is essential to synthesize findings to draw overall evaluative claims (Davidson, 2005).

**Table 4** - Evaluation of the efficiency of district programs in Zhambyl region

District development programs in Zhambyl region	1.	2.	Calculation of the indicator of efficiency  $\frac{\text{result from column 1}}{\text{result from column 2}} * 100$	Conclusion
	$\frac{\text{overall number of indicators}}{\text{number of achieved indicators}} * 100$	$\frac{\text{overall amount of allocated funds}}{\text{amount of utilized funds}} * 100$		
Bayzak	100%	100%	100%	Efficient
Zhambyl	100%	100%	100%	
Sarysu	100%	100.5%	99.5%	
Zhualy	95,8%	100%	95.8%	Not efficient
Korday	91.3%	101.2%	90.2%	
Moyinkum	95.4%	100%	95.6%	
Talass	95.8%	99.9%	95.8%	

Note - Compiled by the author based on data (unpublished analytical papers of state bodies)

Thus, the overall reasoning pattern observed across program evaluations has entailed only one element of the logic of evaluation (Fournier, 1995), i.e., the determination of criteria, while the remaining three principles (developing standards, measuring performance, synthesizing data to make evaluative judgments) are not reflected in the evaluations. This is quite a disturbing message since basing decisions on dichotomy of effective/non-effective or efficient/non-efficient, and failing to frame conclusions in ‘the vocabulary of grading, ranking or scoring’ (Martens, 2018, p. 27) and adequately synthesizing them, provides only a crude understanding of a program’s value (Scriven, 1995).

It should also be noted that evaluation methodologies and standards employed in Kazakhstan do not address the principles of the general evaluation logic either - apart from identifying criteria. They are more concerned with describing technical and administrative aspects of performing evaluation (for instance, procedures for communicating between evaluators and other state bodies, requirements for documenting reports, and calculation of indicators) or outlining general principles of conducting evaluation (principles of confidentiality, independence, and others), rather than offering specific guidance or strategies for analyzing programs and making evaluative judgments (Adilet, 2020).

#### *Reliability*

Ensuring reliability is “a cornerstone for validity” of an evaluation (JCSEE, 2011, p.179). Reliability addresses the consistency and stability of findings and can be achieved through triangulation of data sources and research methods (Golafshani, 2003).

It has already been noted that program evaluations have relied predominantly on statistical records to assess programs and that, in the absence of relevant statistical data, certain aspects of programs were left uninspected. This contrasts sharply with established good practice of evaluation, which calls for the use of various sources, including direct observation and theoretical logical, analogical, or judgmental sources (Scriven, 1991). The fact that information is dependent upon only one type of data does not allow for a comprehensive understanding of the performance of programs and lessens the validity of interpretations (JCSEE, 2011).

In all fairness, it is worth mentioning evaluations that have relied on surveys when assessing the quality of programs. Three of them used surveys among the youth population to determine the level of satisfaction in respect of state measures to support youth (unpublished analytical papers of state bodies). However, the lack of information about the design, procedures, participants, and funding of the surveys does not contribute to judgments about the reliability of the evaluation conclusions. The third evaluation was aimed at determining the impact of health promotion activities in Nur-Sultan city (unpublished analytical papers of state bodies). It was evaluated

on the increase in the number of people practicing a healthy style. It provided a good description of the survey's processes, design, and tools, conducted within the evaluation. Although the survey simply demonstrated percentages of different age groups who practice some form of healthy living without building any causal links, it formed the basis of the report conclusions. Given the occurrence of the effects of such a campaign may take time, other methods, such as interrupted times series, could be used to collect data and make more defensible evaluation findings.

Thus, the analysis has found that there are serious issues which reduce the reliability of evaluation results since these have predominantly relied upon a single source of data; furthermore, apart from in a few cases, they have not utilized any research methods.

### ***Causation***

One of the significant components of validity in evaluation is building causal inferences (Davidson, 2005). The causation issue essentially implies determining whether a program has been at least a significant cause of effects or outcomes. It has been found that, although the evaluation standards used in Kazakhstan highlight the need to identify factors and reasons that have affected the realization of a program (Adilet, 2020), establishing causal links has not been a common practice. Numerous evaluations evidence this. The evaluation of the Healthcare program of Karaganda region (unpublished analytical papers of state bodies) concluded that, as a result of the program, mortality rate from tuberculosis was reduced by 34.8% and malignant neoplasm by 7.8%, while infectious disease incidence rate was maintained. However, the lack of explanation on how the program, specifically, caused those changes significantly diminishes the validity of such claims.

There have been only a few programs that have gone further and attempted to draw links between program and observed changes. For instance, the evaluation of the Healthy lifestyle promotion program of Nur-Sultan city (unpublished analytical papers of state bodies) has calculated a correlation between the volume of program activities and the incidence of circulatory system disease. The evaluators have acknowledged the limitations of this technique, as those diseases might be caused by multifaceted factors, and justified this decision by the absence of official statistical data on factors contributing to those incidences. However, the evaluation could have produced more defensible conclusions by applying alternative strategies, such

as asking impacts and observers about the impact of a program, examining if the timing of program effects makes sense, and several others (Davidson, 2005).

The study also identified some evaluations which appear to have shown a clear impact of a program. However, a careful examination shows that inferring causation is still required. It is best illustrated in the evaluation of the Entrepreneurship program of Karaganda region (unpublished analytical papers of state bodies), which assessed a project for organizing a six-month paid internship for new graduates so they could gain initial professional experience and obtain full-time jobs. It has been shown that 867 participants out of 1,047 (83% out of 100%) got hired after completing an internship. However, without developing causal links, it is difficult to credibly argue that it was the program that helped the interns to succeed in getting a job because, potentially, the participants might have done due to their personal skills, background education, and other factors outside the program. To determine this, evaluators could, for example, have interviewed the program participants and asked them explicitly whether the program was the leading cause of their successful employment and in what way it helped them to achieve that if the answer was affirmative.

When addressing the causation issue, it is also essential to look at 'rival explanations' (Davidson, 2005, p. 70), i.e., alternative causes. Sources of such explanations may be found in the context of a program. Contextual factors or other parallel programs may either diminish or enhance the program's effects (JCSEE, 2011). The author has found that this principle has not been practiced in regional program evaluations. Overall, the fact that investigating causal relationships is largely unpracticed when evaluating regional programs is probably one of the most significant limitations of the evaluation practice.

### ***Efficiency and cost-effectiveness***

While costs in a broader sense are not limited to monetary costs and, for instance, including human resources, time, and training (JCSEE, 2011), the Kazakhstani regional evaluations have only considered financial costs. Therefore, the author could examine this dimension only.

It has been observed that the determination of efficiency has been based on the examination of program targets and public funds allocated to it. Staying within the approved budget and meeting the targets have been adjudged indicative of an efficient program, whereas failing to stay within the approved budget and/or meet

targets with the same resources demonstrates an inefficient program.

Another consideration when evaluating the efficiency of programs was if program costs were used for the intended purposes and were consistent with principles of the Budget Code and the law, in general. This is another indication of a blurring of lines between evaluation and audit since assessing the compliance of execution of programs with the legislature has traditionally been the prerogative of the audit function.

It is argued that this approach does not wholly correspond with established good practice. Firstly, the judgments about the efficiency of programs are limited in scope and clearly have not been made in a truly evaluative way, as it remains unclear whether the costs were inexpensive, reasonable, or high. Simply noting that costs were efficient/inefficient, based on achievement/non-achievement of goals and proportion of utilized funds is not enough because such claims are insufficiently robust and can be easily subjected to criticism (Davidson, 2005).

To illustrate this, one may pay attention to the evaluation of the regional development program of Saran city in Karaganda region (unpublished analytical papers of state bodies), which was evaluated as 'efficient' based on the fact that 99.8% of indicators were achieved, while the costs stayed within the budget and amounted for 99.8% of the total budget. However, as discussed in the previous section, the evaluations have not dealt realistically with the causation issue, which does not give grounds for asserting with certainty that the program was the primary cause of changes. It might be the case that some criteria of the program (unpublished analytical papers of state bodies), such as a decline in infant mortality, were achieved mainly by the influence of factors outside its scope. Therefore, the claims about the efficiency of program costs, inferred from the fact that indicators were met, are not sufficiently strong and robust. The validity of claims could be significantly substantiated if evaluations included cost-effectiveness or cost-benefit analysis.

### *Utility*

The analysis of evaluations, particularly the Conclusions and Recommendations sections, has revealed several significant findings. First, it was found that recommendations are primarily concerned with the technical and legal aspects of programs. For instance, some evaluations have documented violations of financial planning and budgeting procedures, indicated the need to hold accountable those responsible for mistakes made and provided legal training for servants

to strengthen financial discipline (unpublished analytical papers of state bodies). Other recommendations emphasize that programs must be (i) brought into line with program development standards by developing measurable indicators and clarifying objectives; and (ii) better aligned with strategic and state-level programs. These are meaningful suggestions since they may help to prevent violations that would disrupt the implementation of programs. However, such recommendations have little to do with the substantive content of programs. For example, evaluations have not adequately addressed how the functioning of programs could be improved or what aspects could be modified to achieve better outcomes.

Another set of recommendations refers to the issue of enhancing the overall effectiveness of programs. Nevertheless, most of them are confined to very general statements. For example, program implementers have been encouraged to strengthen coordination between public organizations, enhance monitoring and control over realization of program activities (unpublished analytical papers of state bodies), take measures to improve the efficiency and productivity of programs, etc. It is important to note that these suggestions are already found in the legislature (Adilet, 2020); therefore, program stakeholders would benefit much more from specific, tailored, and actionable recommendations.

Clearly, it is not feasible to assess the implications of the evaluations due to the unavailability of data related to the ultimate use of evaluation findings. However, based on the analysis, the author assumes that the functionality and usability of evaluations in terms of the facilitation of decisions-making is limited, as what has been recommended dealt with technical dimensions of programs or has been too vaguely stated to make adequate use of. Despite this, it is worth mentioning some good practices which may contribute to the application of evaluations. Audit commissions have adopted continuous monitoring of the implementation of recommendations. This procedure is described in detail and enshrined by the rules for conducting audits (Adilet, 2020). Although it is difficult to judge how the cooperation between evaluators and other stakeholders takes place within this practice since the issue has not been reflected in evaluations, the very existence of such practice shows that evaluation does not end with handing over a report and that evaluators are, in fact, willing to provide post-report help (Scriven, 1995). This is vital, as evaluations may require additional explanation and program stakeholders

may have questions or encounter difficulties in the utilization of evaluation findings.

Based on the analysis of the utility component, the author assumes that the usability of evaluation findings in terms of helping in decision-making would be very limited, since there have not been clear and specific conclusions regarding the modification, termination, or enlargement of a program. It is argued that evaluation users could benefit from evaluation results mainly for improving the technical aspects of their programs and bringing them into compliance with legislative norms.

### **Conclusion and discussion**

*How well does regional program evaluation conform with established evaluation standards?*

The evidence showed that regional program evaluation practice in Kazakhstan has failed to meet all standards applied in this study. Serious discrepancies have been observed both at conceptual and methodological level.

It is understood that Kazakhstan, unlike more developed countries such as the United Kingdom or the United States, does not have a long tradition of program evaluation and that major developments in this sphere took place only in recent years. The author also realizes that evaluators generally act within certain legal constraints and in their work rely on methodologies, which might not be perfect. However, the study found that the scale of the problem is so massive, that it raises questions about a fundamental overhaul of the evaluation practice. To suggest otherwise would be to run the risk of doing a disservice to the Kazakhstani public and contributing to poor decision-making, which may involve considerable sums of taxpayers' money.

To arrive at the conclusions, the author scrutinized regional evaluation practice through the prism of three pillars of good evaluation: values, validity, and utility. The following sections discuss the answers to the research questions.

*How justified and appropriate are values used in program evaluation?*

The results of the study show that the evaluation reports addressed the values standard very weakly. Firstly, the study found no evidence of attempts to identify and consider all relevant values needed to assess a program. The programs have been assessed from the point of view of their (i) correspondence to indicators set out in the programs; and (ii) compliance with legislative norms (legality of decisions, fulfillment of technical specifications of programs, and legality

of financial costs of programs). The evaluations have not practically considered the values of program recipients and impacts. Another important point left unaddressed was the identification of underlying causes of the performance of programs.

Secondly, the research has shown that program targets have been treated equally without being subjected to scrutiny to determine their relevance and significance; despite the fact that program goals might carry different weights.

Finally, and most importantly, the evaluations have tended to see program targets and legislative norms as intrinsically correct and the sole method of judging outcomes of a program. Furthermore, the evaluations rest largely on the assumption that if targets are achieved and legislative norms are met, it will, inevitably, lead to attainment of program aims and expected results.

*How valid are program evaluation design and conclusions?*

The research has found several serious issues in this respect which permit the conclusion that the evaluation reports perform very poorly on the validity standard. To demonstrate this, it is worth emphasizing the main findings.

#### *Evaluation logic*

The analysis has illustrated that only one of the key principles of evaluative logic has been addressed by the evaluation reports, specifically the identification of criteria. Evidence shows that evaluators have not attempted to set up standards of performance on those criteria in order to state what is weak, good, or excellent performance. Furthermore, the reports do not make clear the evaluative reasoning employed when making claims about a program's effectiveness or ineffectiveness. Finally, the study found that evaluation findings were reported without being weighted and synthesized. The lack of key elements of the evaluation logic gives the grounds to claim that the evaluation reports are not capable of producing explicitly evaluative conclusions.

#### *Reliability*

The reliability of the evaluation reports is questionable since they mainly use a limited set of data (official statistical data) to assess programs. This can be explained by the fact that the evaluations were primarily oriented at assessing the achievement of program targets; and the information needed to check that is obtained, as a rule, from official statistics. For fairness, it is worth noting that there has been some use of surveys, but this is the exception rather than the rule.



*Causation*

Evidence suggests that the practice of establishing causal links in evaluations has been virtually non-existent. This is definitely a serious limitation and evaluation conclusions can hardly be considered valid without addressing the causation issue. This can be illustrated by numerous examples of evaluations attributing changes to the performance of a program without showing logical links between them.

*Cost-effectiveness*

The concepts of efficiency and cost-effectiveness in the evaluations have been confined to checking if goals were met within a defined budget. This clearly cannot be considered good practice. Firstly, it has already been shown that the program goals might not be valid or justified. Secondly, the assessment of cost-effectiveness cannot be complete without considering alternative ways of spending funds that could produce similar outcomes. The study found no evidence of any tools being employed to achieve this end, such as cost-benefit analysis. Therefore, it is argued that the evaluation reports have performed very poorly on this checkpoint as well.

*How useful are program evaluation conclusions and recommendations?*

It has been found that the majority of evaluation conclusions and recommendations have dealt with redressing violations of legislative norms, taking measures to prevent them in the future, or improving certain technical aspects of programs and others. Such recommendations can be useful only for making sure that the implementation of programs adhere to norms. However, it is unlikely that evaluation users would be able to make any use of them for improving or changing the content of programs. Meanwhile, there are recommendations related to strengthening the effectiveness of programs, but they are non-specific and therefore not functional. Nevertheless, the author has indicated some good practices; specifically, the practice of reviewing the implementation of evaluation results, which could be an example of post-report interaction and potentially may help evaluation users to apply them.

*Practical implications*

Based on the research, some policy recommendations can be put forward. Firstly, the understanding of evaluation needs to be conceptually reviewed. We have seen throughout the research that over-emphasizing program goals and treating them as a priori true has led to 'tunnel vision' (Youker & Ingraham, 2014). Consequently, the evaluators have failed to see

other values involved and other intended or unintended effects of the programs.

Secondly, a clear distinction between evaluation and audit should be made. It was found that the evaluation practice has inherited many features of the audit function. A significant aspect of the evaluations has been concerned with checking the conformity of programs to legislative norms and identifying any violations. These are important but the evaluation is much more than that (Chelimsky, 1985).

Thirdly, in the light of the research findings, it seems vital to develop single comprehensive guidance on program evaluation, which would address all aspects of evaluation. Today, evaluators are guided by a plethora of methodological documents. This clearly does not contribute to performing an evaluation in a systematic and focused way. More importantly, the evaluation legislation lacks specific techniques and strategies for design and implementation. In this regard, it might be particularly useful to refer to certain specific public program evaluation methodologies. For example, the United Kingdom's HM Treasury's Magenta Book (Open Government, 2020) provides a good example of systematic evaluation guidance for public programs.

Finally, to ensure high-quality and sound evaluations, the audit authorities of Kazakhstan should consider developing and adopting evaluation standards. Presently, evaluation practice in Kazakhstan lacks professional and sound evaluation standards. The standards for evaluation and audit used today can hardly be described as such in the classical sense since they either describe (i) how administrative procedures should be performed (for instance, how reports should be drawn up and submitted); or (ii) principles of conduct, such as independence, confidentiality, transparency, credibility, and objectivity, rather than providing criteria of quality and guidance on how to achieve them. In this context, a good starting point would be to review the Program Evaluation Standards and Key Evaluation Checklist and explore the possibility of their adoption.

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## Socio-Economic Problems of Depressed Settlements of Kazakhstan: an Empirical Analysis

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### Abstract

In the conditions of sustainable development, special attention is paid to the balanced development of the territory. In regional studies, the study of the state of depressed settlements has scientific and practical relevance. In this regard, the conceptual analysis of the concept “depressed region” and “vulnerability of settlements” allows us to define important parameters for the study. The aim of the article is an empirical analysis of the socio-economic problems of vulnerable settlements. Based on the literature study, the conceptual bases of depressiveness and social vulnerability of settlements are highlighted, and the main parameters of its assessment are singled out. The method of data collection was a questionnaire. As a result of a sociological survey of the population, the sample consisted of 300 respondents from vulnerable areas in East Kazakhstan, Zhambyl, and North Kazakhstan regions. According to the results of the survey, several socio-economic issues among the settlements can be identified: lack of livelihood, there is no opportunity for development, poor infrastructure, lack of jobs and opportunities to earn money, poor living conditions, poor environment, problems with getting vocational education, retraining, etc. According to the survey, it is important to develop infrastructure. To address the development of depressed and vulnerable settlements, it is necessary to create transport and social infrastructure: road network, communications, Internet, development of organizational and economic mechanisms: increasing state support for local businesses, strengthening the role of local authorities, providing soft loans and subsidies to the population, providing settlements with social facilities, providing grants for the development of their businesses.

*Keywords:* Depressed Region, Regional Economy, Social Vulnerability, Vulnerability Framework, Socio-Economic Development, Territorial Development

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## Қазақстанның депрессивтік аймақтарының әлеуметтік-экономикалық мәселелері: эмпирикалық талдау

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### Түйін

Тұрақты даму жағдайында аумақтың теңгерімді дамуына ерекше көңіл бөлінеді. Регионалдық зерттеулерде қолайсыз елді мекендердің жай-күйін зерттеудің ғылыми және практикалық маңызы бар. Осыған байланысты «депрессиялық аймақ», «елді мекендердің осалдығы» ұғымдарын тұжырымдамалық талдау зерттеу үшін маңызды параметрлерді анықтауға мүмкіндік береді. Мақаланың мақсаты-осал елді мекендердің әлеуметтік-экономикалық мәселелерінің эмпирикалық талдауы. Әдебиеттерді зерттеу негізінде елді мекендердің депрессиясы мен әлеуметтік осалдығының тұжырымдамалық негіздері бөлініп, оны бағалаудың негізгі параметрлері анықталды. Деректерді жинау әдісі сауалнама парағы болды. Халықтың әлеуметтік сауалнамасы нәтижесінде іріктеме Шығыс Қазақстан, Жамбыл және Солтүстік Қазақстан облыстарының осал аудандарынан 300 респонденттен тұрды. Сауалнама нәтижелері бойынша елді мекендер арасында бірнеше әлеуметтік-экономикалық проблемаларды бөліп көрсетуге болады: өмір сүру қаражатының болмауы, даму мүмкіндіктерінің болмауы, инфрақұрылымның нашарлығы, жұмыс орындары мен ақша табу мүмкіндіктерінің болмауы, тұрмыс жағдайының нашарлығы, экологияның нашарлығы, кәсіптік білім алу, қайта даярлау проблемалары және т. б. Күйзеліске ұшыраған және осал елді мекендерді дамыту мәселелерін шешу үшін көлік және әлеуметтік инфрақұрылымды: жол желісін, байланысты, Интернетті дамыту, ұйымдық-экономикалық тетіктерді дамыту: жергілікті бизнесті мемлекеттік қолдауды ұлғайту, жергілікті билік органдарының рөлін күшейту, халыққа жеңілдікті кредиттер мен субсидиялар беру, Елді мекендерді әлеуметтік мекемелермен камтамасыз ету, өз бизнесін дамытуға гранттар беру қажет.

*Түйін сөздер:* депрессиялық аймақ, аймақтық экономика, әлеуметтік осалдық, осалдық шеңбері, әлеуметтік-экономикалық даму, аумақтық даму

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## Социально-экономические проблемы депрессивных регионов Казахстана: эмпирический анализ

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### Аннотация

В условиях устойчивого развития особое внимание уделяется к сбалансированному развитию территории. В региональных исследованиях изучение состояния неблагополучных населенных пунктов имеет научную и практическую значимость. В связи с этим, концептуальный анализ понятия «депрессивный регион», «уязвимость поселений» позволяет определить важные параметры для проведения исследования. Целью статьи является эмпирический анализ социально-экономических проблем уязвимых поселений. На основе изучения литературы выделены концептуальные основы депрессивности и социальной уязвимости поселений и выделены основные параметры ее оценки. The method of data collection was a questionnaire. В результате социологического опроса населения выбор состоял из 300 респондентов из уязвимых районов Восточно-Казахстанской, Жамбылской и Северо-Казахстанской областей. По результатам опроса можно выделить несколько социально-экономических проблем среди населенных пунктов: отсутствие средств к существованию, нет возможности для развития, плохая инфраструктура, отсутствие рабочих мест и возможности заработать, плохие условия жизни, плохая экология, проблемы с получением профессионального образования, переподготовки и т.д. Для решения вопросов развития депрессивных и уязвимых населенных пунктов необходимо развитие транспортной и социальной инфраструктуры: дорожной сети, связи, интернета, развитие организационно-экономических механизмов: увеличение государственной поддержки местного бизнеса, усиление роли местных органов власти, предоставление населению льготных кредитов и субсидий, обеспечение населенных пунктов социальными учреждениями, предоставление грантов на развитие своего бизнеса.

*Ключевые слова:* депрессивный регион, региональная экономика, социальная уязвимость, рамки уязвимости, социально-экономическое развитие, территориальное развитие

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### Introduction

The concept “depressed region” has different definitions by various authors. There is no clear definition of “depressed region”. Shtulberg defined the term depressed region as a specific territory with above-average economic potential, industrial production in the economic structure, a high level of qualified specialists, high rates of decline in the economy of basic industries, below average investment activity, unemployment, low levels of real income of the region compared to the national average and low levels of budgetary security (Shtulberg, 1997). According to such authors as Seliverstov, Bandman, and Guzner, a depressive region is a developed region that has lost its position as a leader today (Seliverstov et al., 1996). Yakovenko believes that depressive regions are considered to be special typological groups with signs of entering the phase of socio-economic instability, and a decline in the steps of cyclical rhythm (Yakovenko, 2013). Asmus defined the concept “depressed region” - the subjects with infrastructural, human, scientific, technical, climatic potential, the growth rate dynamics of the leading indicators of which have been reduced by the established standard for the last five years (Asmus, 2008). The following indicators of the definition of a depressive region were identified: growth rate, budget sufficiency, income per capita, investment attractiveness, employment of the population, personal income, and indicators of production growth rates. According to the definition given by the scientists, Surkova and Shusharina depressive region is the territory in which the resource and production base has entered the stage of steady decline while excluding the emergence of subsequent development incentives (Surkova & Shusharina, 2009). Balakrishna defined a “depressive region” as a problem region characterized by crisis processes, low economic activity, a decrease in the population’s quality and standard of living, and a reduction of production volumes in traditionally specialized industries (Holodkova et al., 2020). In depressed regions, there are not enough sources to revive the depressive conditions, either there are no resources at all.

However, depressed regions, according to scientists, have a significant share of industry, a significant number of specialists, and accumulated economic potential. Scientist A.G. Granberg most accurately defined the essence of the concept of “depressed region” (Granberg, 2003). Scientists believe the regions have different problems and combinations, such as social, economic, financial, and others. Problem regions are divided into two types: depressed and backward regions.

The distinction between backward regions lies in the fact that depressed regions took a leading position in the branches of the state economy in the past. In contrast, backward regions had the same values of socio-economic indicators. By the coincidence of various circumstances and times, developed regions have lost their former importance and become depressed. The foreign experience of depressed regions is the reason for their emergence, which can include a small degree of uneven development of economic sectors and industrial diversification (Sankovets, 2011).

According to the Resolution of the Government of the Republic of Kazakhstan dated December 7, 2001, No. 1598, “On the Concept of Regional Policy of the Republic of Kazakhstan” the following criteria were defined: depletion or lack of resource base; underdeveloped production infrastructures; not very favorable environmental conditions; a volume of industrial production per capita below 20% of the average republican value; the unemployment rate for the last three years above the average republican indicators by 50% and others. When studying the issue of “depressed regions” of Kazakhstan, it is necessary to divide these regions into two categories. An example of the first category of depressed areas is the Aral Sea region; that is, these are regions in which there is an increase of negative aspects in employment, ecology, demography, and others. The second category includes settlements, which are the point of depressive growing tension on the map of the republic region. Zhangel'dy and Amangeldy regions, famous for their cattle-breeding activities, have recently been in crisis.

In Kazakhstan, on September 5, 2003, a program for developing small towns was drawn up with Resolution No. 903 “On the Action Plan to Implement the Program of the Government of the Republic of Kazakhstan”. To find out the actual situation in depressed and vulnerable settlements as part of the assignment, a sociological survey was conducted among the population of villages and cities of the regions of Kazakhstan (the example of East Kazakhstan, Zhambyl, and North Kazakhstan regions). Respondents from depressed and vulnerable areas were selected for the analysis. Based on the analytical review of the literature, it was concluded that social surveys are a more concrete way to identify the state of a depressed region because it is the population that is the primary evaluator. The aim of the article is an empirical analysis of the socio-economic problems of vulnerable settlements. A survey was conducted among vulnerable areas in East Kazakhstan, Zhambyl, and North Kazakhstan regions.



### Literature review

Economic development of depressed regions is critically important because if the depressed state of the area is not adequately prevented, it poses a threat to regional differentiation. Therefore, the acceleration of regional development processes and innovations in depressed regions leads first to improving the quality of life of the people living in the region. Boschma and Lamba considered the evolution of the old industrial regions based on interactive learning (Boschma & Lambooy, 1999). Shin and Hassink analyzed the restructuring of old industrial areas (Hassink & Shin, 2005). Such scholars as Steiner, Iking, Tsipouri, McGahey, and Vey have investigated the formation of old industrial regions (Steiner, 1985; Iking, 2004; Tsipouri, 2005; McGahey & Vey, 2008). Birch, MacKinnon, and Cumbers considered the experience, condition, and problems of old industrial regions of Western Europe (Birch et al., 2010). In the works of Kazakh scientist Sultanova, the economic development features of Kazakhstan's regions and the state measures taken are considered (Sultanova, 2020).

Vulnerability is a complex terminology that includes both socio-economic determinants and physical determinants that affect the susceptibility of a particular territory (Adger, 2006). The definition of "vulnerability" varies across disciplines, from psychology to economics. In general, the concept of "vulnerability" is defined as susceptibility to harm (Füssel & Klein, 2006). Also, "vulnerability" is interpreted as the interaction between sensitivity, adaptive capacity, and exposure (Abson, 2012). Sensitivity is considered a system subject to the influence of stressors, exposure is studied as a system susceptible to external pressure, and adaptive capacity is characterized as the ability to adapt and cope with the changes available (Eakin & Amy, 2008). Social vulnerability is considered economical and social aspects, focusing on understanding vulnerability (Birkmann et al., 2013). Social vulnerability is considered to locate a particular society's threat and identify vulnerability (Ribot, 2014). According to scholars, different dimensions influence approaches to studying social vulnerability (Nguyen et al., 2017; Füssel & Klein, 2006). Researchers have identified the following dimensions in conceptualizations of vulnerability:

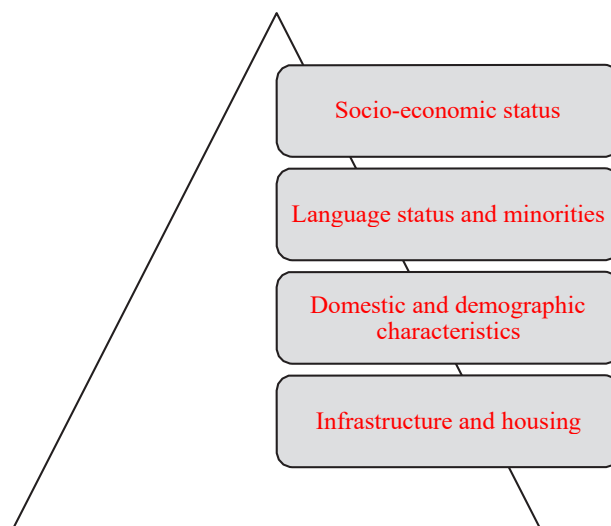
1) the domain of knowledge that distinguishes socioeconomic vulnerability from physical vulnerability;

2) the domain is divided into external (environment, topography, sea level rise) and internal factors (education, household income, social networks);

3) spatial scale (SVI studies are conducted at the international level (Abson, 2012), at the national level (Ribot, 2014), at the local level (Nguyen et al., 2017);

4) data sources (use of secondary data).

Let us distinguish the factors influencing social vulnerability: infrastructure density, intensive and expansive land use, inequality (social status), many regional residents, and inequality (socio-economic status). The most well-known classification of factors forming social vulnerability is considered and proposed by Hallisey (Flanagan et al., 2011). According to this classification, four main areas should be distinguished. The classification is presented in figure 1.



**Figure 1** - Classification of factors forming social vulnerability Note - compiled by the author from the source (Flanagan et al., 2011).

The structure and population size distribution characterize the demographic domain. For example, it includes gender, age, family composition, and housing. This domain uses economic factors to identify socio-economic indicators (Wu et al., 2002). The socio-economic environment is characterized by measuring the financial positions of specific groups of people and individuals. Indicators such as employment, poverty, per capita income, and education are measured here (Flanagan et al., 2011).

The infrastructure and housing domain includes the following indicators: electricity, water supply, percentage of mobile homes, and crowding rate (Tierney, 2006). The quality of infrastructure and housing are the main factors in assessing social vulnerability. Infrastructure and housing are more

related to the wealth of homeowners. Consequently, the housing of vulnerable populations is, in many cases, mobile homes or poorly constructed, vulnerable to physical threats.

#### Methods and data

The study used a quantitative research method, which allows us to estimate the prevalence and magnitude of the studied parameters. A questionnaire is the method of data collection for quantitative research. The goal of quantitative studies is to precisely capture details of the empirical social world and express what we find in numbers (Djamba & Neuman, 2002).

The data collection method is a questionnaire, which allows you to collect primary data. As a result of a sociological survey of the population, the sample consisted of 300 respondents from

vulnerable areas in East Kazakhstan, Zhambyl, and North Kazakhstan regions. The choice of these regions is generalized because, according to the statistical analysis results, depressed areas were identified precisely in these regions (Kireyeva et al., 2022). In this regard, special attention is paid to studying the socio-economic problems of depressive targeted prescriptions. For the temporal representativeness of the sample, a target quota was formed considering the gender categories of the population, and the total sample was distributed according to this proportion. Socio-demographic characteristics describing the sample are presented in Table 1. The data show that the survey covered various groups of people according to several characteristics (socio-demographic): age, gender, marital status, and level of education regions of Kazakhstan.

**Table 1-** Socio-demographic characteristics of respondents, N=300

Questions	Total	%
Gender	men	47,5
	women	52,5
Age	18-29 years old	12,1
	30-45 years old	46,6
	46-55 years old	30,7
	56-65 years old	10,7
The level of education	No education, primary	1,4
	Partial secondary (basic)	2,8
	Secondary general, vocational school	3,4
	Secondary specialized (technical school, college, college, etc.)	15,5
	Incomplete Higher	4,8
	Higher (including bachelor's and master's degrees)	72,1
How many children are in your family?	1-2	56,7
	3-4	39,6
	5 or more	3,6
Specify your region	East Kazakhstan	33,8
	North Kazakhstan	32,1
	Zhambyl	34,1

Note – compiled by authors

The distribution of respondents by financial situation, presented in Table 12 of households, indicates that the survey covered the population with different financial conditions: both with a difficult financial situation, with an average financial situation, and without financial difficulties.

It is noted that a large number of the resident population is experiencing financial difficulties (56.5%).

**Table 2** - Distribution of respondents according to the financial situation of the household

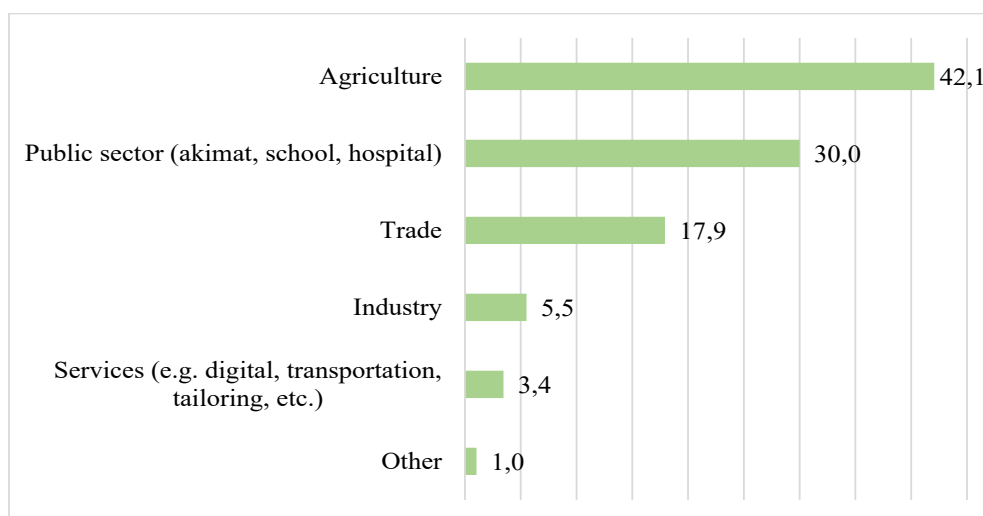
Answer options	%
Can afford food, clothes are difficult to buy	25,5
It would be difficult to buy a TV, refrigerator or washing machine now	22,4
Our earnings are enough for everything, except for such expensive acquisitions as an apartment/house	18,3
There is enough money for large household appliances, but we could not buy a new car	11,4
Refusal to answer	10
Not even enough money for food	8,6
We do not experience any financial difficulties. If necessary, could buy an apartment/house	3,8

Note – compiled by authors

Thus, according to the target sample, a survey was conducted among residents of vulnerable areas in East Kazakhstan, Zhambyl, and North Kazakhstan regions. The data were processed using the SPSS25.

### Results

In territories with signs of vulnerability and depressiveness, the respondents stated that agriculture is the predominant industry in their settlements (42,1%). The public sector (akimat, school, hospital) (30,0%) and trade (17,9%) are also primary sectors. Only 5,5% of the respondents chose the option “industry” (Figure 2).

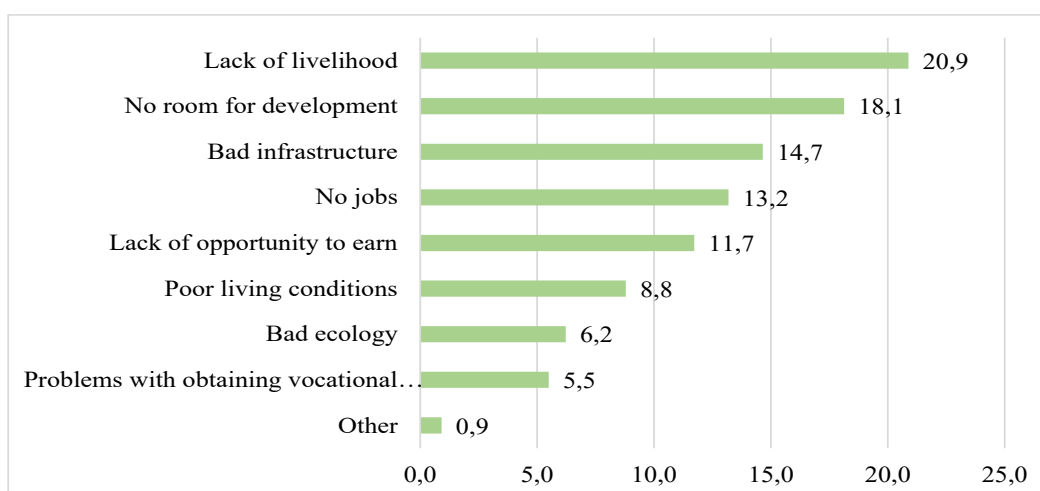


**Figure 2** - Distribution of answers to the question “Which industry or area of activity is predominant in your city or village?”, %

Note – compiled by authors

On the whole, it can be noted that in the majority of studied settlements, primary sources of income of a family are state payments, allowances, pension (43.2%), public service (15.1%), subsidiary farming (12.3%), and individual entrepreneurship (8.0%).

Figure 3 shows the distribution of respondents' answers to the question “What are the main problems of your family?”.



**Figure 3** - Distribution of answers to the question “What are the main problems of your family?”, %

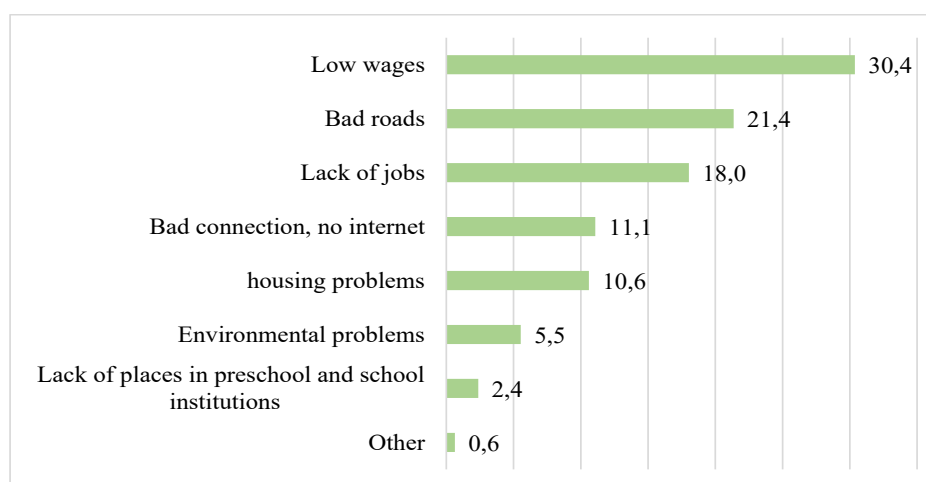
Note – compiled by authors

According to the survey results, several of the most acute unresolved socio-economic issues among the settlements can be identified. Thus, respondents from each group of settlements identified a material problem in the family - “lack of livelihood” - 20.9%. Further, the next group of respondents noted that “there is no opportunity for development” in their settlements “ - 28.4%.

As can be seen from the results obtained, some respondents noted unresolved socio-economic and infrastructural problems in settlements. In particular, poor infrastructure (14.7%), lack of jobs (11.7%) and opportunities to earn money

(11.7%), poor living conditions (8.8%), poor environment (6.2%), problems with obtaining vocational education, retraining (5.5%). In a more detailed examination of the answers, some respondents identified other unresolved issues: the availability of loans, lack of housing, lack of money, health problems, and some subsidiary farms having problems with heating and drinking water.

Another important evaluation indicator is a public opinion survey about significant problems of a city or village. Figure 4 shows the distribution of respondents’ answers to the question “What are the main problems of your city or village?”



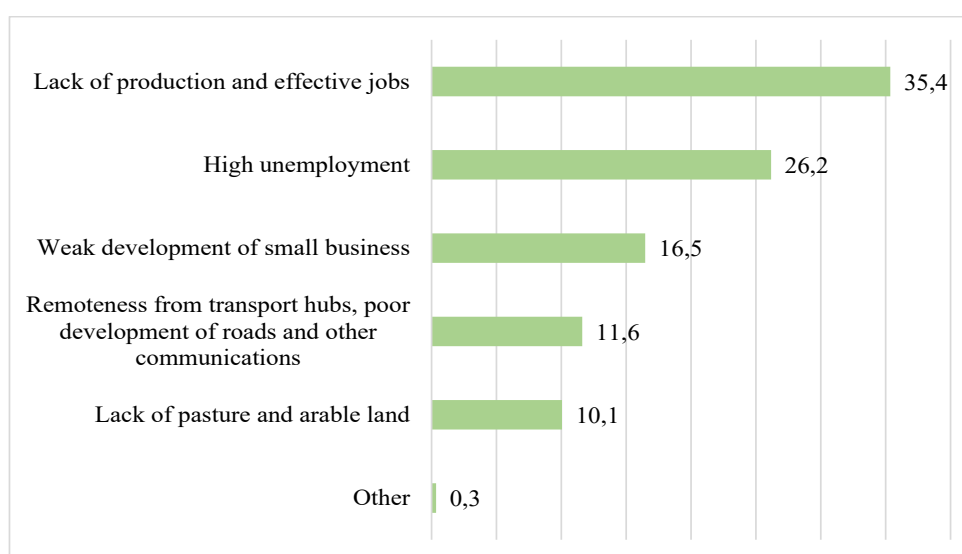
**Figure 4** - Distribution of answers to the question “What are the main problems of your city or village?”, %

Note – compiled by authors

The results of conducted research prove that salary in most settlements in North Kazakhstan region, East Kazakhstan region and Zhambyl Region remains a severe problem, and a specific part of the population is dissatisfied with their financial situation. The majority of respondents to the question “What are the main problems of your city or village?” pointed out “low wages” - 30.4%, in the second place - “bad roads” - 21.4%, in the third place - “lack of jobs” - 18.0%, on the fourth - “bad connection, lack of Internet” - 11.1%, on the fifth - “problems with housing” - 10.6%. Accordingly, social and economic tension are key

reasons remain unemployment and poverty. Issues surrounding ecological problems- 5,5%, shortage of places in preschools and schools -2,4% are relevant to respondents to a less degree. It is also noteworthy that some respondents outlined a set of other problems - lack of public water supply, poor quality of medicine, and lack of Kazakh schools.

The further significant direction of the research is public opinion assessment on the degree of poverty of their settlement. Figure 5 there is presented a distribution of answers of respondents to the question “In your opinion, what is the reason for the high level of poverty in your city or village?”



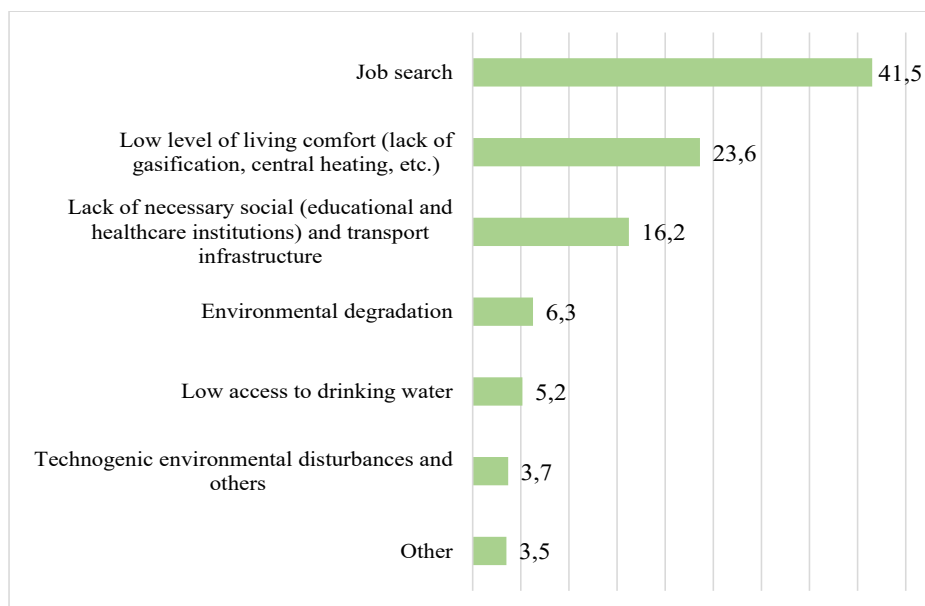
**Figure 5** - Distribution of answers to the question “In your opinion, what is the reason for the high level of poverty in your city or village?”, %

Note – compiled by authors

One of the critical problems of many depressed settlements is the analysis of the level of population migration. Figure 6 shows the distribution of respondents’ answers to the question, “In your opinion, what are the reasons for the high level of migration from your locality?”.

Based on the results of the analysis of respondents’ answers, it was revealed that the main reasons for the high level of migration from depressed and vulnerable settlements are: job search (41.5%), low level of living comfort (lack of gas supply, central heating, etc.) (23.6 %), lack of necessary social (educational and healthcare institutions) and transport infrastructure (16.2%). Also, essential problems include the following environmental issues: environmental degradation (6.3%), low access to drinking water (5.2%), man-made environmental disturbances, and others (3.7%).

In the responses to the question about the level of poverty of the population, the absence of industries and practical jobs (35.4%) stand out by a wide margin. This is followed by a high unemployment rate (26.2%) and weak small business development (16.5%). It is seen that for settlements, especially rural areas, the problems of remoteness from transport hubs, poor development of roads and other communications (11.6%), and lack of pasture and arable land (10.1%) are also relevant.

