ISSN 2518-1998 (Print)
ISSN 2663-5097 (Online)

BULLETIN

OF THE KARAGANDA UNIVERSITY

ECONOMY

Series

№ 2(102)/2021

ISSN 2518-1998 (Print)
ISSN 2663-5097 (Online)
Индексі 74624
Индекс 74624

ҚАРАҒАНДЫ УНИВЕРСИТЕТІНІҢ ХАБАРШЫСЫ

ВЕСТНИК КАРАГАНДИНСКОГО УНИВЕРСИТЕТА

BULLETIN OF THE KARAGANDA UNIVERSITY

ЭКОНОМИКА сериясы

Серия ЭКОНОМИКА

ECONOMY Series

№ 2(102)/2021

Сәуір–мамыр–маусым
30 маусым 2021 ж.

Апрель–май–июнь
30 июня 2021 г.

April–May–June
June, 30th, 2021

1996 жылдан бастап шығады
Издается с 1996 года
Founded in 1996

Жылына 4 рет шығады
Выходит 4 раза в год
Published 4 times a year

Қарағанды, 2021
Караганда, 2021
Karaganda, 2021

Postal address: 28, University Str., 100024, Karaganda, Kazakhstan.
Tel.: +7 775 471 5171 (add. 1026); fax: (7212) 35-63-98.
E-mail: vestnikku@gmail.com. Web-site: economy-vestnik.ksu.kz

Bulletin of the Karaganda University. «Economy» series.
ISSN 2518-1998 (Print). ISSN 2663-5097 (Online).

Proprietary: NLC "Karagandy University of the name of acad. E.A. Buketov"

Registered by the Ministry of Information and Social Development of the Republic of Kazakhstan. Rediscount certificate No. KZ86VPY00027387 dated 30.09.2020.

Signed in print 29.06.2021. Format 60×84 1/8. Offset paper. Volume 14,87 p.sh. Circulation 200 copies. Price upon request. Order № 52.

Printed in the Publishing house of NLC "Karagandy University of the name of acad. E.A. Buketov".

28, University Str., Karaganda, 100024, Kazakhstan. E-mail: izd_kargu@mail.ru

CONTENT

Aitzhanova D.N., Begentayev M.M., Kunyazova S.K., Titkov A.A. Youth entrepreneurship in the Republic of Kazakhstan: concept, problems and solutions 4

Akzhanova G.A. Innovation environment as a key factor in the development of the region's innovative potential 16

Arynova Z.A., Tursynkhanov D.Zh., Nurgalieva S.Zh. Mechanism for the formation of the local self-government budget and the sources of its income 24

Atabayeva A.K., Pritvorova T.P., Simonov S.G. Non-standard employment modeling in the Republic of Kazakhstan 34

Batkeyeva D.R., Ulakov S.N., Borbasova Z.N., Abramov R.A. Problems of attracting investment in housing and communal services 43

Borzenko O.O., Hlazova A.B. Cryptocurrency as a secondary form of manifestation of finance virtualization 56

Dinzhanova G. A measure of human development 66

Konurbayeva Zh.T., Denissova O.K., Nurekenova E.S. Modern Approaches to Evaluating the Effectiveness of Higher Education Programs 75

Nurgaliyeva A.M., Mynbayeva D.Y., Lambekova A.N. QSPM – budgeting development level analysis in Bank CenterCredit JSC 84

Saifullina Yu.M, Serikova G.S., Assanova M.A., Amirova G.N., Akenov S.Sh. Digital payment technologies and interbank clearing in the Republic of Kazakhstan in terms of digitalization 92

Расулова А.М., Умырзакова А.А. Пути повышения конкурентоспособности производителей сливочного масла в условиях импортзамещения 99

Смайлов Б.Т., Андарова Р.К., Вечкинзова Е.А. Кумулятивный характер эффективности системы здравоохранения и прикладные модели ее организации 108

DOI 10.31489/2021Ec2/4-15
JEL: E24, O43, J401
UDC: 334.012.6

D.N. Aitzhanova[1*], M.M. Begentayev[2], S.K. Kunyazova[3], A.A. Titkov[4]

Toraighyrov University, Pavlodar, Kazakhstan

[1]aytzhanova.di@mail.ru, [2]mey74@mail.ru, [3]kunjazovas@mail.ru, [4]alexey-pvl@mail.ru

[1]https://orcid.org/0000-0003-2811-2461, [2]https://orcid.org/0000-0001-9688-4370,
[3]https://orcid.org/0000-0002-5538-5839, [4]https://orcid.org/0000-0001-9126-2337

[1]Scopus Author ID: 6504799201, [3]Scopus Author ID: 57190215854. [4]Scopus Author ID: 57216909808

Youth entrepreneurship in the Republic of Kazakhstan: concept, problems and solutions

Abstract

Object: The inclusion of the younger generation in entrepreneurial activities is one of the solutions to the problem of employment, especially aggravated during the COVID-19 pandemic. Considering the importance of the development of youth entrepreneurship for the processes of innovative transformation of the economy, as well as the relevance of managing the process of social adaptation of young people, involving them in creative activities and providing opportunities for maximum personal self-realization, it can be argued that the mechanism for supporting and developing youth entrepreneurship is a central element in solving social and economic development of the Republic of Kazakhstan. The purpose of this study is to analyze the causes of youth unemployment in order to determine the variable forms and types of youth entrepreneurship aimed at solving the problems of youth employment.

Methods: The collected theoretical and practical data on the cause-and-effect factors of the functioning of youth entrepreneurship were analyzed using the methods of system analysis, structuring information, building hypotheses and polling.

Findings: On the basis of scientific approaches to understanding the structural elements of youth, the conceptual essence of youth was systematized, an objective approach to the concept of youth entrepreneurship was determined, which was considered in accordance with its target, aimed at carrying out entrepreneurial activities. Moreover, the cause-and-effect factors of the development of youth entrepreneurship have been determined, a classification of youth entrepreneurship has been developed according to the main types. Through a survey the situation on the labor market regarding the problems of the development of youth entrepreneurship was studied and ways of solving the problem of youth unemployment were proposed.

Conclusions: A clear systematization of scientific approaches to the concept of youth entrepreneurship, identification of the causes of youth unemployment, problems of the development of youth entrepreneurship will ensure the progressive development of youth entrepreneurship to achieve full employment of youth and the population in the labor market.

Keywords: youth, youth entrepreneurship, business and entrepreneurship, entrepreneurial activity, unemployment, employment, classification, innovative activity, competitiveness.

Introduction

In modern conditions of the development of a market economy in the Republic of Kazakhstan the problems of small and medium-sized businesses are becoming especially acute. It is this sector of the economy that is assigned the main role in the formation of a middle class capable of becoming a reliable support for the industrial and innovative development of Kazakhstani society. A necessary strategic resource for the development of small and medium-sized businesses is active youth employment and youth entrepreneurship.

The allocation of youth entrepreneurship as a special segment of entrepreneurship occurs because, unlike other types of entrepreneurship, it has its own specific features: innovative activity, innovative thinking; mobility, flexibility of approaches, quick response to the development of new markets; the ability to constantly update knowledge and skills in accordance with changing production and market requirements; the ability of young people to withstand the increased work and nervous stress that accompanies entrepreneurial activity, especially at its initial stage; risk predisposition of young people.

At the macroeconomic level, youth entrepreneurship in the Republic of Kazakhstan has, on the one hand, socio-economic foundations, and on the other hand, institutional foundations. The socio-economic foundations of youth entrepreneurship involve solving the social problems of youth, ensuring stable employment and income for this category of the population. Institutional foundations indicate that youth entrepreneurship is not just a socio-economic phenomenon, but also become an important and significant institu-

* Corresponding author.
E-mail address: *aytzhanova.di@mail.ru*

tion of the market economy, which at a certain stage ensures economic growth, innovation and competitiveness of the economic system.

At the present stage the issues of the formation and development of youth entrepreneurship in the Republic of Kazakhstan remain poorly researched, there are no clear boundaries of the conceptual apparatus of youth entrepreneurship, its types, problem-target priorities of reform.

Literature Review

E.G. Shumik, E.V. Belik, M.P. Blinov (2017) believe that the term trends in the formation and development of youth entrepreneurship are directly related to the age of the participants in this process.