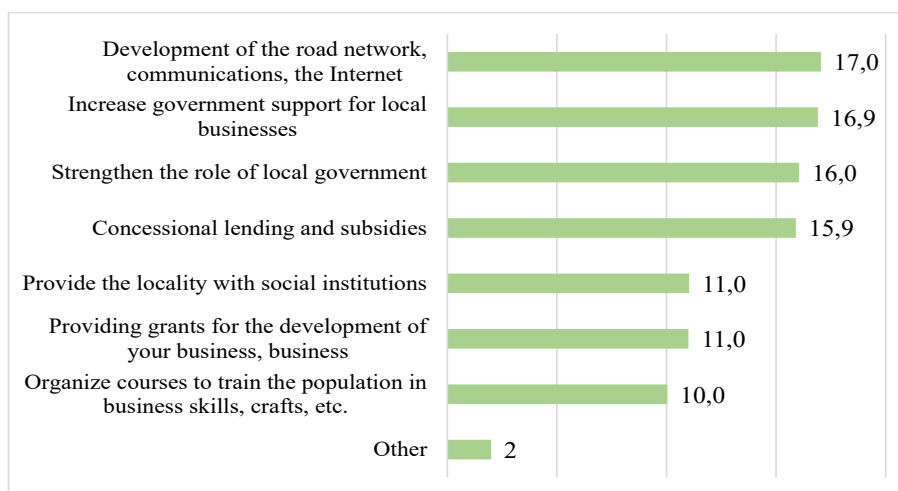


**Figure 6** - Distribution of answers to the question “In your opinion, what are the reasons for the high level of migration from your locality?”, %

Note – compiled by authors

Based on the population survey in the settlements, it is important to develop infrastructure and solve the social problems of the population. According to the results of the analysis of the answers it was revealed that for active development of depressive and vulnerable settlements, first of all, it is important to develop infrastructure – development of road network, communication routes, the Internet, and secondly, the development of organizational and

economic mechanisms to increase state support for local businesses, strengthen the role of local self-government, granting the population preferential crediting and subsidizing. In addition, vital importance is given to the following measures: settlement provision with social welfare institutions, providing grants for the development of their own business, organizing courses to teach the population business skills, crafts, etc.



**Figure 7** - Distribution of answers to the question “In your opinion, what measures should be taken to develop your city, or village actively?”, %

Note – compiled by authors

### Conclusions

The analysis of the results shows that the level of development of settlements is not satisfactory for residents. Ultimately, the primary focus of the population concern is on socio-economic problems, low level of development of transport, and social infrastructure in cities and villages.

Thus, a sociological survey of residents of settlements in the regions of Kazakhstan (North Kazakhstan, East Kazakhstan, Zhambyl Region) made it possible to draw the following conclusions: in settlements with signs of vulnerability and depression, the predominant industry and areas of activity are agriculture, the public sector (akimat, school, hospital). Family members are partly provided with the jobs, and the majority of the population have financial issues; material problems - low wages, lack of livelihood, lack of development opportunities, lack of jobs, difficulties with obtaining education, opportunities to earn money, retraining are among significant socio-economic problems of the inhabitants of the settlements of the regions. The population has issues with loans, housing problems, lack of money, health problems, and problems with heating and drinking water as well.

Primary infrastructural and environmental problems of depressive and vulnerable settlements are poor roads, poor communication, lack of Internet, housing problems, poor living conditions, environmental problems, drinking water quality, and lack of places in preschool and school institutions.

The outflow of the population from depressive and vulnerable settlements to more prosperous villages and cities is affected by the following reasons: job search, low level of living comfort (lack of gas supply, central heating, etc., lack of the necessary social (educational and healthcare institutions) and transport infrastructure, deterioration environmental situation, low level of access to drinking water, technology-related environmental disturbances and more.

Thus, considering the survey results among people in vulnerable and depressed regions (East-Kazakhstan, North-Kazakhstan, Zhambyl), the following negative aspects were identified: the presence of socio-economic problems, a weak level of infrastructure, and environmental development. To solve the issues of formation and development of vulnerable and depressed areas, it is essential to promote transport and social infrastructure. Since the development of the road network, communication routes, and the Internet, the development of organizational and economic mechanisms can contribute to improving

regional policy to overcome the depopulation of strategically important settlements in Kazakhstan. Moreover, as a set of measures, it is suggested: to direct efforts towards the formation of institutions for the development of dying settlements, which should be provided with a group of measures, retraining of the population; support of the people through the development of small businesses; it is necessary to direct efforts to create a new high-tech environment in single-industry towns and small towns to be more actively involved in solving the problem of employment

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## Research of Ecological Behavior of Agglomerations Residents of Kazakhstan

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### Abstract

The purpose is to research the environmental and economic practices used by households in urban agglomerations. As is known, ecological behavior is a very important part of the value paradigms. Improvement of the environmental situation at the global level is possible only with the active participation of civil society, while country and regional specifics determine the research and development of effective approaches of a reasonable environment attitude. Kazakhstan with large territories has urgent problems in terms of air quality, water quality, waste management, biodiversity conservation, etc. The authors used a directional approach in the formation of a questionnaire, considering the peculiarities of residence at the place of residence and the characteristics of the respondents. This as result of the understanding that residents of urban agglomerations have wide access to information, infrastructure, communities and movements, which positively affects the dynamics of the formation of important skills, as well as more environmentally responsible behavior in behavior. Based on international experience, a research methodology included conducting a survey in three large Kazakhstan's cities. The regression model used for quantitative results, which mathematically describe the degree of influence of individual variables on the overall indicator. As part of the research, three hypotheses determined how individual factors effect on environmental behavior, which made recommendations and conclusions. The results presented in the research used for a comparative analysis of the manifestation of the ecological behavior of the inhabitants of agglomerations. The results used for a comparative analysis of the ecological behavior of the inhabitants of agglomerations.

*Keywords:* Ecological Behavior, Environment, Strategy, Urban Agglomerations, Green Economy

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## Қазақстан агломерациялары тұрғындарының экологиялық мінез-құлқын зерттеу

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### Түйін

Бұл зерттеудің мақсаты – қалалық агломерациялардағы үй шаруашылықтары пайдаланатын экологиялық және экономикалық тәжірибелерді зерттеу. Өздеріңіз білетіндей, құндылық қатынастардың мінез-құлқындағы көрініс экологиялық мінез-құлқын сияқты белгілі тұжырымдаманың өте маңызды бөлігі болып табылады. Экологиялық жағдайды жаһандық деңгейде жақсарту азаматтық қоғамның белсенді қатысуымен ғана мүмкін болады, ал елдік және аймақтық ерекшеліктер қоршаған ортаға парасатты қарым-қатынас идеяларын белсенді түрде ілгерілетудің тиімді тәсілдерін зерттеу және әзірлеу қажеттілігін анықтайды. Өзінің үлкен аумақтарымен ерекшеленетін Қазақстанның ауа сапасы, су сапасы, қалдықтарды басқару, биоәртүрлілікті сақтау және т.б. тұрғысында өзекті мәселелер бар. Жаппай сауалнама жүргізу үшін сауалнаманы қалыптастыруда авторлар тұрғылықты жері бойынша ерекшеліктерін және респонденттердің құндылық таңдауларды ескере отырып, арнаулы пайдаланды. Себебі қалалық агломерациялар тұрғындарының ақпаратқа, инфрақұрылымға, қауымдастықтарға және қозғалыстарға қол жетімділігі жоғары екенін түсінуге байланысты болды, бұл маңызды дағдыларды қалыптастыру динамикасына оң әсер етеді, сондай-ақ мінез-құлқындағы экологиялық жауапты мінез-құлқын көрсетеді. Зерттелген халықаралық тәжірибе негізінде Қазақстанның үш ірі қаласында сауалнама жүргізуді қамтитын зерттеу әдістемесі қалыптасты. Сандық нәтижелерді алу үшін жеке айнымалылардың жалпы көрсеткішке әсер ету дәрежесін математикалық сипаттауға мүмкіндік беретін регрессиялық модель қолданылды. Зерттеу шеңберінде жеке факторлардың қоршаған ортаның мінез-құлқына қалай әсер ететінін анықтайтын үш гипотеза қалыптасты, бұл ұсыныстар мен қорытындыларды қалыптастыруға мүмкіндік берді. Зерттеуде ұсынылған нәтижелерді агломерациялар тұрғындарының экологиялық мінез-құлқының көрінісін салыстырмалы талдау үшін пайдалануға болады.

*Түйін сөздер:* экологиялық мінез-құлқын, қоршаған орта, стратегиясы, қалалық агломерациялар, жасыл экономика

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## Исследование экологического поведения жителей агломераций Казахстана

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### Аннотация

Цель данного исследования заключается в изучении используемых эколого-экономических практик домохозяйств городских агломераций. Как известно в поведенческих ценностных установках очень важную часть занимает экологическое поведение. Улучшение на глобальном уровне экологической ситуации возможно только при активном участии гражданского общества, при этом страновые и региональные особенности определяют необходимость исследования и выработки эффективных подходов по вопросам активного продвижения идей разумного отношения к окружающей среде. Казахстан, отличающийся значительными территориями, имеет актуальные проблемы по вопросам качества воздуха, воды, управления отходами, сохранения биоразнообразия и т.д. Авторы использовали направленный подход при формировании анкеты для массового опроса с учетом особенности проживания по месту жительства и ценностных характеристик респондентов. Это было связано с пониманием того факта, что жители городских агломераций имеют более широкий доступ к информации, инфраструктуре, сообществам и движениям, что позитивно отражается на динамике формирования важных навыков, а также отражение в поведении более ответственного поведения к окружающей среде. На основании изученного международного опыта, была сформирована методология исследования, которая включала в себя проведение опроса в трех крупных городах Казахстана, а также использование результатов опроса для проведения регрессионного анализа. Для получения количественных результатов была использована регрессионная модель, которая позволила математически описать степень влияния отдельных переменных на общий показатель. В рамках исследования были сформированы три гипотезы, которые определяли, как отдельные факторы влияют на экологическое поведение, что позволило сформировать рекомендации и выводы. Результаты, приведенные в исследовании, могут использоваться для сравнительного анализа проявления экологического поведения жителей агломераций.

*Ключевые слова:* экологическое поведение, окружающая среда, стратегия, городские агломерации, зеленая экономика

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### Введение

На современном этапе мы с каждым днем все больше и больше убеждаемся, что процессы ухудшения экологического состояния планеты необратимы и требуются кардинальные меры и подходы, чтобы бы сохранить хрупкий баланс. В этом направлении представляется важным вклад каждого индивида, его осознанность, понимание, принятие важности изменения поведения в отношении окружающей среды. Как показывают многочисленные исследования экологического поведения общества – это сложное явление, на которое влияет огромное количество факторов, трендов и обстоятельств (Kollmuss & Agyeman, 2002; Kaiser & Wilson, 2004). Однако при этом уже наметились определенные закономерности, которые позволяют проводить исследования в разных странах, для сравнения и выработки рекомендаций.

С развитием технологий и средств массовой информации, особое место в формировании необходимых привычек, норм поведения любого общества играют социальные сети и медиа, которые транслируют обществу ценностные установки, убеждения, определяют актуальность и значимость социальных проблем. Несмотря на тот факт, что экологическое поведение достаточно сложно поддается прогнозированию, выявлению и оцениванию в обществе важно проводить подобные исследования для формирования рекомендаций и моделей, способствующих более эффективному распространению принципов гуманного отношения к окружающей среде. Таким образом, вклад исследований, направленных на прояснение важных аспектов экологического вопроса, сложно переоценить.

В данном разрезе, анализ опыта различных стран дает возможность еще лучше понять каким образом необходимо действовать, чтобы принятие членами общества норм экологического поведения становилось более эффективным. В связи с этим, авторы данного исследования посвятили значительную часть статьи литературному обзору, который позволил систематизировать подходы, методы, а также результаты, которые были получены зарубежными авторами. Реализованный подход способствовал более осознанному и глубокому пониманию методов, которые возможно использовать, чтобы оценить, насколько распространено в Казахстане экологическое поведение.

Раздел статьи, посвященный методологии, раскрывает и обосновывает какие подходы и методы исследования были использо-

ваны. Авторы в полной мере осознают, что включение в будущие исследования разреза не только по крупным городским агломерациям, а также сельской местности позволит выработать меры, учитывающие особенности уклада жизни населения Казахстана. Сочетание разнообразных подходов к формированию выборки, выбору методов обработки данных и их интерпретации был осознанным и ориентировался на лучший опыт зарубежных практик. С этой точки зрения было важно сформулировать релевантные рабочие гипотезы, которые представлены в следующем разделе. Данное исследование проработало три рабочие гипотезы, которые были диверсифицированы с позиции охвата важных аспектов, определяющих экологическое поведение. Также в последующих разделах приведены доказательства основных выводов и полученные результаты исследования.

### Литературный обзор

Экологическое поведение было определено как поведение «которое сознательно стремится свести к минимуму негативное влияние чьих-либо действий на природу и построенный мир» (Kollmuss & Agyeman, 2002) или поведения с намерением защитить окружающую среду (Kaiser & Wilson, 2004). В более широком смысле, это все поведение, которое оказывает влияние на окружающую среду (Steg & Vlek, 2009). Экологическое поведение охватывают различные области потребления в жизни, такие как сфера жилья (потребление воды или энергии), транспорт, потребительские привычки, а также все приобретения для потребления, использования и утилизации (Geiger et al., 2017; Geiger et al., 2018). Некоторые авторы также считают социальное поведение важным определяющим фактором, влияющим на отношение к экологии (Kaiser & Wilson, 2004; Corral-Verdugo, 2006). На основе широкого понимания экологического поведения, была разработана шкала для измерения «общего экологического поведения» (ГЕВ), включающую шесть областей ежедневного поведения: транспорт, вода и энергосбережение, экологически чистые покупки, экологический вывоз мусора, замещающая модель поведения и волонтерство в природоохранной деятельности (Kaiser, 1998). Большинство исследований сосредоточено на анализе определенного экологического поведения, в том числе обращения с отходами, выборе вида транспорта, энергосбережении, потреблении воды, экологической активности или покуп-

ке экологического продукта. В частности, устойчивое потребление в основном связано с приобретением экологически чистых продуктов и услуг.

Люди влияют на устойчивое развитие производства и потребления энергии несколькими способами (Stern, 2000). Как потребители, они потребляют энергию непосредственно дома и своими транспортными средствами, что влияет на то, какая энергия используется, кто ее производит и где она производится. Выбор потребителей также косвенно связан с энергией, поскольку для производства материальных продуктов и услуг требуется энергия с соответствующими выбросами. Более того, люди могут влиять на политику государства. Люди могут влиять на общественное мнение, обсуждая энергетические проблемы в своей повседневной жизни, в социальных сетях и газетах. Граждане также могут влиять на отношение общественности и лиц, принимающих решения, через экологический активизм (Stern, 2000). Социально-технологический переход к зеленому поведению и экономике таким образом предполагает изменения, происходящие на нескольких взаимосвязанных уровнях (Geels, 2004). В общем, поведение потребителей в частной сфере, а также поведение в общественной сфере формируется и в значительной степени определяется контекстом: существующими технологиями, инфраструктурой, нормативными актами, финансовыми затратами и удобствами (Stern, 1999; Stern, 2008). Например, на использование домохозяйствами систем возобновляемой энергии влияют демографические и социально-экономические факторы, такие как образование, уровень дохода, возраст (Sardianou & Genoudi, 2013) и инвестиционные затраты (Rouvinen & Matero, 2013). Имеет значение национальный и местный контекст, а препятствия и движущие силы на пути к устойчивому энергетическому поведению различаются в разных странах, даже в пределах Европы (Heiskanen & Matschoss, 2017; Vonera et al., 2017). Несмотря на то, что энергетические переходы сильно зависят от поведения людей (Upham et al., 2018), роли социальных психологических процессов в литературе по энергетическим переходам уделяется мало внимания (Bogel & Upham, 2018).

Мы использовали определение экологически значимого поведения как основной ориентир при формировании концепции данного исследования (Stern, 2000). Согласно

этому определению, поведение экологически значимое, если оно оказывает положительное влияние на окружающую среду или это было предпринято с намерением принести пользу окружающей среде. Это определение признает, что существуют разные типы экологически значимого поведения. Относящийся к окружающей среде эоактивизм означает активное участие в экологических организациях и иной деятельности. Неактивистское поведение в публичной сфере включает поддержку государственной политики. Защита окружающей среды в частной сфере включает поведение потребителей, такое как покупка, использование и утилизация продуктов, оказывающих воздействие на окружающую среду. Неактивистская поддержка политики больше зависит от социально-психологических переменных, чем экологический активизм (Stern, 1999).

Некоторые исследования нашли положительную, но слабую связь между проэкологическими отношением и поведением (Kollmuss & Agyeman, 2002). Есть также свидетельства того, что иногда связь между отношением и поведением косвенно или прямо коррелирует с другими переменными. Например, положительное отношение к энергосбережению увеличивает намерение людей сократить энергопотребление в домашних хозяйствах (Abrahamse & Steg, 2011). Экологические знания и проэкологическое отношение также имеют взаимосвязь и усиливают друг друга (Bamberg, 2003).

Переход к устойчивому развитию и зеленой экономике требует от людей учитывать будущие последствия их повседневного поведения, и оно может иметь сравнительно большие затраты (например, время или потраченные деньги) (Arnocky et al., 2013). Низкое осознание важности будущих последствий - важный предиктор проэкологического поведения (Arnocky et al., 2013). Более того, перспектива далекого будущего увеличивает согласованность поведения, ориентированного на будущее, тогда как перспектива ближайшего будущего снижает его (Rabinovich et al., 2010). Есть также свидетельства того, что непосредственные опасения вызывают большее беспокойство, чем будущие предположения (Shove et al., 2012). Таким образом, эксперты считают, что повседневные заботы могут быть препятствием для выбора устойчивого поведения.

Вовлеченность индивидов в ориентированное на будущее или ориентированное

на окружающую среду поведение больше связано с самоэффективностью, которая определена как убежденность в том, что каждый может контролировать получение запланированных достижений (Bandura, 1997). Было обнаружено, что самоэффективность напрямую связана с проэкологическим поведением (Taberero & Hernandez, 2011). Кроме того, переход к устойчивому поведению является коллективным, многоуровневым процессом, и он зависит от функционирования системы. Готовность людей участвовать в таких процессах была связана с убеждением, что коллективные или системные изменения эффективны для осуществления перехода к зеленой устойчивой экономике (Bandura, 2000; Lorenzoni et al., 2007).

Участие людей в проэкологическом поведении часто ассоциируется со знаниями об окружающей среде и их решении (Hines et al., 1987; Vainio & Paloniemi, 2014). В то время как некоторые исследования показывают, что экологические знания поощряют устойчивое энергетическое поведение, другие исследования признают, что знания не являются важным фактором, способствующим устойчивому энергетическому поведению (Steg et al., 2015). Другими словами, хотя знания могут быть предпосылкой для устойчивого энергетического поведения, сами по себе они могут быть достаточно сильным посредником в формировании нужной модели поведения. Кроме того, разные виды знания по-разному связаны с поведением. Знания, связанные с действием, и знания об эффективности конкретного поведения были напрямую связаны с проэкологическим поведением, тогда как системные знания были косвенно связаны с поведением (Frick et al., 2004; Pohjolainen et al., 2016; Vainio & Paloniemi, 2013). Кроме того, существует различие между объективным знанием, которое относится к тому, что люди на самом деле знают, и субъективным, к которым относятся убеждения людей о своих собственных знаниях (Moorman et al., 2004).

Социально-экономические переменные, такие как доход, размер домохозяйства, годы образования, пол и возраст, взаимосвязаны с проэкологическим поведением (Abrahamse & Steg, 2011; Kollmuss & Agyeman, 2002; Trotta, 2018). Кроме того, социально-экономические переменные сильнее влияют на прогнозирование использования энергии в домашних условиях, чем социально-психологические переменные (Abrahamse & Steg, 2009, Abrahamse & Steg, 2011; Poortinga et al.,

2004). Вместе с тем изменение в потреблении энергии зависит от социально-психологических переменных (Abrahamse & Steg, 2009). Влияние социально-психологических переменных на энергетическое поведение иногда коррелирует с социально-экономическими переменными, так что влияние социально-психологических переменных различается по конкретным социально-экономическим группам (Barr et al., 2005; Klöckner & Nayum, 2017). Устойчивое поведение зависит от пола и дохода, и, следовательно, инструменты политики могут по-разному влиять на мужчин и женщин (Carlsson-Kanyama & Linden, 2007), и в группах с низким и высоким доходом (Martinsson et al., 2011).

В ряде работ исследователи (Kaiser et al., 2008) выступают за продвижение экологических компетенций вместо сосредоточения на общих, как предложено другими авторами (Fischer & Barth, 2014).

Другие исследователи обнаружили, что социально-психологические переменные объясняли большую часть дисперсии, чем социально-экономические переменные (Vainio, 2020). Учет будущих последствий, самоэффективность и знания были положительно связаны со всеми тремя типами устойчивого поведения. Учитывая социально-экономические переменные, было обнаружено, что Финляндия представляет собой общество с высокими доходами и относительно небольшими социально-экономическими различиями, и, следовательно, социально-экономические препятствия на пути к устойчивому поведению являются относительно менее важными, чем в некоторых других странах. Кроме того, в связи с тем, что многие действия по обеспечению устойчивости потребления ресурсов не являются дорогостоящими, но позволяют сэкономить деньги потребителей, то экономические барьеры играют небольшую роль (Vainio, 2020).

### Методология

Цель данного исследования заключается в изучении используемых эколого-экономических практик домохозяйств городских агломераций. Для достижения поставленной цели были сформулированы такие задачи, как: определить отношение респондентов к экологическим проблемам агломераций; рассмотреть экономические практики респондентов в отношении энергосбережения и «зеленого» поведения; рассмотреть практики респондентов в обращении с отходами.



В рамках исследования были выдвинуты следующие гипотезы:

1. Экологическое сознание обусловлено материальным положением респондентов.
2. Отсутствует прямая связь между ресурсосбережением и «зелеными» убеждениями респондентов.
3. Инфраструктура для утилизации бытовых отходов пока недостаточно развита.

Основные методы, используемые в исследовании: статистические и качественные, в том числе систематизация, обобщение мнений (оценок). Объем выборки респондентов был 1000 респондентов. Территория исследования - города с населением более 1 млн. человек: Алматы, Нур-Султан, Шымкент.

Выборочная совокупность респондентов в 1000 человек является отражением генеральной совокупности населения трех крупных городов Казахстана: Нур-Султан, Алматы, Шымкент.

Анкета состояла из 25 вопросов, исследующих общие проэкологические убеждения и поведение, и социально-демографическую информацию. В рамках изучения поведения рассматривались следующие положения:

- экоответственность: изучалось чувство ответственности, которое человек имеет к окружающей среде (Карпова, 2005). Концепция, которую мы намеревались выделить и оценить, выражает то, как человек может считаться лично ответственным за экологические проблемы. Экологическая ответственность должна влиять на экологическое поведение, и поэтому мы решили включить его в наш анализ.

- экосознание - мы включили все элементы, выражающие объективные утверждения, которые не требовали личных мнений, но считались хорошим показателем уровня информированности об экологических проблемах.

- экоповедение – изучение личных и прямых действий в пользу защиты окружающей среды. Для расчета объема выборки (если объем выборки значительно меньше генеральной совокупности) используется следующая формула (Громыко, 2019):

$$n = \frac{z^2 * pq}{\Delta^2}, \quad (1)$$

где:

- $n$  – объем выборки;
- $Z$  – коэффициент, зависящий от выбранного исследователем доверительного уровня;
- $p$  – доля респондентов с наличием исследуемого признака;

$q = 1 - p$  – доля респондентов, у которых исследуемый признак отсутствует;

$\Delta$  – предельная ошибка выборки.

$p$  и  $q$  чаще всего неизвестны и принимаются равными 0,5. Также важно учитывать доверительный уровень, который обычно равен 0,95 или 0,99. Он показывает с какой вероятностью выборочная доля ( $p$ ) лежит в пределах рассчитанных границ: выборочная доля ( $p$ )  $\pm$  ошибка выборки ( $\Delta$ ).

При этом значении размер ошибки выборки максимален. Допустимая предельная ошибка выборки выбирается исследователем в зависимости от целей исследования. Для важных стратегических решений целесообразно минимизировать ошибку выборки.

Виды выборки можно разделить на: вероятностные и невероятностные (Громыко, 2019).

Вероятностные выборки:

- Случайная выборка (простой случайный отбор) исходит из однородности генеральной совокупности и при отборе используется таблица случайных чисел.

- Механическая (систематическая) выборка предполагает упорядочение по какому-либо признаку (алфавитный порядок, номер телефона, дата рождения и т.д.). Первый элемент отбирается случайно, а следующие с определенным шагом.

- Стратифицированная (районированная) применяется для случая неоднородности генеральной совокупности и предполагает разбиение на группы, в каждой из которых отбор осуществляется случайным образом.

- Серийная (гнездовая или кластерная) выборка предполагает отбор групп (кластеров) случайным образом. Объекты внутри групп берутся сплошняком.

Невероятностные выборки предполагают отбор по субъективным критериям. К ним относятся:

- Квотная выборка. Изначально выделяется некоторое количество групп объектов по признаку, например, возраста, пола, дохода. Для каждой группы задается количество объектов, которые должны быть обследованы. При этом количество объектов задается либо пропорционально доле группы в генеральной совокупности, либо одинаковым.

- Метод снежного кома. Выборка строится из контакта первого респондента, который дает контакты друзей, коллег, знакомых, которые подходят под условия отбора. Метод применим в случае уникаль-

ных групп (например, респондентов, имеющих высокий доход, либо относящихся к одной профессиональной группе, признаку и т.д.).

- Стихийная выборка предполагает опрос доступных респондентов через рассылки в различных интернет группах и т.д.

- Выборка типичных случаев предполагает отбор респондентов генеральной совокупности, обладающие типичной характеристикой признака.

В настоящем исследовании для отбора респондентов была применена смешанная модель выборки (элементы случайной и стихийной), при которой ошибка выборки составляет 3%, основой которой, выступили нижеперечисленные ступени:

Ступень 1. Отбор по городу исходя из численности населения в возрасте от 18 и старше. Ступень 2. Отбор по принципу пол-возраст.

Объем выборочной совокупности составил 1000 респондентов. По данным Бюро национальной статистики Агентства по стратегическому планированию и реформам Республики Казахстан на 01 октября 2021 года численность выбранных трех агломераций (Алматы, Нур-Султан, Шымкент) составляет 4 340 746 человек или 23% от общей численности населения республики.

В таблице 1 представлены половозрастные характеристики выборочной совокупности.

Таблица 1 - Половозрастные характеристики выборочной совокупности

Table 1 - Sample age and sex characteristics

Город	До 25		25-40		41-55		55+		Всего респондентов
	м	ж	м	ж	м	ж	м	ж	
Алматы	73	86	64	77	38	44	38	44	464
Нур-Султан	56	62	38	41	23	25	18	19	282
Шымкент	60	64	30	31	18	20	15	16	254

В соответствие с выборкой в опросе приняло 47,1% респондентов мужчин и 52,9% респондентов женщин (рисунок 1).

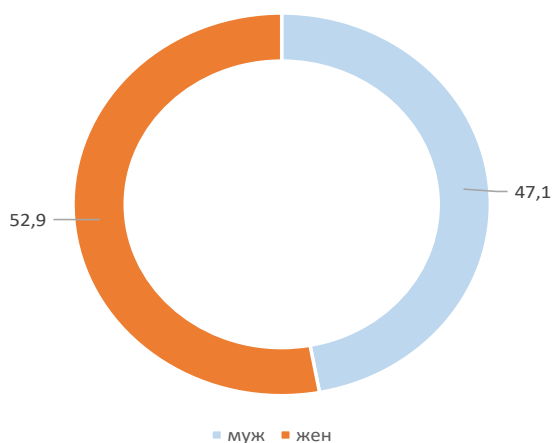


Рисунок 1 - Распределение респондентов по полу, в%

Figure 1 - Distribution of respondents by gender, in %

Как видно на рисунке 2, среди респондентов было больше всего представителей возрастной группы до 25 лет (старше 18 лет) – 40,1%, затем идут респонденты возрастной группы 25-40 лет – 28,1%, в возрасте 41-55 лет – 16,8% и соответственно возрастной группы 55 и старше – 15%.

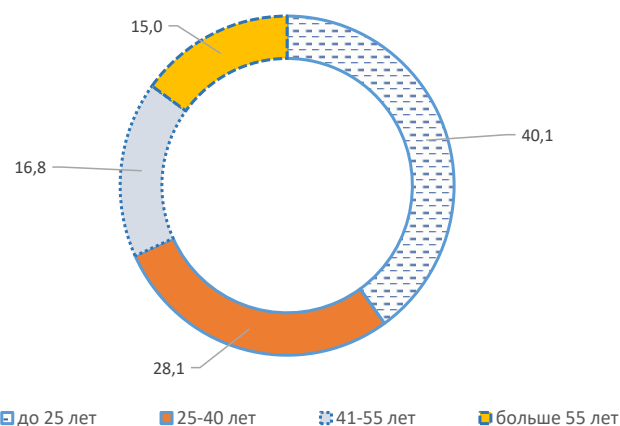


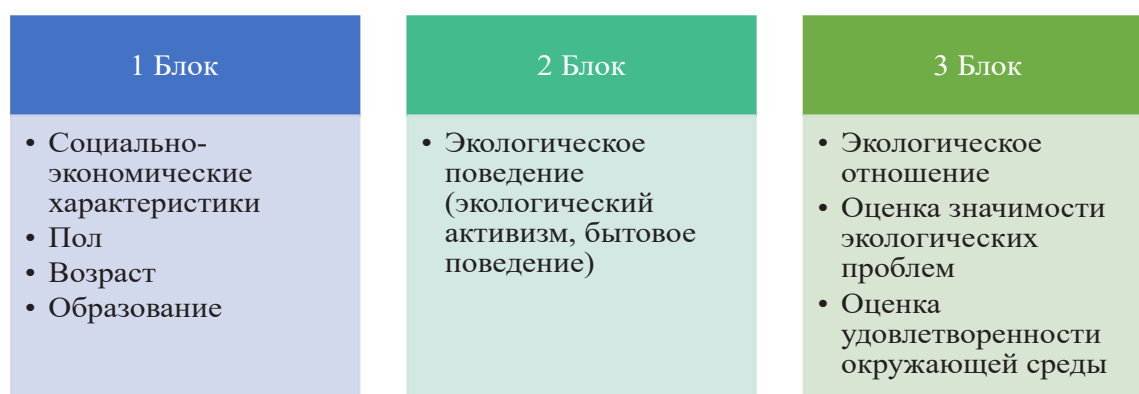
Рисунок 2 - Распределение респондентов по возрасту, в%

Figure 2 - Distribution of respondents by age, in %

Жители городских агломераций различаются по степени удовлетворенности состоянием окружающей среды как в месте своего непосредственного проживания, так и по республике в целом именно это обстоятельство определило разделение анкеты на несколько блоков.

В анкете использовали несколько блоков анализа экологического поведения респондентов. Первый блок охватывал социально-демографические характеристики респондентов, такие как пол. Возраст, доход, уровень образования, социальное положение.

Второй блок охватывал отношение респондентов к экологическим проблемам, их поведенческие характеристики, такие как отношение к экологическим проблемам, их действия, в том числе по отношению к бытовым отходам, энергоэффективное поведение. Третий блок содержит такие факторы, как экологическое отношение, оценка значимости экологических проблем, оценка удовлетворенности окружающей среды (рисунок 3).



**Рисунок 3** - Распределение показателей, характеризующих экологическое поведение по тематическим блокам

**Figure 3** - Distribution of indicators characterizing environmental behavior by thematic blocks

Для анализа влияния факторов на экоповедение мы использовали агрегированную переменную, учитывающая такие действия как энергосбережение (экономия света и тепла), ресурсосбережение (экономия воды при стирке) и планирование экономии всех членов семьи. Среди респондентов отмечены следующие действия: очень часто и достаточно часто выключают свет при выходе из комнаты (90%), регулируют отопление/кондиционирование (80%), стирают при полной загрузке и холодной водой (60%). В разрезе варианта ответа «достаточно часто»: «стремлюсь сократить потребление одноразовых бытовых предметов» - 17,3%, «стараясь выбирать продукты с экологической маркировкой или покупаю натуральные продукты» - 16,6%, «сортирую мусор (сдаю на переработку)» - 12,2%. Среди инициативных действий в целом респонденты сравнительно не проявляют активность, что видно по большинству вариантов отрицательных значений. Так по категории ответа «никогда»:

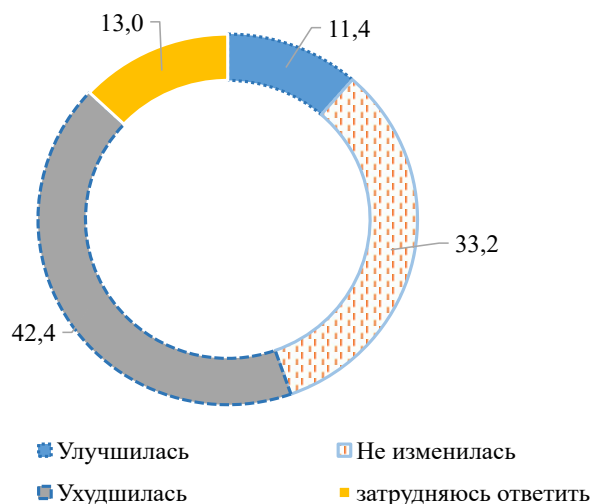
«Пишу посты, статьи по экологическим вопросам» - 43,7%, «Поддерживаю материально (переводы, пожертвования) общественную организацию – 40,7% «Обращаюсь к представителям власти, депутатам с предложениями» - 38,1%,

Для измерения экоответственности и экосознания использовали агрегированную переменную, учитывающую значимость экологических проблем, таких как образование отходов, загрязнение воздуха и воды, истощение природных ресурсов и сокращение биоразнообразия. Среди наиболее значимых по оценке «пять» следует отметить такие проблемы, как «Загрязнение воды» - 36,6% и «Загрязнение воздуха» - 33,3%, также

«Изменение климата» - 29, 5%. Такой результат закономерен, т.к. это самые обсуждаемые в обществе экологические проблемы, более того респонденты сами могут почувствовать снижение качества воды, воздуха, а также последствий изменения климата. Почти каждый второй респондент

считает, что ситуация ухудшилась в месте непосредственного проживания

– 42,4%, «не изменилась» - 33,2%, «улучшилась» - 11,4%. При этом также много и тех, кто затрудняется дать подобную оценку – 13%, что может косвенно свидетельствовать о том, что население имеет различное представление о параметрах оценки экологической ситуации (рисунок 4).



**Рисунок 4** - Ответы респондентов на вопрос «Как, на ваш взгляд, изменилась экологическая ситуация за последние 10 лет в месте проживания», в %

**Figure 4** - Respondents' answers to the question "How, in your opinion, has the environmental situation changed over the past 10 years in the place of residence", in %

Анализируемые переменные были частью более обширной анкеты, в которой собрали информацию о факторах, побуждающих людей быть частью экологического самосознания.

Чтобы измерить эти конструкты, мы создали переменные, называемые экологические действия (экоповедение), ответственность (значимость экологических проблем). Также для регрессионной модели использовали оценку значимости экологических проблем, доход, и объем создаваемого мусора.

Взаимосвязи были проверены с помощью линейной регрессии (таблица 1). Экологические действия положительно ассоциировалось с пониманием значимости экологических проблем, оценки качества среды, объемом создаваемых отходов и с материальным доходом респондента.

**Таблица 2** - Проверка взаимосвязей переменных

**Table 2** - Checking the relationships of variables

	Коэффициент	t статистика
константа	22,325	19,762
Объем мусора	0,450	-3,878
Доход	1,717	-5,281
Значимость экологических проблем	0,087	-2,842
Оценка качества среды	0,126	-2,745

Коэффициенты, приведенные в таблице 2, показывают, как ограниченное число переменных значительно повлияло на экологические действия с разной степенью значимости: экологическая ответственность (значимость) положительно повлияла на экоповедение (коэффициент равен 0,09), в то время как повышение экологической осведомленности (оценка экологических проблем) имеет более сильное влияние (0,13). Стоит отметить, что доход оказывает более сильное влияние (1,7) чем указанные выше переменные, что может быть обусловлено тем обстоятельством, что респонденты очень зависимы от уровня дохода при выборе степени экологичности повседневного поведения.

Все переменные значимы на уровне  $p < 0,001$  и регрессионная модель также значима при  $R^2 = 0,18$ .

Рассмотрение будущих действий не коррелировало с типами устойчивого энергетического поведения. Так наибольшая доля ответов связана с простыми действиями такими как применение энергосберегающих приборов в быту, таких как стиральные машины (60,4%), энергосберегающие лампы (64,5%). На втором месте для сохранения тепла примерно треть опрошенных (33,2%) используют энергоэффективные окна – 33,2%. Данные действия являются априорными так как на рынке в основном уже продаются и устанавливаются товары как минимум с средними энергоэффективными характеристиками. К таким способам как теплоизоляция стен (пола, крыши), установление термостатов, солнечных батарей и коллекторов, ветряных турбин и тепловых насосов в большинстве случаев респонденты не прибегают, что говорит о пока что низком уровне осознанного потребления ресурсов гражданами. Примерно треть опрошенных указало на технические ограничения возможности установления тепловых насосов и ветряных турбин. На вопрос «Планируете ли

Вы применять следующие меры по сбережению энергии Вашего жилища?» большой процент положительных ответов связано с действиями не требующих каких-либо сложных технических сооружений или установок. Так, в основном это касается применения в быту энергосберегающих приборов, окон, теплоизоляции стен. Что касается более усложненных технических установок, приборов, требующих определенных знаний и квалификации, то большая часть респондентов дали отрицательные ответы.

### Результаты и обсуждение

Эта статья вносит свой вклад в дискуссию об основных детерминантах экологического поведения, основанного на анализе поведения городских жителей в различных странах и межстрановом сопоставлении. Наша цель была в определении основных переменных, влияющих на экологическое поведение жителей трех крупных городских агломераций Республики Казахстан. Представленные переменные были отобраны среди наиболее часто обсуждаемых в научной литературе и позволяют сравнить с данными, которые были получены учеными других стран.

В рамках нашего исследования были сформулированы гипотезы и проведен регрессионный анализ, результаты которого

демонстрируют значительную роль влияния экономического положения респондентов на экологическое поведение. На основании полученных данных можно сформулировать следующие результаты, касательно действительности выдвинутых гипотез. По первой рабочей гипотезе: экологическое сознание обусловлено материальным положением респондентов, были получены следующие выводы. По активному ограничению потребления энергии, нет сильной разницы в ответе по экономии среди тех, кто получает низкий и средний уровень зарплаты, а вот разница с респондентами, получающими высокий доход, почти в 10 раз. А по вопросу отопления помещения, мы видим более проявленную, четкую обратную зависимость между уровнем дохода и желанием меньше отапливать. Это же характерно и для потребления воды.

При этом уровень дохода не сильно влияет на выбор оценки актуальности экологических проблем респондентами (осознание актуальности экологических проблем). Ответы респондентов по оценке экологической ситуации в целом по Казахстану, свидетельствуют, что уровень дохода не влияет на выбор ответа респондентов. Так в зависимости от дохода частота по варианту ответа «ухудшилась» имеет незначительные отклонения от средних показателей (таблица 3).

**Таблица 3** - Как изменилась экологическая ситуация за последние 10 лет в месте непосредственного проживания

**Table 3** - How has the ecological situation changed over the past 10 years in the place of direct residence

	улучшилась	не изменилась	ухудшилась	затрудняюсь ответить	всего
до 200 000 тенге	69	241	271	79	660
	10,5%	36,5%	41,1%	12,0%	100,0%
от 200 000 до 500 000 тенге	41	81	137	50	309
	13,3%	26,2%	44,3%	16,2%	100,0%
свыше 500 000 тенге	4	10	16	1	31
	12,9%	32,3%	51,6%	3,2%	100,0%

Одним из интересных выводов стало то обстоятельство, что с ростом дохода растет и количество производимого мусора (таблица 4). Указанная закономерность прослеживается, так респонденты, с доходом меньше 200 000 тенге, чаще всего выбирали вариант ответа 20

литров, тогда как респонденты, указавшие свой доход от 200 000 до 500 000 тенге чаще всего выбирали вариант ответа 40 литров. Более того, респонденты, чей примерный доход был указан свыше 500 000 тенге, отмечали чаще всего, что в среднем недельное количество мусора 50 и более литров.

**Таблица 4** - Ответы респондентов на вопрос: в среднем, сколько мусора создает ваша семья за неделю (не учитывая отсортированного мусора/компоста)?**Table 4** - Respondents' answers to the question: on average, how much garbage does your family create per week (excluding sorted garbage/compost)?

	менее 10 литров	10 литров	20 литров	30 литров	40 литров	50 литров	100 литров
до 200 000 тенге	77	46	223	157	110	28	19
	11,7%	7,0%	33,8%	23,8%	16,7%	4,2%	2,9%
от 200 000 до 500 000 тенге	13	15	70	65	72	53	21
	4,2%	4,9%	22,7%	21,0%	23,3%	17,2%	6,8%
свыше 500 000 тенге	2	2	3	3	3	9	9
	6,5%	6,5%	9,7%	9,7%	9,7%	29,0%	29,0%

Полученные результаты позволяют нам принять нашу рабочую гипотезу и считать ее релевантной.

По второй рабочей гипотезе: отсутствует прямая связь между ресурсосбережением и «зелеными» убеждениями респондентов. Как отмечалось выше, среди респондентов не было отмечено значимых показателей, определяющим их как приверженцев «зеленых убеждений», именно поэтому мы не можем уверенно утверждать связаны ли решения о ресурсосбережении с убеждениями респондентов. В рамках нашего исследования мы также предположили, что установки должны быть более-менее равномерны внутри возрастных групп.

Так, респонденты молодой возрастной группы 18-25 в категории ответов «очень часто» отмечали следующие варианты действий: «Выбираю более экологичный способ передвижения (велосипед, пешком и др.) во время поездок» - 11,0%, по варианту ответа «довольно часто», «Стремлюсь сократить потребление одноразовых бытовых предметов» - 20%. По варианту ответа «никогда» в вопросе «Пишу посты, статьи по экологическим вопросам» -36,2%.

По возрастной группе 25-40 лет, по категории ответа «очень часто» высокая частота соответствует варианту «Стараюсь выбирать продукты с экологической маркировкой или покупаю натуральные продукты» -6,4%, по ответу «довольно часто», «Стремлюсь сократить потребление одноразовых бытовых предметов» - 18,1%. По варианту ответа «никогда», «Поддерживаю материально (переводы, пожертвования) общественную организацию» - 45,6%.

По возрастной группе 40-55 лет, наиболее высокая частота выбора была зафиксирована по варианту ответа «очень часто» - «Стараюсь как можно меньше обогревать помещение» - 7,1%, «достаточно часто» - «Стараюсь выбирать продукты с экологической маркировкой или покупаю натуральные продукты» - 14,3%. Рассматривая то, к чему проявила меньшую склонность данная группа, можем выделить по варианту ответа «никогда» - «Поддерживаю материально (переводы, пожертвования) общественную организацию» -51,2%.

По возрастной группе 55+ лет отмечается отличие в предпочтениях, так по варианту ответа «очень часто» наибольшее значение соответствует – «Забочусь о сокращении потребления воды» - 12,7%, по варианту «достаточно часто» - «Стараюсь выбирать продукты с экологической маркировкой или покупаю натуральные продукты» - 18,0%. По варианту ответа «никогда» можно отметить «Пишу посты, статьи по экологическим вопросам» - 52,7%. Такая ситуация объясняется недостаточно развитым уровнем просвещения и осведомленности по вопросам экологического поведения среди населения, а соответственно и желанием формировать навыки экологичного поведения.

По третьей рабочей гипотезе: Инфраструктура для утилизации бытовых отходов пока недостаточно развита, в исследовании было отмечено, что 6,1% респондентов подчеркивали отсутствие сортировочных и отдельных пунктов приема мусора, на фоне того, что подавляющее большинство респондентов не готовы сортировать мусор. В разрезе трех крупных

мегаполисов, среди которых наибольшая плотность населения отмечается в г. Алматы, отличное экологическое поведение демонстрируют жители г. Шымкент. На вопрос

«Сортируете ли вы мусор и сдаете ли их в специальные организации» дали положительный ответ 59,8% опрошенных в этом мегаполисе, 5,1% - отметили об отсутствии сортировочных пунктов их городе, 35% - не заботит такая проблема. У горожан двух крупнейших мегаполисов

– Алматы и Нур-Султана – не сформированы эко-привычка по сортированию мусора, т.е. 90% и 85% соответственно дали отрицательный ответ на поставленный вопрос. При этом 11,7% опрошенных в Нур-Султане ссылаются на отсутствие сортировочных пунктов в их городе, в Алматы – 3,2% (таблица 5). Возможно, наблюдается слабая информированность населения о необходимости сортировки мусора.

**Таблица 5** - Ответы респондентов на вопрос: сортируете ли вы мусор и сдаете ли их в специальные организации

**Table 5** - Respondents' answers to the question: do you sort waste and hand it over to special organizations

	Да	Нет	Нет сортировочных пунктов в моем городе
Алматы	29	420	15
	6,3%	90,5%	3,2%
Нур-Султан	9	240	33
	3,2%	85,1%	11,7%
Шымкент	152	89	13
	59,8%	35,0%	5,1%

Можно сделать вывод, что развитие инфраструктуры в агломерациях для сортировки мусора недостаточное и одним из факторов, который может на это влиять, рост людей готовых сортировать мусор и продвигать важность сортировки в обществе и среди государственных органов, для получения поддержки в этом направлении.

### Закключение

В соответствии с задачами исследования, были освещены следующие вопросы, касающиеся экологического поведения жителей агломераций: выявить в целом отношение

респондентов к современным экологическим проблемам; определить наиболее эффективные экологические практики стимулирования экологического поведения; выявить распространенные практики в отношении отходов. Как показали результаты исследования по большинству поставленных вопросов были получены данные и соответственно ответы, однако некоторые вопросы все же остались недостаточно однозначными и определенными и требуют дальнейшей проработки.

На основании изученного международного опыта, была сформирована методология исследования, которая включала в себя проведение массового опроса, с расчетом репрезентативной выборки, разработка анкеты опроса, на основании выделенных задач, проведение опроса по единым требованиям в трех крупных городах Казахстана. Результаты опроса были обработаны с использованием специализированного профессионального программного продукта. Несмотря на то, что планировалось охватить опросами не менее 1000 респондентов, во время полевого этапа исследования было опрошено больше, что позволило провести первичную обработку и выбраковку несоответствующих анкет.

Произведенная в рамках данного исследования оценка экологического поведения жителей агломераций позволила определить не только отношение население к данной проблеме, а также выяснить, на какие проблемы обращают внимание в первую очередь, предпочитаемые действия, а также наиболее эффективные инструменты и практики в области экономического и социального стимулирования к выбору более экологичного поведения для целей развития «зеленой» экономики с рациональным отношением к ресурсам.

Проведенное исследование позволило выявить следующие основные результаты, которые не всегда можно оценить однозначно. Так в целом, тревожную ситуацию с отдельными позитивными моментами можно наблюдать в плане отношения людей к экологической проблематике. С одной стороны, жители агломераций отмечают ухудшение экологической ситуации в месте обитания и в целом по республике.

При этом женщин состояние окружающей среды беспокоит в большей степени, чем мужчин, а людей среднего и старшего возрастов – больше, чем представителей молодежи.

Важным практическим результатом проведенного исследования является также

установление факта того, что большинство жителей анализируемых территорий не имеют доступа (по их собственным самооценкам) и не занимаются сортировкой мусора (стекла, пластика, металла и т.д.) для переработки. В настоящий момент декларирование перехода к экономике замкнутого цикла не находит реального отражения в повседневном поведении.

Женщины, представители старших возрастных категорий, лица с высшим образованием и высоким уровнем дохода являются теми людьми, которые в большей степени реализуют практики своего экологически ответственного поведения.

Как показали результаты опроса, большинство людей слабо вовлечены в экологические практики. Среди жителей анализируемых территорий в большей степени распространены пассивные формы заботы об окружающей среде (такие как отдельный сбор мусора, экономия воды и электричества и др.), чем активные (участие в природоохранных объединениях, материальная помощь фондам, законодательные инициативы, сообщение в полицию о нарушениях экологического законодательства и др.). Это может свидетельствовать о том, что в обществе еще не сложился как тренд, вектор осознанного и реализуемого на системной основе бережного отношения к экологии.

Результаты опроса позволили выявить проблему недостаточной информированности людей по вопросам применения энергосберегающих практик. Тем не менее, жители довольно часто (от 50 до 70%) прибегают к использованию светодиодных ламп, стеклопакетов и энергосберегающих приборов в целях более эффективного энергопотребления.

Также более половины опрошенных респондентов выражают обеспокоенность проблемой расходования электроэнергии, стараются следить за ее потреблением в домашних условиях и отмечают, что в плане энергоэффективности их жилище соответствует нормальным стандартам. Стоит отметить, что низкая цена энергоресурсов (по сравнению с другими странами) не позволяет жителям агломераций провести ее сравнение с мировыми практиками энергоэффективного дома (пассивных домов).

Таким образом, подводя некоторые итоги проведенного исследования, следует отметить, что население агломераций, в целом, осознают актуальность экологической проблематики и по мере возможности стараются реализовывать экологические практики в

своей повседневной жизни. Вместе с тем, их возможности существенно ограничены двумя факторами: недостаточным уровнем материального благосостояния (который позволяет людям жить лишь «от зарплаты к зарплате») и недостатком знаний, отсутствием информации о возможностях практической реализации своего ценностного отношения к проблемам экологии.

Именно эти аспекты, на наш взгляд, должны стать объектом повышенного внимания для лиц, принимающих управленческие решения (причем, на всех уровнях публичной власти).

Рекомендациями могут послужить следующие положения:

- необходимо более активно продвигать меры, направленные на налаживание взаимодействия с населением и выстраивание коммуникации по вопросам экологического поведения, ее актуальности и основных принципов, распространять информацию о лучших практиках энергоэффективного и зеленого поведения, целях экономики замкнутого цикла;

- необходимо выявить дополнительно актуальные экологические вопросы и проблемы, волнующие граждан, их взаимосвязь с такими факторами, как: финансовое положение, осведомленность, инфляция, стимулирующие меры поддержки со стороны государства и др. для разработки прогнозных моделей;

- следует исследовать преграды и вызовы на пути повышения степени доверия населения к органам муниципальной и государственной власти по вопросам защиты окружающей среды (в том числе с использованием и экономического поощрения) и принять меры по сближению их позиций для перехода к реализации принципов зеленой и циркулярной экономики на практике.

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## Modeling of Basic Processes of Labor Market Functioning and Development: Methodological and Practical Aspects

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### Abstract

The development of the digital economy causes cardinal socio-economic shifts, including those in the field of labor relations. Therefore, the study of basic processes of functioning and development of the labor market is an urgent task. Research methods: generalization, comparison, analysis and synthesis, induction and deduction, structural-logical analysis, monographic method, statistical modeling methods, machine learning methods, neural network modeling, fuzzy logic. The purpose of the article is to develop a methodological approach to the study of basic processes of functioning and development of the labor market under the conditions of digitalization. The hypothesis of the study – the digitalization of the economy activates structural shifts in the labor market, which can cause imbalances that can be eliminated through the development of human potential. In the course of the study, it was found that the existing methods and tools in this area are not sufficient for diagnosing the labor market under the conditions of digitalization. The article proposes the author's methodology of analysis, based on two complex parameters: flexibility and social protection. Also, using the tools of fuzzy logic, an approach to assessing the level of social security and protection of the population was developed. The use of the approaches proposed in the article will make it possible to determine the specifics of the development of labor resources and the ongoing transformations in the structure of employment under the influence of modern technology and will also make it possible to substantiate measures of state regulation and support adequate to the challenges of our time.

*Keywords:* Digital Technologies, Labor Market, Employment, Social Protection, Regulation, Unemployment, Competence

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## Еңбек нарығының жұмыс істеуі мен дамуының негізгі процестерін модельдеу: әдіснамалық және практикалық аспектілер

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### Түйін

Цифрлық экономиканың дамуы, оның ішінде еңбек қатынастары саласындағы түбегейлі әлеуметтік-экономикалық өзгерістерді тудырады. Сондықтан еңбек нарығының жұмыс істеуі мен дамуының негізгі процестерін зерттеу өзекті міндет болып табылады. Зерттеу әдістері: жалпылау, салыстыру, талдау және синтездеу, индукция және шегеру, құрылымдық-логикалық талдау, монографиялық әдіс, статистикалық модельдеу әдістері, машиналық оқыту әдістері, нейрондық желілерді модельдеу, анық емес логика. Мақаланың мақсаты цифрландыру жағдайында еңбек нарығының жұмыс істеуі мен дамуының негізгі процестерін зерттеудің әдіснамалық тәсілін әзірлеу және оны Қазақстанның мысалында практикалық сынақтан өткізу. Зерттеу гипотезасы - экономиканы цифрландыру еңбек нарығындағы құрылымдық өзгерістерді белсендіреді, бұл теңгерімсіздіктерді тудыруы мүмкін, оларды мақсатты қаржыландыру арқылы адам әлеуетін дамыту арқылы жоюға болады. Зерттеу барысында цифрландыру жағдайында еңбек нарығын диагностикалау үшін осы салада қолданылатын әдістер мен құралдар жеткіліксіз екендігі анықталды. Мақалада автордың талдау әдістемесі ұсынылған, оның негізі екі күрделі параметр: икемділік және әлеуметтік қорғау. Сондай-ақ, анық емес логика құралдарын қолдана отырып, әлеуметтік қауіпсіздік пен халықтың қауіпсіздігін бағалау тәсілі жасалды. Мақалада ұсынылған тәсілдерді пайдалану еңбек ресурстарының даму ерекшеліктерін және қазіргі заманғы технологиялардың әсерінен жұмыспен қамту құрылымында болып жатқан өзгерістерді анықтауға мүмкіндік береді, сондай-ақ қазіргі заманның сын-қатерлеріне барабар мемлекеттік реттеу мен қолдау шараларын негіздеуге мүмкіндік береді.

*Түйін сөздер:* цифрлық технологиялар, еңбек нарығы, жұмыспен қамту, әлеуметтік қорғау, реттеу, жұмыссыздық, құзыреттілік.

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## Моделирование основных процессов функционирования и развития рынка труда: методологические и практические аспекты

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### Аннотация

Развитие цифровой экономики вызывает кардинальные социально-экономические сдвиги, в том числе и в сфере трудовых отношений. Поэтому исследование основных процессов функционирования и развития рынка труда является актуальной задачей. Методы исследования: обобщение, сравнение, анализ и синтез, индукция и дедукция, структурно-логический анализ, монографический метод, методы статистического моделирования, методы машинного обучения, нейросетевое моделирование, нечеткая логика. Цель статьи разработать методологический подход к исследованию основных процессов функционирования и развития рынка труда в условиях цифровизации и провести его практическую апробацию на примере Казахстана. Гипотеза исследования – цифровизация экономики активизирует структурные сдвиги на рынке труда, что способно вызвать дисбалансы, которые могут быть устранены благодаря развитию человеческого потенциала, поддерживаемого целевым финансированием. В процессе исследования установлено, что для диагностики рынка труда в условиях цифровизации недостаточно существующих в этой области методов и инструментов. В статье предложена авторская методология анализа, основу которой составляют два комплексных параметра: гибкость и социальная защита. Также с использованием инструментария нечеткой логики разработан подход к оценке уровня социальной обеспеченности и защищенности населения. Использование предложенных в статье подходов позволит определить особенности развития трудовых ресурсов и происходящих преобразований в структуре занятости под влиянием современных технологий, а также даст возможность обосновать меры государственного регулирования и поддержки, адекватные вызовам современности.

*Ключевые слова:* цифровые технологии, рынок труда, занятость, социальная защита, регулирование, безработица, компетенция.

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### Введение

Экономика и общество постоянно меняются, одним из ключевых факторов этого изменения является цифровая трансформация. Цифровизация преобразовывает деловой ландшафт и мир труда, а также сдвигает границы производства, потребления и распределения. Кроме того, она создает огромные возможности, поскольку стимулирует появление новых продуктов, процессов и методов, но в тоже время влечет за собой и ряд беспрецедентных угроз (Kopina, 2021).

Смена технологического уклада создает новые формы и виды занятости, модели организации трудовой деятельности, трансформирует процесс и характер поиска и найма персонала, изменяет социально-трудовые отношения и способы взаимодействия между субъектами рынка труда (Ziru, 2021). В результате повышения уровня гибкости производства и индивидуализации товаров и услуг получают распространение нестандартные формы занятости. Например, удаленная занятость становится новым способом оптимизации бизнес-циклов и организации процесса труда.

В то же время, последние десятилетия характеризуются огромным ростом вычислительных мощностей, снижением затрат на автоматизацию так называемых рутинных задач, которые выполняются по четким, формализованным правилам и, таким образом, могут быть помещены в компьютерный код (Carlos & Malheiro, 2018). Это ведет к поляризации рынков труда, влечет за собой уменьшение количества среднеоплачиваемых, рутинно-интенсивных занятий и стимулирует рост доли высокооплачиваемых рабочих мест (Improving working, 2022).

Ряд эмпирических исследований (Yashiro, 2021; Dubrovskaya & Kozonogova, 2021; Abrosimova, 2019) показывает, что непрерывный прогресс цифровых и роботизированных технологий в итоге приведет к исчезновению неавтоматизированного труда. Анализ, проведенный Глобальным институтом McKinsey, позволил прийти к выводу, что к 2030 году примерно в 60% профессий, по крайней мере, треть составляющих их видов деятельности может быть автоматизирована (McKinsey, 2022).

В данном контексте общие последствия для рынка труда являются весьма неопределенными, о чем наглядно свидетельствует большой разброс результатов существующих исследований (Krasota & Chernetskaya, 2019; Alan, 2021; Édney, 2021).

Первоначальные действия правительств скорее можно классифицировать как реактивные, чем упреждающие, и направлены они в большинстве своем на смягчение побочных эффектов цифровизации, а не на использование ее потенциальных преимуществ.

Во многих странах мира, и, прежде всего, в развивающихся, система государственного управления недостаточно готова к таким изменениям. Быстрые темпы внедрения цифровых технологий в управленческие и производственные процессы усугубляют дисбаланс между развитием национального рынка труда и цифровой экономикой. В первую очередь это обусловлено не скоординированностью решений и действий различных органов власти – как законодательной, так и исполнительной, их изолированностью при формировании стратегий цифрового, социально-экономического и образовательно-профессионального развития (Krasota & Chernetskaya, 2019, 2019). Вне государственного регулирования остаются современные динамические процессы цифровизации, изменяющие структуру рынка труда, способствующие интеграции отраслевых сегментов и секторов экономики, формирующие новое цифровое пространство, которое через глобальный характер, пренебрегает национальными интересами.

В данном контексте не подлежит сомнению тот факт, что трансформация современных экономических систем, обеспечение социального прогресса, усовершенствование и развитие человеческого капитала в значительной степени зависят от внедрения эффективных мер, опирающихся на результаты углубленного теоретического и эмпирического исследования особенностей функционирования рынка труда в условиях цифровизации, а также моделирование динамики его основных индикаторов.

Таким образом, с учетом вышеизложенного, особую актуальность приобретает анализ динамических взаимосвязей и прогнозирование изменений тенденций в социально-трудовой сфере под влиянием цифровых трансформаций, что и предопределяет выбор темы данной статьи.

Цель статьи – разработать методологический подход к исследованию основных процессов функционирования и развития рынка труда в условиях цифровизации и провести его практическую апробацию на примере Казахстана.

Задачи: обосновать параметры, методы и показатели диагностики национального



рынка труда в условиях цифровизации экономики; разработать методику анализа социальной защиты населения на основе интеллектуального анализа данных; провести апробацию предложенной методики на примере Казахстана.

### Материалы и методы

Методологическую основу проводимого исследования составляют методы анализа экономических явлений и процессов, а именно: теоретическое обобщение, сравнение, анализ и синтез – при изучении эволюции развития концепций рынка труда и теории занятости; индукция и дедукция – в процессе исследования нестандартных форм занятости, установлении взаимозависимости между изменением технологических укладов и трансформацией занятости, взаимосвязи изменений человеческого капитала и форм занятости, формировании концептуальных основ цифрового рынка труда; структурно-логический анализ, системный анализ – в ходе анализа цифрового и традиционного сегментов рынка труда, определении характеристик человеческого капитала, признаков рутинного и креативного труда в цифровой экономике; монографический метод – при обобщении теоретико-методологических аспектов трансформации рынка труда и занятости, изменении характера, содержания и процесса труда под влиянием цифровых технологий, выявлении диспропорций национальных рынков труда и образования; методы статистического моделирования – при исследовании состояния и тенденций изменения показателей национальных рынков труда, распространения нестандартных форм занятости на национальном и глобальном уровнях, оценке научно-кадрового и образовательного потенциала, анализе цифровой и креативной занятости, в процессе формализации структурных сдвигов по видам и формам занятости, составлении прогнозной оценки динамики развития цифровой занятости.

Отдельный акцент необходимо сделать на том, что для достижения поставленных целей и решения сформулированных задач применялся компаративный подход, позволяет провести анализ традиционных и нестандартных форм занятости, цифрового и традиционного сегментов рынка труда, сравнить наемного работника, самозанятого лица и занятого через цифровые платформы, определить характеристики человеческого капитала, признаки рутинного и креативного

труда в цифровой экономике (Alan, 2021). Также методологическую основу абстрактно-логический метод моделирования, детально описан в некоторых исследованиях (Dubrovskaya & Kozonogova, 2021; Paletta et al., 2018). Благодаря ему удалось формализовать модель экосистемы национально рынка труда, представить концептуальную схему взаимодействия разных по содержанию и уровню стратегий его развития.

В процессе исследования автором использовались методы машинного обучения, нейросетевое моделирование, нечеткая логика. Отличительной особенностью авторской методологии является возможность учитывать количественные и качественные факторы, влияющие на развитие рынка труда в условиях цифровизации, а также проводить углубленную оценку трансформаций в структуре занятости на основе положений нечеткой логики и идентифицировать специфику социально-трудовых отношений в условиях цифровой экономики.

### Литературный обзор

Теоретические и прикладные положения концепций рынка труда, теорий занятости содержатся во многих фундаментальных исследованиях (Li et al., 2021, Paletta et al., 2018). Признаки трансформации бизнеса, экономики и общества под влиянием диджитализации исследовали многие зарубежные ученые (Alan, 2021; Santos & Édney, 2021). Процессы трансформации института занятости, социально-трудовых отношений, организации труда исследовались в контексте цифровых трансформаций и стремительных темпов развития научно-технического прогресса (Dubrovskaya & Kozonogova, 2021).

Основные векторы развития цифровой экономики и Четвертой промышленной революции охарактеризованы в исследованиях Организации экономического сотрудничества и развития. Современные методики оценки влияния диджитализации на экономику разных стран мира отражены в отчетах Глобального института McKinsey, Европейской Комиссии, Международного валютного фонда, Мирового банка.

Исследования указанных ученых, международных организаций, правительственных учреждений и консалтинговых агентств не потеряли своей научной ценности, однако возникает необходимость в формировании методики оценки глобальных тенденций диджитализации рынка труда, оценке происходящих сдвигов и возможных вариантов развития.

**Результаты**

Как уже отмечалось ранее, в настоящее время в цифровом пространстве происходит миграция факторов производства. В процессе трансформации цепочки создания добавленной стоимости разрываются, и производство распределяется по всему миру. Трансграничное сращивание рынков ведет к повышению конкурентной борьбы за труд и заработную плату (Zarmaev & Bolotkhanov, 2020). Переход к новому постиндустриальному обществу, экономике знаний, глобальному миру, информатизации привел к появлению и росту атипичных моделей занятости, характеризующихся такими особенностями, как автономизация, дестандартизация, виртуализация трудовых отношений, снижение доли физического труда и повышение роли услуг (Tsatsulin, 2020).

Очевидно, что эти структурные сдвиги требует принятия адекватных мер и разработки гибких государственных программ регулирования рынка труда, которые будут учитывать текущие тенденции, запро-

сы работодателей, имеющийся в стране кадровый потенциал, а также позволят наилучшим образом подготовить работников к новой реальности, для чего необходимо проводить научно-обоснованную, взвешенную и всеохватывающую диагностику национального рынка труда.

Основанием для разработки адекватной методологии моделирования динамических процессов на рынке труда в условиях цифровых трансформаций служат теоретические макроэкономические модели, которые позволяют качественно описать процессы функционирования рынка труда, характеризуют состояние его равновесия и подходы к формированию спроса на труд и предложения рабочей силы.

В процессе проводимого исследования автором разработан научно-методический подход к диагностике национального рынка труда в условиях цифровизации экономики. В рамках этого подхода оценку предложено проводить по двум комплексным параметрам: гибкость и социальная защита.

**Таблица 1** - Параметры, методы и показатели диагностики национального рынка труда в условиях цифровизации экономики

**Table 1** - Parameters, methods and indicators for diagnosing the national labor market in the context of the digitalization of the economy

Составляющие параметра	Методы и показатели оценки
<b>Параметр «гибкость»</b>	
Внешняя гибкость	Методы: количественный и качественный анализ, группировка, сравнительный анализ, экспертный опрос. Показатели: уровень мобильности национального рынка труда, уровни занятости и безработицы; субиндексы индикатора «рынок труда» Индекса глобальной конкурентоспособности
Внутренняя гибкость	Методы: количественный и качественный анализ, группировка, сравнительный анализ, экспертный опрос. Показатели: доли неформально занятых, самозанятых, занятых неполный рабочий день, субиндексы индикатора «рынок труда» Индекса глобальной конкурентоспособности
Цифровая гибкость	Методы: разработка научной гипотезы, математическое моделирование, социологический опрос, экспертный опрос. Показатели: количество занятых, объем реализации, добавленная стоимость в сфере цифровых продуктов, доля работников, использующих ИКТ
Гибкость оплаты труда	Методы: системный, количественный и качественный анализ, группировка, сравнительный анализ. Показатели: динамика среднемесячной заработной платы, почасовая ставка, субиндекс индикатора «рынок труда» Индекса глобальной конкурентоспособности
<b>Параметр «социальная защита»</b>	
Защита рабочих мест	Методы: системный, анализ документов, социологический и экспертный опрос. Показатели: оборот рабочей силы, охват работников коллективными договорами, субиндексы индикаторов «рынок труда», «институции» Индекса глобальной конкурентоспособности
Поддержка занятости	Методы: системный, анализ документов, экспертный опрос. Показатели: наличие вакансий, количество трудоустроенных
Гарантия выплаты заработанного дохода	Методы: количественный и качественный анализ, группировка, анализ документов, социологический опрос, экспертный опрос. Показатели: задолженность по выплатам по оплате труда, субиндексы индикатора «институции» Индекса глобальной конкурентоспособности
Комбинированная защита	Методы: социологический и экспертный опрос. Показатели: уровень доступности отдельных социальных услуг

Принимая во внимание тот факт, что в условиях цифровизации, как уже отмечалось ранее, актуализуется проблема безработицы, необходимости переквалификации и переподготовки рабочей силы к новым профессиям и требованиям рынка труда, на первый план для экономики любой страны выходит вопрос социального обеспечения и защиты населения. Поэтому оценка его уровня, количественных и качественных параметров имеет важное значение для формирования государственных программ социального развития.

Исходным моментом при проведении анализа уровня социальной защиты населения является определение и выбор его индикаторов. Однако вследствие сложности, многоаспектности, присутствия объективного и субъективного компонента в оценке сделать это достаточно сложно. В связи с этим в рамках проводимого исследования представляем авторскую методику анализа, которая базируется на прогрессивном в настоящее время математическом аппарате, основу которого составляет интеллектуальный анализ данных, а именно нейросетевое моделирование.

Итак, опишем предложенную методику более подробно.

Пусть  $R = \{r_1, r_2, \dots, r_n\}$  – множество оценок уровня индивидуальной социальной обеспеченности и защищенности населения, к которым будет применена экспертная система «Fuzzy Logic Toolbox».

$P = \{p_1, p_2, \dots, p_k\}$  – множество количественных и качественных критериев, по которым будет проводиться оценка уровня индивидуальной социальной обеспеченности и защищенности.

В теории нечетких множеств для моделирования объектов с дискретным выходом часто используют нечеткий логический вывод, который задается лингвистическими высказываниями  $\langle \text{If } A, \text{ Then } B \rangle$  и логическими операциями над нечеткими множествами. Причем  $A$  и  $B$  – это определенные выражения нечеткой логики, принимающие форму нечетких высказываний. Совокупность таких нечетких правил составляет нечеткую базу знаний о взаимосвязи входов и выходов объекта и имеет вид:  $\text{If}$  «ссылка правила»,  $\text{Then}$  «заключение правила». Многомерные зависимости между входом и выходом формализуются нечеткими правилами с использованием логических операций «And» и «Or» (Pandit, 2021).

Тогда взаимосвязь показателей уровня индивидуальной социальной обеспеченности

и защищенности представим следующим образом:

$$S = f_s(P_1, P_2, P_3, P_4, P_5), \quad (1)$$

где  $S$  – интегральная оценка уровня индивидуальной социальной обеспеченности и защищенности;  $P_1$  – доступ к цифровым медицинским услугам, телемедицине;  $P_2$  – обеспеченность жильем;  $P_3$  – наличие цифровых компетенций;  $P_4$  – размер личного дохода;  $P_5$  – занятость.

Результатом решения задачи является исходная переменная – интегральная оценка уровня социальной защиты человека, которая может принять одно из следующих значений:  $s_1$  – минимальный уровень;  $s_2$  – уровень ниже среднего;  $s_3$  – средний уровень;  $s_4$  – уровень выше среднего;  $s_5$  – высокий уровень.

Многокритериальный анализ оценок уровня личной социальной защищенности проведем с использованием алгоритма Мамдани, который описывается следующим образом:

- создается база правил системы нечеткого вывода;
- производится фазификация входных переменных;
- осуществляется операция агрегирования;
- аккумулируется заключение нечетких правил;
- происходит дефазификация входных переменных.

Значения выходящих и входящих переменных зададим такими нечеткими множествами:

$$(p_1 = \tilde{b}_{1j} \theta_1 \dots \theta_j \ p_n = \tilde{b}_{nj}) \Rightarrow S = \tilde{x}_j, j = \overline{1, m}, \quad (2)$$

где  $\tilde{b}_{1j}$  – нечеткий терм, с использованием которого проводится оценка переменной  $p_i$  в  $j$ -м правиле,  $j = \overline{1, m}$ ;

$\tilde{x}_j$  – вывод, продуцируемый  $j$ -м правилом;  
 $m$  – общее количество правил, входящих в состав базы знаний;

$\Theta$  – логическая операция, благодаря которой осуществляется связь различных фрагментов  $j$ -го правила;

$\Rightarrow$  – нечеткая импликация.

Для дальнейших расчетов примем такие обозначения:

$\mu_j(p_i)$  – функция принадлежности входа  $p_i \in [\underline{p}_i, \overline{p}_i]$  нечеткому терму  $\tilde{b}_{1j}$ , т.е.

$$\tilde{b}_{1j} = \int_{p_i \in [\underline{p}_i, \overline{p}_i]} \mu_j(p_i) / p_i, \quad (3)$$

$\mu_{x_j}(r)$  - функция принадлежности выхода да  $r \in [r, \bar{r}]$  нечеткому терму  $\tilde{x}_j$ , т.е.

$$\tilde{x}_j = \int_{r \in [r, \bar{r}]} \mu_{x_j}(r) / r. \quad (4)$$

Рассчитаем степень выполнения ссылки  $j$ -го правила для входящего вектора  $P = (p_1^*, p_2^*, \dots, p_n^*)$  с использованием следующей формулы:

$$\mu_j(P^*) = w_j(p_1^*)p_j \mu_j(p_2^*)p_j \dots p_j \mu_j(p_n^*), j = \overline{1, m}, \quad (5)$$

где  $p_i$  означает  $t$ -норму, в том случае, если в  $j$ -м правиле применяется логическая операция «И», и соответствует  $s$ -норме при  $\theta_i =$  «Или».

Треугольные нормы в нечетком выводе Мамдани в основном являются операциями минимума ( $t$ -норма) и максимума ( $s$ -норма). Результат нечеткого вывода примет вид:

$$\tilde{r}^* = \left( \frac{\mu_1(P^*)}{\tilde{x}_1}, \frac{\mu_2(P^*)}{\tilde{x}_2}, \dots, \frac{\mu_m(P^*)}{\tilde{x}_m} \right). \quad (6)$$

Проведем операции импликации и агрегирования, позволяющие перейти от нечеткого множества, где носителем выступает множество нечетких терм  $\{\tilde{x}_1, \tilde{x}_2, \dots, \tilde{x}_m\}$  к нечеткому множеству на носителе  $[r, \bar{r}]$ . Применив логический вывод на основании  $j$ -го правила базы знаний, получаем следующее нечеткое значение исходной переменной  $r$ :

$$\tilde{x}_j^* = \text{imp}(\tilde{x}_j, \mu_j(P^*)), j = \overline{1, m}, \quad (7)$$

где  $\text{imp}$  - импликация, реализуемая в нечетком выводе преимущественно операцией минимума, то есть происходит «срезка» функции принадлежности  $\mu_{x_j}(r)$  по уровню  $\mu_j(P^*)$ , что приобретает такой математический вид:

$$R_i: IF\{(x_1(k) \in \mu_{i,1}) \cap (x_2(k) \in \mu_{i,2}) \cap \dots (x_j(k) \in \mu_{i,j}) \dots \cap (x_n(k) \in \mu_{i,n})\} \\ THEN\{(y_1(k) \in \mu_{i,n+1}), \dots, (y_s(k) \in \mu_{i,n+2}), \dots (y_q(k) \in \mu_{i,n+j})\},$$

где  $\{x_1(k), x_2(k), \dots, x_n(k)\}$  - значение входных сигналов;

$i$  - номер правила  $i \in \{1..m\}$ ;

$j$  - номер входного сигнала,  $j \in \{1..n\}$ ;

$s$  - номер выходного сигнала,  $s \in \{1..q\}$ ;

$\{y_1(k), y_2(k), \dots, y_q(k)\}$  - значение выходных сигналов;

$\mu_{i,j}$  - лингвистическое терм-множество  $i$ -го правила для  $j$ -го входного сигнала;

$\mu_{i,n+s}$  - лингвистическое терм-множество  $i$ -го правила для  $s$ -го выходного сигнала.

$$\tilde{d}_j^* = \int_{y \in [y, \bar{y}]} \min(\mu_j(P^*), \mu_{d_j}(y)) / y. \quad (8)$$

Благодаря агрегированию нечетких множеств может быть получен общий результат логического вывода в разрезе всей базы знаний:

$$\tilde{r}^* = \text{tem}(\tilde{x}_1^*, \tilde{x}_2^*, \dots, \tilde{x}_m^*), \quad (9)$$

где  $\text{tem}$  - агрегирование нечетких множеств, через которое реализуют операции максимума.

Дефазификацией нечеткого множества называется четкое значение выхода  $r$ , которое соответствует входящему вектору  $P^*$ . Использование вычислительной системы MATLAB позволяет осуществить автоматизацию расчетов оценки индивидуальной социальной обеспеченности и защищенности на базе нечеткой логики.

Для проведения практических исследований на основе предложенной методики, в таблице 2 детализированы обозначенные ранее нечеткие множества значений, которые можно использовать в процессе определения уровня индивидуальной социальной обеспеченности и защищенности, а также соответствующие им нечеткие термы.

Каждое из представленных в таблице значений нечеткого термина описывается своей функцией принадлежности  $\mu_n$ . Чаще всего используются гаусовская функция принадлежности:

$$\mu_A(x) = \left( -\frac{(x - c_A)^2}{2\sigma_A^2} \right), \quad (10)$$

где  $c_A$  - центр функции;

$\sigma_A$  параметр «ширины» функции.

Связи между входными и выходными параметрами Fuzzy-модели описываются правилами, которые имеют следующий вид:

По итогам всех итераций оценка уровня индивидуальной социальной обеспеченности и защищенности в цифровой экономике может получить одну из таких интегральных оценок (см. табл. 3).

**Таблица 2** - Значение нечетких термов и нечетких множеств для показателей оценки уровня индивидуальной социальной обеспеченности и защищенности

**Table 2** - The value of fuzzy terms and fuzzy sets for indicators for assessing the level of individual social security and security

Переменная	Нечеткий терм, которым оценивается переменная	Нечеткое множество значений, соответствующее нечеткому терму
Доступ к цифровым медицинским услугам, телемедицине	Нет доступа	Индивид не может получить цифровые услуги, в результате чего вынужден пользоваться ограниченным спектром медицинской помощи
	Частичный из-за отсутствия постоянного Интернета или навыков пользования	Есть единичная возможность подключиться к цифровому медицинскому обслуживанию
	Приемлемая степень использования	Пользование услугами регулярно, совмещая их с аналоговым сервисом
	Регулярное использование	Индивидуум имеет возможность и пользуется цифровым медицинским обслуживанием
Обеспеченность жильем	Низкая	Нет собственного помещения (наем)
	Среднее	Предоставлено общежитие
	Высокая	Есть собственное жилье
Наличие цифровых компетенций	Низкий	Отсутствуют
	Средний	Есть на уровне обычного пользователя
	Высокий	Цифровые навыки соответствуют уровню развития цифровой экономики
Размер личного дохода	Низкий	1-1000 дол. США
	Средний	1050-2000 дол. США
	Высокий	Больше 2000 дол. США
Занятость лица	Отсутствует	Безработное лицо
	Временная	Доступна временная работа, в том числе удаленная
	Постоянная	Есть постоянная работа

**Таблица 3** - Нечеткое множество значений интегральной оценки уровня индивидуальной социальной обеспеченности и защищенности

**Table 3** - Fuzzy set of values of the integral assessment of the level of individual social security and security

Оценка уровня индивидуальной социальной защищенности	Нечеткое множество значений исходной переменной
$r_1 \dots r_n$	Низкий (0-25%)
	Ниже среднего (20-40%)
	Средний (35-65%)
	Выше среднего (60-80%)
	Высокий (75-100%)

Проведение операции над нечеткими множествами позволит получить интегральную оценку уровня индивидуальной социальной обеспеченности и защищенности, отраженную четким числом.

### Обсуждение

Изучение особенностей функционирования и концептуальных сдвигов в развитии цифровой экономики, выделение основных векторов трансформации и модификации современных систем занятости, а также актуальных требований к персоналу позво-

лили обосновать методическую основу для моделирования динамических процессов функционирования и развития рынка труда.

Исследования показали, что с целью проведения сравнительного анализа и получения достоверной оценки актуальных тенденций, на основе учета как на количественных, так и на качественных показателей развития рынка труда и социальной обеспеченности населения целесообразно использовать теорию нечетких множеств и новейшие информационные технологии.

В таблице 4 представлена апробация предложенной методики с использованием рядов динамики, характеризующих ситуацию на рынке труда Казахстана.

Средние временные показатели, представленные в таблице 4, относятся к трем различным временным периодам, то есть 2014-2017 гг. и 2018-2021 гг. – это отчетные периоды. 2022-2025 гг. – прогнозный. В процессе расчетов были рассмотрены такие показатели как:

ТЕР – общая социальная защищенность населения;

PL – наличие цифровых компетенций;

PK – размер личного дохода.

Также изменение этих показателей проанализировано под влиянием четырех типов инвестиций:

- общие инвестиции в развитие человеческого потенциала (Tot Int): они представляют собой сумму инвестиций в подготовку персонала, обучение, повышение квалификации, переподготовку и т.д.;

-инвестиции в программное обеспечение и базы данных (Int Soft&DB);

-инвестиции в НИОКР (Int R&D);

-общие инвестиции (Tot Tang): они представляют собой сумму инвестиций в оцифровку рабочих мест, в обеспечение жильем и медицинским обслуживанием населения;

-инвестиции в оборудование (Tang ICT), для улучшения производительности труда;

-инвестиции в цифровые разработки, создание цифровых рабочих мест, удаленных средств связи, умных производств и т.д. ICT&Soft&DB.

**Таблица 4** - Апробация методики определения уровня социальной защищенности населения в Казахстане в условиях развития цифровой экономики

**Table 4** - Approbation of the methodology for determining the level of social protection of the population in Kazakhstan in the development of the digital economy

Показатели	2014-2017 гг.	2018-2021 гг.	2022-2025 гг.
TFP - Int tot	0.20	0.40	0.7025
PL - Int tot	0.28	0.569	0.7214
PK - Int tot	0.07	-0.43	-0.24
TFP - Int Soft&DB	0.17	-0.02	0.05
PL - Int Soft&DB	0.13	0.05	0.19
PK - Int Soft&DB	0.20	-0.17	0.35
TFP - Int R&D	0.19	0.28	0.465
PL - Int R&D	0.32	0.495	0.506
PK - Int R&D	-0.37	-0.541	0.13
TFP - Tang tot	0.30	0.649	0.475
PL - Tang tot	0.38	0.715	0.32
PK - Tang tot	-0.16	-0.15	0.22
TFP - Tang ICT	0.17	0.36	0.544
PL - Tang ICT	0.13	0.35	0.547
PK - Tang ICT	0.02	0.02	0.03
TFP - ICT&SOFT&DB	0.19	0.34	0.6519
PL - ICT&SOFT&DB	0.21	0.6460	0.40
PK - ICT&SOFT&DB	0.01	0.06	0.09

Проведенный анализ показывает высокую положительную и значительную корреляцию между общей социальной защищенностью населения Казахстана и такими ключевыми видами инвестиций как: Tot Int, ICT&Soft&DB и Int R&D. Это говорит о том, что адаптация рынка труда в стране к цифровым трансформациям и вызовам должна осуществляться системными усилиями всех его участников – государства, предприятий и населения. Причем вложения

и конкретные практические действия следует сосредотачивать не только на материальной составляющей – переоснащении рабочих мест и покупке новых технологий, но и на обучении, подготовке, повышении квалификации работников, с тем, чтобы вложенные средства обеспечили максимальную отдачу как для самого инвестора, так и для уровня жизни, социальной защищенности и обеспеченности работников предприятий.

### Заключение

Повсеместное распространение новых интеллектуальных приложений, информационно-коммуникационных технологий, которые стали неотъемлемой частью цифровой экономики, привело к резкой корректировке структуры занятости практически во всех странах мира. Появление Интернета, роботов и, в последнее время, прогресс в области искусственного интеллекта провоцирует дополнительные риски для всех сотрудников, а не только для тех, кто находится в нижней части квалификационной шкалы. Все это в свою очередь актуализирует ряд вызовов для системы государственного управления, связанных с необходимостью регулирования занятости и безработицы, поддержки на должном уровне социальной защиты населения.

По результатам исследования в статье предложен авторский методологический подход к исследованию основных процессов функционирования и развития рынка труда в условиях цифровизации и проведена его практическая апробация на примере Казахстана. Этот подход позволяет выполнить углубленную оценку сдвигов в структуре занятости и идентифицировать специфику социально-трудовых отношений в условиях цифровой экономики.

Также используя инструментарий нейросетевого моделирования и нечеткой логики автором разработана методика определения уровня социальной защищенности населения, которая опирается на количественные и качественные критерии оценки. Ее использование на практике будет способствовать формированию дифференцированной системы мер по социальной защите и поддержке граждан на государственном уровне, развитию их активности в цифровой среде.

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## The Influence of Demographic Transition Factors on the Demographic Dividends in the Republic of Kazakhstan

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### Abstract

The purpose of this article is to explore the relationship between factors of demographic transition and the demographic dividend in developing countries on the example of Kazakhstan. This literature review made it possible to identify two main factors that indirectly impact economic growth: the working-age population and the labor force. Correlation and regression analyses were conducted to investigate the relationship between these factors, taking into account urban and rural areas. The SPSS program was used to confirm four hypotheses. Where Working Age Total is the dependent variable and Women Working Age Urban Population, Women Working Age Rural Population are independent variables for the first two hypotheses. In the third and fourth hypotheses, Labor Force Total is the dependent variable, and Fertility Rate, Fertility Rate Urban, Fertility Rate Rural, Death Rate, Death Rate Urban, Death Rate Rural are independent variables. Data from the official open source information of the Bureau of National Statistics between 2007-2020 was used. According to the results, three hypotheses were partially accepted, one was rejected. The results showed little effect of changing demographic structure in rural areas on the working-age population, except for mortality rate. The birth rate has a positive impact on the working-age population only in cities. The female population of working age, although predominant in terms of the number, has a negligible effect on the labor force. The results of this study can be used to develop and improve existing programs and strategies for managing demographic factors by the government at various levels and in science.

**Keywords:** Economy, Demography, Strategy, Practice, Demographic Dividends, Demographic Structure, Kazakhstan.

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## Демографиялық өтпелі факторлардың Қазақстан Республикасындағы демографиялық дивидендтерге әсері

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### Түйін

Бұл мақаланың мақсаты Қазақстан мысалында дамушы елдердегі демографиялық ауысу факторлары мен демографиялық дивиденд арасындағы байланысты зерттеу болып табылады. Әдебиеттердің бұл шолуы экономикалық өсуге жанама әсер ететін екі негізгі факторды анықтауға мүмкіндік берді: еңбекке жарамды халық пен жұмыс күші. Осы екі фактор арасындағы байланысты зерттеу үшін қалалық және ауылдық жерлерді ескере отырып корреляциялық және регрессиялық талдаулар жүргізілді. Төрт гипотезаны растау үшін SPSS бағдарламасы пайдаланылды. Мұндағы еңбекке жарамды жас жиыны тәуелді айнымалы болып табылады, ал әйелдердің еңбекке жарамды жастағы қала халқы және әйелдердің жұмыс істейтін жасындағы ауыл халқы алғашқы екі гипотеза үшін тәуелсіз айнымалылар болып табылады. Үшінші және төртінші гипотезаларда Жұмыс күшінің жалпы мөлшері тәуелді айнымалы болып табылады, ал Туу коэффициенті, Қалалық туу коэффициенті, Ауылдық жердегі туу коэффициенті, Өлім деңгейі, Қалалық өлім деңгейі, Ауылдық өлім деңгейі тәуелсіз айнымалылар. Факторларды есептеу үшін Ұлттық статистика бюросының 2007-2020 жылдар аралығындағы ресми ашық ақпарат көздерінің деректері пайдаланылды. Талдау нәтижелері бойынша үш гипотеза ішінара қабылданды, біреуі қабылданбады. Нәтижелер өлім-жітім деңгейін қоспағанда, ауылдық жерлердегі демографиялық құрылымның өзгеруінің еңбекке қабілетті халыққа аз әсер еткенін көрсетті. Туу көрсеткіші тек қалалардағы еңбекке қабілетті халыққа оң әсер етеді. Еңбекке қабілетті жастағы әйелдер ерлер саны бойынша басым болғанымен, жұмыс күшіне елеусіз әсер етеді. Бұл зерттеудің нәтижелері әртүрлі деңгейдегі мемлекеттік органдардан демографиялық факторларды басқарудың қолданыстағы бағдарламалары мен стратегияларын әзірлеу және жетілдіру үшін, сондай-ақ ғылыми зерттеулерде пайдаланылуы мүмкін.

*Түйін сөздер:* экономика, демография, стратегия, практика, демографиялық дивидендтер, демографиялық құрылым, Қазақстан.

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## Влияние факторов демографического перехода на демографические дивиденды в Республике Казахстан

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### Аннотация

Цель данной статьи исследовать взаимосвязи факторов демографического перехода и демографического дивиденда в развивающихся странах на примере Казахстана. Приведенный обзор литературы позволил выделить два основных фактора, оказывающих косвенное влияние на рост экономики: население трудоспособного возраста и рабочая сила. Для исследования связи между этими двумя факторами были проведены корреляционный и регрессионный анализы с учетом городской и сельской местности. Для подтверждения четырех гипотез была использована программа SPSS. Где Working Age Total зависимая переменная, а Women Working Age Urban Population и Women Working Age Rural Population не зависимые переменные для первых двух гипотез. В третьей и четвертой гипотезе Labor Force Total являются зависимой переменной, а Fertility Rate, Fertility Rate Urban, Fertility Rate Rural, Death Rate, Death Rate Urban, Death Rate Rural являются независимыми переменными. Для расчета факторов были использованы данные из официального открытого источника информации Бюро национальной статистики с 2007 по 2020 годы. По результатам проведенного анализа три гипотезы были частично приняты, одна отвергнута. Результаты показали незначительное влияние изменения демографической структуры в сельской местности на население трудоспособного возраста, за исключением уровня смертности. Коэффициент рождаемости оказывает положительное влияние на население трудоспособного возраста только в городах. Женское население трудоспособного возраста, хотя и преобладает по количеству мужчин, но оказывает незначительное влияние на рабочую силу. Результаты данного исследования могут использоваться для разработки и совершенствования имеющихся программ и стратегий по управлению демографическими факторами со государственных органов разных уровней, а также в научных исследованиях.

**Ключевые слова:** экономика, демография, стратегия, практика, демографические дивиденды, демографическая структура, Казахстан.

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### Introduction

The demographic development of the world has the most serious impact on the world economic community. The population of the entire planet, its age and sex structure, the duration, and quality of life, the qualifications of the labor force, population migration, and its socio-economic consequences - all this largely determine the development trends of the modern world and its economy. Population growth varies from country to country. This phenomenon serves as a basis for maintaining long-standing ideas about optimal population and economic growth. These ideas are usually associated with the population of individual countries and regions and in recent decades - with the world population. This gives an impetus to economists to analyze the relationship between population growth and economic development.

Sustainable development is now on the worldwide agenda. Sustainable development definition takes its roots in the World Commission on Environment and Development (WCED) report in 1987. Initially, the report was entitled «Our common future». Eventually, it became known under the title «Brundtland Report». Based on this report there were developed major principles of sustainable development. The report's general goal reflected the need for the sustainable development of the economy, especially in developing countries. The highlighted issue was to reduce poverty, which could be managed through politics and state policies (Marien, 2021).

Sustainable development's goal lies in providing sustainable economic development, which is affected by different factors. Demography is one of the major factors of economic development and an indicator at the same time. During the last decade, the world has undergone extreme changes, especially there was a great change in the demographic structure worldwide. Kazakhstan is not an exception. The greatest impact on the demographic structure of the world population was caused due to COVID-19 pandemic, which counted 3,2 million deaths worldwide by 2021 (Agrawal et al., 2021). For the past year (January 1<sup>st</sup> 2021- January 1<sup>st</sup> 2022) in Kazakhstan, there were recorded 200 deaths caused by the COVID-19 pandemic (Johns Hopkins Coronavirus Resource Center 2021).

A decrease in the fertility and death rate opens the window of opportunities by reducing the number of dependencies. Post-war Japan (1965 to 1970) is a fine illustration of the impact of the decrease in fertility rate and decreased death rate (which was explained the increase in the life expectancy of the local population) called as East-Asian Miracle (Ogawa et al., 2021).