A.V. Ivanova (2013), N.V. Akhiyarova (2009) give directly subjective age limits of youth entrepreneurship, in such a range as 30–35 years, arguing that the this group of society has the maximum potential for innovative ideas. K. Mannheim (2010) considers youth as a reserve of human resources for adaptation to rapidly changing economic and market conditions. According to the scientific views of K. Mannheim, youth is neither progressive nor conservative, but is considered as the potential for perception of a dynamically changing culture, civilization, and economy. C.R. McConnell and S.L. Brue (2009) believe that entrepreneurship is a systemic dynamic process of connecting all types of available resources into a single process of producing a good or service. The main idea of K.R. McConnell and S.L. Bru focuses on the fact that the sought-for target landmark of entrepreneurship is the process of creation (production) of the final type of any product or service. In the future, the production process is complemented by a commercial (sales) process, which leads to education, making a profit. J. Schumpeter (1982) believes that entrepreneurship is the process of transforming a new idea or invention into a successful innovation. Entrepreneurs' innovation leads to long-term economic growth. Zh.M. Zhartai (2019) presented a methodological framework that makes it possible to analyze the qualitative and quantitative parameters of the development of youth entrepreneurship, which will increase the effectiveness of the implementation of state support for initiatives.

Zh.S. Khusainova, Zh.M. Zhartai (2020) developed the methodological foundations of the Foresight model for the development of youth entrepreneurship. We examined the main types of foresight and gave their characteristics, substantiated the position of increasing the effectiveness of the brainstorming method in relation to young entrepreneurs. Zh.M. Zhartai, Zh.S. Khusainova, B.S. Esengeldin (2020) presented an analysis of the development of youth entrepreneurship in the Republic of Kazakhstan. The results of the analysis will improve the efficiency of the mechanism for supporting young people engaged in entrepreneurial activity.

Method

The key research methods were the methods of system analysis, structuring information, the statistical method of research, the method of constructing hypotheses, the method of polling. Systems analysis methods covered analytical and synthetic research methods. Within the framework of the analytical research method youth entrepreneurship as an economic category was considered in two components: the conceptual apparatus of youth and modern scientific approaches to understanding entrepreneurial activity. As a result, based on the analysis of terminology, a synthetic method was applied, which made it possible to develop a refined author's definition of youth entrepreneurship. On the basis of the method of structuring information, theoretical aspects were developed regarding the cause-and-effect factors of the emergence of youth entrepreneurship, its classification directions of systematization, including types. The search for practice-oriented information made it possible to simulate the current economic situation in the field of youth entrepreneurship in the Republic of Kazakhstan. The survey method made it possible to determine probabilistic forecasts and hypotheses for the development of youth entrepreneurship.

Results

The term youth entrepreneurship, using the analytical research method, is relevant to consider taking into account two approaches: subjective and objective.

The subjective approach indicates that the main subject of youth entrepreneurship is youth.

In modern scientific periodicals, global information resources, youth is associated with a social-age group that has the following attributes:

– age range;

– certain status in society (V.A. Lukov, 2012).

The age range of young people is governed by the legal and regulatory framework of each country separately. In the complex, the average age range of young people varies within the following limits:

– the lower limit is 14–16 years old;

– the upper limit is 25–30 and higher.

When considering youth entrepreneurship, almost all scientists and researchers, both foreign and Kazakhstani, focus on the age qualification. So, for example, in a scientific study of scientists of the Russian Federation E.G. Shumik, E.V. Belik, M.P. Blinov, it is noted that the term trends in the formation and development of youth entrepreneurship are directly related to the age of participants in this process (E.G. Shumik, E.V. Belik, M.P. Blinov, 2017).

A number of other scientists, such as A.V. Ivanova, N.V. Akhiyarova, within the framework of their dissertation research directly give the subjective age boundaries of youth entrepreneurship in the range of 30–35 years, arguing that the this group of society has a maximum potential for innovative ideas (A.V. Ivanova; 2013, N.V. Akhiyarova, 2009).

Along with the age criteria of young people, this category of society is endowed with a certain qualitative status in society, which is characterized, on the one hand, by the transition from childhood to adolescence, and, on the other hand, by the emergence and growth of social responsibility.

The attribute of social responsibility is considered by the German sociologist K. Mannheim, who considers youth as a reserve of human resources for adaptation to rapidly changing economic and market conditions. According to the scientific views of K. Mannheim, youth is neither progressive nor conservative, but is considered as the potential for perception of a dynamically changing culture, civilization, economy (K. Mannheim, 2010).

An objective approach to considering the concept of youth entrepreneurship is focused on the main target — entrepreneurial activity.

There are multifaceted scientific approaches to the concept of entrepreneurial activity, which in turn are delimited into historical stages.

Within the framework of the 20th century, the most accurate definition of entrepreneurship was presented in the works of K.R. McConnell, S.L. Brue. According to these scientists, entrepreneurship is a systemic dynamic process of connecting all types of available resources into a single process of producing a product or service (McConnell K.R., Bru S.L., 2009).