At the same time, it contributes to the development of the first demographic dividend as a working age population, with the age range 15-64. In other words, this is an increase in the number of the labor force. Most developed and developing countries are experiencing the first demographic dividend, but the results differ.

Therefore, it is essential to understand the relationship between demographic indicators. In addition, it is important to investigate the impact of demographic transition indicators on demographic dividends. The current study aims to contribute to the existing body of knowledge on the relationship between demographic transition factors and demographic dividend factors, which affect the economy development in the context of developing countries, on the example of Kazakhstan.

One approach to analyzing the relationship between population growth and economic development is that demographic variables are an essential aspect of socioeconomic development. This approach is based on the following scheme: rapid population growth reduces the growth of savings and savings, increases the growth of the labor force and makes it difficult to use it, lowers the quality of labor resources by reducing education and health care costs, weakens technical innovations, reduces the number of resources per person and ultimately slows the growth of GDP per capita.

### Literature review

The body of knowledge focused on the study of demographic change is expanding. This study concerns in provision of research on the impact of demographic change on economic growth. Recent studies are primarily focused on the identification of the influence of the demographic structure change. Within this aspect, the structure of the literature review will be the following. First, existing studies will be discussed the three main procedures influencing demographic change. Next, there is the attention given to labor force structure, which is regarded as another demographic construct. It has a great influence on economic growth.

The demographic change includes the size and composition of the population. The structure of the population can be broken down into various aspects. For example, there have been considered education level, marital status, employment or income level in wide practice. First, it is demographic transition. This is when fertility rate along with death rate decreases. Second, in general is the outcome of the first trend, it is aging (Billari & Sciences, 2022).

Among the most popular and the main are age and gender (Hinde, 2014). However, significant processes should be identified which have a crucial impact on demographic change. They are fertility rate, death rate and immigration rate. Change in the demographic structure affects positive economic development. Moreover, according to Momota and Futagami, a country becomes a creditor when rates of fertility and death become low at the same time (Momota & Futagami, 2005). Population growth (which is explained by fertility and in-migration rates), as well as decrease (death rates and out-migration) shifts not only the working age of the population, but it also affects population structure in terms of gender, labor force rates and population aging. This results in a change in the employment rate. Therefore, demographic structure change is important and needs to be observed on a constant basis (Babiak & Mesaksudi, 2018).

It is worth mentioning that the change of demographic structure change process, for instance, decrease only in death rates results in a significant number of people at the same time and in the same place who need jobs. This increases the unemployment rate if the resident country is notorious for unstable politics, and low socio-demographic policy, in particular, education and healthcare system. Moreover, such a significant number of unemployed people could be easily involved in destructive movements, as in the case of Egypt. People, with the prevailing dominance of youth, participated in the protests (Korotayev & Zinkina, 2022).

The influence of immigration depends on the quality of arriving human capital. There is various research on immigration, including the level of education of immigrants, family structure, cultural specifications etc. The scientific interest of these studies was centered on the assimilation of immigrants, the influence of religious, national and cultural effect predominantly on the quality of education and marriages (Dribe & Lundh, 2011; Kalmijn & Tubergen, 2010).

Developed countries, to prevent the inflow of unskilled labor force, have set and put in practice a point-based system for immigrants. It collects information about education field and level, experience and contributions. Low skilled labor force prevents or slows down economy transition process. Developing countries are notorious for cheap labor force due to lack of professional qualification or skills. Nevertheless, the effect of positive impact of immigration on the economy developed is observed in both developed and developing countries (Boubtane et al., 2016).

Other scientist's emphasize significant influence on the demographic dividend, the working-age of the population, on economic development. This period of opportunities is developed due to decline in fertility and mortality rates. Thus, less amount of dependencies, which ensures increase in the working-age labor force in labor market. It is worth mentioning that demographic dividend is not only about the working age. It also includes women's labor force. The decrease in birth rate explains the increase in women labor force. This is attributed to the fact that women are focused on career more. Simultaneously, women improve their health condition and social status by gaining more independence due to personal income (Ross, 2004). This is, still dependent on the policy provided by the government. Wei & Hao (2010) state government is responsible for the productive period of demography dividend functioning. In a public sector, the government is focused on the planning of social policies, including the strategy of improving the employment rate and health policy improvement (Wei & Hao, 2010).

Therefore, it can be assumed that demographic dividend is highly dependent on public policies and strategies of economic development by the government, which include family related policy and education as well. For instance, in China, the period of demographic dividend is closing. Despite the fact that the state has started the strategy of increasing population number, precisely One-Child Policy is being amended, the process of population ageing transition is predicted to go much faster (Zhang et al., 2015). Golley and Wei (2015) showed that quality of working-age population if bad, could have a negative impact on the economy growth. Because one of the responsibilities of the government is provision of quality education and working places (Golley & Wei, 2015).

Uddin et al. (2016) underlined the coming problem of population aging as well, which is provoked by the age imbalance among population. Whereas prevailing proportion of the population is combined by the young and old generations. They underlined that government needs to take actions in developing policies for labor force increasing. This would provide productive investments for the country in the long run (Uddin et al., 2016). Based on the above mentioned, assumption that success of demographic dividend is dependent of the public policy is justified.

Demographic change has a great impact on the economy development with positive outcomes in the future. Despite the period of opportunities,

as described in the literature review, the future development of the economy must be well thought in combination with social policies. The government based on the demographic structure has the opportunity to build pension program planning, education and healthcare system, policy on creation of jobs to decrease unemployment and social policy focused on minorities, including women (Doker et al., 2016). It must be noticed that the majority of the studies were conducted during the period of significant changes in demographic transition and demographic dividend factors. Therefore, it is necessary to understand the change in the demographic structure in the context of developing countries. Also, it is important to understand is the effect the same if in developing countries the change is not as large as in developed countries. Therefore, there have been developed following hypotheses:

*H1:* There is impact of demographic transition factors in rural area (FR\_R, DR\_R) on the Demographic dividend factor (WA\_Total).

*H2:* There is impact of demographic transition factors in urban area (FR\_U, DR\_U) on the Demographic dividend factor (WA\_Total).

*H3:* There is impact of the number of women in working age (WWA\_R, WWA\_U) on the increase in the labor force (LF\_Total).

*H4:* There is impact of men in working age (MWA\_R, MWA\_U) on the increase in the labor force (LF\_Total).

### Methodology

There are various works, which study the influence of the demographic changes on the economic growth of the economy. Along with this, there have been developed various ways of demography impact measurement based on the primary or secondary sources. Application of secondary sources includes statistical data

predominantly. There are usually provided demographic impact forecasting, regression analysis etc. According to Hinde (2014), in terms of primary sources the data is usually obtained in several ways. The author defined three ways for data collections: population censuses, vital registration, surveys allowing to follow the change in the demography structure.

Provided literature review showed the importance of the demography structure. The economy development is dependent on the demographic structure. Apart from mentioned measurements of demography, there are other measurements, which have impact on the economy. Based on the research of Cruz and Ahmed, it is important to identify the impact of labor force share, reflected in the working age population (Cruz & Ahmed, 2018). Doker et al. (2016) underlined the contribution of women labor force.

Understanding of the demographic structure of the Republic of Kazakhstan has great importance. For this purpose, there will be provided analysis of the following factors. *Demographic transition processes:* fertility and death rate. Based on the provided literature review decrease in both fertility and death rates develops the phenomena of the “window of opportunities”. In particular, this window effect results in the increase in the working-age of the population. Thus, it contributes to the labor force. To analyze the relationship between demographic indicators there were conducted correlation analysis.

Based on the provided literature review, two significant demographic factors were identified: labor force and working age population. Thus, an investigation of the impact of demographic change on the following demographic indicators will be revealed through regression analysis. Therefore, the several indicators were taken (Table 1).

**Table 1 - Variables and Notations**

Notation	Variable type	Variables	Source
WA_Total	Dependent variable 1	Working Age Total	Bureau of National Statistics (2022)
WWA_U	Independent variable	Women Working Age Urban Population	
WWA_R	Independent variable	Women Working Age Rural Population	
LF_Total	Dependent variable 2	Labor Force Total	
FR	Independent variable	Fertility Rate	
FR_U	Independent variable	Fertility Rate Urban	
FR_R	Independent variable	Fertility Rate Rural	
DR	Independent variable	Death y Rate	
DR_U	Independent variable	Death Rate Urban	
DR_R	Independent variable	Death Rate Rural	

*Note:* compiled by the authors

First of all, provided literature review showed that decrease in the fertility rate and death rate at the same time is beneficial as it has positive effect on the working age population. Thus, working age population is the first dependent variable. Secondly, working age population has impact on the labor force. Some studies underlined the importance of women participation in the labor market. Due to this, Labor force is the second dependent variable.

Data for all variables was obtained from official open data source. The limitation for this research was lack of the latest data (for 2021) for fertility and death rates. Considered period of obtained data was from 2007 to 2020. For data processing, SPSS software was used.

It must be mentioned that for this research there were provided Pearson correlation analysis and multiple regression analysis instead of forecasting of future trends in the demographic change, as the goal of the research lies in the investigation of the impact and relation between demographic variables.

Pearson correlation coefficient is calculated by the formula below (1):

$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 * \sum(y_i - \bar{y})^2}} \quad (1)$$

Where  $x$  – value for X variable;  
 $y_i$  – value for Y variable;  
 $\bar{x}$  – is the arithmetic mean for X variable ;  
 $\bar{y}$  – is the arithmetic mean for Y variable .

Multiple linear regression analysis was carried out in accordance with the following formula of multiple regression analysis (2).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \quad (2)$$

Where  $Y$  – is the dependent variable;  
 $X_{1,2,3,4}$  – is independent variable /predictor

$\beta_{1,2,3,4}$  – is regression coefficient.

In order to conduct a regression analysis, there is provided correlation analysis to identify the relationship between variables. This allows seeing if a further provision of regression analysis is necessary. If the correlation analysis reveals insignificant relation between variables, further regression analysis is unnecessary, as due to the correlation analysis results the model is regarded as insignificant. It is common that SPSS software is applied for correlation and regression analyses provision (Korkmaz, 2020).

### Results and analysis

To investigate the relation between variables correlation analysis was conducted first. For the correlation analysis there were included two dependent variables and independent variable. For the independent variables, there were taken working age population by women and men in urban and rural areas; birth and death rate divided into the urban and rural areas as well. In table 2, there are presented results of correlation analysis between dependent and independent variables.

Table 2 - Correlation

	LF_Total	WA_Total	MWA_R	WWA_R	MWA_U	WWA_U	FR_U	FR_R	DR_U	DR_R
LF_Total Pearson correlation	1	,977**	,624*	,456	,866**	,888**	,938**	,505	,734**	,633*
Sig. (two-tailed)		,000	,017	,102	,000	,000	,000	,065	,003	,015
WA_Total Pearson correlation	,977**	1	,599*	,449	,901**	,922**	,901**	,533*	,825**	,736**
Sig. (two-tailed)	,000		,024	,108	,000	,000	,000	,049	,000	,003
**. Correlation is significant at the 0,01 level (2-tailed). *. Correlation is significant at the 0,05 level (2-tailed).										



As it is clear from table 2, correlation of LF\_Total and WA\_Total ( $r = .977, p < .001$ ), FR\_U ( $r = .938, p < .001$ ), WWA\_U ( $r = .888, p < .001$ ) and MWA\_U ( $r = .866, p < .001$ ) was found to be statistically significant. This indicates that the increase in the fertility rate and in the number of working age population, especially among women leads to the increase in the number of the labor force.

The correlation between WA\_Total and LF\_Total ( $r = .977, p < .001$ ), FR\_U ( $r = .901, p < .001$ ), and DR\_U ( $r = .825, p < .001$ ). The results for WA\_Total show that in the change in fertility and death rate in the urban area leads to an increase in the number of WA\_Total, as there is a positive correlation between them. Next, there were conducted regression analysis for two dependent variables.

Obtained results for the correlation analysis showed that there is a strong relationship between the labor force and demographic dividend factors, thus working age population has an impact on the labor force. Next, demographic change factors such as death and fertility rate show a strong correlation as well, with both dependent variables.

Although it has been studied already and discussed that demographic change factors, to which we relate death and fertility rate have a strong impact on the working and thus on labor force as well, context plays a role as well. In this study, the context is Kazakhstan. Based on the results of the correlation analysis, which revealed strong relation between variables, further regression analysis on the worth of provision. Next, there are presented results for model summary data (Table 3).

*Dependent variable 1 – WA\_Total.*

According to the results in table 3, R-square = .973, which shows that 97,3% of the change in WA\_Total is explained by the predictors (DR\_R, FR\_U, FR\_R, DR\_U). Further, there are presented results for ANOVA analysis (Table 4).

WA\_Total is significantly predicted by the predictors in this model based on the F (81,139),  $p < 0,001$ . Therefore, the model can be accepted as significant. In table 5, there are presented results for the regression coefficients for predictors used in this model.

**Table 3 - Model summary – WA\_Total**

Model	R	R- square	Adjusted-R Square	Std.Error of the Estimate
1	,986 <sup>a</sup>	,973	,961	81882,220
a. Predictors: (constant), DR_R, FR_U, FR_R, DR_U				

**Table 4 - ANOVA – WA\_Total**

Model	F	Sig.
Regression	81,139	,000 <sup>b</sup>
Residual		
Total		
a. Dependent variable: WA_Total		
b. Predictors: (constant), DR_R, FR_U, FR_R, DR_U		

**Table 5 - Coefficients – WA\_Total**

Model	Unstandardized coefficients		Standardized coeff.error Beta	t	Sig.
	B	Stand. Error			
(Constant)	7907035,570	730207,167		10,828	,000
FR_U	17,800	2,701	,948	6,590	,000
FR_R	-4,751	4,417	-,101	-1,075	,310
DR_U	-18,418	10,337	-1,273	-1,782	,108
DR_R	35,956	14,656	1,662	2,453	,037
a. Dependent variable: WA_Total					

In table 5 presents results for the regression coefficients for predictors used in this model. As it is clear from the data Tolerance is more than 1,96 which supports the significance of the model. In particular, it shows the level of impact of used predictors for this model on the dependent variable WA\_Total. Regression coefficients for FR\_R and DR\_U are insignificant as p-values for these predictors are higher than the significance level .310, .108 and .037 respectively. Hypothesis 1 is supported partially. While for FR\_U (.000) and DR\_U (.037) (Sig. p=.000) p-values is less than the significance level ( $\alpha = 5\%$ ). Thus, there are two significant variables FR\_U and DR\_R. Hypothesis 2 is supported partially.

Obtained results for hypothesis 1 showed that the death rate in the rural area is significant and therefore has an impact on the working age population. This can be explained by the fact that Kazakhstan is among those countries where urban growth and urban area development are usually achieved by internal migration from rural areas to urban. This is caused by the fact that rural areas are notorious for high rates of unemployment. Therefore, urban areas with higher salaries are attractive to the rural population as a source of income. It is predicted that in the long run, the gap between cities and rural areas reduces, but economic development is not promised (Brooks,

2021). One of the reasons is the high rate of self-employed population in villages, which makes up about 34% economically active population in rural area, which makes up 3,6 million people. The self-employed population is often involved in the shadow economy. Therefore, it is not economically beneficial for the country.

Obtained results for hypothesis 2 showed that the fertility rate in an urban area has a significant impact on working age population. Based on the statistical data, the fertility rate in the urban area is gradually increasing while in rural it is the opposite, gradually decreasing. In Kazakhstan, in every fifth rural family, women take care of the family budget and stand out as the main source of income for families. As women get more involved in the labor force the fertility rate decreases. Therefore, this could be taken as one of the mechanisms of demography regulation (Van den Broeck & Maertens, 2015). In addition, women's socio-economic independence positively affects the fertility rate. This is explained by the fact that women are more independent in decision-making processes. However, this conclusion cannot be generalized to all cases. Therefore, it is important to analyze cultural habits as well (Samari, 2019). Next, there are presented results of the analysis for the second dependent variable LF\_Total. Accordingly, model summary (Table 6) presents results for R-square.

**Table 6 - Model Summary – LF\_Total**

Model	R	R- square	Adjusted-R Square	Std.Error of the Estimate
1	,992 <sup>a</sup>	,984	,971	48786,259
Predictors: (constant), FR_R, MWA_U, MWA_R, FR_U, WWA_R, WWA_U Dependent variable 2 – LF_Total				

According to the results in table 6, R-square = ,984, which shows that 98,4% of the change in LF\_Total is explained by the predictors (MWA\_U, MWA\_R, WWA\_R, WWA\_U). In table 7, there are provided results of the ANOVA analysis.

**Table 7 - ANOVA – LF\_Total**

Model	F	Sig.
Regression	72,319	,000 <sup>b</sup>
Residual		
Total		
a. Dependent variable: LF_Total		
b. Predictors: (constant), MWA_U, MWA_R, WWA_R, WWA_U		

The ANOVA table (table 7) shows that LF\_Total is significantly predicted by the predictors in this model based on the F (72,319),  $p < 0,001$ . Therefore, the model can be accepted as significant. Coefficient analysis results for the second dependent variable are presented in the table 8.

**Table 8** - Coefficients – LF\_Total

Model	Unstandardized coefficients		Standardized coeff.error Beta	t	Sig.
	B	Stand. Error			
(Constant)	1054831,469	446804,284		2,361	,043
MWA_U	-,643	2,090	-,388	-,307	,765
WWA_U	1,574	1,936	1,026	,813	,437
MWA_R	4,342	1,043	1,260	4,163	,002
WWA_R	-2,637	,965	-,835	-2,733	,023

a. Dependent variable: LF\_Total

In table 8 presents results for the regression coefficients for predictors used for the second model. The level of Tolerance for this model is more than 1,96 which shows that the level of impact of current predictors on the dependent variable LF\_Total is significant. Based on the provided results, there is one predictor which has a significant impact on the dependent variable MWA\_R ( $p < .002$ ). Hypothesis 3 is rejected, and hypothesis 4 is accepted partially.

Obtained results for hypothesis 3 show that women of working age in rural and urban areas do not have an impact on the labor force. In the case of the current study, it is clear from the above partially supported hypotheses (1 and 2). Women of working age in rural area are involved in the labor force, but there is a high probability that they make up half of the self-employed population. Next, the overall women employment rate for the last decade was about 60% of total women. The change in the number of employed women was insignificant and fluctuated below and above 61% (Bureau of National Statistics, 2022).

Obtained results for hypothesis 4 showed that men of working age in a rural area has a significant impact on the total labor force. Moreover, for the past year, the number of unemployed men in rural areas stayed without changes, while the number of urban males in the labor force increased. There could be related various factor. However, it must be mentioned that majority of rural area in Kazakhstan is represented as depressive or vulnerable settlements.

To summarize obtained regression analysis, three hypotheses were accepted partially, and one rejected:

– Hypothesis 1- is supported partially. *There is impact of demographic transition factors in rural area (FR\_R, DR\_R) on the Demographic dividend factor (WA\_Total).*

– Hypothesis 2- is supported partially. *There is impact of demographic transition factors in urban area (FR\_U, DR\_U) on the Demographic dividend factor (WA\_Total).*

– Hypothesis 3 – is rejected. *There is impact of the number of women in working age (WWA\_R, WWA\_U) on the increase in the labor force (LF\_Total).*

– Hypothesis 4 - is supported partially. *There is impact of the number of men in working age (MWA\_R, MWA\_U) on the increase in the labor force (LF\_Total).*

### Analysis

Demography has a great impact on economic growth and determines its further development. As it is a constantly changing environment, it is important to observe its development. Current analysis includes statistics of demographic transition factors, which include fertility and death rate, working age population in rural and urban areas among men and women, and labor force for the period 2007-2020 (Table 9).

Working age of the population for both women and men had insignificant changes over the period in urban and rural areas (Table 10). Interestingly, that the number of women urban population is greater than men urban population. In 2007, it was 58,78% and 56,84% respectively. Throughout the period the indicators for both genders increased gradually (59,51% for women and 57,52% for men), leaving men behind with insignificant difference. The situation was opposite in rural areas. Where the difference between women and men in 2007 made up 43,16% people in favor of men. By the end of the period, the number of the population for men in rural area decreased gradually (42,48%). At the same time, the population of working age among women fluctuated and by the end of the period, it decreased slightly (40,49%).

**Table 9** - Demographic factors for 2007-2020

Year	Demographic transition factors		Demographic dividend factors	
	Fertility rate	Death rate	Working age population (15-64 y.o.)	Labor force
2007	321 963	9 858	10497310	8 274 942
2008	356 575	9 196	10635608	8533075
2009	356378	143238	10994551	8573098
2010	367942	146370	11171090	8721578
2011	372801	144944	11321458	8816456
2012	381005	142880	11424370	8899357
2013	387227	135950	11488271	8972219
2014	399309	132287	11553669	9045894
2015	398458	130811	11597179	9115881
2016	400694	131231	11638091	9064290
2017	390262	129009	11675181	9004270
2018	397799	130448	11720086	9 169 408
2019	402310	133128	11768164	9227219
2020	426824	161333	11823165	9196321

Note: compiled by the author based on Bureau of National Statistics (2022)

In the table 9 there is presented statistics on the fertility and death rates. In the beginning of the period, the difference between fertility was about two times more than death rate, 321963 and 158297 respectively. Fertility rate had gradual increase over the period for about 100 000. Death rate on the contrary decreased during the period and in 2019, there were 133128 deaths registered in the beginning of the year. With the burst out of COVID-19, the number of deaths increased and in 2020, the number of deaths increased and reached 161333. The overall difference between fertility and death rate increased (265491) almost two times more by the end of the period compared to the numbers in 2007.

The working age population included all populations in the age range 15-64. The working age population increased gradually over the period to about 1,1 mln. In 2020, the population of working age made up 11823165 people. The labor force was less than working age population in 2007 for about 2,2 mln. and made up 8274942. The number of the labor force increased insignificantly throughout the period to less than 1 mln. and made up 9196321 in 2020. Based on the provided statistics, in table 9, the number of working age population throughout the period was larger than the number of total labor force. By the end of the period, the difference increased slightly to about 2,5 mln. Further, the dynamics for the transition factors, including working age population both for women and men and death and fertility rate in urban and rural areas are presented in table 10.

Changes in death and fertility rate in rural and urban areas had similar trends. Thus the death rate dropped by the end of the period for 13,47%

and made up 37,7,1%, compared to 51.1% in 2007. Fertility rate in rural area decreased as well. But, the change was insignificant 41.5% in 2020 compared to 45,8% in 2007. On the contrary, the trends in urban area increased. Death rate increased by 13,46% and made up 62.29% in 2020. The fertility rate increased as well, but insignificantly to 4,33% and comprised 58,48% in 2020.

Data provided in the statistical analysis showed that overall change in all factors is insignificant. First, although there is a slight increase in both fertility and death rate, there is a significant difference between them. Second, there is a great difference between the number of people of working age and the number in the labor force, which also reflects that the difference could also be attributed to the unemployed population.

Despite the fact that the fertility rate and death rate provided insignificant change, the economic development failed to involve as much of the working age population by providing and creating jobs. Due to this, the difference in the labor force and the working age population has a great gap. In addition to that, the number of women working age population is overall larger than men. Nevertheless, their impact on the economic development is insignificant. Again, this could be explained that women make up a majority of the unemployed population. The employment rate for men during last decade fluctuated over and above 72%-73%, while for women over and above 60%-61%. This supports the results of the provided regression analysis that women have insignificant or no impact at all on the increase in the number of labor force. While men have significant contribution.

**Table 10** - Demographic transition factors, 2007-2020

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Working age Population</b>													
Women Working age Rural Population													
41,22%	45,54%	43,85%	43,74%	43,69%	43,63%	43,65%	43,67%	42,28%	42,07%	41,28%	41,12%	40,90%	40,49%
Women Working age Urban Population													
58,78%	54,46%	56,15%	56,26%	56,31%	56,37%	56,35%	56,33%	57,72%	57,93%	58,72%	58,88%	59,10%	59,51%
<b>Men working age population</b>													
Men Working age Rural Population													
43,16%	47,56%	45,61%	45,55%	45,54%	45,54%	45,58%	45,62%	44,17%	43,98%	43,21%	43,08%	42,91%	42,48%
Men Working age Urban Population													
56,84%	52,44%	54,39%	54,45%	54,46%	54,46%	54,42%	54,38%	55,83%	56,02%	56,79%	56,92%	57,09%	57,52%
<b>Death rate</b>													
Rural Death rate													
51,17%	51,20%	42,45%	42,49%	42,36%	41,95%	42,20%	41,19%	40,89%	40,56%	40,32%	39,31%	38,73%	37,71%
Urban Death rate													
48,83%	48,80%	57,55%	57,51%	57,64%	58,05%	57,80%	58,81%	59,11%	59,44%	59,68%	60,69%	61,27%	62,29%
<b>Fertility rate</b>													
Rural Fertility rate													
45,85%	44,80%	46,93%	47,57%	47,02%	45,88%	46,03%	44,20%	43,33%	42,67%	41,29%	40,92%	40,47%	41,52%
Urban Fertility rate													
54,15%	55,20%	53,07%	52,43%	52,98%	54,12%	53,97%	55,80%	56,67%	57,33%	58,71%	59,08%	59,53%	58,48%

### Conclusions

Current research provided investigation of the relations and impact of the demographic transition factors and demographic dividend factors. There were developed four hypotheses, where hypothesis 3 was rejected. It stated that the women working age population have an impact on the total number of the labor force. The rest three hypotheses were accepted partially.

The results for the first hypothesis showed that the death rate in the rural area has a positive impact on the total number of the working population. The results for the second hypothesis showed that the fertility rate in an urban area has a positive impact on the total working age population. The results for the fourth hypothesis showed that the number of men of working age has a positive impact on the total number of the labor force.

Provided statistical analysis showed that there was insignificant change in the number of working age population and labor force. Thus, identified deliberate changes have an insignificant impact on economic growth. Therefore, the greatest importance makes up the study of the impact of indirect factors on economic development, as it can have long-term effect.

The results of the current study showed that opportunities provided through demographic change must change in line with public policy. The insignificant impact of demographic dividends (fertility and death rate) showed that an exceeding number of the population, even the working age population, must be well managed. This is especially relevant in developing countries. In the

result of increasing number of population with poor socio-demographic policy, they fail to perform in the economic labor market. This gives rise to unemployment in particular among minorities, including women.

In terms of women there must be considered several factors. First, cultural habits in different countries have different impact on women participation in the labor market. Second, at this stage there must be also taken into account the quality of the labor force. Women make up half of the world population. Their career development, financial independence plays a crucial role by improving the economic structure of a country.

The government through well-established socio-demographic policies could manage demographic factors considered in this study. There are important components of such policies as education and healthcare. Governments must provide financial support and invest in the quality education and improve healthcare system. Improvement in the quality of life of the population, functions as another mechanism for death rates reduction, labor force quality improvement etc.

Major limitation of this research was lack of essential data on demographic development of the population of Kazakhstan. Therefore, used data covered only the period from 2007-2020. It is recommended that government could use experience of Europe Union for data collection. This includes not only provision of surveys, but also provision of social policies and programs for migrants in order to improve the quality of in-migration flow.

Future works can direct their focus to the study of the following issues. As it was revealed women, working age population has little or no influence on the total number of the labor force in Kazakhstan. In order to address the issue by the government productively, it is important to analyze the cultural differences between rural and urban women and provide recommendations on how to engage women in the labor market. Next, the composition of the labor force in Kazakhstan needs to be analyzed based on more factors. This includes data related to migration ratio. Moreover, migration could be analysed from different angles. First, the temporary migration of foreign labor force to Kazakhstan. Second, the number of immigrants by age, gender, and occupation. This will give a broader view of the perspective for developing the state policy on immigrants supporting.

Because studies can be limited because of the lack of data, the research could be provided in the context of a large city, for instance of the republic's significance.

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## Analysis of Innovation Management in Higher Educational Institutions Based on Perceptions Formed among the Teaching Personnel

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### Abstract

The workforce's competency defines the efficiency of production in the country and, therefore, the welfare of the population. Higher education institutions play a considerable role in this as they prepare the workforce for the organizations in the country. Designing a high-quality workforce requires universities to keep up with the new technologies and innovations in higher education. Thus, managing innovation is the highest priority for higher education institutions. The present article aims to investigate the perceptions developed among the teaching personnel of higher education institutions, which will serve as an evaluator of innovation management efficiency. The research method has been adapted to fit the research problem and goals. The limitations of the research are that it is limited to several universities located in one city and may not fully reflect the situation in other cities. To fulfill this aim, an expert interview has been prepared, which assesses the perception and attitude towards innovations and innovation management efficiency. The analysis incorporated answers of 20 respondents employed at higher education institutions. The expert interview answers have been categorized and synthesized to reveal the hidden patterns and prepare practical recommendations for policymakers and future researchers. The analysis findings are that the teaching personnel has sufficient knowledge of the innovations in the educational sphere. Moreover, they are willing to engage in innovative processes by creating or using existing solutions. However, the study reveals funding-related issues and a necessity to adjust the university remuneration and internal policy to motivate greater engagement in innovation management.

*Keywords:* Economy, Education, Strategic Management, Innovation Management, Development.

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## Профессорлық-оқытушылық құрам арасында қалыптастырылған ұсыныстар негізінде жоғары оқу орындарындағы инновацияларды басқаруды талдау

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### Түйін

Жұмыс күшінің құзыреттілігі елдегі өндірістің тиімділігін, демек, халықтың әл-ауқатын анықтайды. Бұл ретте жоғары оқу орындарының рөлі зор, өйткені олар елдегі ұйымдар үшін жұмыс күшін дайындайды. Жоғары сапалы жұмыс күшін дайындау университеттерден жоғары білім саласындағы жаңа технологиялар мен инновацияларға ілесуді талап етеді. Осылайша, инновацияларды басқару жоғары оқу орындары үшін ең жоғары басымдық болып табылады. Бұл мақала инновациялық менеджмент тиімділігін бағалау критеріі ретінде қызмет ететін жоғары оқу орындарының профессорлық-оқытушылық құрамы арасында қалыптасқан түсініктерді зерттеуге бағытталған. Зерттеу әдісі зерттеу мәселесі мен мақсаттарына сәйкес бейімделді. Зерттеудің шектеулері оның бір қалада орналасқан бірқатар университеттермен шектелуі және басқа қалалардағы жағдайды толық көрсетпеуі мүмкін. Осы мақсатты орындау үшін инновацияларды қабылдау мен қатынасты және инновацияларды басқару тиімділігін бағалайтын эксперттік интервью сұрақтары дайындалды. Талдау жоғары оқу орындарында жұмыс істейтін 20 респонденттің жауаптарын біріктірді. Сауалнама жауаптары жасырын заңдылықтарды ашу және саясаткерлер мен болашақ зерттеушілер үшін практикалық ұсыныстар дайындау үшін санатталған және синтезделген. Сараптама қорытындысы бойынша педагогикалық ұжымның білім беру саласындағы инновациялар туралы жеткілікті білімі бар екені анықталды. Сонымен қатар, олар бар инновациялық шешімдерді жасау немесе пайдалану арқылы инновациялық үдеріске қатысуға дайын деген қорытынды жасалынды. Сондай-ақ, зерттеу қаржыландыруға қатысты мәселелердің бар екенін және инновациялық менеджментке көбірек қатысуды ынталандыру үшін университеттің сыйақысы мен ішкі саясатын түзету қажеттілігін көрсетеді.

*Түйін сөздер:* экономика, білім беру, стратегиялық басқару, Инновациялық менеджмент, даму.

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## **Анализ управления инновациями в высших учебных заведениях на основе представлений, сформированных среди профессорско-преподавательского состава**

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### **Аннотация**

Компетентность рабочей силы определяет эффективность производства в стране, а значит, и благосостояние населения. Значительную роль в этом играют высшие учебные заведения, готовящие рабочую силу для организаций страны. Подготовка качественной рабочей силы требует от высших учебных заведений идти в ногу с новыми технологиями и инновациями в сфере высшего образования. Таким образом, управление инновациями является наивысшим приоритетом для высших учебных заведений. Целью настоящей статьи является изучение представлений, сложившихся среди преподавательского состава высших учебных заведений, которые будут служить в качестве критерия оценки эффективности управления инновациями. Метод исследования был адаптирован в соответствии с исследовательской проблемой и целями. Ограничения исследования заключаются в том, что оно ограничено рядом университетов, расположенных в одном городе, и может не полностью отражать ситуацию в других городах. Для достижения этой цели подготовлены вопросы экспертного интервью, в котором оценивается восприятие и отношение к инновациям и эффективности управления инновациями. Анализ включал ответы 20 респондентов, работающих в высших учебных заведениях. Ответы на вопросы обследования были классифицированы и обобщены для выявления скрытых закономерностей и подготовки практических рекомендаций для практиков и будущих исследователей. Результаты анализа показывают, что преподавательский состав обладает достаточными знаниями об инновациях в образовательной сфере. Кроме того, они готовы участвовать в инновационном процессе путем создания или использования существующих инновационных решений. Вместе с тем исследование показывает наличие вопросов, связанных с финансированием, и необходимость корректировки вознаграждения в университетах и внутренней политики, с тем чтобы стимулировать более активное участие в управлении инновационной деятельностью.

*Ключевые слова:* экономика, образование, стратегическое управление, инновационный менеджмент, развитие.

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### Introduction

Schumpeter introduced innovation management and R&D management concepts in the twentieth century in his fundamental work "Capitalism, Socialism and Democracy" (Schumpeter, 2002). Even though the concept has been discussed for several decades, organizations still face challenges in managing innovations and research and development (R&D). The reasons include the reluctance to invest in operations that are not obviously and simultaneously profitable to the organization and the rapid pace of changes taking place in organizational theories, innovations, and technology. Trends change so fast that organizations cannot keep up with them. Higher Education Institutions are not an exception, as they also need to implement efficient practices of R&D management and innovation management. The competition among the universities is becoming tight, forcing each to work towards building a strong brand image by increasing quality, attracting teaching staff, and implementing innovative approaches in the study process.

For Kazakhstan, enhancing the quality of tertiary education is a strategic goal that can provide a high-quality workforce to the companies by a ripple effect. The problem of the innovative approach to preparing a skilled workforce has been discussed by several scholars such as Kirdasinova et al. (2016), Mukhiyayeva et al. (2017), and Sadyrova (2021) et al. Kazakhstan as a rapidly developing country, needs to invest in education and ensure adoption of existing global innovations in this sphere. Moreover, another research work dedicated to evaluating positions of Kazakhstani universities in international ratings, written by Uvaleyeva et al. (2019), mentions the significance of generating and applying new technologies to the study process in acquiring higher rankings. Moreover, it can be concluded that despite all the work done up to date in the field of boosting innovative activity, there is a gap between the skills and knowledge the industries need and the universities provide (Hausman, 2022). Thus, developing and applying innovations in higher education institutions is a pressing issue for educators and practitioners. This is why the problems of the research are being investigated.

Innovation in educational organizations heavily depends on human capital. That is to say, the readiness, willingness, and general perception of the teaching personnel of the higher education institutions toward innovation management is a significant factor in its development. This is closely tied to the problem's relevance, which lies in the urgent and continuous necessity to cope with the innovations produced in education and

industry. Only by engaging heavily in innovation management will the higher education institutions be able to make a high-quality workforce. By this statement, the present work aims to reveal the perceptions of the teaching personnel regarding innovation management. The insights can be further used to increase the efficiency of innovation and R&D management or to introduce adjustments to it.

The present work will employ qualitative analysis, which will be based on primary data collected from open-end questions.

### Literature review

Innovation management in educational institutions, including tertiary education, has been a focus of many researchers. Especially with the shift in the format of education from conventional to hybrid, online, or platform-based, and with the never-stopping pace of innovation creation, the topic of enhancing innovation practices in higher education institutions has gained significant attention from theorists and practitioners. For instance, a recent study on the subject was conducted by Tejedor et al. (2021) studied the perceptions of the teaching staff of the changes in educational processes caused by the COVID-19 pandemic. The study integrated the responses of 573 teachers from three countries. The study has found that the restrictions arising from the pandemic and the urgency of overcoming it have sped up the innovation implementation process. However, the staff was not entirely ready to comprehend the new tools and approaches. Thus, there was a considerable gap in the preparedness of the teaching personnel to work with up-to-date technology. Similarly, De las Heras-Rosas & Herrera (2021) provide evidence that universities worldwide have started collaborating closely with entrepreneurs. Moreover, the authors hold the view that R&D will be the main criterion for university performance measurement in the future. This conclusion has been made based on the analysis of 349 scholarly articles written on innovation and development in education. On-field research conducted by Dong & Tu (2021) among university students of different levels proves that an innovative educational setup increases the success of the students in their jobs and their willingness to conduct their own business. The methodological framework, as employed by Dong & Tu (2021), will be used in the present article. This will allow studying innovation management's phenomenon developed in the education industry. Furthermore, Theeranattapong et al. (2021) emphasize the significance of proper university management policy in building an inter-organizational

relationship, which will enforce innovation creation and implementation. These factors can be studied through the prism of individual perception of the teaching staff, which deals with all innovative processes in universities.

To sum up, from the analysis of the existing literature, it becomes evident that innovation management in education, especially in tertiary education, is a significant issue. Moreover, the findings are that the universities need to carefully consider their policies towards it to keep up with global trends, as discussed by authors such as Dong & Tu (2021) and Theeranattapong et al. (2021). Nevertheless, it becomes clear that the sphere of education is affected not only by the work of the universities' management and the boards but also by global events such as pandemics, by changes in the industry, and, the attitudes and aptitudes of the human resources that deals with all that changes. Thus, studying the perceptions of the teaching personnel is an important part of the puzzle of understanding the current state of innovation management in tertiary education and its path of development.

### Methods

It is evident that the success of implementing changes in the workplace and the educational processes requires a positive attitude and proper understanding of those changes and innovations. Thus, learning the teaching staff's perceptions regarding innovations and innovation management allows the management to take timely actions to adjust the process for the highest efficiency. Therefore, a deeper understanding of the process will be formulated in the present paper's result of the research conducted in the present paper.

The research aims to find answers to the following questions:

How can innovation management in tertiary education organizations be measured?

What are the university teachers' perceptions of innovation management at the workplace?

How do teachers' perceptions influence innovation management in universities?

To find answers to the research questions, the present work uses qualitative research as it suits the aim of the study and helps to reach a deep understanding of the opinions of the teaching staff that deals with the innovation management process. The study has been conducted based on primary data collected by the researcher using the Google Forms link sent to the respondents. The study was conducted based on the expert interviewing of 20 respondents, all of whom were employed as teaching staff in higher education institutions in Kazakhstan. Respondents have

been granted anonymity as completing the expert interview did not require signing names or workplace. Moreover, they were labeled as Respondents 1, 2, and 3 or r1, r2, and r3. The respondents were chosen among teaching staff with three and more years of teaching experience in the same institution.

Considering the scope of the research, expert interviewing has been selected as the most suitable research tool as it has been proved to help retrieve the particular expert knowledge by analyzing the perceptions of individual respondents (Döringer, 2020). Moreover, as asserted by Von Soest (2022), expert interviews provide strong analysis by integrating the understanding, which is not only knowledge and practice-based but also combines internal and external expertise. The present research employs the expert interviews as discussed by Döringer (2020), Von Soest (2022), and Jain (2021) but also widens the variety of question types to make a satisfactory conclusion.

The questionnaire has been designed to include demographic questions, knowledge level questions, and open questions regarding innovation management in their place of work. After collecting the data, a thematic analysis was conducted to reveal the responses' patterns. After the repeating ideas have been categorized and classified, each has been examined deeper to draw relevant conclusions.

### Results

After the expert, the interview has been published, and a link was sent to the Respondents. The collected primary data reveals the following. The demographic image of the respondents is illustrated in Figure 1 below.

According to the data, the respondents mainly consisted of female university teachers aged 30-35 and 45 and older. For the sake of the present paper, the perception will be viewed from different dimensions such as attitudes, opinions, understanding, etc. Eleven respondents were in their thirties, while the other nine were forty and more.

The respondents' knowledge level was distributed in the following way (Figure 2).

Thus, all of the respondents had scientific degrees, where seven respondents had master's degrees, three respondents were acquiring, and four respondents had received PhD degrees. Other respondents had a higher scientific degree than the professor.

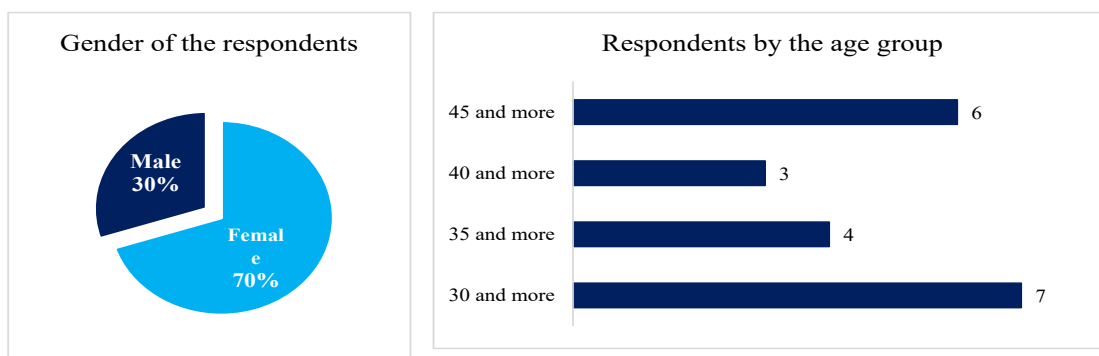


Figure 1 – Demographic image of the respondents

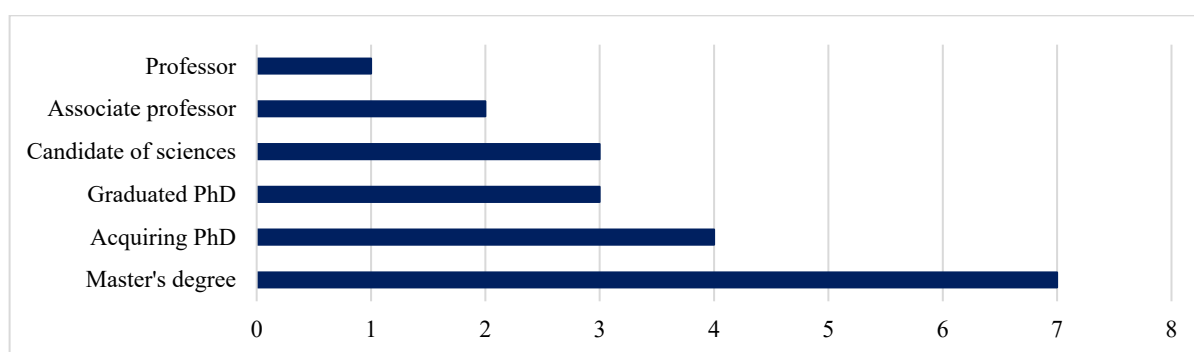


Figure 2 – Knowledge level of the respondents

For the next question, the respondents were required to write any amount of the phrases that were associated with innovations in higher education institutions (HEIs). Twenty respondents noted 135 expressions. The responses were grouped into categories, and the number of mentions was counted and organized in descending order.

Thus, it is clear that teachers have a wide perception of the innovations in the workplace that concern using advanced technologies, adjusting the established conventional systems within the university, expansion of cooperation with representatives of different groups. However, the most mentioned feature of the innovation at the workplace was the digitalization of the study process and using distance or online learning elements. The phrases №1, 3, 9, 10, 12, and 15 are related to distance learning and the digitalization of education. The cumulative number of mentions for this group is 51 or 38%.

Table 1 – The phrases associated with innovations in Higher Education Institutions mentioned by study respondents

	Phrases	Quantity
1.	Digitalization of the study process	16
2.	Flexible curriculum	14
3.	Distance learning	12
4.	Virtual reality	12
5.	Collaboration with universities	10
6.	Collaboration with industry	9
7.	Exchange teachers program	9
8.	University-based research centers	9
9.	Asynchronous online learning	8
10.	Hybrid classrooms	8
11.	Robotics	7
12.	Synchronous online learning	4
13.	Exchange students program	4
14.	Artificial intelligence	3
15.	Expansion of the scope of the EIS	3
16.	3D technology	2
17.	Collaboration with students	2
8.	Absence of participation-based assessment	2
19.	Competency-based learning	1

The responses related to carrying out reforms in the educational system within the university were №2, 5, 6, 7, 13, 17, 18, and 19. The cumulative number of mentions for this group is 51 or 38%.

The following category could be described as introducing the latest technology to the study process. These technologies included virtual reality, artificial intelligence, three-dimension technology and robotics. There were 24 mentions and phrases under the numbers 4, 11, 14, and 16 from Table 1 that corresponded to the named group. This category made up 18% of the responses.

The last category (number 8) concerns opening the university’s research center and engaging both the students and the teachers in its work. One may argue that there are classes of applied skills in many departments in the universities. However, the respondents meant organizing a hub where students can use their skills and monetize them. Thus, before graduating, the students will be able to grasp the skills essential for their career path. Nine people mentioned this as an innovational adjustment to the learning process, making up 7% of all responses.

All mentioned can be classified and illustrated in the following form (Table 2).

**Table 2** – The phrases associated with innovations in Higher Education Institutions mentioned by study respondents

Category of phrases	Quantity	Portion, %	The average number of mentions
Digitalization and online learning	51	38%	8,5
Reforms in the teaching system	51	38%	6,4
Applying new technology	24	18%	6
Organizing the research center	9	7%	9
<b>Total</b>	<b>135</b>		<b>7,5</b>

The following question asked the respondents was about their understanding of the factor that would facilitate the implementation progress. The respondents were given ten criteria and had to rank them from 1 to 3, where one is a low impact, two is an average impact, and three means the high impact on the progress of the innovation implementation.

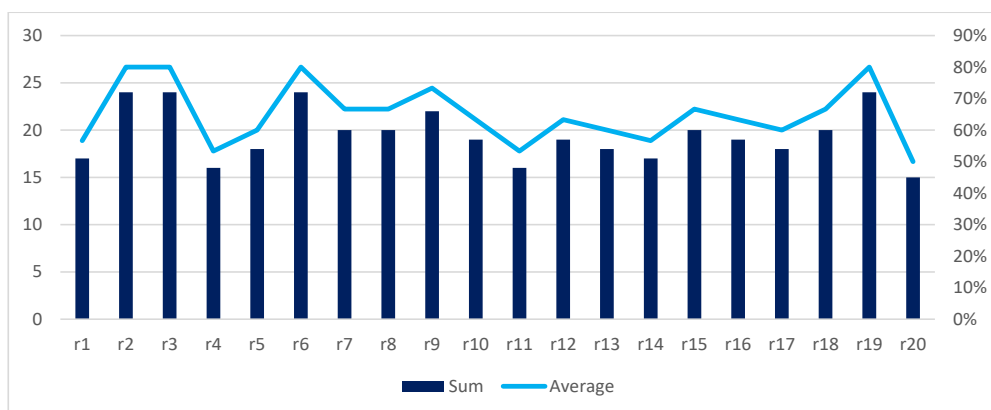
The results were sorted in descending manner and displayed in Table 3 above. The leading factors rated as the most significant in 87% and 85% of the cases are material remunera-

tion and internal innovation funding. In other words, the respondents strongly supported the idea that financial support was the main driving force. The other criteria were external funding in the form of grants and scholarships and the university policy. Out of the leading five criteria, only the university policy criterion did not have a monetary form. Thus, higher education institutions should consider the innovation management enhancing conditions when revisiting this corporate document.

**Table 3** –Factors facilitating the progress of innovation implementation and success of innovation management

Reference number	Factors	Quantity	% out of the max possible
c1	The material motivation of employees: bonuses	52	87%
c2	Internal funding	51	85%
c3	External funding grants	44	73%
c4	Changes in university policy	44	73%
c5	External funding from the government	39	65%
c6	Changes in national accreditation requirements	39	65%
c7	Changes in policy	34	57%
c8	Changes in international ranking criteria	32	53%
c9	Changes in international accreditation requirements	29	48%
c10	Non-material motivation i.e., acknowledgement/ appraisal	26	43%
	Average	39	65%

The figure above illustrates to what extent the respondents graded the aforementioned factors (Table 3) high or low. The maximal value is 30, and Figure 3 shows the extent to which the respondents believe it is possible to facilitate the progression of innovations in their workplace. The average sum is 19.5 scores out of 30, which is 65%. The peculiar finding derived from Figure 3 is that only 9 out of 20 respondents showed confidence over 65%. Five had confidence lower than 75%, and the others were between 75% and 85%. In other words, the personnel of the higher education institutions does not firmly believe in the success of the innovation management that is carried out in their workplace.



**Figure 3** –Grading sum and average of the factors facilitating the progress of innovation implementation and success of innovation management

For the last part of the expert interview, respondents were asked to rate their willingness to engage in innovation management as a proactive, active, or reactive participants. In the question, the respondents were asked to answer if they were ready to create innovations themselves (proactive innovation management); or if they were prepared

to learn innovations from other institutions and adapt them to the workplace; alternatively, if they were ready to learn and use the ready innovative product in teaching practice. The fourth option was not to engage in any innovative activity. None of the respondents chose to abstain from the innovations. The other three options were selected in the following manner.



**Figure 4** – Willingness to take part in innovation management

In conclusion, the analysis of the collected expert interview responses signifies the generally positive perception of innovation and innovation management at higher education institutions. At the same time, certain obstacles to its development have been named, such as funding and material motivation of the teaching personnel. In general, the respondents were willing to engage in innovative activity and innovation management in reactive, active, or proactive ways.

**Discussion**

To interpret the analysis results, it is essential to define innovation management at higher educational organizations. For instance, Stone et al. (2008) have identified ten features of innovation that can be briefly expressed as the following:

innovation is a complex risk involving a process that aims to create a new service or a product to increase the economic value, and, which uses tangible and non-tangible assets to make it. The main input is knowledge, and the main output is knowledge. However, the output of innovation involves a great deal of uncertainty. In other words, not necessarily the investments into innovative processes will produce a service, a product, or knowledge that will add to the company’s value. Johannessen et al. (2001), in their work dedicated to studying measures and metrics of innovation management, identify six ways of innovating in the workplace. They are to create new products or new services, find new production or organization methods, entering or creating new markets, and finding new supply sources.



The list of innovation outcomes can be supplemented, and the development of new systems, infrastructures, business models, and operations, proposed by Gupta (2009) and Stone et al. (2008) can be added to the list. It means that the company can innovate in different directions and levels of operation. Considering such a wide area of application of innovations, the assessment of the innovation involves various methods and tools. In fact, innovation management can be evaluated using several methods such as data, financial inputs, or by counting the new ideas generated. However, all of the mentioned methods have both advantages and disadvantages. The main goal in measuring innovation is to understand whether innovation management is performed efficiently. To continue, Rhéaume & Gardoni (2016), Stone et al. (2008), and Richtner et al. (2017) agree on the phenomenon that innovation management has a controversial feature, where not allocating resources will result in a significant worsening of the quality of the products and services in the long term. At the same time, some funds allocated to the innovation may have zero or negative returns. Thus, to maintain a positive return on the investments made to the innovational activity, efficiency needs to be managed. In this regard, an issue discussed by Rhéaume & Gardoni (2016) concerns the idea of the dependence of the organizational level innovation on the individual learning that subsequently gets transferred into the latter. In other words, without educating the employees and properly managing the human capital in this regards, the organization cannot expect to succeed in innovation management.

Despite all the articles described above, the question of the role of human capital in innovation management in universities has not been thoroughly studied. That is why it is important to understand how the human capital represented by the teaching personnel of the universities perceives innovation management and the ways it is being implemented in their respective workplaces.

The literature reviewed above indicates there are relatively few references or models to help the university to innovate in management to improve the universities performance. Therefore, providing a model to guide how university leaders may base their innovation management factors is crucial. This way, we offer an integrated framework of management innovation that highlights the primary constructs and outcomes adopted by Volberda et al. (2013). As most innovations are associated with product development, this study highlights management practices as a process

innovation in responding to the trend. While there is a growing body of in-depth qualitative research that provides insight into the sequence of events that occurs during process innovation, these studies have not systematically analyzed the organizational capabilities that fuel management innovation, mainly in an educational organization (Rajiani & Ismail, 2019). Dynamic capabilities are defined as a firm's "ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Piening and Salge, 2015). To sum up, innovation management includes modifications in how and what managers do in determining directions, making decisions, harmonizing activities, and encouraging people.

The perceptions found using the analysis signify the generally positive attitude towards innovative activity and innovation management among the respondents. The respondents had a sufficient understanding of the innovations taking place in the sphere of education, which included the changes in the form of teaching, the application of new technologies to the study process, and teaching technology itself. Moreover, the respondents have indicated the problems holding rapid development back. Mainly, this was the funding difficulties, the problem connected to internal policies of the universities and others. Considering that the competence and the attitude of the workforce is a direct driving force of the quality of education and the success of the higher education institution, the findings can be used in practice in the process of adjusting the current innovation management policies in the universities.

### Conclusion

To conclude, innovations and innovation management in the sphere of higher education play an important part in the development of other industries, as it serves as a starting point for the workforce of the whole country. The innovations are developed continuously, and higher education institutions need to have a policy of innovation management. Taking into account that the policy's developers and users are mainly the teaching personnel of the universities, the present article has studied their perceptions of the current state of innovations, innovative activities, and innovation management at their workplace, understanding of which can be used to improve the processes in innovation management and enhance the quality of the teaching.

The findings of the qualitative analysis revealed the general awareness of the Kazakhstani university teachers of the current global trends in teaching. Moreover, the expert interview

results signify the teachers' willingness to participate in creating and developing innovations in the workplace. However, the analysis also discovered restrictions to the innovation management and implementation, such as the scarcity of funding, the weak internal policies, and the low material motivation of the personnel. The university personnel in developing the innovation management policy can use these conclusions. Moreover, the research can be replicated using a greater amount of respondents to enhance the quality of findings further.

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## Reform of State-Owned Enterprises - New Threats and New Opportunities for the Development of Uzbekistan's Economy

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### Abstract

The purpose of this article is to identify new threats and opportunities in the reform of state-owned enterprises in Uzbekistan to improve the efficiency of state-owned enterprises and the national economy as a whole. In the course of this study, the problem of corruption, methods of reforming state enterprises in developing countries, their consequences and directions of development were studied. And also, a critical view is given and recommendations are proposed for the reform of state-owned enterprises in the domestic economy. Based on the results of the analysis and analysis of state programs, special problems were identified in state-owned enterprises in the field of subsoil use, extractive industries and the activities of enterprises with a state share. The results of the study indicate the need to strengthen supervision over the activities of state-owned enterprises, since their profitability or unprofitability directly affects the degree of associated fiscal risks. State-owned enterprises often perform quasi-fiscal functions, attracting funds from both the state budget and external sources to finance industry projects. In the field of reforming state-owned enterprises of Uzbekistan, key conclusions have been made regarding the communication to the public, the goals, objectives and the need for ongoing transformations. There is no doubt that the reform of state-owned enterprises requires significant changes in legislation in the field of antimonopoly regulation and protection of competition, the banking and financial system, improving the protection of private property and consumer rights, social protection of the most vulnerable segments of the population and the unemployed.

**Keywords:** State-Owned Enterprises, Privatization, Competition, Market Economy, Centralized Economy, Property Reform

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## Мемлекеттік кәсіпорындарды реформалау – Өзбекстан экономикасын дамыту үшін жаңа қауіптер мен жаңа мүмкіндіктері

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### Түйін

Мақаланың мақсаты мемлекеттік кәсіпорындар қызметінің және жалпы ұлттық экономиканың тиімділігін арттыру үшін Өзбекстанның мемлекеттік кәсіпорындарын реформалаудағы жаңа қауіптер мен мүмкіндіктерді анықтау болып табылады. Осы зерттеу барысында сыбайлас жемқорлық мәселесі, мемлекеттік кәсіпорындарды реформалау әдістері, олардың салдары мен даму бағыттары зерттелді. Сондай-ақ, сыни көзқарас келтірілді және отандық экономикадағы мемлекеттік кәсіпорындарды реформалау бойынша ұсыныстар жасалды. Мемлекеттік бағдарламаларды талдау және берілген қорытындылар бойынша жер қойнауын пайдалану саласындағы мемлекеттік кәсіпорындарда, өндіруші салаларда және мемлекеттік үлесі бар кәсіпорындардың қызметінде ерекше мәселелер бар екені анықталды. Зерттеу нәтижелері мемлекеттік кәсіпорындардың қызметін қадағалауды күшейту қажеттілігін көрсетті, себебі олардың кірістілігі немесе рентабельділігі фискалдық тәуекелдер дәрежесіне тікелей әсер ететіндігін куәландырды. Мемлекеттік кәсіпорындар көбінесе салалық жобаларды қаржыландыру үшін мемлекеттік бюджеттен де, сыртқы көздерден де қаражат тарта отырып, квазифискалдық қызмет атқарады. Өзбекстанның мемлекеттік кәсіпорындарын реформалау саласында жүргізіліп жатқан өзгерістердің мақсаттарын, міндеттерін, талдау нәтижелері мен қажеттілігін қоғамға жеткізу бойынша негізгі тұжырымдар жасалды. Мемлекеттік кәсіпорындарды реформалау монополияға қарсы реттеу және бәсекелестікті қорғау, банк-қаржы жүйесі саласындағы заңнаманы елеулі өзгертуді, жеке меншік пен тұтынушылардың құқықтарын қорғауды жақсартуды, халықтың неғұрлым осал топтары мен жұмыссыздарды әлеуметтік қорғауды талап ететініне күмән жоқ.

*Түйін сөздер:* мемлекеттік кәсіпорындар, жекешелендіру, бәсекелестік, нарықтық экономика, орталықтандырылған экономика, меншік реформасы

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## Реформирование государственных предприятий – новые угрозы и новые возможности для развития экономики Узбекистана

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### Аннотация

Целью статьи является определение новых угроз и возможностей в реформировании государственных предприятий Узбекистана для повышения эффективности их деятельности, а также национальной экономики в целом. В ходе исследования были изучены проблема коррупции, методы реформирования государственных предприятий развитых стран, их последствия и направления развития. А также приведён критический взгляд и предложены рекомендации по проведению реформирования государственных предприятий в отечественной экономике. По итогам анализа и разбора государственных программ были выявлены особые проблемы государственных предприятий сферы недропользования, добывающих отраслей, деятельности предприятий, имеющих государственную долю. Результаты исследования свидетельствуют о необходимости усиления надзора за деятельностью государственных предприятий, поскольку их рентабельность или убыточность напрямую влияют на степень сопутствующих фискальных рисков. Государственные предприятия зачастую выполняют квазифискальные функции, привлекая для финансирования отраслевых проектов средства как из государственного бюджета, так и из внешних источников. В сфере реформирования государственных предприятий Узбекистана сделаны ключевые выводы касательно доведения до общественности целей, задач и необходимости проводимых преобразований. Не вызывает сомнений, что реформа государственных предприятий требует существенного изменения законодательства в сфере антимонопольного регулирования и защиты конкуренции, банковско-финансовой системы, улучшения защиты частной собственности и прав потребителей, социальной защиты наиболее уязвимых слоев населения и безработных.

*Ключевые слова:* государственные предприятия, приватизация, конкуренция, рыночная экономика, централизованная экономика, реформа собственности

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### Введение

Проблемы сокращения присутствия государства в экономике, открытия рынков и усиления действия конкуренции все чаще обсуждаются в научных кругах. Действительно, обоснованное решение этих вопросов может создать надёжную основу для использования рыночных рычагов, позволяющих эффективно распределять задействованные ресурсы и повышать продуктивность используемого труда.

Несмотря на довольно сложный современный период экономического развития Республики Узбекистан, связанный с негативным влиянием коронавирусной пандемии, а также вынужденными ограничениями, руководство страны продемонстрировало приверженность к продолжению курса на осуществление структурных реформ. Так, 27 октября 2020 г. Президентом Узбекистана Ш. Мирзиёевым был подписан масштабный Указ о реформировании более 2000 государственных активов, из которых 479 предприятий будут выставлены на торги, 62 – подготовлены к приватизации, 32 – трансформированы.

Государственные предприятия имеют стратегически важное значение в национальной экономике. Около 50% ВВП страны и пятая часть объемов внешней торговли создается государственными предприятиями, которые обеспечивают более половины доходов Государственного бюджета при наименее 10% занятого населения.

Государственные предприятия осуществляют деятельность во многих отраслях экономики, включая добычу и переработку нефти и природного газа, общественный транспорт, авиаперевозки, сельское хозяйство, химическая и горнодобывающая промышленность, водоснабжение, жилищно-коммунальное хозяйство и другие. Они традиционно имеют привилегированный доступ к земельным и инфраструктурным объектам, закупочным контрактам, субсидиям и пользуются иной государственной поддержкой, в т.ч., налоговыми и таможенными преференциями. Более 80% активов коммерческих банков, а также все крупные страховые компании также принадлежат государству.

Государственные услуги формируют и эксплуатируют ключевую инфраструктуру и являются источниками занятости населения. Их характеристики и присущие им конкурентные преимущества как предприятий, находящихся в государственной собственности, позволяют им играть эти важнейшие роли. Однако их недостатки в

управлении и неэффективность структур стимулирования также часто приводят к низкой производительности. К тому же государственные предприятия должны быть эффективными, прозрачными и подотчетными, чтобы создать равные условия для частных компаний, обеспечить рост динамичного частного сектора и добиться устойчивого и всеобъемлющего экономического роста. Для успеха реформ государственных предприятий, как правило, необходимо выполнить несколько ключевых условий: национальная бюрократия должна обладать потенциалом для осуществления реформ, а также необходимо избегать неблагоприятного воздействия на международную торговлю и инвестиции (Указ Президента Республики Узбекистан, 2020).

### Литературный обзор

По мнению Перкинса Д. (Perkins, 1993), реформирование государственных предприятий является сложной задачей, поскольку необходимо внести так много различных и взаимосвязанных изменений. Что касается внешней среды государственных предприятий, то должны произойти фундаментальные изменения на финансовых рынках, в налоговой системе, в правовой, нормативной и бухгалтерской базе, а также в системе социального обеспечения работников. Внутри предприятия должно быть создано какое-то право собственности плюс пересмотр внутренней структуры стимулирования предприятия.

В качестве одного из основных источников литературы по исследованию реформирования государственных предприятий можно назвать труд Кло С. (Clò, 2020), который описывает историческую эволюцию государственно-капиталистических моделей с акцентом на различные роли, которые играют основные промышленные и финансовые субъекты, это традиционные государственные предприятия и государственные банки. Большой интерес, с точки зрения реформирования государственных предприятий представляют труды ученых бывших коммунистических и постколониальных стран, таких как Индия (Kumar, 2018; Kiranmai & Mishra 2019), Индонезия (Hendarto et al., 2021; Apriliyanti & Kristiansen, 2019), Бразилия (Silvestre et al., 2018; Junqueira & Abrantes, 2016), и особенно Китай (Vajona & Chu, 2010; Efirid et al., 2016). На сегодняшний день, к сожалению, большой проблемой в комплексе отношений между правительством

и предприятиями является коррупция (Huang & Snell, 2003) на государственных предприятиях.

Хикки У. (Hickey, 2020) говорит, что государственный капитализм представляет экзистенциальную угрозу для прогресса своих стран, а иногда и для западных экономик, например, из-за демпинга продукции и инвестиций в чувствительные технологии. По мнению Бхатта Г. (Bhatta, 2019), уникальной особенностью реформ государственных предприятий, заслуживающей внимания, является корпоративное управление, этого мнения придерживается и Вахира Р.В. (Wachira, 2003). Хан Ф.У., Чжан Дж., Усман М., Бадулеску А. и Сиал М.С. (Khan et al., 2019) говорят о необходимости сокращения доли собственности на государственных предприятиях и о корпоративной социальной ответственности. В исследовании Дэвид Д.Л. и Чанци В. (Li & Wu, 2002) выявили что диверсификация собственности сильнее всего влияет на экономические показатели для устранения государственного контроля.

Подводя итог, можно сказать, что ряд стран провели реформы государственных предприятий в различных отраслях промышленности. Можно увидеть, что у каждой страны есть свои преимущества и проблемы в реформирования государственных предприятий. Большинство исследований показали, что необходимо реформировать государственные предприятия для повышения его производительности и эффективности.

### Методология

Реформирование государственных предприятий является важным средством оптимального перемещения активов, получившим широкое распространение в мировой экономике. Важное содержание реформирования государственных предприятий, включающее структурное распределение, корректировку масштаба, организационную реформу на предприятиях и в отраслях, системную реформу государственных предприятий. Среди используемых научных методов особое значение имеют анализ и синтез. С их помощью были проанализированы на данный момент проведенные реформы государственных предприятий Узбекистана, а также, текущие угрозы и возможности для дальнейшего реформирования государственных предприятий. Виды общенаучных подходов в качестве метода диагностики и мониторинга использовались для выявления проблемы и ее масштаба, а также для опреде-

ления успеха или неудачи государственных инициатив в решении вопросов, связанных с реформированием.

Вместе с тем в статье используется продольное исследование (Gil-López et al., 2020) государственных предприятий Узбекистана и в целом по всему миру. А также статья особенно опирается на диалектику управления из теории структурирования и системного подхода.

Продольное или лонгитюдные исследования - это тип корреляционных исследований, в ходе которых исследователи наблюдают и собирают данные по ряду переменных, не пытаясь повлиять на эти переменные. Существует целый ряд различных типов продольных исследований: когортные исследования, групповые исследования, исследования взаимосвязи записей. В статье применяется третий тип исследования. Системный подход является главным методическим принципом моделирования. Благодаря ему всякий предмет моделирования рассматривается как взаимосвязанная система с другими предметами и объектами исследования. Системный подход был использован для изучения инструментов реформирования государственных предприятий, их целостности и структурных элементов. На будущих этапах исследования этот подход будет использоваться для проверки результатов исследования и результатов административных инициатив и политики. Главной характеристикой управленческой модели является структура, то есть определенный порядок объединения элементов, которые составляют комплексную модель. Таким образом, применяя вышеперечисленные методики, проведен анализ реформ государственных предприятий Узбекистана за 2017-2021 годы и в связи с выявлением угроз и возможностей разработаны предложения и рекомендации по развитию экономики страны.

### Обсуждение и результаты

В большинстве стран СНГ и Восточной Европы реформы по приватизации государственных активов проводились еще в начале 1990-х. Хотя в Узбекистане реформа государственных активов проводится сравнительно позже, чем это было сделано в других государствах, страна может использовать накопленный опыт в свою пользу и не повторять ошибок в этой значимой сфере реформирования экономики.

В мире имеется немало примеров, которые демонстрируют успешное проведение



реформы собственности. Так, в 2004 году правительство Малайзии по согласованию с McKinsey

& Company и Boston Consulting Group реализовало Программу трансформации государственных компаний (Transformation Programme for Government-Linked Companies (GLCs)). Проект был признан мировым сообществом самым успешным проектом реформирования государственных предприятий в Азии. Реформа повысила эффективность и рентабельность использования имеющегося капитала и ресурсов на предприятиях. В частности, в период с 2004 по 2014 год рыночная капитализация малайзийских государственных предприятий утроилась, а среднегодовые темпы роста составили 11%.

На следующем этапе правительство Малайзии в сотрудничестве с консалтинговыми компаниями по вопросам управления разработало «Новую экономическую модель», которая позволила расширить экспансию государственных предприятий до глобального масштаба. В результате эти предприятия начали работать в 42 зарубежных странах, а валовая выручка 20 крупнейших из них выросла в три раза - с 7 до 22 млрд.долл.

Анализ реформы собственности в странах Центральной и Восточной Европы (ЦВЕ) показывает, что процесс трансформации совпал по времени с трансформационным кризисом. В этих условиях деятельность как приватизированных, так и государственных предприятий оказалась под влиянием действия внешних факторов (свободные инвестиционные ресурсы, уровень макроэкономической стабильности, структура производства, инвестиционный климат, наличие рынков сбыта и другие). В этих условиях распространенные в начале 1990-х гг. утверждения о том, что приватизированные предприятия работают лучше, чем государственные, оказались недостаточно обоснованными. В то же время, такие страны как Словения и Польша, где приватизационный процесс разворачивался медленнее, чем в других государствах ЦВЕ, в которых были предприняты решительные меры по формированию конкурентной среды, уже в середине 1990-х гг. продемонстрировали устойчивый рост (Глинкина, 2004).

Во всех странах ЦВЕ отмечены случаи приобретения иностранными инвесторами в собственность предприятий, являющихся их потенциальными либо действующими конкурентами, в целях постановки конкурента под контроль, ограничения производства,

либо его полной ликвидации. Стало очевидным, что прямые продажи государственных активов как метод приватизации эффективен только в случае наличия развитых институтов рынка.

В этих странах в ходе массовой приватизации населению передавались за небольшую плату сертификаты собственности (ваучеры, бонусы, купоны), которые становились платежным средством в ходе приватизации государственной собственности. Так называемая программа равного доступа к собственности посредством ваучеров (купонов) охватила как внутренних, так и внешних инвесторов.

Схемы ваучерной приватизации, реализованные в странах ЦВЕ, различались по целому ряду аспектов. Польша и Румыния в приватизационных программах выступали за централизацию этого процесса. Правительствам были предоставлены большие права при принятии решения о том, какие предприятия и как будут участвовать в приватизации. В Румынии такой подход столкнулся с меньшими трудностями в силу традиций жесткой централизации управления на предыдущих этапах развития страны. В Польше централизованное управление процессом приватизации практически было заблокировано властными структурами. В Румынии каждое предприятие стало передавать 30% своей собственности для приватизации в рамках ваучерной схемы.

Негативным проявлением чрезмерного присутствия государства в экономике нередко является коррупция. Наиболее высокий ее уровень наблюдался в Российской Федерации, в Украине, а также в ряде других стран СНГ. В условиях отсутствия прозрачности приватизационных процессов, лоббирования узковедомственных и частных интересов в этих странах сформировались олигархические структуры, с негативным действием которых обществу не удалось избавиться вплоть до настоящего времени. Среди них - вывоз капитала за рубеж, неоправданный рост цен на производимую продукцию, экологические проблемы, несправедливая оплата труда занятого персонала.

В долгосрочной перспективе приватизация снижает уровень коррупции, так как она начинает ограничивать свободу действий чиновников, расширяет конкуренцию и прозрачность в этой сфере. Однако, в краткосрочной перспективе необходимость проведения сложных переговоров для утверждения условий проведения прива-

тизации создают соблазн и возможности для злоупотреблений. Слабые институты вряд ли устоят перед этим соблазном. Если коррупция становится очевидной в глазах общественности, то формируется негативный образ приватизации, хотя сами сделки могут иметь высокий экономический и финансовый смысл.

Так, например, до сих пор многие специалисты и рядовые граждане Российской Федерации негативно отзываються о ваучерной приватизации “по Чубайсу” 90-х годов прошлого века, что создает негативный оттенок для имиджа всех приватизированных предприятий. В результате такой приватизации многие стратегические объекты были захвачены нелегитимными лицами (в особенности, в добывающей промышленности, металлургии, химической отрасли, тяжелом машиностроении, в СМИ, а также в других высоколиквидных сферах). По сути, был дан старт “черному” переделу общенародной собственности, ее изъятие у трудовых коллективов, у государства в пользу узкого круга “акционеров”, обладающих властью, силой и жестокостью предпринимаемых действий.

В результате такой приватизации государство потеряло значительную часть бюджетных средств (в частности, недополученных в виде налогов и дивидендов), а занятые - рабочие места. Рейдерские захваты, периодические судебные разборки приостанавливали деятельность многих базовых предприятий, а сокращение объемов производства продукции производственно-технического назначения подрывало макроэкономическую устойчивость, способствовало инфляции, ухудшало бизнес-среду, что сокращало инвестиционные потоки. Многие крупные предприятия так и не смогли пройти такой сложный период приватизации и были вынуждены закрыться (за исключением, сферы военно-промышленного комплекса, а также некоторых стратегических сфер, в которых правительство все-таки смогло защитить интересы государства благодаря вмешательству силовых структур).

С другой стороны, по мнению ряда экономистов, проведение реформы государственных активов сегодня является экономической и политической необходимостью.

Во-первых, где имеет место чрезмерное государственное вмешательство и отсутствие общественного контроля, там появляются высокие возможности для коррупции. Так, в Узбекистане сложившаяся ситуация привела к тому, что к 2020 году в стране сложилась

неблагоприятная ситуация с этим опасным социальным злом (страна находилась на 153 месте из 180 стран мира в рейтинге восприятия коррупции Transparency International за 2019 год). В связи с этим эксперты Всемирного банка предлагают Узбекистану провести масштабную приватизацию государственных активов.

Во-вторых, доминирование государственных предприятий в каком-либо секторе отталкивает частных инвесторов заходить на рынки, т.к. в этих условиях государство старается создавать более благоприятные условия для государственных предприятий.

В-третьих, опыт последних лет показывает, что доминирование государственных предприятий и монополий приводит к неэффективной деятельности – низкому качеству выпускаемой продукции, высоким производственным издержкам и ценам, которые в конечном итоге перекладываются на госбюджет и население.

Так, выборочный анализ производственно-финансовой деятельности 1 703 предприятий с долей государства в уставном фонде 50 % и выше за 2017-2019 годы выявил, что число государственных предприятий, работающих в убыток, в последние годы существенно возросло. Если по итогам 2017 года у 181 предприятия (10,6% от общего количества проанализированных субъектов) наблюдалась убыточная деятельность, то по итогам 2018 года – у 213 предприятий (12,5%), в 2019 году – у 241 предприятия (14,2%).

Физические объемы природного газа, добываемого государственными предприятиями, в Узбекистане падают из года в год. Так, если в 2017 году добыча данного энергоресурса в республике составила 39,3 млрд куб м, то в 2018 году она снизилась на 10% (35,4 млрд куб м), в 2019 году - на 5,4% (33,5 млрд куб м). Это обстоятельство отражается на снижении налоговых поступлений от предприятий отрасли. Если по итогам 2018 года общая сумма налоговых поступлений от АО «Узбекнефтегаз», АО «Узтрансгаз» и АО «Худудгазтаъминот» составила 13,3 млрд сум, то в 2019 году поступления сократились на 7,5 %. При такой динамике страна уже в ближайшей перспективе может испытывать нарастающий дефицит стратегических энергоресурсов.

В электроэнергетической отрасли имеет место незначительный рост объемов выработки электроэнергии тепловыми электростанциями. Так, если в 2018 году

общий объем выработанной электроэнергии составил 56,3 млрд.кВт-ч электроэнергии, в 2019 году было выработано 56,4 млрд. кВт-ч (рост составил 0,2%). В 2020 году рост выработки электроэнергии составил около 3,7 % к фактическим объемам производства 2019 года.

В 2019 году налоговые платежи предприятий отрасли увеличились на 25%, что было связано с ростом тарифов на электроэнергию. Вместе с тем, несмотря на рост производственных показателей, по предприятиям отрасли сохраняются значительные риски, обусловленные, прежде всего, высокой изношенностью энергоблоков, линий электропередач, подстанций и трансформаторных пунктов.

Так, из 85 энергоблоков, действующих на предприятиях АО ТЭС, большинство - порядка 87% энергоблоков эксплуатируются свыше 30 лет. При том, что максимальный срок эксплуатации данного вида оборудования в среднем составляет 25-30 лет. Кроме того, в республике используются высоковольтные линии передачи электроэнергии общей протяженностью 9,7 тыс.км, из них порядка 3,0 тыс.км или 31% составляют линии электропередач, находящиеся в эксплуатации более 30 лет. Свыше 55% подстанций и трансформаторных пунктов, используемых для распределения и передачи электроэнергии, нуждаются в замене в связи с истечением нормативных сроков эксплуатации. Имеющиеся в республике текущие производственные мощности не могут обеспечить увеличение спроса со стороны отраслей экономики и населения на электроэнергию. Согласно прогнозу Министерства энергетики, рост спроса на электроэнергию ожидается на уровне 6-7% ежегодно, и для удовлетворения этого спроса требуется установка дополнительных мощностей в объеме 15 ГВт. Это около 15 млрд. долл. инвестиций до 2030 года или 1,2 млрд. долл. в год, которые могут быть не по силам Государственному бюджету.

Таким образом, высокая изношенность технологического оборудования на всех этапах производства и передачи электроэнергии до конечного потребителя, свидетельствует в целом о низком уровне общей эффективности предприятий, их недостаточной конкурентоспособности и несоответствии современным стандартам. Приватизация государственных предприятий будет способствовать повышению их экономической эффективности. Рост объемов производства и реализации продукции в результате

конкуренции будет приводить к увеличению налоговых поступлений, поскольку приватизированные предприятия более эффективно используют основные фонды в условиях отсутствия льгот и послаблений.

Следовательно, реформа государственных активов и их приватизация сможет улучшить конкурентную среду в экономике в среднесрочной и долгосрочной перспективе, позволит снизить политические риски и будет способствовать росту притока иностранных инвестиций в экономику Узбекистана. Страна с более конкурентоспособной экономикой всегда имеет сравнительно высокий суверенный кредитный рейтинг, и на благоприятных условиях размещает ценные бумаги на международных финансовых рынках.

Наряду с благоприятными последствиями приватизации возможен риск роста безработицы за счет реструктуризации предприятий, который в увязке с реформами рынка труда позволит избежать худших сценариев. Существует другой риск для бюджета из-за временного снижения объемов производства в период приватизации. Однако, если реализация реформы пройдет успешно, и государственная доля перейдет в «умелые руки», то, в этом случае, и работники предприятия, и государство в целом выиграют за счет наращивания объемов производства. В итоге будет иметь место рост доходов занятых, собственника и государства, сокращение субсидий за счет бюджетных средств.

В 2019 году 67% (или 5,3 млрд. долл.) от общего объема внешних заимствований (прямые и под государственные гарантии) было привлечено в проекты, реализуемые государственными предприятиями и банками. По итогам первого полугодия 2020 г. кредиты на финансирование проектов государственных предприятий составили 2/3 государственного внешнего долга (12,1 млрд. долл.), направленные в сферы транспортной инфраструктуры (2,25 млрд. долл.), энергетики (5,08 млрд. долл.), жилищно-коммунального хозяйства (2,23 млрд. долл.) и химической промышленности (0,87 млрд. долл.).

В 2019 и 2020 годах 96,5% (342,6 млн. долл.) общего внутреннего государственного долга выпало на долю государственных предприятий и банков.

Очевидно, что низкое качество обслуживания долга, возникшего от привлечения государственными предприятиями инвестиций и кредитов, потенциально усилит давление на Государственный бюджет и может

негативно сказаться на его финансовой стабильности. Как отметили в своих последних отчетах S&P Global Ratings и Fitch Ratings, своевременное и полное выполнение долговых обязательств государственных предприятий, особенно в условиях глобального кризиса и пандемии, является важным фактором, влияющим на суверенный кредитный рейтинг страны.

В соответствии с международными стандартами обязательства государственных предприятий, в том числе не гарантированные правительством, также являются условным обязательством страны. Своевременная и полная выплата государством внешних долговых обязательств во многом тесно связана с эффективной работой государственных предприятий. В связи с этим, необходимо создавать среду, в котором государственные предприятия были бы финансово устойчивыми и могли самостоятельно выполнять свои долговые обязательства и финансировать инвестиционные проекты без предоставления гарантий от государства.

Государственным предприятиям, неэффективно управляемым и демонстрирующим негативные показатели рентабельности, приходится периодически оказывать поддержку за счет и без того ограниченных бюджетных ресурсов. В связи с этим растут фискальные риски, приводящие к осуществлению неоптимальных капитальных инвестиций и высокому уровню условных обязательств. Зачастую, государственные предприятия недостаточно прозрачны и их системы отчетности не соответствуют международным стандартам финансовой отчетности. Это не позволяет получать достоверные данные и выявлять их реальное финансовое положение.

Основной целью реформы собственности в Узбекистане является повышение эффективности деятельности государственных предприятий и национальной экономики в целом. Реформа предполагает трансформацию крупных государственных предприятий, внедрение современных методов корпоративного управления и финансового аудита, повышение открытости и финансовой устойчивости, а также улучшение их способности выполнять свои долговые обязательства без государственного участия. В целом реформа подразумевает внедрение рыночных принципов на государственных предприятиях, проведение их приватизации и создание дополнительных возможностей для привлечения частного капитала.

В связи с этим, правительством Узбекистана был взят курс на повышение роли частного сектора в проводимых структурных преобразованиях, улучшение конкурентной и инвестиционной среды.

После валютной либерализации, проведенной в 2017 году и совершенствованием налоговой сферы в 2019-2020 годах, проводимую в настоящее время реформу государственных предприятий можно отнести к третьей по ее важности, но более сложной по содержанию и масштабам. Накопленный в 1990-х годах опыт европейских стран показывает, что правильная реализация подобной реформы – это очень сложная и ответственная задача ввиду возможных трудностей и ошибок. Речь идет как о сложившейся в настоящее время институциональной среде, так и возможном отсутствии четкого представления у заинтересованных лиц о потенциале проводимых преобразований, которые могут ограничить масштаб реформы и даже привести к злоупотреблениям и потерям.

Прежние попытки провести реформу государственных предприятий в Узбекистане не увенчались успехом из-за отсутствия необходимой институциональной базы. В последние годы правительство провело тщательную предварительную подготовку к осуществлению предстоящей реформы. С 2019 года Агентством по управлению государственными активами проводится работа по созданию в республике систематизированной базы государственных предприятий. Учитывая существование конфликта интересов между регуляторной и коммерческой деятельностью государственных предприятий проводятся структурные преобразования в различных секторах, включая в нефтегазовой и электроэнергетической отраслях, горно-металлургической и электротехнической промышленности, гражданской авиации, в сфере дорожного строительства, строительных материалов, сельского хозяйства и других отраслях экономики.

В энергетической отрасли проведены следующие подготовительные работы:

1. В 2019 году образован уполномоченный государственный орган в сфере регулирования и надзора за участниками отечественного рынка энергетической отрасли – Министерство энергетики Республики Узбекистан.

2. В целях дальнейшего развития и реформирования электроэнергетической отрасли осуществлена реорганизация АО «Узбекэнерго» путем его разделения на

3 отдельные акционерные компании по их функциональной направленности - производство, транспортировка, распределение и сбыт.

3. В целях совершенствования системы управления и формирования эффективной организационной структуры АО «Узбекнефтегаз» также разделен на 3 части - добыча, транспортировка, распределение и сбыт. В перспективе предусматривается привлечение инвесторов путем первичного и вторичного публичного размещения акций на отечественном и международных фондовых рынках.

С принятием Указа Президента от 12.05.2020 г. № УП-5992 «О Стратегии реформирования банковской системы Республики Узбекистан на 2020–2025 годы» в стране началась приватизация банковского сектора.

В соответствии с Указом Президента от 27.10.2020 г. №УП-6096 на Министерство финансов была возложена задача по организации реализации всех полномочий акционера от имени государства, подготовка финансовых отчетов предприятий и разработка для них стратегии финансового оздоровления, внедрение современного корпоративного управления. В последние годы в проведении структурных реформ усилена роль данного министерства, в частности в управлении влиянием государственных предприятий на формирование бюджетных средств, в том числе путем финансового надзора и оценки возможных фискальных рисков.

Министерству экономического развития и сокращения бедности, Антимонопольному комитету, Агентству по противодействию коррупции и Агентству по управлению государственными активами поручено провести инвентаризацию льгот и преференций, критически пересмотреть деятельность акционерных обществ и внести предложения по организации их деятельности на основе рыночных принципов (п.4).

Необходимым шагом для реализации реформы является формирование четкой координации деятельности ключевых министерств, ведомств, агентств и других структур. Согласованная деятельность экономического блока правительства, в частности, Минэкономразвития, Министерства финансов, Центрального банка, МИВТ, местных органов власти, а также оказываемая поддержка руководством страны в доведении реформы до логического завершения явля-

ются главным гарантом для проведения успешных масштабных преобразований.

Указом Президента определено какими сферами деятельности будет заниматься государство, а какими - частный сектор. Предусматривается, что мощности по производству автомобилей, текстильной продукции и других товаров будут переданы частным предпринимателям.

Программа углубления процессов приватизации государственной собственности как часть широкомасштабных реформ предусматривает реализацию стратегическим инвесторам акций предприятий горно-металлургической отрасли Узбекистана (страна занимает 5 место в мире по запасам золота, 5 – по запасам урана, 13 – по меди, в десятке стран по запасам редкоземельных и цветных металлов), нефтегазового сектора (страна в числе мировых лидеров по запасам природного газа).

В феврале 2021 года в республике был утвержден перечень из 11 государственных активов, выставляемых на торги с марта текущего года (Указ Президента Республики Узбекистан, 2021). Среди них – бизнес-центр «Пойтахт», помещения по производству газет, торговый и бытовой обслуживающий комплекс «Малика», гостиница, зоны отдыха и другие объекты (перечень №1 к Указу Президента №УП-6167). Предусматривается, что из поступивших средств 95% будет направлено в Госбюджет, а 5% - останется в распоряжении Фонда по управлению, трансформации и приватизации государственных активов.

Кроме того, выставляются на торги 18 предприятий, чьи государственные доли реализуются с апреля текущего года. Среди них - Ферганский нефтеперерабатывающий завод (100%), «Кварц» (89,5%), «Трест-12» (51%), Кокандский механический завод (64,1%), «Узбекхиммаш» (44,7%), «Жиззак Пластмасса» (85,8%), Самаркандский винкомбинат имени Ховренко (71,2%) и другие объекты. Почти все приватизируемые компании функционируют в форме акционерных обществ.

Реализация долей государства осуществляется путем их передачи в уставной капитал инвестиционной компании АО «UzAssets» по номинальной стоимости. Распределение полученных средств такое же, как и по предыдущему перечню.

Предусматривается, что доля, принадлежащая АО «Узкимесаноат» (химпром) передается по балансовой стоимости за счет

снижения доли государства в уставной фонд инвестиционной компании АО «UzAssets» по номинальной стоимости и выставляется на торги единым пакетом.

Необходимо отметить, что еще в 2019 г. в соответствии с постановлением Президента РУз от 10.04.2019 года индонезийская фирма PT Trans Asia Resources должна была получить 100% принадлежащей «Узнефтмахсулот» доли Ферганского НПЗ с первоначальным выкупным платежом в размере 16 млн долларов.

Постановлением правительства были установлены условия реализации государственной доли, в числе которых привлечение не менее 120 млн долларов для оборотного капитала ФНПЗ. Однако, по данным Агентства по управлению госактивами, Ферганский НПЗ решено передать в доверительное управление СП ООО Jizzakh Petroleum. Совместное предприятие Jizzakh Petroleum было создано в июне 2017 года «Узбекнефтегазом» и Gas Project Development Central Asia (дочерняя структура Gazprom International). Согласно проекту, доли участников в уставном фонде были перераспределены с уменьшением доли «Узбекнефтегаза» с 60% до 30% и увеличением доли иностранных учредителей с 40% до 70%.

В июне 2020 года состав учредителей выглядел следующим образом: Belvor Holding Limited из Кипра (68%), «Узбекнефтегаз» (30%) и Gas Project Development Central Asia (2%), а сейчас доли между «Узбекнефтегазом» и Belvor Holding Limited распределены по 49%. В том же месяце сообщалось, что на Ферганском НПЗ проведут модернизацию за 300 млн долларов. Jizzakh Petroleum планировал запустить на нем с середины 2023 года производство бензина АИ-92 и дизельного топлива «Евро-5».

На наш взгляд, проведение приватизации ФНПЗ за счет продажи государственной доли является недостаточно обоснованным решением. Правительству лучше инициировать строительство нефтепровода и обеспечить заводы необходимым сырьем, оборотными средствами за счет выпуска облигаций внутреннего займа. Разовая прибыль от продажи госдоли вместо постоянного и стабильного дохода от деятельности данного стратегического предприятия – это не самый лучший вариант решения проблемы окупаемости нефтезавода. В данном случае приватизация предприятия может превратиться в распродажу государственного имущества по заниженным ценам.

Международный опыт проведения приватизации показывает, что реформа государственных предприятий – это не одномоментный акт, а построение последовательности промежуточных решений в зависимости от стечения обстоятельств и динамики макроэкономических показателей. В связи с этим, для достижения успеха реформы государственных активов необходима взаимная увязка проводимых преобразований с монетарными и фискальными мерами. В процессе расширения сферы действия рыночных инструментов целесообразно полностью контролировать ситуацию с ценовыми скачками, предоставлением качественной социальной защиты и созданием социального капитала. Снятие контроля над ценами должно сопровождаться устранением имеющихся дисбалансов.

### Заключение

Реформа государственных предприятий должна сопровождаться структурными реформами в соответствующих секторах экономики, которые в настоящее время пока ещё остаются монополизированными. Это касается, прежде всего, производства автомобилей, отдельных видов электротехнической продукции, предоставления коммунальных услуг и других.

Необходимо отметить, что добывающие отрасли, а также стратегические предприятия должны оставаться государственными (контрольный пакет акций должен оставаться у государства), что обеспечит экономическую безопасность государства. Устойчивая деятельность крупных хозяйствующих объектов обеспечит наполнение внутреннего рынка сырьем, энергоносителями и другими базовыми товарами по доступным ценам. Данные предприятия могут и в дальнейшем являться главными источниками формирования бюджетных средств. В свою очередь государство будет контролировать экологическую ситуацию на задействованных территориях и оказывать поддержку экспортной деятельности сырьевых предприятий. Стабильность и устойчивость развития данной сферы будет создавать благоприятные условия для отраслей, выпускающих продукцию с высокой степенью обработки и добавленной стоимости. Выпуск потребительских товаров и оказание услуг должны осуществляться преимущественно на частных, коллективных и иных предприятиях, функционирующих на конкурентных рынках.

Деятельность предприятий, имеющих государственную долю, должна осуществляться под пристальным вниманием Агентства по управлению государственными активами, Счетной палаты, Министерства финансов, общественных организаций, обеспечивающих эффективный менеджмент, корпоративное управление, защиту интересов акционеров и трудового коллектива, оптимальное и справедливое распределение доходов от реализации продукции. Рыночные факторы в этой сфере должны иметь второстепенное значение, а вопросы достижения экономической безопасности и справедливости играть главную роль.

Реализуемые механизмы должны создавать одинаковые конкурентные условия и открывать доступ на эти рынки всем хозяйствующим субъектам независимо от формы собственности, в т.ч., частному капиталу.

Не менее важным фактором для успешного проведения реформы государственных предприятий является доведение до общественности цели, задач и результатов проводимых преобразований. Получение широкой поддержки проведения реформ со стороны общественности способствует сокращению сферы теневой экономики, укрепляет атмосферу доверия, взаимопонимания среди общественности. Не вызывает сомнений, что реформа государственных предприятий требует существенного изменения законодательства в сфере антимонопольного регулирования и защиты конкуренции, банковско-финансовой системы, улучшения защиты частной собственности и прав потребителей, социальной защиты наиболее уязвимых слоев населения и безработных.

Роль приватизации государственных активов усиливается в условиях поэтапного вхождения Узбекистана в ЕАЭС и ВТО. Как известно, с 1 января текущего года страна приобрела статус страны-наблюдателя ЕАЭС.