The main idea of K.R. McConnell and S.L. Bru focuses on the fact that the sought-for target landmark of entrepreneurship is the process of creation (production) of the final type of any product or service. In the future, the production process is complemented by a commercial (sales) process, which leads to education, making a profit.

Another approach to the definition of entrepreneurship was put forward by the Austrian-American economist J. Schumpeter. According to him, entrepreneurship is the process of transforming a new idea or invention into a successful innovation. Creation of innovations by entrepreneurs leads to long-term economic growth (J.A. Schumpeter, 1982). Entrepreneurial activity is logically interconnected with the concept of "business". Despite the fact that in practice business and entrepreneurship are often identified, they have a different theoretical essence. Business is a systematic process of receiving, earning the accumulation of funds, both in entrepreneurial and other activities.

It should be noted that in most cases entrepreneurial activity is always associated with business as a result. In the reverse order, a business may not always be entrepreneurial.

In the 21st century entrepreneurship has taken on new qualitative forms and targets. Along with business, the targets for entrepreneurial activity are:

– social goals;

– environmental goals;

– humanitarian goals (D. Bornshtein, 2015, T.V. Ershova, 2016).

In modern information sources there are general, logical, non-systematized concepts of entrepreneurial activity, which are focused on the ultimate goal — making a profit. So, for example, in Wikipedia (the free encyclopedia) entrepreneurship is interpreted as an independent activity of citizens, focused on the systematic receipt of profit under the following conditions: use of property, sale of goods, performance of work, service; responsibility for risk; registration of an entrepreneur in accordance with the established procedure.

Analysis of approaches to the definition of entrepreneurship allows us to model the concept of this term, which is reflected in accordance with Figure 1.

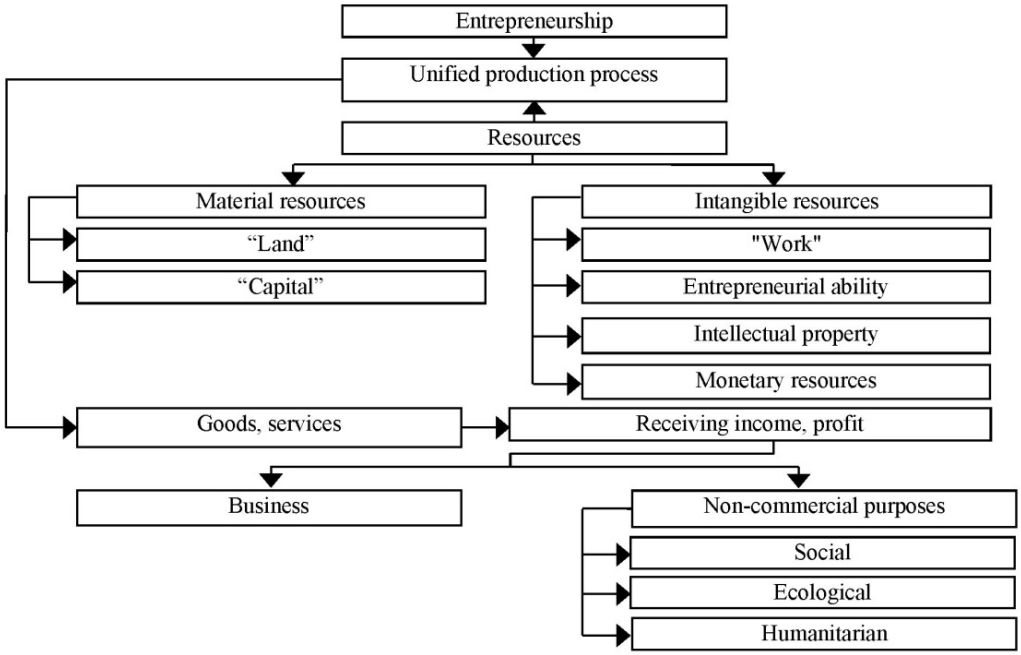


Figure 1. The main structural elements of the conceptual apparatus of entrepreneurship

Note: compiled by the authors

The conceptual apparatus of youth entrepreneurship can be represented in accordance with the Figure 2.