Можно согласиться с мнением М.Б. Хамидулина, утверждающего, что каждая из объединяющихся в ЕАЭС сторон возлагает на объединение большие надежды, в первую очередь, в отношении решения своих проблем. Однако достижение положительного результата требует учета интересов всех объединяющихся сторон, что иногда может потребовать поиска компромиссов в отстаивании национальных интересов на основе справедливого, консенсусного, доверительного взаимодействия, основанного на концепции долгосрочного сотрудничества. Без

долгосрочной стратегии политического, экономического, социального и другого сотрудничества в регионах ЕАЭС, постоянно будут сохраняться чувство недоверия, перманентно переходящее во взаимные упреки и обвинения. Это напрямую касается процессов приватизации государственных активов и проведения на этой основе структурных преобразований (Хамидулин, 2020).

Стратегия развития должна, с одной стороны, защищать регионы (государства-члены ЕАЭС) от превращения их в сырьевые придатки искусственно создаваемых центров, с другой, защищать от перманентно возникающего желания руководителей регионов обеспечить территориальную продовольственную, энергетическую и прочие виды безопасности, что при отсутствии соответствующих конкурентных преимуществ может привести к снижению эффективности использования ограниченных ресурсов.

Концентрация ресурсов стран ЕАЭС, ориентация на выпуск конечной продукции из регионального сырья, с учетом использования сложившегося в регионах потенциала рабочей силы, в значительной мере повысит конкурентоспособность каждого региона и объединения в целом в мировом разделении труда. В целях решения этих проблем следует использовать успешный опыт и подходы к проведению приватизации государственных активов и регулированию локальных и глобальных инвестиционных потоков.

Проведение реформы государственных предприятий на системной основе с учетом их сочетаемости, последовательности, экономической безопасности и справедливости, расширения прозрачности перед обществом позволит существенно сократить риски и дать дополнительные возможности для повышения эффективности масштабных преобразований и достижения установленных приоритетов социально-экономического развития как на уровне республики, так и центрально-азиатского региона и рынков стран ЕАЭС.

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## Possibilities of Application of Foreign Experience in State Regulation of E-Commerce Market in Kazakhstan

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### Abstract

Currently, the e-commerce market in Kazakhstan is developing rapidly, establishing game rules within market relations and self-regulation. However, the immaturity of the state regulation system of the e-commerce market does not allow it to contribute to its development fully. The work is devoted to studying the foreign experience of state regulation of the e-commerce market in terms of its applicability in Kazakhstan. There were methods of systematization, analysis and synthesis, criterion analysis, and comparative evaluation in research. In the article, the authors justified the need for state regulation of e-commerce in Kazakhstan, which is due to the presence of positive and negative effects of the presence of electronic methods of commerce in the economy. To develop recommendations on state regulation of the e-commerce sphere, the experience of such countries as the United States, China, and Singapore, which have achieved significant success in the promotion of e-commerce, is studied. In particular, the specifics of government policy regarding regulatory impact, tax regulation, and support for e-commerce businesses are examined in detail. The significance of the study results lies in the priority development of the e-commerce market in Kazakhstan, which is called the driver of economic growth of the country, according to the provisions of the “Roadmap for e-commerce development in Kazakhstan until 2025” implemented under the state program “Digital Kazakhstan”. In addition, the study results can be used to prepare training materials in the undergraduate and graduate educational programs in the “E-commerce” discipline.

*Keywords:* Economy, E-commerce, Foreign Experience, Tax Regulation, Government Support, Digital Platforms, Online Stores, Information and Communication Technologies

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## Электрондық коммерция нарығын мемлекеттік реттеудің шет елдік тәжірибесін Қазақстанда қолдану мүмкіндіктері

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### Түйін

Қазіргі уақытта Қазақстанда электрондық коммерция нарығы нарықтық қатынастар және өзін-өзі реттеу аясында ойын ережелерін бекіте отырып жедел қарқынмен дамуда. Алайда электрондық коммерция нарығын мемлекеттік реттеу жүйесінің жетілмегендігі оның дамуына толыққанды ықпал етуге мүмкіндік бермейді. Мақала Қазақстан шарттарында қолдану тұрғысынан электрондық коммерция нарығын мемлекеттік реттеудің шетелдік тәжірибесін зерттеуге арналған. Зерттеу әдістері ретінде жүйелеу, талдау және синтездеу, критериялды талдау, салыстырмалы бағалау әдісі қолданылды. Мақалада авторлар Қазақстандағы электрондық коммерция саласын мемлекеттік реттеу қажеттілігін негіздейді, бұл экономикада коммерцияны жүргізудің электрондық әдістерінің болуының оң және теріс әсерлерінің болуымен байланысты. Электрондық коммерция саласын мемлекеттік реттеу бойынша ұсыныстар әзірлеу үшін электрондық коммерцияны ілгерілетуде айтарлықтай табысқа жеткен АҚШ, Қытай және Сингапур сияқты елдердің тиісті тәжірибесі зерттеледі. Атап айтқанда, реттеуші ықпал, салықтық реттеу және электрондық коммерция кәсіпорындарын қолдау бойынша мемлекеттік саясаттың ерекшеліктері жан-жақты қарастырылған. Зерттеу нәтижелерінің маңыздылығы Қазақстан Республикасы 2025 жылға дейін» мемлекеттік «Цифрлық Қазақстан» бағдарламасы аясында жүзеге асырылатын «Қазақстан Республикасында электрондық коммерцияны дамытудың жол картасының» ережелеріне сәйкес елдің экономикалық өсу драйвері деп аталған электрондық коммерция нарығын басым дамыту болып табылады. Сонымен қатар, зерттеу нәтижелерін «Электрондық коммерция» пәні бойынша бакалавриат және магистратурадағы білім беру бағдарламалары шеңберінде оқу материалдарын дайындауда пайдалануға болады.

*Түйін сөздер:* экономика, электрондық коммерция, шетелдік тәжірибе, салықтық реттеу, мемлекеттік қолдау, цифрлық платформалар, интернет-дүкендер, ақпараттық-коммуникациялық технологиялар.

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## Возможности применения зарубежного опыта по государственному регулированию рынка электронной коммерции в Казахстане

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### Аннотация

В настоящее время рынок электронной коммерции в Казахстане развивается стремительно, устанавливая правила игры в рамках рыночных отношений и саморегулирования. Однако незрелость системы государственного регулирования рынка электронной коммерции не позволяет в полной мере способствовать его развитию. Работа посвящена исследованию зарубежного опыта государственного регулирования рынка электронной коммерции с точки зрения его применимости в условиях Казахстана. В качестве методов исследования использовались методы систематизации, анализа и синтеза, критериального анализа, сравнительной оценки. В статье авторами обоснована необходимость государственного регулирования сферы электронной коммерции в Казахстане, что обусловлено наличием положительного и отрицательного эффекта от присутствия в экономике электронных методов ведения коммерции. Для выработки рекомендаций по государственному регулированию сферы электронной коммерции исследуется соответствующий опыт стран как США, Китай и Сингапур, которые достигли значительных успехов в продвижении электронной коммерции. В частности, подробно рассматриваются особенности государственной политики в части регулятивного воздействия, налогового регулирования и оказания поддержки предприятиям электронной коммерции. Значимость результатов проводимого исследования заключается в приоритетности развития рынка электронной коммерции в Казахстане, где он назван драйвером экономического роста страны, согласно положениям «Дорожной карты развития электронной коммерции в РК до 2025 года» реализуемой в рамках государственной программы «Цифровой Казахстан». Кроме того, результаты исследования могут быть использованы при составлении обучающих материалов в рамках образовательных программ бакалавриата и магистратуры по дисциплине «Электронная коммерция».

*Ключевые слова:* экономика, электронная коммерция, зарубежный опыт, налоговое регулирование, государственная поддержка, цифровые платформы, интернет-магазины, информационно-коммуникативные технологии.

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### Introduction

Trends in the development of the modern world economy show the ubiquitous penetration of digital technology, which has embraced all aspects of human activity. Every year more and more of the world's population is moving into a virtual environment for shopping, transacting for service consumption, and communicating and enjoying themselves. All this is made possible by the creation and implementation of digital platforms, the principles of the network economy. The development of innovative technologies in the digital economy has its positive and negative effects. Therefore, achieving a balance between the digital economy and its main element of e-commerce is now a vital issue of state regulation of the sphere in question.

Currently, the e-commerce market in Kazakhstan is at the stage of embryonic development. The formed institutional environment in the country extended conditions for Kazakhstan people to buy online from foreign suppliers. In addition, the predominance in the domestic market of large foreign e-commerce entities with obvious competitive advantages is increasingly creating difficulties for new local companies, especially small ones, to enter the market. The risks associated with the loss of domestic consumers in the e-commerce market are increasing. The current circumstances require urgent measures to improve the mechanisms of state regulation of the e-commerce market, involving the creation of favorable conditions for increasing local content in this market. In this regard, the study of best practices in the application of various mechanisms of regulation of the electronic commerce market in foreign countries becomes an urgent task. At the same time, it is not possible to fully follow the experience of countries that have achieved a high level of e-commerce development.

This is due to the fact that Kazakhstan is already involved in cross-border e-commerce, while in developed countries at the dawn of the embryonic development of e-commerce there was no foreign participation. In view of this, it is advisable to choose several countries to analyze the relevant foreign experience, which will allow comparative analysis and identify the most applicable tools and regulatory mechanisms in the conditions of Kazakhstan. In this regard, the presented study is highly relevant and aims to study the experience of state regulation of the e-commerce market in the United States, China, and Singapore to develop recommendations for its application in Kazakhstan.

### Literature review

Currently, many studies are devoted to the research of the phenomenon of digitalization and its penetration into the field of commerce, many of which are empirical in nature and dedicated to certain aspects coverage of the development of the market e-commerce, the characteristics of its essence and content of the functions performed, the role in the economy and the contribution to the development of competitiveness.

As Rozanova noted that the digitalization has brought to the world of supply and demand such a phenomenon as platformization. The market has been enriched by digital intermediaries - numerous platforms providing fast and cheap search for goods for the customer. The cost for consumers to find the right product online has come close to zero (Rozanova, 2022). Wang, Xu, and Liu, in their work "Platform-based Rural Areas: Digital Platforms and Techno-spatial Remediation" reveal the process of digital platform penetration in rural areas of China and assess the impact of this process on the development of these areas (Wang et al., 2022).

Wen analyzes the cross-border logistics of e-commerce and focuses on security (Wen, 2022). Mueller and Farhat investigated the specifics of state regulation of access to e-commerce platforms in the United States and China. The results showed the presence of neo-mercantilism in digital services in both countries, focusing on national security requirements rather than trade policy considerations (Mueller & Farhat, 2022). Other research proposed using blockchain technology to analytically support e-commerce market regulation by developing a specific technology and supporting the research results with relevant experiments (Zhao et al., 2022). Al-Ayed analyzes the impact of e-commerce drivers on customer preference and loyalty. These works consider local issues in local markets (Al-Ayed, 2022).

Systematization of information about individual areas of state regulation of electronic commerce, mainly legal regulation and tax regulation, was performed by Sakovich, Solovyova, and Shcherbak in their work "Legal regulation of electronic commerce in foreign countries» (Sakovich et al., 2019) and A.V. Koren in the work "Taxation of electronic commerce subjects: problems and prospects" (Koren, 2011). New aspects of tax regulation of the e-commerce market, associated with the emergence of new technologies of mutual settlement, were considered in the work of Tofaan M. and Bostan I., which also noted the indirect impact of e-commerce on the development of the regulatory framework,

both in the field of consumer protection and by the difficult balance between the right to information and data protection (Tofan & Bostan, 2022).

Analysis of Kazakhstan's policy and legislation in the field of e-commerce market regulation was carried out by Ismailova, Kurmanova, Alimpiyeva, Balabiyev, Altynbekkyzy and Altynbekuly. The article concludes that there is no formulated concept of legal regulation of electronic commerce at the national level (Ismailova et al., 2020).

In the reviewed works, the aspects of state regulatory impact on the sphere of electronic commerce in various areas have been studied. Still, a comprehensive work on its in-depth study has not been carried out. In addition, the issues of applicability of international experience of state regulation of the electronic commerce market in Kazakhstan's conditions remain unexplored.

### Methodology

The research methodology is based on the application of methods of systematization, analysis and synthesis, criterion analysis, and comparative evaluation. The information base of the study consisted of monographs, scientific articles on the research topic, published in refereed journals, and data from the official Internet resources of the countries under investigation.

The objects of the study were the United States, China, and Singapore, which are of significant interest to Kazakhstan in improving the state regulation of e-commerce. The U.S. has extensive experience in e-commerce, as its development originates in this country, and the need for regulation was first recognized and implemented here. Despite being part of the group of emerging economies, China has an outstripping growth rate of e-commerce. In 2021, e-commerce accounted for more than 11% of China's economic growth, one of the highest in the world. In addition, the Chinese government has made significant progress in regulating the e-commerce market. Singapore is the most prosperous country in the digitalization of the economy, with the highest rate of digital transformation of industries and the highest rate of Internet penetration. At the same time, the level of government regulation in this country is also relatively high, which is one of the factors that makes innovation so fast and successful.

The study consisted of the following successive stages:

1. Analysis of the state regulation system of the e-commerce market in Kazakhstan to identify its weaknesses.

2. Determine the areas of regulation of the e-commerce market based on the research results indicated in the first stage to study relevant foreign experience: tax and tariff regulation, regulation of electronic, contractual relations, consumer protection, and state support of SMEs in the field of e-commerce.

3. State regulation analysis of the e-commerce market in the United States., China, and Singapore. Identification of its features in the reviewed countries and Kazakhstan.

4. Determining the possibility of applying the studied foreign experience in Kazakhstan and developing specific recommendations for its adaptation to the conditions of Kazakhstan to improve the state regulation of e-commerce.

### Results

Measures for the development of e-commerce were included in the Law of RK dated April 2, 2019 on Regulation of Trade Activities. Paragraph 56 of Article 1 of the said Law provides the following definition of e-commerce - it is an entrepreneurial activity in electronic commerce, as well as the sale of services, carried out through information and communication technologies. It should be noted that in par. 57 of Article 1 of the same Law, electronic commerce is defined as entrepreneurial activity on the sale of goods carried out through information and communication technologies<sup>1</sup>. The definitions of the National Statistics Bureau of the Agency on Strategic Planning and Reform of the RK are given in the brief methodological explanations. Thus, the legislation of Kazakhstan considers e-commerce more narrowly than e-commerce, which contradicts the formed theory of e-commerce.

Nevertheless, the adoption of the Law provided an opportunity to protect the interests of the online buyer at the level of the traditional buyer. The Ministry of National Economy of the Republic of Kazakhstan developed a Roadmap for e-commerce development until 2025, the implementation of which began in 2019. Its measures are structured into three areas: increasing exports in e-commerce, involvement of domestic entrepreneurs in e-commerce and infrastructure development, protection of consumer rights, and e-commerce promotion<sup>2</sup>.

In Kazakhstan, in order to bring Internet companies out of the shadows, the Tax Code,

<sup>1</sup> Law of the Republic of Kazakhstan «On the regulation of trading activities» dated April 12, 2004 No. 544. [https://adilet.zan.kz/rus/docs/Z040000544\\_z040544.htm](https://adilet.zan.kz/rus/docs/Z040000544_z040544.htm)

<sup>2</sup> URL: <https://primeminister.kz/ru/news/v-2019-godu-obem-pokupok-v-kazahstanskih-internet-magazinah-sostavil-422-mlrd-tenge> (дата обращения: 07.09.2020)

as of January 1, 2018, a 100% reduction in calculated income tax is provided for new subjects of e-commerce. They must meet the following terms: income from e-commerce must be at least 90% of total annual income; the payment for goods must be made in non-cash mode; the contract must be concluded online; have its own delivery service or a contract with a person who carries out the transportation, shipping of goods.

Thus, the Tax Code of the RK regulates the activities of online stores, i.e., the sphere of electronic commerce, but not the entire sphere of e-commerce, and their omission is incorrect. Thus, if e-commerce involves trade in goods and services on the Internet, then e-commerce means the application of Internet technologies in the process of relations between sellers and buyers, including trade on the Internet, for e-commerce is only a branch or part of e-commerce.

Taxation of e-commerce entities in Kazakhstan is based on general principles of calculating and collecting tax payments. It does not consider several individual characteristics of this type of activity. The use of this approach leads, on the one hand, to the actual complete withdrawal of huge financial resources from taxation (e-casinos, trade in digital or virtual products); on the other hand, it allows several times underestimate of the leading indicators of the tax base (electronic stores, information and entertainment services). In addition, the borderless, mobile, and anonymous nature of e-commerce makes it challenging to identify the taxpayer, income sources, and the sales place.

At present, work is underway at the Eurasian Economic Union (EAEU) level, of which Kazakhstan is a member, to harmonize national legislation, including in the area of e-commerce. The EAEU's digital agenda involves the creation of a single digital market, where suppliers within the EAEU will be able to freely engage in electronic trade and commerce without paying customs duties and taxes. In addition, to protect the internal EAEU market, customs duties on goods received from abroad increased rates. Previously, buyers could avoid customs clearance of a postal parcel if its value was less than 500 euros per month. January 1, 2020, this threshold was lowered to 200 euros per parcel not exceeding 31 kg. At the same time, the amount that exceeds this norm is subject to a duty of 15%. This allowed not only to limit foreign imports and protect local companies from competition but also to facilitate their expansion within the EAEU market. Here is mostly about Russian companies, such as Wildberries, Ozon Group,

Citylink, and Lamoda. It is expected that the number of duty-free parcels within the EAEU will be reduced to 20 euros, creating favorable conditions for established major online stores in EAEU countries.

The issues concerning contractual relations in the framework of e-commerce with other foreign countries have not been fully elaborated on so far. First, invoices issued by foreign sellers are not recognized in Kazakhstan as a form of an electronic document by law. Secondly, there is no mutual recognition of electronic digital signatures (EDS) within the EAEU and third countries. According to paragraph 12 of the Rules of electronic commerce approved by the Order No. 720 of Acting Minister of National Economy of RK dated November 25, 2015, contracts not requiring notary certification or state registration are concluded by exchange of electronic documents certified by electronic digital signature. The authenticity of EDS is certified by the legislation of Republic of Kazakhstan on electronic documents and electronic digital signatures or by electronic messages (offer, acceptance, confirmation of receipt of request)<sup>3</sup>. After international trade contracts, the written form is applied since under paragraph 3 of Article 153 of the Civil Code of the Republic of Kazakhstan, non-compliance with the simple written form of the external economic transaction entails transaction invalidity<sup>4</sup>.

Protection of the rights and legitimate interests of e-commerce participants is carried out following the laws "On Regulation of Trade Activities" and "On Protection of Consumer Rights". The increasing number of complaints from online shoppers shows several gaps in these laws. Thus, in addition to fraud, in some cases, there is no possibility to return the delivered goods due to the lack of information about the sellers or simply the unwillingness of sellers to return the money. The sellers are often not registered by state revenue agencies (online stores are registered only in social networks, olx, satu, and market). Also, consumers cannot demand documents confirming the quality of goods.

In general, the analysis of the institutional environment of e-commerce in Kazakhstan shows some problems that present specific barriers to the development of the sector. The most

<sup>3</sup> Rules for the implementation of electronic commerce, approved by order, acting. Minister of National Economy of the Republic of Kazakhstan dated November 25, 2015 No. 720. [https://adilet.zan.kz/rus/docs/P070000786\\_](https://adilet.zan.kz/rus/docs/P070000786_)

<sup>4</sup> Civil Code of the Republic of Kazakhstan. Code of the Republic of Kazakhstan dated December 27, 1994 No. 268-XIII. [https://adilet.zan.kz/rus/docs/K940001000\\_4](https://adilet.zan.kz/rus/docs/K940001000_4)



significant of these are the unstable delivery system due to the small capacity of the market and the scattered location of rural areas, as well as the lack of Internet access in some of them. Broadband coverage is not yet high, and there is insufficient competition in the mobile and fixed Internet markets (Zhanbozova et al., 2021). These features should be considered in developing appropriate policies for state regulation of the e-commerce market. The development of practical tools for regulating the e-commerce market is complicated by the emergence and rapid development of complex processes and technologies of data exchange in e-commerce, which also affect the changing nature of economic relations in general. In addition, the cross-border nature of e-commerce and the obligations of states in the framework of integration unions and other international agreements actualize the problem of state regulation of the e-commerce market. In this regard, it is necessary to study best practices in this area in order to extract good practices applicable to the conditions of Kazakhstan.

USA. The basis of public policy in the USA is the protection of private sector interests and their promotion, including in the field of e-commerce. Therefore, the fundamental principles of public policy to promote e-commerce are (Mann, 2000):

1. private sector leadership in the development of e-commerce and the establishment of business practices;
2. providing a clear, consistent, and predictable legal environment for businesses to thrive, avoiding unnecessary regulations or restrictions on e-commerce;
3. Encouraging the private sector to pursue the public interest through codes of conduct, model contracts, guidelines, and enforcement mechanisms developed by the private sector;
4. Ensuring that governmental impact is transparent, minimal, non-discriminatory, and predictable for the private sector.

The desire to follow these principles led to the adoption of the fundamental law in the regulation of electronic commerce in the United States - the federal law "On electronic signatures in international and national trade" in 2000. The law aims to regulate trade transactions concluded electronically in international and interstate commerce. It sets uniform rules for electronic document flow throughout the US, including the definition of the terms used in it, fixing uniform requirements for electronic signatures, and establishing a mechanism of electronic signature control (Soloveva, 2007). The main provision of the Law is the recognition of the equality of written and electronic contracts.

Later, the US authorities began to actively promote the interests of their business in the world markets and other countries, offering to unify the legal regulation of electronic documents circulation in the open information systems. Thus, based on American law, the UNCITRAL model laws "On Electronic Commerce" and "On Electronic Transferable Records" (2017) were developed, which influenced the formation of the EU Directive in the field of electronic commerce (Semiljutina, 2015).

For its implementation, it is fundamentally important to defining the location of the subject of e-commerce through the concept of "permanent establishment". This means the physical location of the server where the site of the subject of e-commerce is located, in case the server is involved in receiving and processing orders or is otherwise related to the conclusion of transactions, will be recognized as a permanent establishment. For Kazakhstan's imperfect e-commerce taxation system, using this mechanism would provide an opportunity to increase the taxable base and protect the domestic market by leveling the competitive playing field for domestic and foreign suppliers.

Since the Internet Tax Freedom Act in 1997 in the United States, all online stores have been exempt from sales tax (Damaskin, 2003). The law exempts from sales tax, access to the Internet, as well as services rendered over the network, but not "physical" goods sold through the network. In general, the definition of the type of tax and the terms of its payment is based on the type of transaction. When a product (license) is sold, a corporate income tax is imposed; in the case of a product with the possibility of further distribution, a royalty is withheld (Ilichev, 2004).

However, preferential taxation has a negative side, which is expressed in the increased growth of Internet commerce to the detriment of traditional retailing, and the state budget losses from tax shortfalls (Operkent, 2001). Thus, there is a ban on multiple or discriminatory taxations of electronic commerce and Internet banking.

The current moratorium on taxation of e-commerce subjects is an attempt to create a favorable environment for the development of e-business because most representatives of the American government see taxes as a threat to the still fragile sector of e-commerce (Palan, 2003). However, some American researchers point to the constant growth of the number of organizations that use e-business solely for the purpose of tax evasion. Thus, at the end of 2004, legally set taxes were paid only by e-commerce subjects with a turnover of tens of millions of dollars, which are

subject to much higher control by the US Internal Revenue Service (Kaufman & Hardesty, 2002).

As a result, there was an increase in the volume of Internet trade to the detriment of traditional trade growth. Given this trend, starting in 2014, some U.S. states began to lift the ban on the taxation of e-commerce entities.

*China.* China gives priority to the institutional development of e-commerce, which involves considering it as a tool to promote Chinese goods in foreign markets and increase the country's industrial production; develop the country's distribution infrastructure; fight against poverty by ensuring that people in remote areas have access to low-cost online shopping; and increase the potential of agricultural trade. E-commerce in China has a strategic role in the overall economy.

In general, we can distinguish two key institutions of e-commerce regulation<sup>5</sup>:

The Ministry of Commerce formulates policies on foreign trade, export and import regulations, foreign direct investment, consumer protection, and market competition, as well as the negotiation of bilateral and multilateral trade agreements.

The Ministry of Industry and Information Technology is responsible for China's industrial planning, policies, and standards.

In 2015, China enacted an e-commerce law that regulated issues related to data protection and customer infringement<sup>6</sup>. It defined e-commerce as online profit-making by commercial dealers and organizations.

China's leadership is focused on maximizing the benefits of e-commerce, which is reflected in the measures being implemented in this area, which include:

1. Development of Internet infrastructure;
2. Tax policy;
3. Creation of special e-commerce zones;
4. Formation of modern commodity circulation system;
5. Consulting assistance for SMEs;
6. Involvement of rural entrepreneurs in e-commerce.

The sustained and rapid development of e-commerce has been made possible by better

broadband network coverage, and enhancing platform capabilities. In 2013, the Chinese government launched the «Broadband China» strategy, defining broadband as strategic public infrastructure. According to the program, by 2020, the plan was to provide broadband access to an additional 50,000 villages, upgrade broadband in 150,000 villages with fiber, and improve broadband coverage for more than 30 million rural households. In rural areas, China is developing mobile broadband infrastructure, investing tens of billions of dollars. At the same time, these measures are accompanied by other instruments of state support for innovation and the digitalization of agricultural entrepreneurship.

Until 2016, e-commerce activities in China were exempt from sales tax or VAT. China received a corporate tax on industrial production, the volume is also growing due to the development of cross-border e-commerce. Due to the emergence of large e-commerce entities with enormous profitability, it was decided to reform the taxation system of this sphere. Thus, the main accent was the individual income tax, which «will play a more important role than a tax on enterprises income» (Wong & Nah, 2001). In 2016, China increased the tax on goods purchased on cross-border e-commerce platforms. The new tax combines a value-added tax on imports with a consumption tax (Zhudzhun et al., 2008). In addition, a limit of 20,000 yuan was imposed on cross-border purchases made by individual consumers.

The growth of e-commerce and the transformation of local marketplaces into global ones has brought huge revenues to the country. As a result, in 2015, the Chinese government decided to set up special e-commerce trade zones, which offer customs benefits and simplified paperwork and customs clearance for cross-border trade through e-commerce. Such zones are already functioning in 37 cities in China, which contributes to the liberalization and facilitation of international online trade between countries. These zones have a «parcel tax,» less than the usual customs duty, and levied on goods sold through online trading platforms.

In China, most logistic activities are governed or strictly controlled by the authorities,<sup>7</sup> and the private sector has been used to build the necessary digital delivery infrastructure. Chinese e-commerce giants such as Alibaba and JD.com have succeeded by developing highly efficient systems and networks for order delivery. For example, Alibaba operates a network of delivery firms across the country that can process

<sup>5</sup> Shirley, Zh., Lu, Y., Ku, E. (2013). China's E-Commerce Legislative and Regulatory Framework. [updated August 09, 2013; cited May 16, 2022]. Available: <https://www.china-briefing.com/news/chinas-e-commerce-legislative-and-regulatory-framework/>

<sup>6</sup> China Daily (2016), 10 March). China completes drafting e-commerce law. [updated March 10, 2016; cited May 16, 2022]. Available: [http://english.www.gov.cn/news/top\\_news/2016/03/10/content\\_281475304765292.htm](http://english.www.gov.cn/news/top_news/2016/03/10/content_281475304765292.htm) 6

up to 30 million items daily through Cainiao<sup>7</sup>.

To improve the logistical connectivity of the country's regions, including rural hinterlands, in 2015, the State Post Office, Ministry of Commerce, and other agencies jointly launched the "Express Delivery to reach Western and Rural China" initiative, which aims for 100 percent coverage of service points in cities and 100 percent delivery coverage in villages by 2020. This measure will further promote the penetration of e-commerce in rural areas. E-commerce platforms and integrated service systems will give ordinary entrepreneurs access to transactions, marketing, logistics, finance, and data and connect them directly to consumers. Active demand is the source of sustainable rural e-commerce. Instead of providing cash aid, China is taking advantage of e-commerce and creating a new business model in rural areas.

The PRC government is actively providing consulting support to small and medium-sized businesses. For this purpose, it uses the mechanism of a collaborative multi-stakeholder working group, which enables the development of a viable e-commerce ecosystem. EWTP (Electronic World Trade Platform), a tool to realize the goals of global inclusive growth, helps SMEs overcome the complex rules, processes, and barriers that impede their participation in global trade. An increasing number of trade transactions at the local, regional, national, and international levels by China's small businesses are carried out on various Internet platforms<sup>8</sup>. In this regard, China's Ministry of Agriculture, for example, uses online agricultural information platforms to effectively disseminate agricultural technology and market information. The government often initiates demonstration projects and broadcasts them through the Internet of Things applications. E-commerce, together with Internet of Things applications, helps overcome the asymmetry of information between trading partners and makes it possible to take advantage of globalization.

China and the Asian Development Bank are implementing various agricultural digitalization programs. For example, the government is funding applications to implement RFID tags, QR codes,

and blockchain technology to improve product traceability. The government has facilitated the creation of a map of unique agricultural products, posted on Taobao.com and updated interactively. This map demonstrates the specialization of regions in the production of agricultural products, with an indication of the exported products. Through its Agricultural Extension Services, the government supports entrepreneurs in the sector to standardize production, organize farmers and create logistics in remote and poor areas. In 2016, the government published a list of goods allowed for cross-border e-commerce, which prohibits the import of goods not included in this list<sup>9</sup>.

The government's policy of creating a favorable institutional environment in *China is already paying off*. As of June 2018, more than 70% of China's Internet users made online purchases. The country now conducts more daily transactions than France, Germany, Japan, the UK, and the US combined. While China accounted for less than 1% of the global e-commerce market ten years ago, today, it accounts for more than 40% (Stok & Lambert, 2005). According to the results for 2021, the contribution of e-commerce to China's economy was 11.7% of GDP, the highest in the world.

*Singapur*: Singapur is the country with the highest level of digitalization of citizens' daily lives, with the highest internet penetration rates and the best broadband bandwidth, which has contributed to the active development of e-commerce. According to forecasts, in 2025, the market volume will be about 5.5 billion USD, which is quite a lot for the population of 5.78 million people. This market volume is expected mainly due to an increase in the population's purchasing power rather than the number of people. The goods and services here are aimed at the middle and upper-middle income earners, which attracts foreign companies to Singapore's e-commerce market. Other favorable factors are:

- the opportunity to enter the actively developing markets of Southeast Asia;
- the availability of all necessary infrastructure of e-commerce and high competitive advantages in the introduction of new technologies (augmented reality and artificial intelligence);
- active government policy to stimulate e-commerce in the country.

<sup>7</sup> Jenkins G. Cainiao Logistics Unveils Preparation Plan for Alibaba's 11.11 Global Shopping Festival [updated Oct 29, 2015; cited May 17, 2022]. Available: <https://www.linkedin.com/pulse/cainiao-logistics-unveils-preparation-plan-alibabas-1111-greg-jenkins>

<sup>8</sup> McKinsey Global Institute (2021). China the Positive List on Cross-Border E-Commerce of Imported Commodities at Retail Has Been Released. [updated April 15, 2021; cited May 17, 2022]. Available: <https://www.eibens.com/news/cross-border-e-commerce-cbec-positive-list-published-and-its-expansion/>

<sup>9</sup> Ouyang Ch. etc. (2017). Inclusive Growth and E-commerce: China's Experience. AliResearch. [updated March 6, 2021; cited May 17, 2022]. Available: [https://unctad.org/system/files/non-official-document/dtl\\_eWeek2017c11-aliresearch\\_en.pdf](https://unctad.org/system/files/non-official-document/dtl_eWeek2017c11-aliresearch_en.pdf)

The state support is focused on the activation of small and medium-sized businesses on inclusion in e-commerce and implies:

1. Creation of the National Trade Platform (NTP), which is a database of trade information. This platform allows to digitization documents and use them in a secure form, constantly exchanging them between partners and the government. This measure saves a lot of time and money when passing through customs inspections and further on, when delivering goods to the consumer. NTP allows third-party service providers to provide and advertise additional digital services to account holders. The availability of digital services offered as a platform helps companies (both customers and suppliers) improve their digital capabilities at various levels of the supply chain and become stronger e-commerce providers.

1. Implementation of the Retail Transformation Map (Retail ITM). Adopted in 2016, the map aims to encourage retailers to move to e-commerce and online commerce, creating a dynamic and competitive digital marketplace in Singapore. The Card is expected to enable multi-channel retailing and SMEs' access to e-commerce platforms, accelerating the digital transformation of at least 10,000 SMEs.

2. Implementation of a retail training program. National training agency SkillsFuture offers specialized Skills Framework for Retail training courses designed for e-commerce and multi-channel retail newcomers. Using the curriculum and skill maps, Singapore SMEs will be able to invest in training their employees for career and skill development.

3. Encouraging ICT adoption through subsidies, certification grants for information security, and employee training:

- The iSPRINT program provides subsidies of up to \$20,000 to Singapore for technology purchases. These technologies can represent a package of digital services from accounting to more complex customized solutions like customer relationship management and supply chain management;

- The ISO27001 certification grant program provides SMEs and their customers with an independent external assessment of their information security management system for a fee. Entities that receive a positive assessment are given a grant of up to 50% of the cost of ISO 27001 certification but not more than \$20,000 from Singapore;

- The Critical Information and Communications Technology Resources Program (CITREP) is a grant that covers up to 50% (in some cases 70%) of the cost of training courses

for qualified professionals in IT services and business management, data integration, and information management, software development, and Infocomm security. At the same time, the grant does not cover the training of IT employees who are not related to e-commerce.

In addition, the Action Community for Entrepreneurship (ACE) was established in 2014 to support Singapore's small businesses by providing comprehensive access to technology providers, financing, and consulting services aimed at scaling and internationalizing SMEs. Programs offered by ACE include networking and mentoring programs for youth, as well as legal advice and accounting seminars. ACE has a dedicated one-stop-shop to support Singapore SMEs in their international growth and expansion, which facilitates partnerships and access for Singapore SMEs to networks, partners, overseas markets, and specialized programs.

In the early stages of the formation of the e-commerce market, favorable conditions were adopted. Still, in 2019 in Singapore, the priority was to establish a level playing field for domestic and foreign companies, which led to the introduction of a tax on digital services, which was 7%; from 2021 the rate was raised to 9%. These digital services include the following:

- Supply of downloadable digital content for mobile apps, e-books, and movies.

- Subscription-based media, such as news, magazines, streaming videos, TV shows, and music.

- Software (computer programs, drivers, and filters for websites).

- Electronic data management services (website hosting and cloud storage).

- support services performed electronically to arrange or facilitate transactions that may not be digital, such as ticket reservations and service fees charged by vendors or customers.

The taxation model of digital service providers in Singapore is consistent with the recommendations of the OECD and is based on international standards for the provision of services in the B2C category. It should be emphasized that in Kazakhstan, these areas are not taxed yet.

In Singapore, there is a great emphasis on consumer protection. (SOGA), which governs the sale contract in Singapore. Under The Sale of Goods Act, any sale contract must meet specific requirements. For example, the goods must be of satisfactory quality, and the description of the goods must be true. If the goods do not meet the requirements, then the buyer may refuse the goods and rescind the contract or seek damages. If the

website contains incorrect contractual obligations that affect the buyer's decision-making process and mislead the buyer, then the merchant may be held liable under the Misrepresentation Act. Thus, the study shows that the models of state regulation in the concerned countries are quite different (Table 1).

**Table 1.** Brief characteristics of the state regulation models of e-commerce in the concerned countries

Model	Description
American	Policy in the USA involves the creation of institutional conditions for the concentration and priority development of its infrastructure within the country. Among these conditions was the complete abolition of taxation in the sphere of Internet commerce, which allowed local companies to grow and go global. But with the development of cross-border e-commerce, the USA introduced a «sales tax» that applies to goods and services on the Internet sold to U.S. consumers.
Chinese	China's experience is noteworthy because the state creates conditions for the foreign expansion of domestic e-commerce entities aimed at increasing sales of domestic industrial products; a strict tax policy is applied to cross-border purchases aimed at protecting the domestic market; special attention is paid to providing high-speed Internet and infrastructure throughout China, including the countryside so they can choose and buy goods at a lower cost. This enables China to stimulate entrepreneurial activity in the sector and help bring digital innovation into the value chain, thereby developing e-commerce. This policy can simultaneously solve the problem of poverty in the country.
Singaporean	The Singapore model is built on a well-developed ICT and Internet infrastructure and assumes simple legislation, ease of doing business, and active government support for SMEs in e-commerce, through various co-financing schemes for e-commerce business training in different jurisdictions.

## Discussion

The study allows us to group the measures of state regulation of the e-commerce market in the countries under consideration into four areas: tax and tariff regulation, regulation of electronic contractual relations, consumer protection and state support for SMEs in the field of e-commerce (Table 2).

The review of foreign experience has shown that there are sufficiently adaptive tools to regulate the market of electronic commerce.

As we can see, digital products and services in the countries under consideration are taxed, but in Kazakhstan – they are not. Why is this the case? The Tax Code of RK affects the activities of online stores, i.e., the sphere of electronic trade, but not the entire sphere of e-commerce, and their exclusion is incorrect. Thus, if e-commerce involves trade in goods and services on the Internet, then e-commerce means the use of Internet technologies in the process of interaction between sellers and buyers, including trade on the Internet, for - e-trade is only a branch or part of e-commerce. Therefore, it is necessary to clarify the definitions of e-commerce and e-trade at the legislative level.

We propose to define e-commerce at the legislative level as a commercial activity involving dealings or transactions carried out through the use of electronic means over the Internet. The definition of e-commerce should be formulated as follows: a sale-purchase transaction concluded through electronic means. Our definition of e-commerce covers all civil law commercial transactions, including electronic trade, and electronic trade is limited only to purchase and sale transactions. At the same time, we do not simply include transactions in the definition of e-commerce. This is due to the fact that in practice there are often cases when there are no electronic transactions, but there is a sale of physically intangible products or services (for example, the purchase of an annual subscription to multimedia products by an individual or a subscription to services of a foreign IT-company). In such cases, the fact of the transaction may be a payment made in Kazakhstan or the location of the site, as is customary in the United States.

The experience of Singapore and China shows that it is necessary to oblige Internet companies at the legislative level to register with the tax authorities. This is necessary not only to increase the tax base but also to protect the rights of consumers. At the same time, for foreign companies that do not have a physical representation in Kazakhstan, it is impossible to do this, as it is impossible to legally conclude

international agreements in electronic form in Kazakhstan. Here there are two alternative ways:

a) Registration of foreign Internet companies can be done of a notifying nature without providing financial statements. This way involves finding a source of information about the supplier's income from commercial banks of the second level, which will require changes in the regulatory and legal acts in the field of banking secrecy;

b) recognize electronic signatures of other countries at the legislative level and require official registration with the tax authority of Kazakhstan. High fines should be imposed for non-compliance with the registration/notification requirement for suppliers, as in China. The application of such a tool is especially justified concerning foreign companies.

**Table 2.** Features of e-commerce regulation in the U.S., China, Singapore, and Kazakhstan

	USA	China	Singapore	Kazakhstan
1	2	3	4	5
<b>Tax and tariff regulation</b>	<ul style="list-style-type: none"> <li>• A complete repeal of e-commerce taxation.</li> <li>• The introduction of a «sales tax» that applies to online goods and services sold to U.S. consumers with the development of cross-border e-commerce</li> </ul>	<ul style="list-style-type: none"> <li>• Before foreign players entered the Chinese market, e-commerce was not taxed. Since 2016, the country has withdrawn corporate tax from e-commerce entities.</li> <li>• State regulation of the e-commerce market is strictly protectionist. A new tax on goods purchased on cross-border e-commerce platforms was introduced. There is a restriction on cross-border purchases made by individual consumers.</li> <li>• There are special e-commerce trade zones which contribute to the liberalization and facilitation of international online trade between countries. These zones have a «parcel tax,» which is less than the customs duty</li> </ul>	Foreign companies are required to register as taxpayers. All digital services are taxed at 9%	Provides for a 100% reduction of the calculated income tax for new subjects of electronic commerce under the following conditions: the income from e-commerce in goods must be at least 90% of total annual income; the payment for goods should be made by bank transfer; the contract must be concluded online; have its own delivery service or agreement with a person engaged in shipping, forwarding goods
<b>Electronic contractual relations</b>	<ul style="list-style-type: none"> <li>• Uniform rules for electronic document flow throughout the country were established, uniform requirements for electronic signatures were enshrined, and mechanisms for their control were selected.</li> <li>• Electronic contracts are equated with written ones</li> </ul>	<ul style="list-style-type: none"> <li>• Under PRC law, a written contract is deemed to be entered only if both parties sign and seal it.</li> <li>• Under PRC law, a contract may be in writing, orally or otherwise, unless the written form is required by applicable law or administrative regulations.</li> <li>• However, for the purpose of recording the agreements reached, the written form of a contract stipulating specific terms is preferred</li> </ul>	Contracts can be concluded electronically	<ul style="list-style-type: none"> <li>• Invoices issued by foreign sellers are not recognized by law in Kazakhstan as a form of the electronic document;</li> <li>• There is no mutual recognition of electronic digital signatures)</li> <li>• When concluding international trade contracts, the written form is used</li> </ul>
<b>Protection of Consumer Rights</b>	The rights of e-commerce consumers are protected by general consumer protection law. In general, the rights of traditional and online shoppers are equal. In addition, public associations protecting consumer rights are very well developed in the U.S.	The relevant law regulates it. In e-commerce, food quality and safety are most often given high priority. The penalty for violating the norms is a heavy fine, up to and including criminal prosecution	The goods ordered over the Internet must comply with the characteristics stated on the label or website of the online store, otherwise, the supplier must refund the money, as well as incur penalties. Also, the clearance and delivery processes must not be isolated	Protection of the rights and legitimate interests of participants in electronic commerce is carried out under the laws «On Regulation of Trade Activities» and «On Protection of Consumer Rights». In practice, the laws do not work to their full potential. Due to the relative youth of Kazakhstan's e-commerce market, the institute of e-commerce consumer protection requires improvement

1	2	3	4	5
<b>SME support programs</b>	There are no specific programs to support SMEs, specifically in the area of e-commerce at the national level. However, there are hundreds of programs aimed at small business development, most of which are curated by the U.S. Small Business Administration	Most of the programs are of an advisory nature to support the mastery of new e-commerce technologies. Often the government initiates the implementation of demonstration projects and broadcasts them through the Internet of Things applications. Special attention is paid to the development of SMEs, specifically in rural e-commerce. The authorities manage the distribution infrastructure of e-commerce in China. The Internet infrastructure has been brought up and is being improved at the expense of public funds. And to build the necessary digital delivery infrastructure, the private sector's capabilities were used voluntarily and compulsorily	Various co-funding schemes for activities related to training employees to do e-commerce business in different jurisdictions	Training SMEs to conduct business on cross-border platforms in the field of B2C e-commerce at the expense of budgetary funds, providing an annual subscription «golden account» in Alibaba. Improvement of digital competencies of SMEs for all comers on a free-of-charge basis

The basic principles of taxation should be preserved, at the same time, they should be extended to the subjects of e-commerce. At the same time, it is necessary to determine the choice of a possible taxation system of these subjects with smoothing the tax burden in certain sectors of e-commerce activities. Reforming of tax administration should follow the following principle – the transformation of existing types of taxes, without introducing new types of additional taxes for the subjects of e-commerce. Here of interest is the experience of the United States, under which most state administrations are obliged to pay sales tax. In our case, instead of sales tax, we can use the already existing VAT tax, which is essentially similar to it. In tandem with preferential taxation of newly created businesses in Kazakhstan, this tool would reduce the aggressive influence of large foreign online stores on the competitiveness of domestic entrepreneurs and moderately limit the trend of monopolization of e-commerce industries in Kazakhstan.

Domestic e-commerce subjects are registered in Kazakhstan, they already pay all types of taxes that are due. The innovation should affect the activities of foreign Internet companies engaged in the distribution of virtual digital products, which currently do not pay VAT. In this case, taxpayers should be not only online stores and service providers but also foreign companies that sell digital products or services to individuals in Kazakhstan.

Implementing the proposed measures will make it possible to replenish the state budget with tax revenues from e-commerce entities of foreign origin whose activities are related to the sale of digital products or services that do not have a physical presence in Kazakhstan. Also, these measures will not adversely affect the develop-

ment of domestic e-commerce entities, as the proposed changes will not affect their activities.

Equally important is the introduction of restrictive measures against the activities of foreign suppliers through tariff regulation. Many countries have developed by now a practice of eliminating taxes on minor imports from other countries. This is because the size of such taxes often falls short of the resources of the customs service spent on processing small parcels. It should be noted that too high a threshold encourages the development of cross-border trade to the detriment of the domestic e-commerce market. In doing so, the dilemma is not only the freeing up of customs resources versus the infringement of the domestic market but also the loss of some import duties versus the stimulation of tax-paying delivery businesses. These elements are part of the equation to see where the maximum benefit lies.

It would be advisable to consider China's experience in developing new e-commerce technologies, the Internet of things for application in the conditions of Kazakhstan in certain sectors, for example, in the field of agriculture. The state through its Development Institutes such as Damu, Qazventure, etc. could promote the development of new knowledge by village live-entrepreneurs.