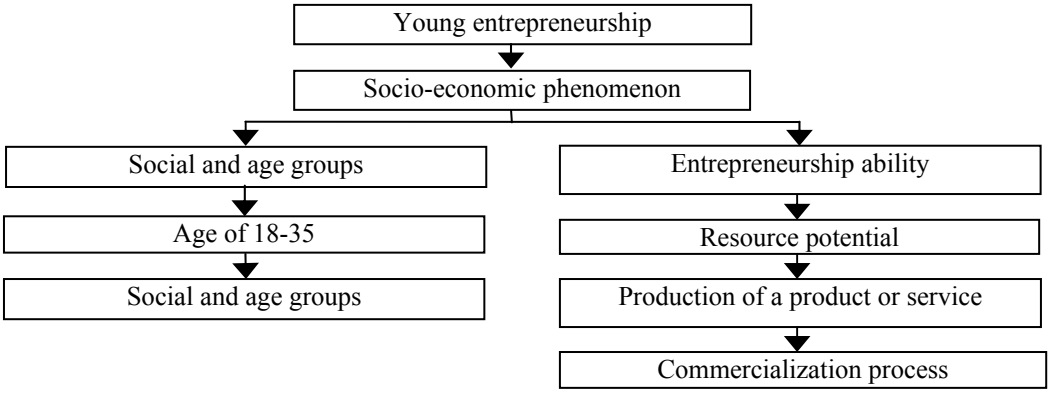


Figure 2. The main structural elements of the conceptual apparatus of youth entrepreneurship

Note: compiled by the authors

The main criteria for youth entrepreneurship are age qualifications and entrepreneurial ability. Similar approaches take place in scientific research of other scientists.

Thus, in the scientific presentations of Russian researchers it is noted that citizens under 35 are young entrepreneurs. In other information resources it is noted that youth entrepreneurship is a comprehensive system of measures aimed at accumulating entrepreneurial thinking, abilities, starting opportunities for an entrepreneurial activity and adapting to modern market relations among young people.

Youth entrepreneurship has its own cause-and-effect factors, which, in our opinion, should be divided into two areas:

– problems of youth employment (unemployment);

– striving to meet needs.

The dominant factor in the development of youth entrepreneurship is the problem of youth employment (unemployment).

Youth employment problems are most associated with natural unemployment, which in turn includes such subspecies as:

– frictional unemployment;
– structural unemployment.

The natural level of unemployment is characterized by a situation in the labor market when the total number of citizens in search of work is roughly comparable to the total number of vacancies in enterprises, firms, companies and other organizations.

The natural unemployment rate is characterized by the following trends:
– the process of training (teaching young people in universities, colleges);
– the process of finding a job when moving from one job to another (frictional unemployment);
– the process of training and retraining of personnel, the search for a new job in connection with the closure and the emergence of new types of industries under the influence of factors of scientific and technological progress (structural unemployment).

Taking the above into account, it should be assumed that natural unemployment, including that inherent in young people, is inevitable and natural. Along with natural unemployment, youth employment problems can be associated with cyclical unemployment, which is directly dependent on the conjuncture cycles of the economic system. This type of unemployment is comparable to the problems of a significant economic downturn (K.R. McConnell, S.L. Brue, 2009).

The orientation of youth entrepreneurship in solving the problems of youth unemployment is touched upon in the scientific works of Kazakh scientists D.E. Mukhambetova, S.Ch. Primbetova, who note that youth entrepreneurship plays a certain role in solving social and economic problems (D.E. Mukhambetova, S.Ch. Primbetova, 2020).

Taken together, in general, the cause-and-effect factors of youth entrepreneurship are presented in Figure 3.