As we noted earlier, electronic contracts have legal force within Kazakhstan and are recognized on par with written contracts if there is an electronic digital signature. However, there are no requirements for the forms of electronic contracts in the legal framework. Unified standard contracts in the sphere of e-commerce should be developed here. As for cross-border e-commerce, electronic international contracts are not legally enforceable in Kazakh-

stan. This is a significant barrier to the development of e-commerce, so it is necessary to introduce a point on equating electronic international agreements with written ones into the legislation. We consider it advisable to amend the relevant regulatory documents to make it possible to equate the rights of an Internet buyer with the rights of a traditional buyer.

Thus, we have proposed measures to improve state policy to regulate the e-commerce market in Kazakhstan. In other cases, the state can only play a stimulating role, creating an environment in which e-commerce can flourish, as well as stimulating the activities of SMEs in the e-commerce sector.

### Conclusion

The study of individual countries' experience in regulating electronic commerce shows the existence of various methods and tools for its state regulation. China's experience is noteworthy in that the state creates conditions for the foreign expansion of domestic e-commerce entities to increase domestic industrial product sales; a strict tax policy is applied to cross-border purchases aimed at protecting the domestic market.

The American model of e-commerce market regulation is characterized by a complete rejection of taxation in the field of Internet commerce at the beginning of the formation and development of this market. As cross-border e-commerce develops, the US imposes a "sales tax" that applies to online goods and services sold to US consumers, i.e., protects the domestic market.

In the Singapore model, the government's efforts are primarily aimed at stimulating the development of ICT and digital technologies, while the growth of e-commerce is promoted indirectly: clear and simple legislative norms, simplification of doing business, as well as financial and consulting support for SMEs by the government. The concerned models have one thing in common - they first created the conditions for developing ICT infrastructure and the Internet, including at the expense of public funds. The Chinese and American models are similar in that both models seek to protect the domestic market through restrictive taxation. On the other hand, Singapore provides state support to e-commerce entities as part of general programs for developing small businesses.

According to the results of the study, proposals for the implementation and adaptation of foreign experience in state regulation of the e-commerce market in Kazakhstan in the following areas: tax and tariff regulation, regulation of electronic contractual relations, consumer

protection and state support for SMEs in the field of e-commerce were developed.

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## Methods of Financial Literature Assessment: Kazakhstan's Experience

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### Abstract

This research aims to study foreign experience and review the literature on methods for assessing financial literacy levels. Including analysis of financial literacy level in Kazakhstan based on official data from the AFRD. As a result, recommendations were developed for further improvement of the assessment methodology in Kazakhstan, based on the literature review. The research novelty lies in the systematization of the methods and approaches of various organizations and scientists to assess financial literacy in foreign countries. Additionally, development of recommendations for further improvement of financial literacy assessment based on foreign experience. Literature review results showed that many studies have standard features. Firstly, analysis of several factors may differ while the focus of their research interest. Secondly, the goal is to analyze the financial literacy of the population or specific groups of people. Secondary data analysis shows that financially illiterate citizens are inefficient participants in the securities market, have large debts, and use sources of financing irrationally. In terms of income – pensioners and youth. Therefore, there is a need for further development based on the experience of developed countries, where the level of financial literacy is high. The scientific significance of the work consists of the development of recommendations for improving the financial literacy of Kazakhstanis based on a methodological apparatus that considers integrated approaches and national restrictions. This is very important both for the theory and for the practice of further development of the state policy on improving the financial literacy of citizens of Kazakhstan.

*Keywords:* Economy Financial Literacy, Financial Markets, Strategy, Financial Literacy Concept, Financial Literacy Assessment Methods, Kazakhstan, Practice

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## Қаржылық сауаттылықты бағалау әдістері: Қазақстан тәжірибесі

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### Түйін

Бұл зерттеудің мақсаты – шетелдік тәжірибені зерделеу және қаржылық сауаттылық деңгейін бағалау әдістері бойынша әдебиеттерге шолу жасау. Сондай-ақ AFRD ресми деректері негізінде Қазақстандағы қаржылық сауаттылық деңгейін талдау. Әдебиеттерге шолу нәтижесінде Қазақстандағы бағалау әдістемесін одан әрі жетілдіру бойынша ұсыныстар әзірленді. Зерттеудің жаңалығы шет елдердегі әртүрлі ұйымдар мен ғалымдардың қаржылық сауаттылықты бағалаудағы әдістері мен тәсілдерін жүйелендіру. Сондай-ақ шетелдік тәжірибе негізінде қаржылық сауаттылықты бағалау әдістемесін одан әрі жетілдіру бойынша ұсыныстардың әзірленуі болып табылады. Әдебиеттерді шолу нәтижелері зерттеулердің көпшілігінің ортақ белгілері бар екенін көрсетті. Біріншіден, бұл бірнеше факторларды талдау, ал олардың зерттеу қызығушылығының бағыты әртүрлі болуы мүмкін. Екіншіден, зерттеудің мақсаты – халықтың немесе белгілі бір топтардың қаржылық сауаттылығын талдау. Қайталама мәліметтерді талдау қаржылық сауатсыз азаматтар бағалы қағаздар нарығының тиімсіз қатысушылары болып табылатынын, үлкен қарыздары бар және қаржыландыру көздерін ұтымсыз пайдаланатынын көрсетеді. Сондай-ақ табыс жағынан – зейнеткерлер мен жастар. Сондықтан қаржылық сауаттылық деңгейі жоғары дамыған елдердің тәжірибесіне сүйене отырып, одан әрі дамыту қажет. Жұмыстың ғылыми маңыздылығы кешенді тәсілдер мен ұлттық шектеулерді ескеретін әдістемелік аппарат негізінде қазақстандықтардың қаржылық сауаттылығын арттыру бойынша ұсынымдар әзірлеуден тұрады. Бұл Қазақстан азаматтарының қаржылық сауаттылығын арттыру жөніндегі мемлекеттік саясатты одан әрі дамыту теориясы үшін де, практикасы үшін де өте маңызды.

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## Методы оценки финансовой грамотности: опыт Казахстана

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### Аннотация

Целью данного исследования является изучение зарубежного опыта и обзора литературы по методам оценки уровня финансовой грамотности, а также анализ уровня финансовой грамотности в Казахстане на основе официальных данных АФРР. В результате были разработаны рекомендации по дальнейшему совершенствованию методологии оценки в Казахстане, на основе проведенного литературного обзора. Новизна исследования заключается в систематизации методов и подходов различных организаций и ученых к оценке финансовой грамотности в зарубежных странах. Также в разработке рекомендаций по дальнейшему совершенствованию методологии оценки финансовой грамотности на основе зарубежного опыта. Результаты обзора литературы показали, что большинство исследований имеют общие черты. Во-первых, это анализ нескольких факторов, в то время как фокус их исследовательского интереса может отличаться. Во-вторых, целью исследования является анализ финансовой грамотности населения или конкретных групп людей. Анализ вторичных данных показывают, что финансово неграмотные граждане являются неэффективными участниками рынка ценных бумаг, имеют большие долги и нерационально используют источники финансирования. А также по уровню доходов - пенсионеры и молодежь. Поэтому есть необходимость в дальнейшем развитии, опираясь на опыт развитых стран, где высок уровень финансовой грамотности. Научная значимость работы состоит в разработке рекомендаций по повышению финансовой грамотности казахстанцев на основе методического аппарата, учитывающего комплексные подходы и национальные ограничения. Это очень важно как для теории, так и для практики дальнейшего развития государственной политики по повышению финансовой грамотности граждан Казахстана.

*Ключевые слова:* экономика, финансовая грамотность, финансовые рынки, стратегия, концепция финансовой грамотности, методы оценки финансовой грамотности, Казахстан, практика

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### Introduction

In current economic conditions, such as new geopolitical challenges, sanctions from a number of foreign countries, a decrease in the activity of domestic and foreign investors, and others, the investment and socio-economic potential of the country's development are becoming increasingly dependent on human capital. Firstly, the population's savings are a source of banking resources. Secondly, the level of debt load of the population is growing, which is a source of financial risks, as well as the risk of a slowdown in economic growth. The financial literacy of the people in many countries is mainly associated with a low level of financial knowledge and competencies, especially in practice. Therefore, for the country's economic growth, it is necessary to increase the level of financial literacy of the population.

Insufficient attention of financial sector entities to the problem of increasing the population's financial literacy leads to an increase in information asymmetry and financial risks, limiting the level and quality of financial injections from citizens and strengthening disproportions in developing the economy of Kazakhstan.

There is a lack of research that go beyond questions about the financial awareness of the population. Scientists are expected to try to match their studies to previous research. For instance, they take some indicators which they consider important, while their research topic differs (Van Rooij et al., 2011). The relevance of the relatively low financial literacy assertion in Kazakhstan is growing. It is necessary to consider the population's behavior in the financial market. Namely, consumer lending in the mortgage market, in the foreign exchange market, the number of investors in financial pyramids in the past, the number of victims of financial scams in the housing market, the number of complaints, and the nature of complaints from the population and other indicators. Low financial literacy threatens the financial security of citizens and the stability of the financial market, which means that it needs to be improved.

Upon provision of the survey in 2014, Kazakhstan came across the resolution to improve the financial literacy level of the population. Due to this, two main directions were taken: to start financial education starting from secondary education and to direct more attention to the level of financial literacy among migrants. Interestingly, that initially, improvement of the financial literacy among the population was a part of the state program of financial market development (OECD, 2018). In 2017 and 2020, Kazakhstan

took part in the sociological survey supported by OECD, which showed the following results of the investigation of the financial literacy level of local population 36,25% and 39,07%, respectively. Based on the results of the report in 2018, there were identified that the population with the lowest level of financial literacy are unemployed or those with low income, people who failed to graduate from a university, having complete or incomplete high school education (OECD, 2019).

The elements of financial literacy are diverse. This develops some problems measuring it. There can be defined three main issues. First, scientists face difficulties establishing an appropriate number of questions for research provision. Second is the approach of results analysis. Third, although there is a general agreement on the definition of financial literacy, they still differ. All mentioned problems prevent the development of a standardized approach to financial literacy measurement. One general agreement among scientists on the issue of financial literacy is a low level of financial knowledge (Baistaman et al., 2020; Ouachani et al., 2020).

Improving financial literacy improves access to economic, social and financial services. In world practice, this indicator is an important element of financial reforms, which are aimed at preventing crises in the future. A high level of financial literacy in the population has a positive effect on improving citizens' quality of life, the influx of individual investors into the country's economy, the development of competition in financial markets, strengthening financial stability, improving public welfare, and the economic growth of the country. Thus, the relevance of the study is due to the lack of scientific elaboration on the problems of the impact of financial literacy of the population on the development of the country's economy as a whole

Therefore, Kazakhstan has developed a Concept for improving financial literacy for 2020-2024. This document discusses the stimulation of economically rational behavior of the population through education and awareness, and as a result, an increase in its well-being and quality of life, including the application of financial market services

Kazakhstan ranked 49 in the "Global financial literacy ranking" in 2022 (<https://theatlas.com>). The index of financial literacy in 2022 made up 39,52%. It was revealed that young and older people face challenges in managing their finances. According to Satpaeva et al. (2021), it was shown that financial literacy affects the financial well-being of pensioners. Still, since such knowledge was not widespread in times of the Soviet

Union, they did not receive it. Therefore, one of the reasons for the low well-being of pensioners is the lack or low level of financial knowledge.

Familywise, the situation is much better. Almost half of the surveyed (44,8%) have to manage personal or family budgets. Of all financial services, consumer credit is the most popular (37,4%), while such financial products as stocks or bonds, etc., are the least popular (0,16%). This shows that people are more interested in simple services. Based on the survey, men have a higher level of knowledge and skills in using financial services than women (<https://dknews.kz/>). According to worldwide statistics. More men are financially literate (35%) than women (30%).

Many scientists have done research in this area. However, the general conclusion was bounded by round insufficiency of available tools to determine financial literacy. Additionally, there was discussed the necessity for new methods. This research attempts to fill the gap in this issue by analyzing foreign and domestic experiences. The importance of scientific works in the field of developing recommendations for improving the financial literacy of Kazakhstanis based on a methodological apparatus that considers complex and comprehensive approaches, as well as national restrictions, is very high both for the theory and practice of economic security of citizens of the Republic of Kazakhstan.

The study aims to explore international and domestic experiences in calculating the population's financial literacy. Next, there will suggest ways to improve the methodology and methods of financial literacy assessment among the population of Kazakhstan based on the experience of developed countries. The scientific novelty of the research lies in the systematization of methods and approaches of different organizations and scientists to assess financial literacy in foreign countries. Development of recommendations for further improvement of financial literacy assessment methodologies based on foreign experience.

### Literature review

In the world, financial literacy is assessed by global organizations such as Standard and Poors and OCED. S&P began conducting surveys in 2014 in more than 140 countries. By financial literacy, the researchers meant a person's ability to save, invest and borrow money. As part of the study, its participants are asked questions from 4 areas considered basic for determining the level of financial literacy: the ability to diversify risks, understanding inflation, knowledge of simple mathematics, and the ability to calculate

compound interest. According to the OECD definition of financial literacy, it is the result of the financial education process, which is defined as the combination of awareness, knowledge, skills, and behaviors necessary to make successful financial decisions and ultimately achieve financial well-being. Since 2006, the OECD has been supporting and initiating various programs to improve the level of financial literacy in different countries of the world and is a key customer for research on progress in this direction. Next, we will consider individual studies conducted in other countries, the object of which is financial literacy, but the subject of the study is different.

Financial literacy has been one of the major goals to improve by governments. Governments have a particular interest in increasing the level of financial literacy among populations. This is achieved through various methods and ways. Scientific literature still lacks a standardized method for studying financial literacy. Financial markets are the main drivers of economic growth. This explains that financial literacy has an indirect but crucial impact on economic development. Thus, financial literacy is developed through education and skills of using knowledge. It plays a significant part in decision-making processes related to the demand for financial market products (Csorba, 2020). Throughout provided literature review, it was revealed that youth and pensioners are mostly taken as sample distribution among researchers.

A significant number of research is devoted to studying financial literacy measurement systems. One of the key directions in studying financial literacy is ways and methods how to measure it. It is prevalent that authors focus on such indicators as financial education, saving, pension savings, investments, and bank loans when they want to measure the level of financial literacy (Marcolin & Abraham, 2006).

In the study provided by Huston (2010), there was a summary of common measures used in studying financial literacy. In particular, the category construct included several indicators. First, as it was revealed, studies used definition evaluation. It also included knowledge, which was reflected in education and awareness of the respondents in specific terms. The content included four general areas focused on money (concepts, value, etc.), protecting funds, investing, and borrowing. There must also be mentioned that some studies used all four categories, others two or more. Next, standard data collection methods were mentioned. They ranged from interviews (through telephone, in person etc.) to surveys through online resources such as mail or the internet and rating system.

Another body of knowledge focused on the impact of financial literacy is being developed. There are various studies that investigate the relationship between financial literacy and economic development. Other than revealing the degree of financial literacy importance, applying the knowledge still appears to be problematic. Thus, another issue is how people process the information and knowledge they have or receive. Studies on pension planning were the first drivers of research on financial literacy (Ameriks et al., 2003, Lusardi & Mitchell, 2007). Lusardi and Mitchel (2011) studied funds and resources protection through pension plans. They studied the relationship between financial literacy among pensioners and people in retirement and pension plan.

Financial literacy increases funds protection decisions as pension savings. For instance, most of the population follows a pension plan in European countries like Denmark, which are characterized as countries with high levels of financial literacy. Based on the study of Batsaikhan and Demertzis (2018), one of the strongest factors of financial literacy is education, which needs to be improved and updated as a life-learning skill.

For instance, in the USA, financially literate people are better at money matters, such as cash management, savings or having credit story. Adequate spending finances contributes to GDP growth. This is rather evident in immigrant dependent countries such as Canada. Durodola et al. (2017) suggested that the financial literacy test should be given as a high priority over the language test, which will ensure the contribution to economic growth.

Grohmann (2018) conducted study in Thailand and Bangkok to explore the impact of financial literacy both as an obstacle and as a driver at the same time for economic growth. She stated that one of the indicators of financially literate individuals is investments, lower debts and consumer credits, and a good credit story. Additionally, financial literacy plays a role in the decision-making process regarding two main factors: borrowing and saving. Moreover, development of financial institutions and a n increase in demand for financial products stimulate financial development. Additionally, she underlined that financial education is applied in developed countries more rather than developing.

However, the study of Gaisina (2018) on the influence of financial institutions and financial education availability in Kazakhstan argued that financial literacy is important at any level. Lack of access to financial education has a negative impact on the experience of rural the population as it decreases the level of trust in

financial institution and at some point leads to unproductive decisions.

Iacovoiu (2018) stated that financial education is becoming more and more important as the financial market becomes more diversified. Consumers who are less educated in finances (as knowledge of basic financial concepts) prefer simple products or services. They usually become victims of credit debts while their savings continue decreasing.

The development of financial markets is also provided through market product diversification. Therefore, SME development has the impact of economic growth. Mutegi et al. (2015) studied the impact of financial literacy on SME development in Kenya. This is highly prominent in rural areas and among such minorities as the poor, young, and women. Lack of financial education, which also includes management skills, funds distribution, played a significant role of the availability of bank loans for business owners. Financially literate business owners were more aware of bank loan procedures and committed to on-time-scheduled repayment. Other than that, financial literacy affects the decision to invest, more interested in funds protecting as saving money and insurance.

Bongomin et al. (2017) support that SMEs development is closely related to access to finances, which is dependent on financial skills and literacy Bongomin et al., 2017). Financial literacy improvement contributes to the GDP growth through innovation development, SMEs increase, etc. (In other words, financial literacy is a crucial factor for financial sector development. At the same time, it can contribute to the improvement of financial institution savings increase or financial products diversification. Besides public related development, it also impacts individuals' welfare. As it has been mentioned, financial literacy impacts the decision-making process, such as property buying or starting own business. This contributes to the economy's growth (Bayar et al., 2017).

In Kazakhstan, there are practically no studies on this topic, except for the study of the Agency of the Republic of Kazakhstan for the regulation and development of the financial market, which coordinates the implementation of the concepts of developing financial literacy. In this regard, they conduct an annual survey among the population, the results of which are described in the analysis and results section.

Despite the research, questions remain. It is necessary to emphasize the following. Different countries face general and specific problems. In addition to the peculiar conditions for developing financial literacy, there are general situations.



Measuring financial literacy is still a major issue that requires a specific approach to define a set of elements. Since each country and its inhabitants have its traditions and mentality, which are not considered in research. Therefore, there is a need to include specific questions and the already developed general questions.

### Methodology

This study will be carried out in 2 stages. The theoretical framework of this research reflects the study of Huston (2010), which provides a review and analysis of existing studies on the construct of financial literacy. This study focuses on methods of evaluation of financial literacy. The second is a description of the financial literacy of the population in Kazakhstan based on ARDFM data to determine the level of financial literacy among the population. As well as data from the OECD and S&P. Further, the experience of foreign countries on the methods for determining financial literacy will be considered. In the first stage, methods for assessing financial literacy in studies of foreign countries will be considered (Table 1).

The literature review showed that various research topics are different, but they mostly rely on the same measuring methods and construct. It is

worth mentioning that there is standard limitation of existing research. Research methodologies are usually focused and less suitable for generalizations.

The design of the methodologies used in the research (table 1), includes (1) a specific group of respondents. This restricts the application of the methodology or results generalization. (2) The methodology intends to provide the evaluation of the financial terms knowledge. Basic knowledge does not show the level of the usage of financial tools in the financial market. (3) The research methodology, as well as analysis of the results are less focused on the context, particularly financial market development and cultural habits. These are two factors, which have indirect impact on financial literacy and the knowledge of finances management.

Context could be studied from various aspects, including cultural habits, traditions specific to the region, which influence spending habits, for instance, on significant events. From the perspective of the economic situation, it is important to analyze the economy's current development in the financial market. Based on the provided analysis, the questionnaires or interview questions could be adapted to the region.

**Table 1** - The list of countries and data source

No.	Researchers/Organizations	Context, Sample	Methodolgy/Measure
1	2	3	4
1	Standard & Poor's Ratings Services (2014)	Questionnaire More than 150,000 adults in more than 140 countries	4 basic financial concepts: - risk diversification; - inflation; - check; - calculation of interest
2	OCED /INFE (2016)	Questionnaire 51,650 adults aged 18 to 79 from 30 countries	3 main components: - financial knowledge; - financial behavior; - financial planning
3	Mutegi, H. K., Njeru, P. W., & Ongesa, N. T. (2015). Financial Literacy and its Impact on Loan Repayment by Small and Medium Entrepreneurs. International Journal of Economics, Commerce and Management, 3(3), 1–28.	Cross- Sectional Survey, 30 SMEs (Ngara, Nairobi County)	Financial literacy on loan repayments; Likert Scale of 1-10 with one being strongly disagreeing and ten being strongly agreeing; multiple regression analysis (SPSS)
4	Durodola, O., Fusch, P., Tippins, S., & Alberta, L. (2017). A Case- Study of Financial Literacy and Wellbeing of Immigrants in Lloydminster, Canada. International Journal of Business and Management, 12(8), 37–50. DOI:10.5539/ijbm.v12n8p37	Qualitative case study approach (13 immigrants interviews), Lloydminster, Canada	Five steps procedure for qualitative data analysis (Yin, 2015), NVivo 11 Pro

1	2	3	4
5	Bayar, Y., Sezgin, H. F., Öztürk, Ö.F., & Şaşmaz, M. (2017). Impact of Financial Literacy on Personal Saving: A Research on Usak University Staff Impact of. <i>Journal of Knowledge Management Economics and Information Technology</i> , 6(6), 1–19	325 Survey; Usak University personnel; Turkey	Logistic regression analysis- SPSS (Variables: Personal saving, Individual financial literacy level, Individual risk tolerance, Income level, Education level, Term of employment)
6	Bongomin, G. O. C., Ntayi, J. M., Munene, J. C., & Malinga, C. A. (2017). The relationship between access to finance and growth of SMEs in developing economies: financial literacy as a moderator. <i>Review of International Business and Strategy</i> , DOI:10.1108/RIBS-04-2017-0037	169 Survey, SMEs, Uganda	Pearson's zero order correlation and hierarchical regression analysis- SPSS (Access to finance (accessibility, usage, quality (relevance), and welfare impact were); Financial literacy (knowledge, skills, attitude, and behavior), 5 point Likert scale with 1- strongly disagree, and 5 strongly agree
7	Grohmann, A. (2018). Pacific-Basin Finance Journal Financial literacy and financial behavior: Evidence from the emerging Asian middle class. <i>Pacific-Basin Finance Journal</i> , 48(January), 129–143. DOI:10.1016/j.pacfin.2018.01.007	491 Survey, urban middle class (Bangkok)	Lusardi-Mitchell(2004) measure of financial literacy (Interest rate, Inflation, diversification, education)
8	Brugiavini, A., Cavapozzi, D., Padula, M., & Pettinicchi, Y. (2020). On the effect of financial education on financial literacy: evidence from a sample of college students. <i>Journal of Pension Economics &amp; Finance</i> , 19(3), 344-352	579 students, Italy	Big Three questions. (Inflation, Interest compounding, Diversification(SHIW questionnaire (2006)), (financial literacy, investment attitudes, and self-assessed financial literacy), OLS regression
9	Batsaikhan, U., & Demertzis, M. (2018). Financial literacy and inclusive growth in the European Union. <i>Bruegel Policy Contribution</i> , 08. Available at: <a href="http://hdl.handle.net/10419/208015">http://hdl.handle.net/10419/208015</a>	Research Report	Financial literacy, Financial literacy and education, Financial literacy in EU
10	Iacovoiu, V. B. (2018). An Empirical Analysis of Some Factors Influencing Financial Literacy. (2), 23–31.	European Union Member States	Linear regression equation, correlation coefficient (variables: Financial Literacy Rate, GDP, Population by minimum completed level of education, Education Spending), Excel software
11	Kabakova, O., & Plaksenkov, E. (2018). Analysis of factors affecting financial inclusion: Ecosystem view. <i>Journal of business Research</i> , 89, 198-205	43 emerging and low-income countries, classifications of the World Bank and Standard & Poor's	fsQCA (socio-demographic, technological, economical and political dimensions), exploratory (EFA) and confirmatory factor analysis (CFA)
12	Santini, F. D. O., Ladeira, W. J., Mette, F. M. B., & Ponchio, M. C. (2019). The antecedents and consequences of financial literacy: a meta-analysis. <i>International Journal of Bank Marketing</i>	44 valid studies, seven databases: EBSCO, Elsevier Science Direct, Emerald, JSTOR, SciELO, Scopus and Taylor and Francis	Meta-analytic approach. The Cooper (2010) approach comprises three steps: data search, data collection process, and data coding and analysis. Pearson's correlation coefficient (r)
13	Kadoya, Y., & Khan, M. S. R. (2020). Financial literacy in Japan: New Evidence using financial knowledge, behavior, and attitude. <i>Sustainability</i> , 12(9), 3683	16,345 respondents, Japan (secondary source)	IV: Age, Gender, Education. DV: financial knowledge, financial behavior, and financial attitude. 5-point Likert scale, where 1 = strongly agree and 5 = strongly disagree

1	2	3	4
14	Dewi, V., Febrian, E., Effendi, N., & Anwar, M. (2020). Financial literacy among the millennial generation: Relationships between knowledge, skills, attitude, and behavior. <i>Australasian Accounting, Business and Finance Journal</i> , 14(4), 24-37	194 millennial aged people in West Java province, Indonesia. 200 questionnaires distributed online	12 questions on financial knowledge. The indicators of financial skills, financial attitude. DV- financial management behavior. 5-point Likert scale, where 1 = strongly agree and 5 = strongly disagree
15	Baistaman, J., Awang, Z., Afthanorhan, A., & Rahim, M. Z.A. (2020). Developing and validating the measurement model for financial literacy construct using confirmatory factor analysis. <i>Humanities and Social Science Review</i> , 8(2), 413-422. DOI:/10.18510/hssr.2020.8247	100 (pilot)/300 (field) study survey, school teachers in Kelantan and Terengganu, Malaysia	Exploratory Factor Analysis, Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization, IBM-SPSS 25.0
16	Ahmad, G., Widyastuti, U., Susanti, S., & Mukhibad, H. (2020). Determinants of the Islamic financial literacy. <i>Accounting</i> , 6(6), 961-966.	472 individual investors Islamic finance, Sharia mutual funds	Exploratory Factor Analysis, 5-point Likert scale, where 1 = strongly agree and 5 = strongly disagree (Islamic finance principal and Islamic finance methods; riba, salam, murabahah, istishna', ijarah, mudharabah, and musyarakah.)
17	Dewi, V. I., Febrian, E., Effendi, N., Anwar, M., & Nidar, S. R. (2020). Financial literacy and its variables: The evidence from Indonesia. <i>Economics &amp; Sociology</i> , 13(3), 133-154	935 (889 used) academic community and, Indonesia	Confirmatory factor analysis (CFA), construct validity (CR), goodness of fit for the measurement model. 5-point Likert scale, where 1 = strongly agree and 5 = strongly disagree (Financial awareness, Financial experience, Financial behavior, Subjective financial knowledge, Financial skills, Financial capability, Financial goals, Financial decisions)

Note: compiled by the authors

However, existing methodology provides analysis and assessment of the population's financial literacy level. It is conducted through primary and secondary data. Research which used primary data is more specific, while secondary data research methodology and results are more appropriate to adapt and generalize. There are two methods that measure the indicator of financial literacy:

1. The number of correct answers to the questionnaire was measured as a percentage.
2. Statistical processing of factors affecting financial literacy.

Therefore, this research will conduct analyses of financial literacy in the CIS area based on secondary data. In addition, the experience of Kazakhstan will be analyzed more broadly in the next section.

## Analysis and results

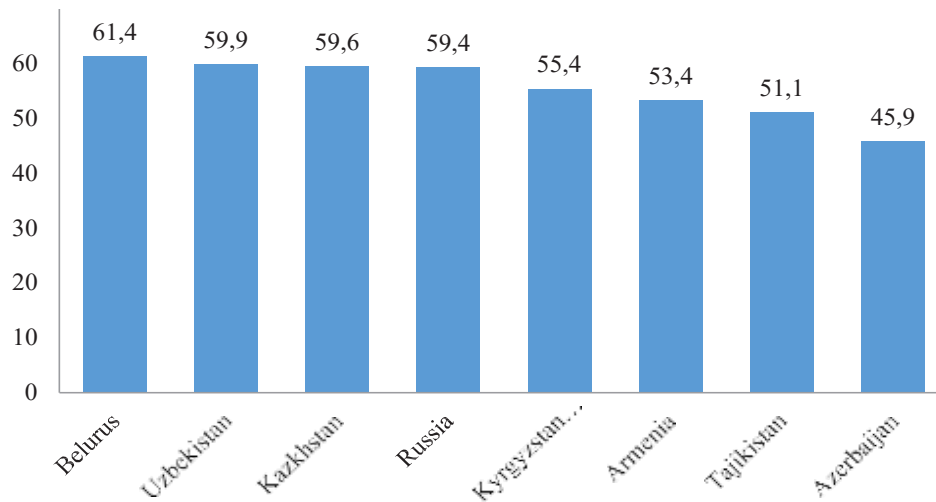
The top three most financially literate countries in 2021 are Norway, Denmark, and Sweden, according to S&P research, with 71% of adults in these countries knowing how to manage money. The top ten also include Israel (68%), Canada (68%), Great Britain (67%), the Netherlands (66%), Germany (66%), Australia (64%), and Finland (63%). The last three places are Afghanistan (14%), Albania (14%), and Yemen (13%) respectively. These countries hold their positions for several years. While Kazakhstan scored 40% and ranked 49th among 144 countries, which is an average. Other post-Soviet countries obtained approximately the same results. All countries included in the analyses are given in table 2.

**Table 2** - Adult Financial Literacy Rate by S&P 2014

Country	Level of financial literacy among the adult population, %
Kazakhstan	40
Russia	38
Belarus	38
Kyrgyzstan	19
Uzbekistan	21
Armenia	18
Tajikistan	17

Note - compiled from source [S&P, 2014]

According to the OECD report on the “Financial Literacy Rate in the CIS” for 2014, Kazakhstan ranked third after Belarus and Uzbekistan in terms of overall financial literacy. This indicator is calculated based on 3 components, such as: financial knowledge, financial behavior, attitudes towards finance. In addition, the adult population of Kazakhstan showed results above the average in the following indicators: financial literacy, financial knowledge, financial behavior, and financial well-being. The level of financial literacy in the CIS for 2021 according to OECD presents in Figure 1.



**Figure 1** - The level of financial literacy in the CIS for 2021 according to OECD calculations, in %

Note - compiled from source [OECD, 2018]

Respondents showed moderate confidence in their financial knowledge: 22% rated it highly, slightly more than the average for the CIS (19%). Also, compared with the CIS countries, Kazakhstan leads in terms of such indicators as keeping money in financial institutions, namely on savings accounts - 30%, and in time deposits - 7% (average for the CIS - 13% and 3%, respectively). In many respects, the level of financial literacy of Kazakhstani citizens and their experience in dealing with financial issues correspond to the general picture in the CIS (Klapper et al., 2015).

According to the methodology of the Agency of the Republic of Kazakhstan for the regulation and development of the financial market in the country, there is an increase in the level of financial literacy of the population. In these calculations of the financial literacy index, the OECD parameters were taken into account and included an analysis of three indicators. This index is calculated as the arithmetic average of three indicators:

- Ability to use financial services and tools;
- Management of own financial resources;
- The level of awareness about the financial system and its principles.

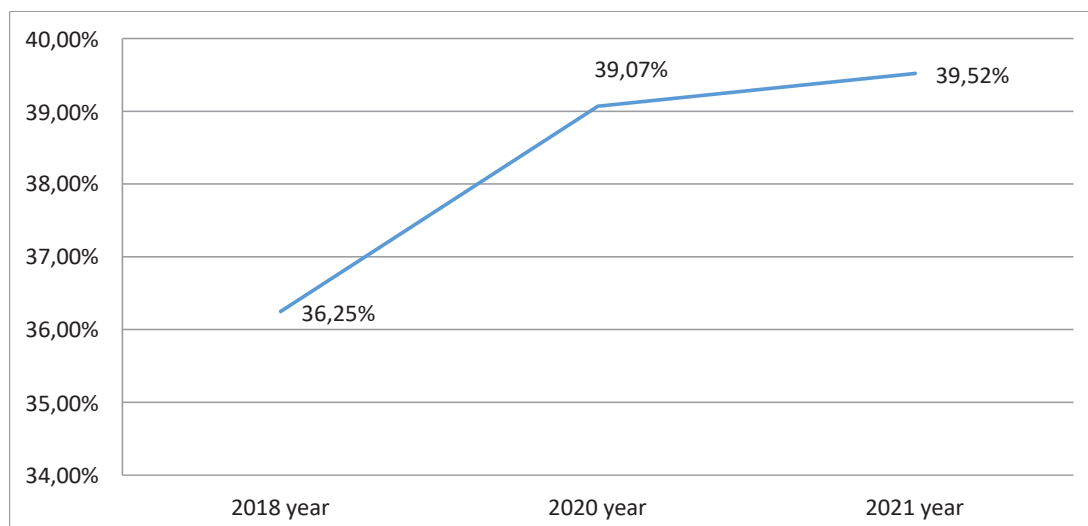
Also, each component is evaluated by a certain number of questions and as an arithmetic average. The total number of questions consists of 39 questions. The first nine questions are general. Questions 10 to 19 are related to “Managing your own financial resources” and make up ten questions. Questions 20 to 31 are related to the “Ability to use financial services” component, i.e., 13 questions. Further, from 32 to 39, the question refers to “Awareness of the financial system” and consists of 8 questions. For calculating each of the above components, the highest percentages of responses to questions from the block were selected.

For questions with score scaling and multiple answer options, the method of calculating the arithmetic mean of the highest scores according to the proposed statements was also applied.

Thus, the financial literacy index of citizens of Kazakhstan in 2021 amounted to 39.52%, an increase of 0.45 points compared to the previous year (Fig.2). In 2020, the financial literacy index of the population of Kazakhstan, according to the results of the study, was at an average level and

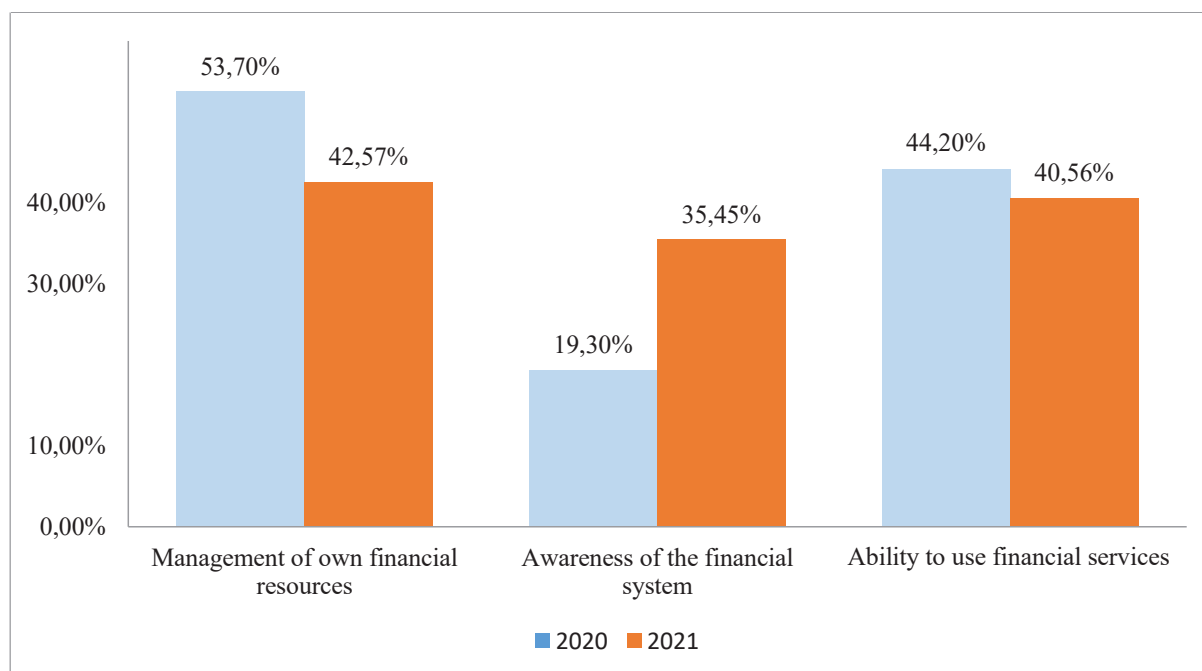
amounted to 39.07% (on a 100-point scale). In 2018, the financial literacy rate of the population was 36.25%. Next, the components of financial literacy will be considered.

Figure 2 shows a positive trend in the country's financial literacy growth.



**Figure 2** - The level of financial literacy of the population in Kazakhstan for 2020 and 2021, according to the ARDFM, in %

Note - compiled from source [<https://fingramota.kz>]



**Figure 3** - Answers of respondents by key indicators, in %

Note - compiled from source [<https://fingramota.kz>]

In 2021 the highest level was achieved in the “management of own financial resources” segment – 42.57%. However, this indicator was higher in 2020 by 11.13%. The “Ability to use financial services” indicator was 40.56% in 2021. This indicator also decreased compared to 2020 by almost 4%. At the same time, the highest level was recorded for the indicator “Management of own financial resources” - 42.57%; the lowest is “Awareness of the financial system” – 35.45%. However, over the year, this indicator increased by more than 16 points (in 2020, it was 19.3%). The indicator of financial literacy in 2021 grew only due to the indicator “Awareness of the financial system”.

According to the survey results in 2020, the most financially educated were residents of the Almaty and Almaty region, as well as Aktobe, Kostanay, Pavlodar, Zhambyl, and Turkestan regions. And among the residents of Akmola, Atyrau, Karaganda, East Kazakhstan region, and the cities of Nur-Sultan, Shymkent, the indicator was below the average.

The study for 2021 involved 10 thousand respondents, of which 58.8% were women, and 41.2% were men from all regions of the country and cities of republican significance aged 18 to 63 years and older.

According to the indicator “Skills to manage your own money”, almost half of the respondents keep a family or personal budget and carefully monitor their spending - 44.8%, only 1.6% of respondents do not do this. 42.8% of Kazakhstanis have a personal budget, and a third of 29.9% of respondents maintain a joint budget with their spouse. The majority of survey participants 46.3%, indicated that they carefully consider whether they can afford a purchase or not, and 0.6% do not make such an assessment. 36.4% of respondents make regular savings, and 37.9% set aside some money whenever possible. 36.04% of respondents have the habit of planning expenses, 37.1% sometimes try, and 2.2% never do it. 39.08% of respondents noted that they are sometimes ready to take risks by investing in various financial instruments, for example, securities, but are not at all prepared to do this - 18.4%

The highest levels in terms of “popular financial services” are noted in the cities of Nur-Sultan and Almaty, as well as Almaty, Turkestan, and West Kazakhstan regions. The smallest ones are in the North Kazakhstan, Pavlodar, Karaganda, and Zhambyl regions. Below are data on the popularity of financial products among Kazakhstan citizens. During the Covid-19 pandemic, bank services related to the provision of Internet and mobile banking became especially popular for

the population. In solving the financial literacy problems in the questionnaire, almost a third of the respondents provided correct answers. This suggests that the interviewees understood the complexities of financial services and products. Nevertheless, there is a proportion of respondents who do not understand professional economic terminology and the conditions offered by banks and other financial organizations. These are pensioners, students, and housewives. In general, the study showed that although some respondents are not familiar with a differentiated set of financial services, they began to take a more detailed approach to choose a financial service and carefully studying the contract. Thus, 44.9% of respondents, according to them, always sign a contract only after reading it and clarifying all the details, asking additional questions to managers and studying the conditions, and 21.8% of respondents sign without questions, because it is difficult for them to figure it all out.

Empirical data obtained during the study showed that financially illiterate citizens are characterized by inefficient participation in the stock market, which manifests itself in insufficient diversification of the securities portfolio, inertia in its management, the formation of excessive debt, and the use of informal sources of borrowing.

### Conclusion

In the current research, literature on assessing the population’s financial literacy was carried out. Different studies give different definitions of financial literacy, which explains the various assessment methods.

Participation of Kazakhstan in the sociological survey supported by OECD revealed that Kazakhstan’s financial literacy level among the CIS countries is in the leading position. However, it was also revealed that respondents were not aware of their level of financial literacy. Thus the knowledge they had was not used. This shows that the capability and the possibility of financial knowledge application plays a crucial role in improving financial behavior.

Findings of provided literature review showed a majority of the studies have the following common features. First, research provides analyses of several factors, while the focus of their research interest may differ. Second, research intends to provide an analysis of the financial literacy among the population or specific groups of people (i.e., entrepreneurs, youth, or elderly). Few studies are focused on studying the financial knowledge application and management of finances by the population. However, there is lack of the financial market

level of development analysis of the current state of the financial market products diversity and drivers that motivate people to use their knowledge in finances. Few studies considered context played a crucial role in the ability of the population to manage finances and apply their knowledge in finances. It is worth providing analysis based on the financial market development and demographic characteristics of the people, particularly gender. For instance, few studies included gender as an important factor. Therefore, it is recommended to consider gender as an important factor for future work, especially in a multi-cultural comparative survey. Another factor which is needed to be considered is cultural-traditions or habits. They have a strong effect in Asian countries, but it has not been studied well yet. A developed financial market can function as a motivator for the population to apply their knowledge in finances.

In addition, to improve methodologies for assessing financial literacy, it is necessary to develop a questionnaire that will be a) simple, b) relevant, c) short, and d) able to differentiate. The questionnaire used in Kazakhstan has more than 40 questions that are similar to each other. Therefore, these issues need to be revisited. Before determining the group of questions to conduct a study, it is necessary to decide on the type of financial literacy and the subjects of the study. The study's subject is also important to adjust the questionnaire. If above mentioned recommendations are taken into account, the state and condition to development of financial literacy will be clearer. This, in turn, will help solve financial literacy problems in a targeted and correct way to adjust state programs directed at improving financial literacy.

Kazakhstan has also adopted the concept of improving financial literacy mentioned above. Because of the implementation of the state strategy of program provision, the level of financial literacy in Kazakhstan is growing and has a positive trend. However, it remains average compared to world indicators. Therefore, there is a need for further development based on the experience of developed countries. It is also important to note that the financial literacy of residents where the financial infrastructure is developed is much higher than in other cities of Kazakhstan. There is a need to teach financial literacy skills and practice them at the secondary school level. Moreover, the strategy of financial literacy teaching could be implemented in primary grades already, as it is done in Norway, Sweden, and other developed countries with a high rate of financial literacy. It is also necessary to attract

commercial, financial organizations that can allocate funds and training programs for the population. Based on the provided literature review, the development of the financial market is important. The variety of financial products motivates people to use their skills to manage their finances and improve their financial situation.

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## Advantages and Disadvantages of Early Withdrawal of Pension Savings: an Expert Assessment

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### Abstract

The purpose of this research is to study the positive and negative aspects of pension savings early withdrawal. A review of foreign experience and literature was conducted; the opinion of expert practitioners in economics, in particular, the financial sphere, was taken into account. Since the recent reforms carried out in the early withdrawal pension system have an impact on future pension payments, there is a need to study this issue. A qualitative research method was applied to determine the positive and negative aspects of the early withdrawal of pension savings using the QDA Miner Lite software. An analysis was carried out on the leading four indicators - factors, advantages and disadvantages, and government readiness. The international experience that has been analyzed shows that in any country, if contributors in their pension fund do not have enough savings to ensure an adequate level of replacement rate, then early withdrawal of funds is not allowed. Their further savings and investment are provided. The opinions of experts regarding the premature use of pension savings are divided. Suppose some believe this situation will lead to an imbalance in the pension system and insufficient pensions in the future. Others believe that it will improve the current well-being of the population. Experts also note that the efficiency of the UAPF will not improve in any way, and the effect on the economy and the population's welfare will be indistinct and short-term. The results of the study can be used for further development of the pension system.

*Keywords:* Pension System, Early Withdrawal, Pension Savings, Pension System, Development Strategy, Experts

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## Зейнетақы жинақтарын мерзімінен бұрын алудың артықшылықтары мен кемшіліктері: сарапшылар бағасы

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### Түйін

Осы зерттеудің мақсаты зейнетақы жинақтарын мерзімінен бұрын алудың оң және теріс жақтарын зерттеу болып табылады. Бұл үшін шетелдік тәжірибе мен әдебиетке шолу жүргізіледі, сондай-ақ экономикалық, атап айтқанда қаржы саласындағы сарапшы-практиктердің пікірі ескеріледі. Зейнетақы жүйесінде мерзімінен бұрын алып қою бойынша жүргізілген соңғы реформалар болашақ зейнетақы төлемдеріне әсер ететіндіктен, бұл мәселені зерделеу қажеттігі туындап отыр. Зерттеудің сапалы әдісі QDA Miner Lite бағдарламалық жасақтамасын қолдана отырып, зейнетақы жинақтарын мерзімінен бұрын алудың оң және теріс жақтарын анықтау үшін қолданылады. Талдау негізгі төрт көрсеткіш - артықшылықтар мен кемшіліктер, факторлар мен Үкіметтің дайындығы бойынша жүргізілді. Талданған халықаралық тәжірибе көрсеткендей, кез-келген елде, егер салымшыларда олардың зейнетақы қорында ауыстыру коэффициентінің барабар деңгейін қамтамасыз ету үшін жинақ жеткіліксіз болса, онда қаражатты мерзімінен бұрын алуға жол берілмейді. Оларды одан әрі үнемдеу және инвестициялау қамтамасыз етіледі. Зейнетақы жинақтарын мерзімінен бұрын пайдалануға қатысты сарапшылардың пікірі екіге бөлінді. Егер олардың кейбіреулері бұл жағдай зейнетақы жүйесіндегі теңгерімсіздікке және болашақта зейнетақының жеткіліксіздігіне әкеледі деп санаса. Басқалары бұл халықтың қазіргі әл-ауқатын жақсартады деп санайды. Сондай-ақ сарапшылар атап өткендей, БЖЗҚ тиімділігі бұдан жақсармайды, ал экономика мен халықтың әл-ауқатына әсері аз және қысқа мерзімді болады. Зерттеу нәтижелерін зейнетақы жүйесін одан әрі дамыту үшін пайдалануға болады.