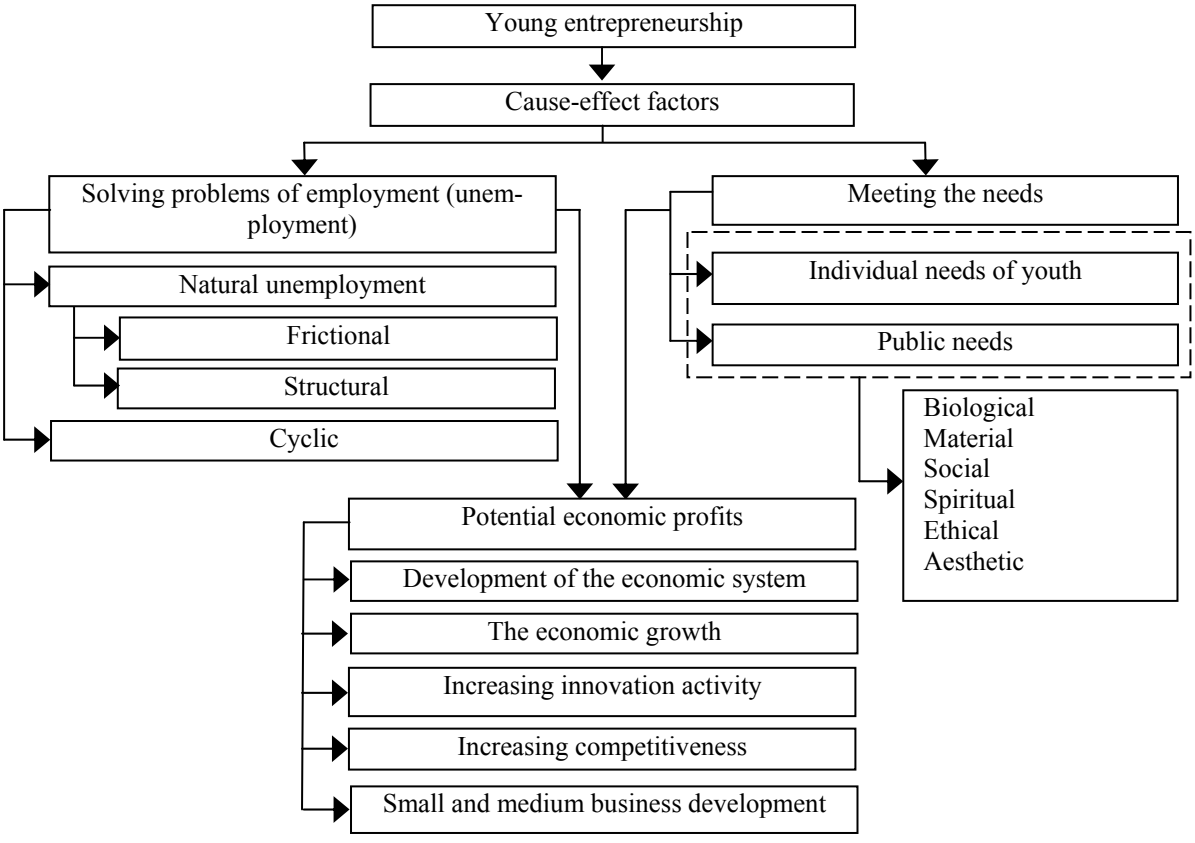


Figure 3. Causal factors of youth entrepreneurship

Note: compiled by the authors

Along with solving the problems of unemployment, youth entrepreneurship involves solving the problems of meeting the initial basic economic needs, both their own and public. This leads to the development of the economic system, economic growth, increased innovation and competitiveness of the economy, including through the development of small and medium-sized businesses.

Classic types of entrepreneurship correspond to youth entrepreneurship. Basic types of youth entrepreneurship are formed, in accordance with Figure 4, by subject matter and by organizational and legal form. By subject matter, youth entrepreneurship is subdivided into:

– industrial entrepreneurship — the target is the organization of the production of goods and services;
– commercial entrepreneurship — the target is trade and intermediary activities;
– financial entrepreneurship — the target is the provision of financial services (A.N. Asaul, 2009).

According to the organizational and legal form, youth entrepreneurship is divided into three types:

– sole ownership (individual entrepreneurship) — a form of entrepreneurial activity by one citizen in his own interests;
– partnership — conducting entrepreneurial activities in which two or more citizens agree on the ownership and management of an economic entity;
– corporation — doing business, in which economic activity is based on share capital divided into shares owned by direct and indirect participants in the business process.

The optimal initial option for the development of youth entrepreneurship is individual entrepreneurship, which in the future, within the framework of development, can be transformed into a partnership or corporation (joint stock company).

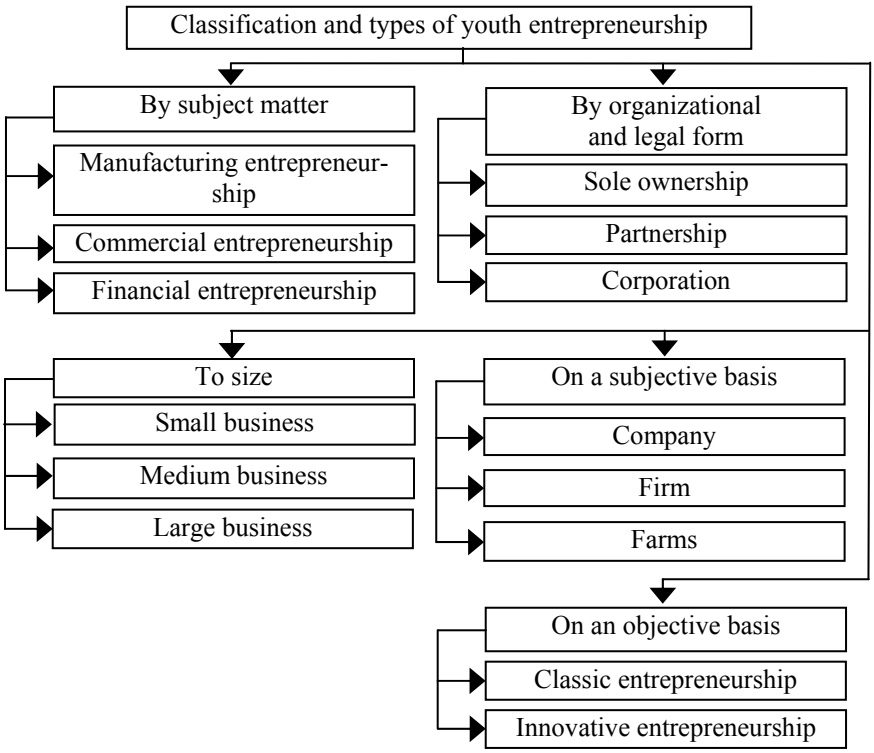


Figure 4. Classification and main types of youth entrepreneurship

Note: compiled by the authors

The organizational and legal forms of youth entrepreneurship closely correlate with the types of entrepreneurial activity in terms of size:

– individual entrepreneurs, as a rule, form the sphere of small business (the number of employees is up to 50 people);
– partnerships can correspond to both the sphere of small and medium-sized businesses (the number of employees is from 50 to 500 people);
– corporations are identified with large-scale entrepreneurship (the number of employees is more than 500 people).

An important type of youth entrepreneurship forms a subjective attribute. Within the framework of this feature, the following types of youth entrepreneurship should be designated:

– enterprises — organizations performing one or more functions for the production and distribution of goods and services in the country's economy;
– firms — organizations owning and managing the activities of two or more enterprises;
– farms — enterprises in the system of the agrarian complex.

It should be noted that the basic postulate of the formation and development of youth entrepreneurship is the creation of small businesses.

On an objective basis, youth entrepreneurship can be implemented both in the classical and in the innovative format, which provides for:

– manifestation of leadership qualities and generation of new ideas;
– production and release of innovative goods and services;
– improvement of existing goods and services on the market;
– application of innovative business models in the practice of entrepreneurial activity;
– a systemic focus on innovative management and marketing;
– the use of innovative technologies in production.

Studying and analyzing the main scientific approaches to understanding the essence and economic role of youth entrepreneurship, we can conclude that youth entrepreneurship is an integral element of traditional entrepreneurial activity and forms a kind of reserve and potential for production opportunities, economic growth, innovation and competitiveness of the country's economy. Youth entrepreneurship is implemented through variable forms, types and is focused both on meeting social needs and on solving problems of youth employment. The dynamic progressive development of youth entrepreneurship contributes to the achievement of a progressive level of natural unemployment and full employment of young people and the population in the labor market.

As for the study of the situation in the Republic of Kazakhstan, the economic characteristics of the population aged 15–34 in the Republic of Kazakhstan are presented in accordance with Table 1.

Table 1. Economic characteristics of the population aged 15–34 years in the Republic of Kazakhstan

Indicator	2016	2017	2018	2019
Labor force, person	3 993 400	3 975 100	4 022 900	3 955 700
The share of the labor force in the total labor force, %	44,38	44,03	44,02	42,9
Employed population, people	3 780 300	3 768 500	3 807 200	3 753 300
Employees, people	2 896 000	2 909 000	2 974 000	2 900 000
Self-employed, person	884 300	859 400	833 400	853 700
Nominal unemployment rate, %	5,34	5,2	5,36	5,12
Real unemployment rate, %	32,53	32,16	30,89	31,29
Note: compiled by the authors on the basis of Statistical compilations "Demographic Yearbook of Kazakhstan", "Employment in Kazakhstan"				

The unemployment rate can be reduced by developing youth entrepreneurship. Among the problems that hinder the development of youth entrepreneurship are:

– personal or motivational difficulties of young people (Larchenko A.V., 2015);
– lack of professional and specific knowledge in the field of entrepreneurship, theoretical support and experience (Laricheva A.A., 2014; Petrishche V.I., 2015).
– the lack of a clear legislative definition of the concept of "youth entrepreneurship" and, as a consequence, the impossibility of identifying its subjects for the purposes of accounting and analysis, which prevents an objective assessment of the effectiveness of the legislative and executive measures taken (A.O. Zhidikova, M.S. Rakitina 2014; V.I. Ignatov, 2015).