*Түйін сөздер:* зейнетақы жүйесі, зейнетақы жинақтарын мерзімінен бұрын алу, зейнетақы жүйесін дамыту стратегиясы, сарапшылар

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## Преимущества и недостатки досрочного изъятия пенсионных накоплений: экспертная оценка

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### Аннотация

Целью данного исследования является изучение положительных и отрицательных сторон досрочного изъятия пенсионных накоплений. Для этого проводится обзор зарубежного опыта и литературы, а также учитывается мнение экспертов-практиков в экономической, в частности финансовой сферы. Поскольку последние реформы, проведенные в пенсионной системе по досрочному изъятию, оказывают влияние на будущие пенсионные выплаты, существует необходимость изучения данного вопроса. Качественный метод исследования применен для определения положительных и отрицательных сторон досрочного изъятия пенсионных накоплений с использованием программного обеспечения QDA Miner Lite. Анализ проводился по основным четырем показателям - преимуществам и недостаткам, факторам и готовности правительства. Международный опыт, который был проанализирован, показывает, что в любой стране, если у вкладчиков в их пенсионном фонде недостаточно накоплений для обеспечения адекватного уровня коэффициента замещения, то досрочное изъятие средств не допускается. А обеспечивается их дальнейшее сбережение и инвестирование. Мнение экспертов по поводу преждевременного использования пенсионных накоплений разделились. Если некоторые из них считают, что данная ситуация приведет к дисбалансу пенсионной системы и недостаточной пенсий в будущем. То другие считают, что это улучшит нынешнее благосостояние населения. Также эксперты отмечают, что эффективность ЕНПФ от этого никак не улучшится, а эффект на экономику и благосостояние населения при этом будет невятным и краткосрочным. Результаты исследования можно использовать для дальнейшего развития пенсионной системы

*Ключевые слова:* пенсионная система, досрочное изъятие, пенсионные накопления, пенсионной системы, стратегия развития, эксперты

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### Introduction

In the pension system of the Republic of Kazakhstan, there is still a set of unsolved issues. In this connection, the head of state instructed the National Bank and the Government of the Republic of Kazakhstan to resolve the issues of unemployment and decrease the Pension Fund replenishing jointly. One of the current problems is the low level of pension savings.

Despite this, in 2021, there appeared changes in the pension system, more precisely in the early withdrawal of pension savings. The decision for savings withdrawal is related to housing purchases, treatment, and transfer of surplus to investment management companies. This phenomenon can be considered unique since there have been no such updates to pension systems during COVID-19 observed in Chile and Kazakhstan. According to Chilean experts, this jeopardizes assistance to older people who may be left without support (Kay & Borzutzky, 2022). Opponents of this measure argue that the early withdrawal of pension savings is incompatible with the logic of the Chilean social security system. Because it is based on long-term savings as an investment and growth strategy. In Chile, the withdrawal of pension savings was allowed to overcome the crisis caused by COVID-19. Payments could be used without any restrictions regarding purposes of spending (Lorca, 2021). In addition, in Kazakhstan, there are specific goals for which pension savings can be used. In Kazakhstan, as well as in Chile, there are supporters and opponents of these innovations. However, the reform may adversely affect the welfare of the population and the pension system in Kazakhstan in general in the future.

Early withdrawals from retirement accounts have positive and negative effects on the economy. In view of the fact that early withdrawals reduce pension savings while allowing people to cover current needs.

The purpose of the funded pension system is to ensure an adequate standard of living after retirement. The regularity and size of contributions are positive factors that affect the number of funds received in the future by pensioners. This means that withdrawing funds from the pension fund leads to a decrease in the final pension amount. Before withdrawing pension funds, it is worthwhile to critically evaluate the present and future priorities.

In particular, the sufficiency of citizens' savings to ensure decent pensions in the future is the main reason for the increase in sufficiency thresholds in April 2022. It is worth mentioning that international experts support this decision. For

example, experts from the global pension index MCGPI (Mercer CFA Institute Global Pension Index), who annually conduct research and evaluate pension systems in the world, recommend ensuring the safety of savings for pension purposes by limiting early withdrawals of pension savings so that savings are saved to retirement age and fulfilled their main purpose.

Early cash outflows from the accumulative pension system reduce the investment opportunities of pension assets and affect investment returns and inflation. In addition, a significant part of pension assets is invested in the domestic economy, contributing to its strengthening and development. Unbalanced early capital withdrawals may adversely affect the structure of the portfolio of pension assets and, as a result, investment returns.

According to UAPF calculations, about 700,000 people can benefit from the early withdrawal of pension savings. As a result, from January 2021 to January 1, 2022, 781,736 applications from depositors were executed to improve housing conditions, which amounted to 2.5 trillion KZT. 143.4 billion KZT was allocated for treatment, and 159,591 applications were satisfied. 7.4 billion KZT to management companies (UAPF, 2022). Every citizen who was given this opportunity took advantage of it, despite the risks that may arise at retirement age.

It is already the case that retirement-age people in Kazakhstan have lower incomes than their young compatriots, the replacement rate is currently 40%, of which the state provides 30%. In OECD countries, pensioners earn, on average, 70% of the median income. Not surprisingly, the poverty rate in this category is above the national average. In several rich countries, such as the USA, Australia, and Korea, the poverty rate among the elderly exceeds 20%. However, the most alarming thing is that this figure is growing.

Despite the negative trends in savings, decisions are being made in the country on an early withdrawal. In this regard, the question arises as to whether this is the right decision. In this paper, an attempt is made to answer this question through the study of foreign experience, as well as using the opinion of Kazakhstani experts in Internet resources. This paper attempts to answer this question through the study of foreign experience. The opinion of Kazakhstan experts is also used to determine the positive and negative aspects of the early withdrawal of pension savings.

Thus, the purpose of this article is to study the positive and negative sides of the early withdrawal of pension funds through the opinion of experts. The study's novel study identifies the advantages

and disadvantages of early premature drawl of funds from pension savings in Kazakhstan. It also includes the research methodology, which differs from other studies in the following. There are used interviews of experts. QDA Miner Lite software was used to provide the analysis of the interviews of the experts.

### Literature review

In foreign literature, studies of the causes of premature withdrawal of pension savings highlight several factors. The first is the loss of a job. Further, such costs as payment for education, the purchase of their own housing, and the costs associated with health. Moreover, studies show that vulnerable populations who experience significant financial loss or hardship are more likely to withdraw their pension savings for various purposes. Consequently, socially and economically vulnerable populations are the main context for premature withdrawal of funds from personal pension savings (Andrew et al., 2021). Pension savings early withdrawal results in two significant problems. Firstly, when pension savings are withdrawn in advance, value is calculated at the level of depressed asset value; secondly, it lowers future pension payments (Yermo, 2021).

It should be noted that in the United States, the system of pre-retirement withdrawals of pension savings is regulated by the state and the employer. There are specific mechanisms that act as demotivators. Thus, US residents aged 59.5+ are exempted from a fine when withdrawing pension savings in advance. Residents aged 25 - 59.5 years are taxed at a rate of 10% of the withdrawal amount, the amount of which is also differentiated (Butrica et al. 2010). In addition to the United States, the possibility of early savings withdrawal is also observed in other developed countries. However, there are significant differences. For example, in the UK, Singapore, and Germany, an important difference from the liquidity system of pension savings in the US is that employers generally discourage early withdrawal, regardless of the purpose of the cost. However, payments can be assigned, and in some cases exclusively, to disabled people and people with incurable diseases (Beshears et al., 2015).

It must be underlined that the pension systems of Singapore, as well as in Malaysia, are also involved in social insurance mechanisms. Thus, pension funds maintain both pension accounts and special accounts of citizens related to the provision of social insurance. Thus, such a comprehensive pension savings provision

includes three types of contributions or individual accounts. The ordinary account covers all issues related to homeownership, insurance of payment for education. Next, special accounts are related only for retirement contributions. The last one is the medisave account, which covers expenses related to health issues, namely approved medical expenses (Kuhlmann & Nullmeier, 2022; Bilyy, 2022).

However, people are eligible for early withdrawal when they turn 55. Before, they were allowed to withdraw about 50% of their savings for personal spending with no specification. Unfortunately, there appeared to be a money-spending problem. In order to protect people from useless spending, the government's strategy included gradual reduction of the amount for withdrawal. (Agarwal et al. 2019). Even more, early withdrawal developed in people's desires to spend money on unhealthy lifestyle as alcohol consumption. Such behavior could have had a major impact on the health of pensioners (Kim & Koh, 2020). Thus, in the case of Singapore and Malaysia, it would not be entirely correct to talk about the possibility of early withdrawal of pension savings unless, of course, we equate early retirement with early withdrawal, the possibility of which is provided for by the legislation of many countries, subject to a number of conditions

Various factors cause early withdrawals, but the outcome is the same for any pension scheme. Regardless of the purpose or the amount of taken money, retirement income will be reduced. In China, the government is trying to change the strategy of early withdrawal of pension funds, as it can negatively impact the country's economy and financial stability for pensioners in the future. Most of the economy in China is occupied by the self-employed population, which makes their access to pension funds more flexible, than those who have ordinary jobs. This is because the systems of pension contribution are divided into two different approaches mandatory and voluntary (Xiang, 2021). However, in times of crisis, governments relied on pension funds as a quick solution to the provision the population with means of living (Lorca, 2021). For instance, in Chile, people had access to their personal pension funds accounts as direct contributions during the crisis period of COVID-19. The main reason was the loss of jobs and unexpected expenses related to social issues such as health conditions and provision of living. Even though people withdrew money from their personal accounts, which in Chile is not regulated strictly by the government, thus making it more

flexible, according to experts, will have an impact on the future (Kay & Borzutzky, 2022).

Some studies define financial and non-financial reasons for early withdrawal of savings. They consider financial difficulties, as well as the economic crisis, as factors contributing to increased demand for early retirement savings. They also note that early withdrawal of funds from pension savings increases the attractiveness of pension savings (Mckenzie & Liersch, 2011; Klein & Pais, 2020). Moreover, Lee and Hanna (2020) identify financial and non-financial shock as one of the main factors influencing the early withdrawal of pension savings. Financial factors relate to the loss or reduction of earnings and the cost of needs related to medicine. They relate the birth of a child, loss of a breadwinner, or divorce as non-financial ones.

There are three main groups of factors that influence the decision for early retirement. Health factor includes cases of disability, incurable illness, and medical expenses. For necessary expenditures, the following reasons relate to property-purchasing, education, financial crises, job loss, or unemployment. Interestingly, in some countries, such as Korea, they are allowed to withdraw pension savings for wedding expenses (Argento et al. 2014). The third group of identity factors in the case of migration and reaching a particular age. In the majority of the countries, it is 55. There is also a group of factors that have no specific reason for withdrawing money. Therefore, the amount that could be withdrawn is relatively small (OECD, 2019).

Depending on the provided literature review, it was revealed that the early withdrawal of pension savings before reaching retirement age is a case of chance. At the same time, most countries' age range for pre-retirement withdrawals is 55 years. However, in Kazakhstan, according to implemented recent changes in the pension system, the amount of current savings taken is the main condition for early withdrawal of pension savings. The amount of withdrawals depends on the sufficiency threshold, which is determined for each age separately. This is the uniqueness of the Kazakh experience. It is important to understand the importance of such changes impact on the well-being of the population. Therefore, for the assessment of wellbeing, new indicators are needed, which are related to early pension savings withdrawal.

The international experience that was analyzed preliminary shows that in any country, early withdrawal of funds is not allowed if contributors in their pension fund do not have enough savings to ensure an adequate replacement rate. Moreover, their further savings and investment are ensured. There is also a difference

in the object of the research. If the studies in the literature review their object of the research were consumers of early withdrawal of pension savings service, the current research object was opinion of experts-practitioners.

### **Kazakhstan practice**

According to the Law "On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on the Restoration of Economic Growth", citizens receive the right to use part of their pension savings to improve their living conditions, treatment that is not included in the guaranteed volume of free medical care and compulsory social health insurance.

Pension savings can be used by citizens an unlimited number of times within the amount of pension savings in the UAPF available for withdrawal for housing, treatment, or transfer to management companies. A Kazakhstani who wants to withdraw part of his pension savings ahead of schedule needs to reach the minimum sufficiency threshold, that is, accumulate a certain amount on the account. Everything accumulated above the threshold can be spent on your needs - treatment or improvement of housing conditions (for example, the purchase or construction of housing).

It is assumed that the value of the minimum sufficiency threshold will be recalculated every year. By the Decree of the Government of the Republic of Kazakhstan, authorized operators for the intended use of lump-sum pension payments from the unified accumulative pension fund determine:

- in order to improve housing conditions and pay for treatment - JSC "Housing Construction Savings Bank" Otbasny Bank ";

- in order to improve housing conditions by making an initial contribution to obtain a mortgage housing loan for the purchase of a dwelling and (or) a dwelling with repairs under one bank loan agreement; partial or complete repayment of debt on a mortgage housing loan for the purchase of a dwelling place and (or) a dwelling place with repairs under one bank loan agreement; refinancing of a mortgage loan - second-tier banks (Halyk Bank of Kazakhstan JSC, Altyn Bank JSC, Bank Center Credit JSC, Bank Freedom Finance Kazakhstan JSC).

The right to use part of their pension savings for targeted needs can be exercised by:

- working citizens with pension savings formed at the expense of mandatory pension contributions (OPC) and occupational compulsory pension contributions (OPPC). The right to targeted use is provided for citizens who have savings exceeding a certain threshold of sufficiency. The latter will be determined separately for each age;



- established pensioners (including pensioners from law enforcement agencies) - within no more than 50% of the remaining amount of pension savings in the UAPF. Provided that the total amount of their pension (including old age or service pension, basic pension) provides a replacement for lost income at a level that meets international standards (at least 40%).

- people who have concluded pension annuity agreements with insurance companies, providing them with lifelong annuity payments.

The difference between Kazakhstan and other countries is that there are no age thresholds. The most important condition is to have an amount greater than the sufficiency threshold.

Early withdrawal of pension savings in Kazakhstan began in January 2021. This service was available to about 700,000 depositors of UAPF JSC. Most of the savings from January 2021 to January 2022 were used to improve housing conditions (Table 1).

**Table 1** - Amounts of early withdrawals by the purpose for January 2021 to January 2022, KZT

No.	Goals	Amount
1	Transfers to insurance companies	50772836,00
2	Improvement of living conditions	1978850805,00
3	Treatment	49 985 718
4	Total	2245226628,00

Note - compiled by the author based on the data of JSC «UAPF»

A total of 2.9 trillion KZT was used, of which the central part was used to improve housing conditions, almost 95% of all early withdrawn pension savings. For treatment and transfers to insurance companies, almost 60.5 and 123 billion KZT, which is 3% and 6%, respectively, of the total withdrawals. Withdrawal of pension funds was offset by a significant increase in pension deposits and very high investment income. So, according to the results of two months of this year, the number of contributions to the UAPF increased by all types: mandatory pension contributions - by 27.9% over the year, to 232.3 billion KZT; mandatory professional pension contributions - by 33.4%, to 13.2 billion KZT; on voluntary pension contributions - immediately by 72.6%, up to 180.3 million KZT. Since the main amount was used to improve housing conditions, it would be correct to consider for what purposes and how much pension savings were used (Figure 1).

Citizens of Kazakhstan mainly used their pension savings to purchase housing (35.14%) to improve housing conditions. In monetary terms, this is more than 550 billion KZT. Further, to replenish the deposit in Otbasay Bank JSC (20.86%), also to partially repay the debt on a mortgage-housing loan (within the framework of financing by an Islamic bank) (15.83%), and partially repay the debt on a mortgage loan on a system of housing construction savings (14.97%). The smallest share is occupied by the category of refinancing a mortgage loan - 0.02%. Obtaining a housing mortgage loan under the system of housing construction savings (excluding construction) is 4.61%. It can be said that all purposes provided under the category «improvement of living conditions» were used but to a different extent

Residents of the city of Almaty, Nur-Sultan, and the Mangistau region largely took advantage of their pension savings (Figure 2).

The smallest number of applications were in the city of Semey and the North Kazakhstan region. As a result of the above, we can say that Kazakhstanis living in more developed regions and with high wages have more opportunities to use and accumulate a sufficient amount in their pension accounts. And that almost everyone who had an amount above the sufficiency threshold used their savings.

### Methodology

This research methodology of the current study is based on the works of Agarwal, Pan and Qian (2020), Lorca (2021), Kay and Borzutzky (2022), and Kim and Koh (2020) who they provided an analysis of pension withdrawals based on secondary data. They used existing survey suffered by the government regularly, statistical data for official institutions such as local banks, and open sources for the comparative regional analysis.

However, this paper provides an analysis of early pension withdrawals in Kazakhstan. Due to the fact that official bodies provide no recent interviews, the data was collected differently. There were conducted sixteen semi-structured interviews with experts in the field of pension studies. The main questions of the interview were focused on identification of advantages and disadvantages of pension funds early withdrawal. The results of the interview also allowed analyzing the factors, which motivated people to withdraw personal pension savings and the level of government readiness to upcoming conditions, which will be resulted from early withdrawal. The experts were selected on the basis of involvement in the financial sector and experience in the pension system.

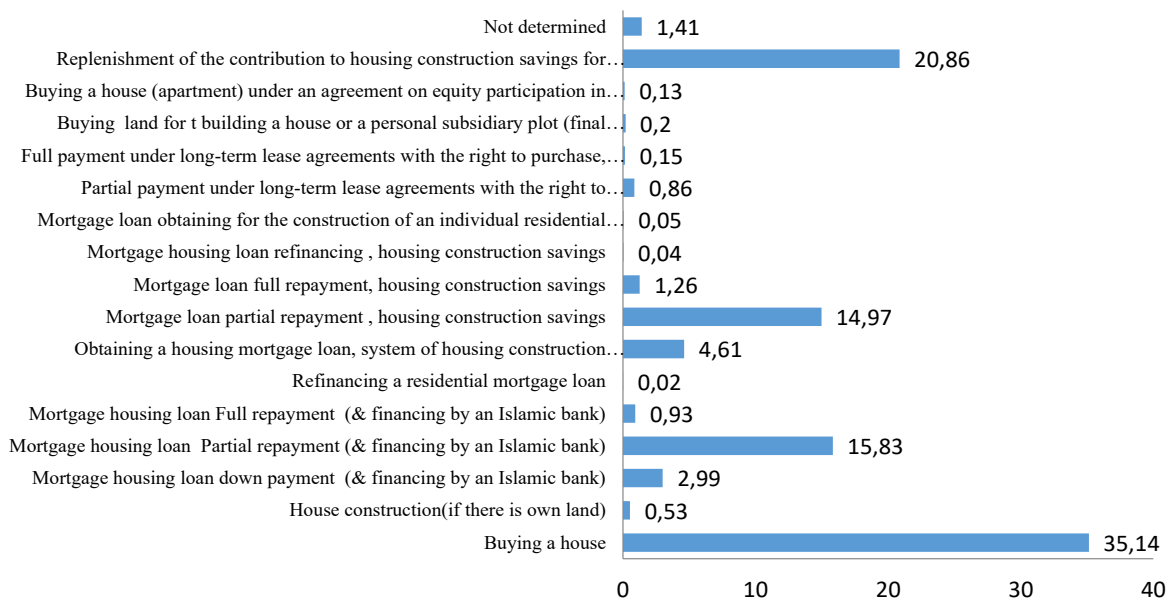


Figure 1 - The share of pension withdrawals for one-time pension payments for the improvement of housing conditions, %

Note - compiled by the author based on the data of JSC «UAPF»

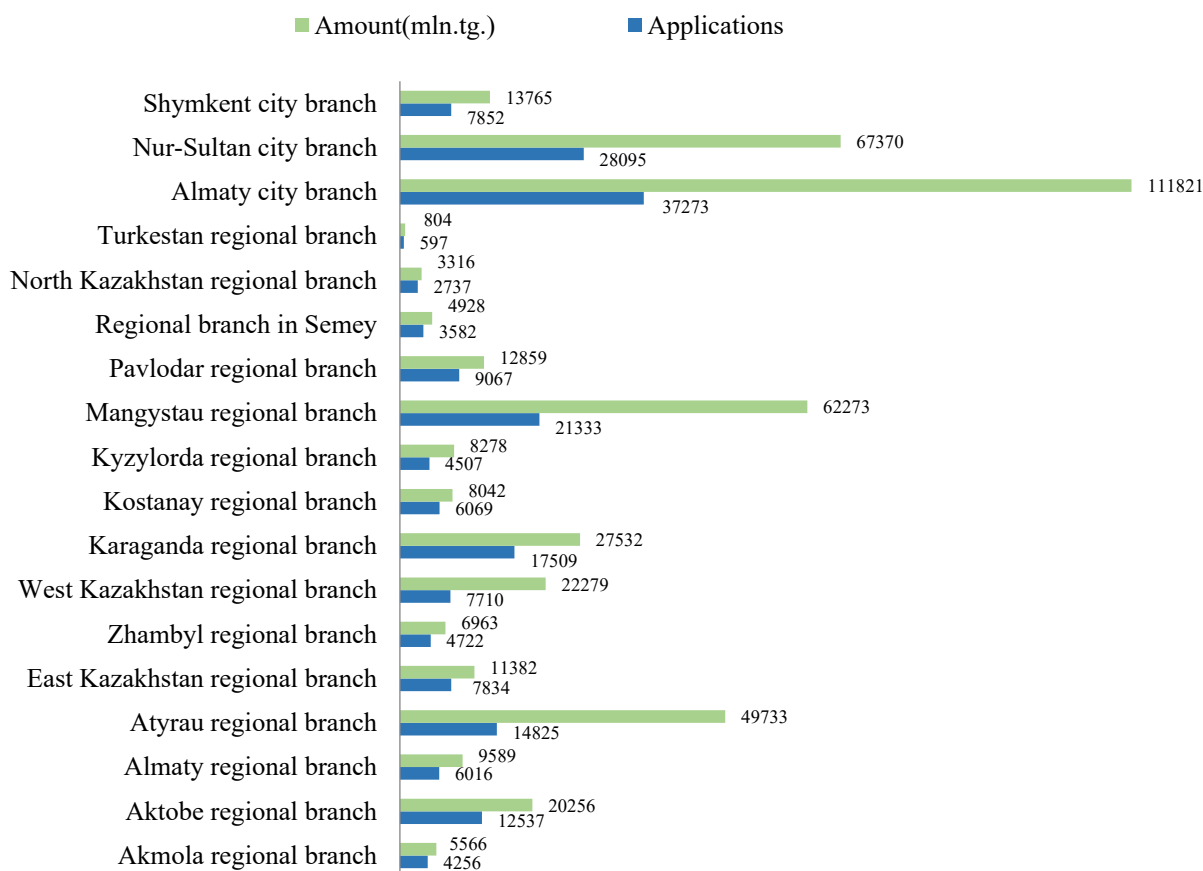


Figure 2 - Number of applications and amounts for early use of pension savings by regions of the country, units, and KZT

Note - compiled by the author based on the data of JSC «UAPF»

To analyze qualitative data from interviews, there was used QDA Miner Lite software. There were researched answers from 16 experts. The focus of questions was related to factors or

drivers that motivated people to withdraw pension savings. These drivers motivated the government or put in such a situation to allow early withdrawals from pension savings.

**Table 2** - The results of coding the interview through the QDA Miner Lite program

Code	Category	Description	% Code	% Case
1	2	3	4	5
PS_collapse	Disadvantage	Reduced pension payments; Pension system collapse	7,40	31,30
Discrimination	Disadvantage	Challenging requirements, which eliminate people with low income or people with previous low income; Favors the wealthy part of the population; Increases inequality	8,80	18,80
Income tax	Disadvantage	Unexpected income tax	1,50	6,30
Housing_cost	Disadvantage	Increase in price for housing/ apartments/individual property	2,90	12,50
Savings_threshold	Disadvantage	Challenging requirement which eliminates people with low income or people with previous low income; Increases inequality	2,90	12,50
Long-termhighwages	Disadvantage	Challenging requirement which eliminates people with low income or people with previous low income; Increases inequality	1,50	6,30
Savingsoutflow	Disadvantage	Savings outflow is the move- ment of assets out of a country	1,50	6,30
Poor_financing	Governmentreadiness	Lack of funds; The inability of the state to provide all applicants with financing	1,50	6,30
Rules_legislation	Governmentreadiness	The unpreparedness of the legislative system	2,90	12,50
Economic realities	Governmentreadiness	Massive job loss; shadow economy; self-employed population; low pension contributions	1,50	6,30
Shadow economy	Governmentreadiness	Self-employed and the shadow economy	5,90	12,50
PS_imbalance	Governmentreadiness	Mandatory pension system imbalance	1,50	6,30
Wrong_investing	Governmentreadiness	Governments spending pension savings of individuals, investments, and further failure	4,40	18,80
Poor_regulation_PW	Governmentreadiness	Absence of regulation of pension funds withdrawal (purpose of funding and the receiver of the funds)	1,50	6,30
Poorsocialstrategy	Governmentreadiness	Low system of support of the population during a crisis	1,50	6,30

1	2	3	4	5
Singapore model	Governmentreadiness	Singapore model of the pension system, which is difficult to achieve in Kazakhstan	1,50	6,30
Delegatingtopprofessionals	Governmentreadiness	Recommendation to involve professionals in the field of pension systems regulation; Lack of specialists in pension system management	2,90	6,30
Job_ loss	Governmentreadiness	Government failure in previous years with creating jobs; Low system of support for unemployed people during a crisis	1,50	6,30
Possibility to use own savings	Advantage	People can use their savings on personal expenses and improve their current financial situation	4,40	18,80
Civil dialogue	Advantage	Government can establish a dialogue with the population in terms of needs	1,50	6,30
Pensionsystemdeterioration	Factors	People have a low level of trust inthe pension system	1,50	6,30
KZTinstability	Factors	Inflation or loss of assets value	1,50	6,30
Treatment	Factors	Medical treatment, health issues covering	16,20	43,80
Job loss	Factors	Unemployment; job loss	1,50	6,30
Financing education	Factors	Covering expenses for education (higher education)	10,30	25,00
Housing	Factors	Buying a house; Paying out housing loan debts; Individual house construction	8,80	31,30
Privatecompaniesmanagement	Factors	Finances for business support	1,50	6,30

During analysis there were developed following principal codes were:

- Advantages
- Disadvantages
- Government readiness
- Factors

*Advantages.* Predicted or existing benefits for the country and the population for early withdrawal of pension savings.

*Disadvantage.* Predicted or exiting negative effect, negative forecast of early withdrawal of pension savings, both for the country and the population.

*Government readiness.* Results of state strategy related to early withdrawal of pension savings. Introduction of new laws or regulations. Future outcomes for the population can affect the economy of the country.

*Factor.* Reasons for introduction of the state strategy on early withdrawal of pension savings.

Next, each major code included sub-codes. The number of sub-codes is not equal, as it depended on the analyses of the answers of experts. In table 1, there is given short characteristic for each sub-code. Also, the table shows code values. Complete analyses of each group of codes will be provided in the analyses part.

Before the qualitative analysis provision, the current development of the situation in Kazakhstan is given, including information on the number of applicants by region and the purpose of withdrawal (housing conditions).

### Analysis and results

Expert interview analysis was divided into four groups of indicators: disadvantage, government readiness, factors, and advantages. Each indicator analysis was supported by sub-codes developed during the process of analysis.

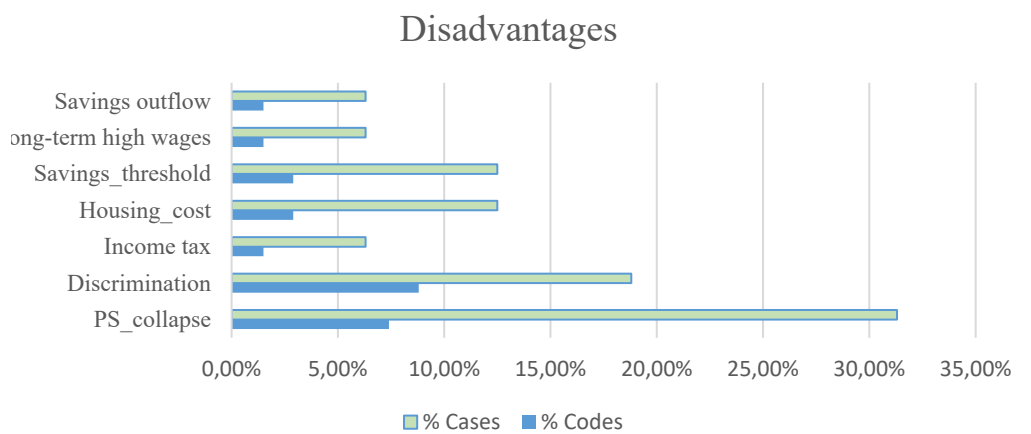


Figure 3 – Pension funds early withdrawal disadvantages, %

Note - compiled by the author

The early withdrawal of pension funds strategy has developed several disadvantages for the state and population (Figure 4). Based on experts' opinion, the main disadvantage of early withdrawal of pension savings is the impact of simultaneous withdrawal of large amounts of funds by the population. This can lead to the collapse of the pension fund system. Another disadvantage for the government is pension savings outflow, which results in the capital outflow of the economy. The greatest disadvantage for the population of this practice is that it creates discrimination among locals. The most significant dissatisfaction developed for

the people is that only “a few” can afford this possibility. The strategy of the early withdrawal of pension funds has a high threshold of available amounts for withdrawal. Therefore, it increases inequality. Thus, wealthy people are more eligible according to the requirements and the criteria for fund withdrawal allocation. Increasing interest in buying an individual property caused an increase in house pricing, creating more barriers for people who need a house as a first necessity.

In line with disadvantages, experts talked about the government's readiness to implement this strategy to support the population during crisis through the early withdrawal of pension funds policy, which is presented in figure 5.

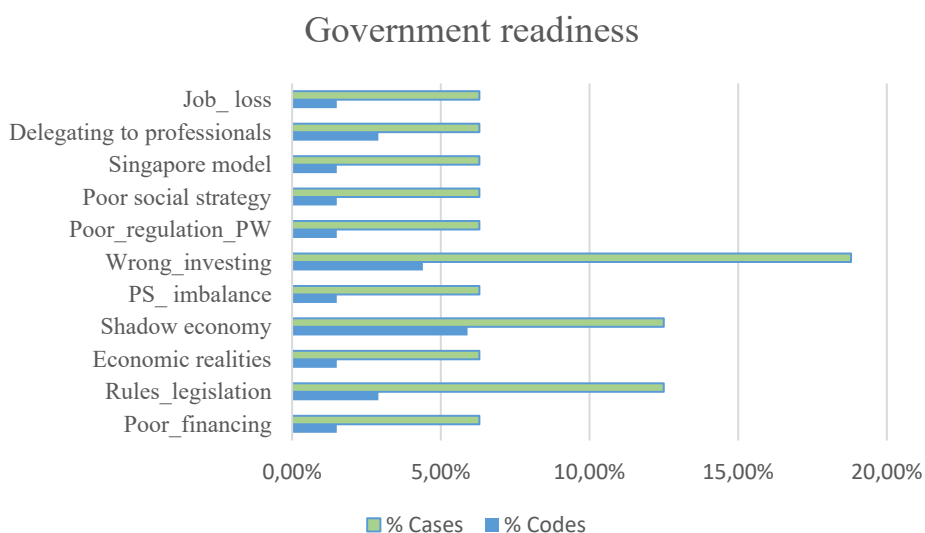
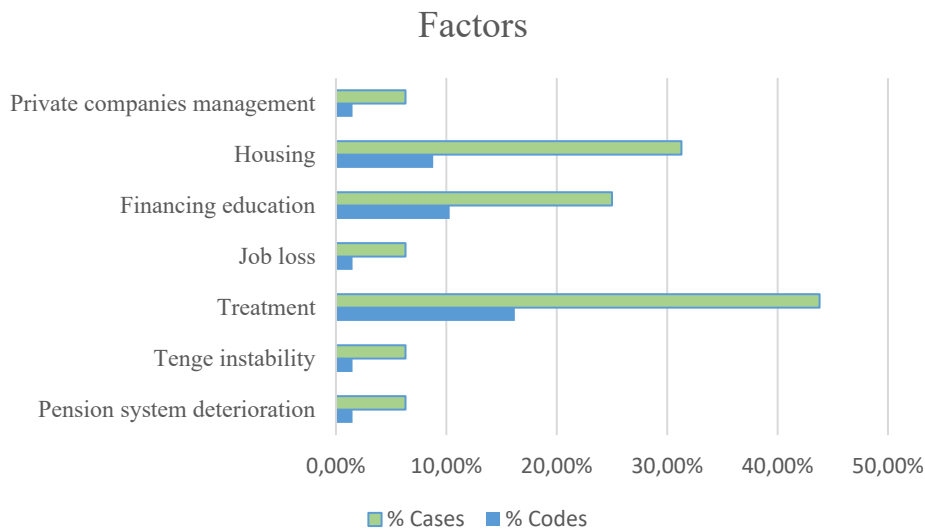


Figure 4 – Pension funds early withdrawal government readiness, %

Note - compiled by the author



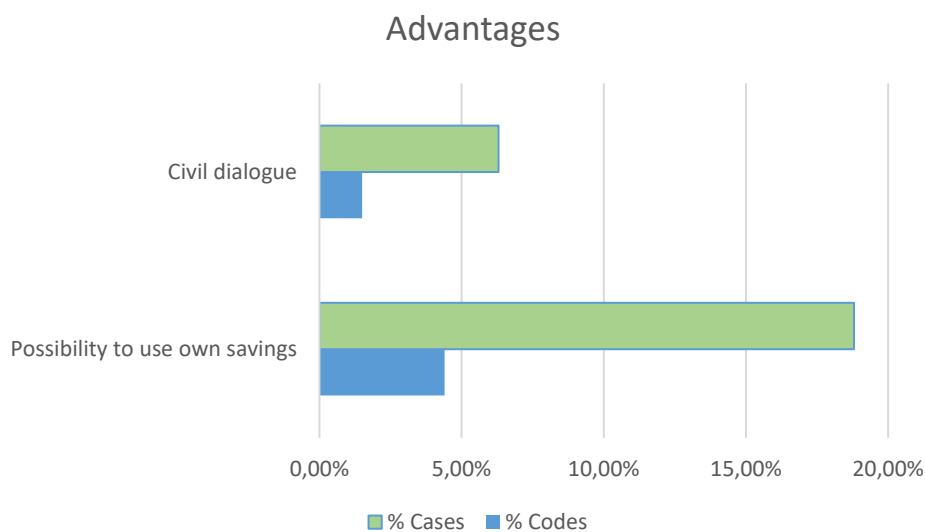
**Figure 5** – Pension funds early withdrawal factors, %

Note - compiled by the author

First, some experts expressed doubts about pension funds availability; the government experienced failure in investing pension funds. In addition, the shadow economy and increasing number of self-employed people contributed to the decrease in direct contribution funds. Secondly, the government had to analyze the country's economic development before COVID-19 and during the pandemic. On top of the unemployment before COVID-19, many people were experiencing job loss. Third, the legislative system, which would regulate the pension funds withdrawal process, was not well thought out. Thus, there was no control of

the fund's allocation and the receiver of the financial support. For instance, whether or not third parties bought houses/apartments. Fourth, the intention of the government to support the population in crisis did not reach the target population based on challenging requirements. Another factor was that low trust in government forced people to reduce the number of pension funds or not provide any at all.

According to the interview analyses, there seven factors were revealed that had an impact on the decision of the government and people to use the opportunity of pension funds early withdrawal (figure 6).



**Figure 6** – Pension funds early withdrawal advantages, %

Note - compiled by the author

First of all, the government followed the goal of supporting people and allowing them to manage their businesses, pay out their loans, and cover expenses related to housing and education. Nevertheless, people were driven not only by positive solutions. The current state of the economy pushed people to use their pension funds due to the risk of KZT failure resulting in the loss of their assets validity. Another factor is that the population level of trust in the national system of pension saving funds is relatively low. According to the experts, it is explained by the deterioration of the pension system in Kazakhstan. It is worth mentioning that governmental readiness showed that the government attacked qualified specialists in the pension system.

The current development of the pension system shows a lack of specialists in this field. Another reason for the population to use their pension funds, especially in solving housing loan expenses, is job loss. Therefore, people withdraw savings to payout debt loans for housing.

Advantages, which were quite surprising, included only indicators. First, is the possibility of using their own funds. Experts stress that based on the average lifespan of the population in Kazakhstan, very few reach the age of 80. Therefore, for them it is an excellent opportunity to use their own funds for their needs. Second, during the implementation of the strategy on early pension funds withdrawal, the population and government could establish a dialogue. The people had the opportunity to express their opinion.

The opinion of experts was divided into two: some believe this is a positive initiative for citizens, while others think the opposite.

Therefore, for example, according to Expert 1 there are both positive and negative sides. As for positive sides, it was stated that Kazakhstanis have understood that mandatory pension contributions are not a tax to the state but property that can be profitably disposed of. In addition, the disadvantages include that there is a possibility that the pension savings withdrawn from the system are not replenished, and then the person, of his own free will, deprives himself of part of the future pension. Which can lead to a deterioration in the well-being of the future pensioner.

Two experts believe that mandatory pension contributions of 10% of wages do not correspond to foreign experience, which is higher than 13%. Therefore, Kazakhstanis are not able to accumulate enough money for retirement. Moreover, the withdrawal of pension savings can aggravate the life of future pensioners who will take advantage of early withdrawal.

Expert 3 notes that the opponents of early withdrawal consider that the main argument is that it can seriously undermine the funded component of the pension system formed in Kazakhstan. Now pension money is a source of resources for the state, the quasi-public sector, and banks. At the same time, the expert believes the fulfillment by the funded pension system of its main function - pension provision - is under a huge question. This is due to the following factors:

- the size of pension savings of the vast majority of the local population of pre-retirement age will not allow them to receive tangible payments from the UAPF after retirement, and the situation is unlikely to change in the foreseeable future due to the low incomes of the population;

- the yield from managing pension assets also leaves much to be desired - it is currently lower than the yield on KZT bank deposits of individuals;

- the pension system in its current form is unlikely to ensure the preservation of purchasing power;

- in relation to the money accumulated in pension accounts.

“In this light, the possibility of early withdrawal of pension savings looks more like a boon for depositors, as it allows you to save the value of savings. By investing in real estate, you can reduce your debt burden by paying off your mortgage, or you can spend money on treatment,” said Expert 3.

Expert 4 believes that the Kazakh authorities did not think about the consequences of the early withdrawal of pension savings. According to expert, the initiative may be needed, but not for the announced goals - housing, treatment, management of private companies.

“Many people have lost their jobs. Those who got mortgages are now left without money. Maybe many didn't want to withdraw money, but now they are forced to do it (Kazakhstan citizens can use part of their pension savings to partially or fully pay off debt on a mortgage housing loan - note ed.) When we survive the consequences of the corona-crisis, what will happen next is unknown,» the expert said.

It was also noted that the early withdrawal initiative was another reason for the increased effect of inequality among Kazakhstanis. After all, those with a significant income have more savings and can afford to withdraw more money. Whereas those who have less income have not even reached the threshold of sufficiency to withdraw part of the pension. And, the withdrawal of pension savings can aggravate the life of future pensioners who will take advantage of early

withdrawal. Opponents of early withdrawal consider that the main argument is that it can seriously undermine the funded component of the pension system formed in Kazakhstan. Now pension money is a source of resources for the state, the quasi-public sector, and banks. Since the main function of the funded pension system is pension provision, there is a possibility that they may not be able to cope with it. This is due to the following factors:

- the size of the pension savings of the vast majority of Kazakhstanis of pre-retirement age will not allow them to receive tangible payments from the UAPF after retirement, and the situation is unlikely to change in the foreseeable future due to the low incomes of the population;

- profitability from the management of pension assets is currently lower than the profitability of KZT bank deposits of individuals;

- the pension system in its current form is unlikely to ensure the preservation of purchasing power - in relation to the money accumulated in pension accounts.

“In this light, the possibility of early withdrawal of pension savings looks more like a boon for depositors, as it allows you to save the value of savings.

By investing in real estate, you can reduce your debt burden by paying off your mortgage, or you can spend money on treatment,” said Expert 5. However, it is also said that Kazakhstanis may not use their savings rationally due to the fact that the country is experiencing the consequences of the coronavirus crisis. That is, they may not want to use part of their pension savings for partial or complete repayment of housing mortgage debt, but now they are forced to do it. Because of COVID-19, many decided to work and, accordingly, income. Also, the early withdrawal initiative has become another reason for the increase in the effect of inequality among Kazakhstanis. After all, those who had higher incomes, therefore, have more savings and can afford to withdraw more money, while those with lower incomes have not even reached the sufficiency threshold to withdraw part of the pension.

In this regard, another problem arises that this service will again be available to those who do not particularly need housing and who have enough money for treatment. And those who need this function will not be available.

The high demand for pension savings is also explained by the fact that the population has a low level of trust in public managers. Therefore, people have a question: why let government managers plunder our pension money and not allow citizens to spend it on themselves. On

the other hand, the profitability of the UAPF is currently low, given the high inflation rate and low life expectancy in the country, this measure seems to be a boon for the country’s citizens now.

On this occasion, economist Expert 9 said: “They extended this right only to a part of the depositors. Moreover, to the smaller one, which is the richest. The wealthier a person and the more reliably he solves his housing problems, the more opportunities he has to spend money on housing, which he hardly needs. The more problems a person has, the less he can spend. Most of the depositors will not be able to spend anything at all because they did not reach the amount of sufficiency.»

Economist Expert 10 has the same opinion and said that: «Depositors who have excess savings are about 150-200 thousand people. This is the figure that was also voiced by professional institutions - the Ministry of Labor, the UAPF, insurance actuaries. Who are these investors? This refers to people who have received official wages for 15 years, white, with deductions - a good salary. So, these people have long bought an apartment, a car, etc.» He considers this reform to be populism since the population and the Government of the country are led by public opinion and all sorts of speculation that do not correspond to reality.

Summing up, we can conclude that experts believe that the early withdrawal of pension savings for the pension system and the UAPF pension fund has a negative effect. This is due to the large outflow of pension assets and the fact that the UAPF has a low level of profitability due to inefficient asset management and limited financial instruments in which assets can be invested. Also, they believe that not everyone got access to pension savings, or rather, only those who already earned well and did not feel the need. They had an excellent, stable income for many years, above average. They have already bought an apartment, improved their health, and studied. As a result, the income gap widened. It also contradicts the principles of the pension fund, which is pension provision. However, there is a small part of experts who consider this initiative positive for the population in terms of improving housing conditions and health. Even in this case, there are pitfalls. Responsibility for the old age of those who have withdrawn their pension savings lies with them, since all risks must be taken into account.



### Conclusion

The preservation of pension funds is an increasingly urgent issue, given the increase in life expectancy in the country, as well as the number of pensioners. By the end of 2021, there were already 2.3 million pensioners in the country - 30% more than ten years earlier. Accordingly, the importance of the funded component of the pension system is increasing.

Provided study on the outcomes of early withdrawal of pension savings revealed several factors as covering expenses related to education, healthcare, business management and housing. Of all identified factors housing stands out as the strongest driver for the population to withdraw savings in advance. About 95% of the population who withdrew money from pension individual accounts spend them on housing. However, reasons differ. Some people buy housing as a necessary place for living rather than renting a flat, for example. Others want to payout housing debt loans and the rest want to buy or invest as an additional property. Due to the increase in demand for individual property, the prices for housing increased as well, which includes purchasing and renting. This is a great disadvantage for those, who needed a property as a single place for living, but who could not afford it earlier. As for the part of the economy, it is beneficial for country as almost all pension savings which were withdrawn by the population stayed in the country.

Nevertheless, there were revealed government mistakes. First of all, government in their attempt wanted to support minorities, as too many people needed social support and assistance due to COVID-19. However, the requirements to match the eligibility to take money from pension funds were too difficult. In the result, those who needed help still need it. Government was not ready for and is still predicting of the future outcomes of current pension funds withdrawal strategy. It is worth mentioning the opinion and recommendations of experts. Pension system must be managed by professionals in this field and by people who had experience in savings management. Moreover, qualified personnel need to provide analyses of not only future results for the population but the current situation in economy of the country. It was revealed that self-employed people are less eager to do direct contributions to pension funds. Therefore, government should encourage people to leave shadow economy and provide their retirement through direct contributions. The process of funds withdrawal needs a thorough management. that is, it should not be stopped after money are taken. Government needs to follow if the purchase and money spent

were really spent on the needs of the applicants. As studies show, when people withdraw pension funds in advance their buying behavior changes, and they start spending savings on unnecessary thing. Therefore, it is important to develop the system in the way that it provides strict control of the purpose of money spending.

Government is currently thinking of taking the experience of Singapore as a model for pension system development. Kazakhstan is a developing country, therefore the model of one prosperous country is difficult to replicate here. Therefore, it must be developed through a mix of experiences of other countries, developed as well. Kazakhstan has a very large share of the shadow economy and the population with low incomes. It is necessary to understand the status of the self-employed. Coverage of the working population making adequate contributions to the funded pension system should aim at 90%. To do this, in developed countries there is one very powerful tool - the universal declaration of both income and expenses.

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