As part of the study, a survey was conducted among student youth of the Pavlodar region. The survey involved 600 schoolchildren, undergraduate and graduate students, of whom 450 were girls and 150 were boys.

The conducted research has shown that more than 54 % of the respondents are interested in organizing their own business. At the same time, 30 students already have a business, 202 students plan to do business during their studies, 95 — after studies; the rest believe that they will not engage in entrepreneurial activity (Figure 5).

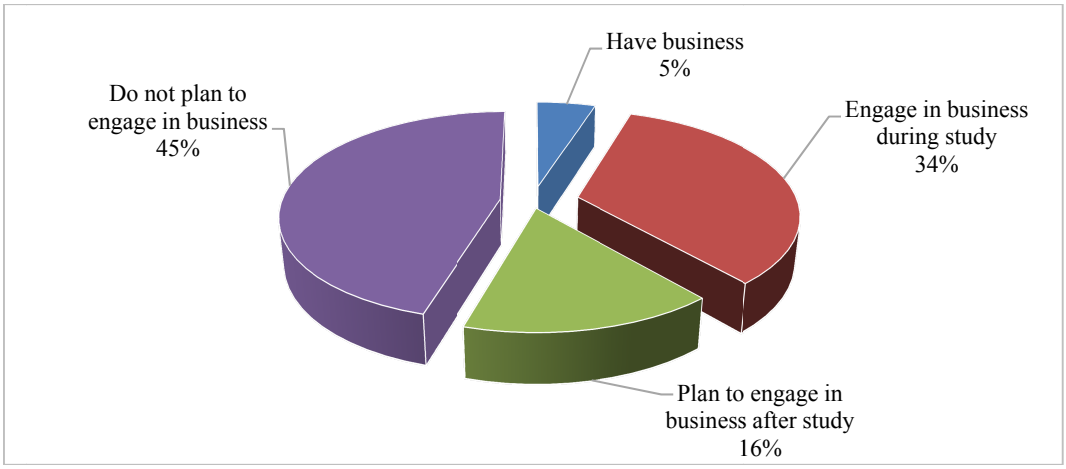


Figure 5. The structure of students for forecasting the conduct of entrepreneurial activity.

Note: compiled by the authors

Thus, on the part of young people, the level of those interested in organizing their own business is quite high. 60 % of students starting from the 3rd–4th year already earn extra money. At the same time, the study showed that students mostly do not work in their specialty (J.M. Zhartai, 2019). One of the main reasons for the current situation in the youth labor market is the imbalance in the professional training of young specialists and the existing demand for labor in the labor market. Currently the situation with the staff in many industries, services and education has acquired a systemic and problematic nature. Long-term workers leave their jobs due to their age, and the necessary influx of young people is not observed.

Mechanisms for promoting youth employment in the Republic of Kazakhstan can be divided into two broad areas:

– general mechanisms for the formation of youth employment;

– mechanisms focused on youth participation in business entrepreneurship.

In order to reduce youth unemployment in infrastructure terms, from a theoretical point of view, a special role is assigned to “employment centers”. The employment center is a specialized place in which mediation is carried out between entrepreneurs and unemployed or hired workers looking for a new job. Typically, the employment center owns a database of job vacancies from different companies and a database of job seekers.

State employment centers, in addition to help in finding a job, carry out a general study of the demand and supply of labor, provide information on the required professions, provide vocational guidance, retraining young people, register the unemployed and pay benefits at the expense of the state budget.

The leading element of the general mechanisms for the formation of youth employment in the Republic of Kazakhstan, in accordance with Figure 6, is the training of professional personnel (training of young people in colleges and universities under the programs of professional, higher and postgraduate education).

In the Republic of Kazakhstan, when training youth in the framework of vocational education, the following tasks are solved at a systematic level:

– development and implementation of state general educational standards for vocational education, their updating taking into account the situation on the labor market and structural changes in the economy;

– creating conditions for increasing the availability of vocational education;

– support for the non-state sector of vocational education;

– organization and development of social partnership in the vocational education system;

– expansion of international cooperation on training and retraining of personnel in educational institutions of vocational education (Zh.S. Khusainova, Zh.M. Zhartai, 2020; Z. Zhartay, Z. Khussainova, B. Yessengeldin, 2020).

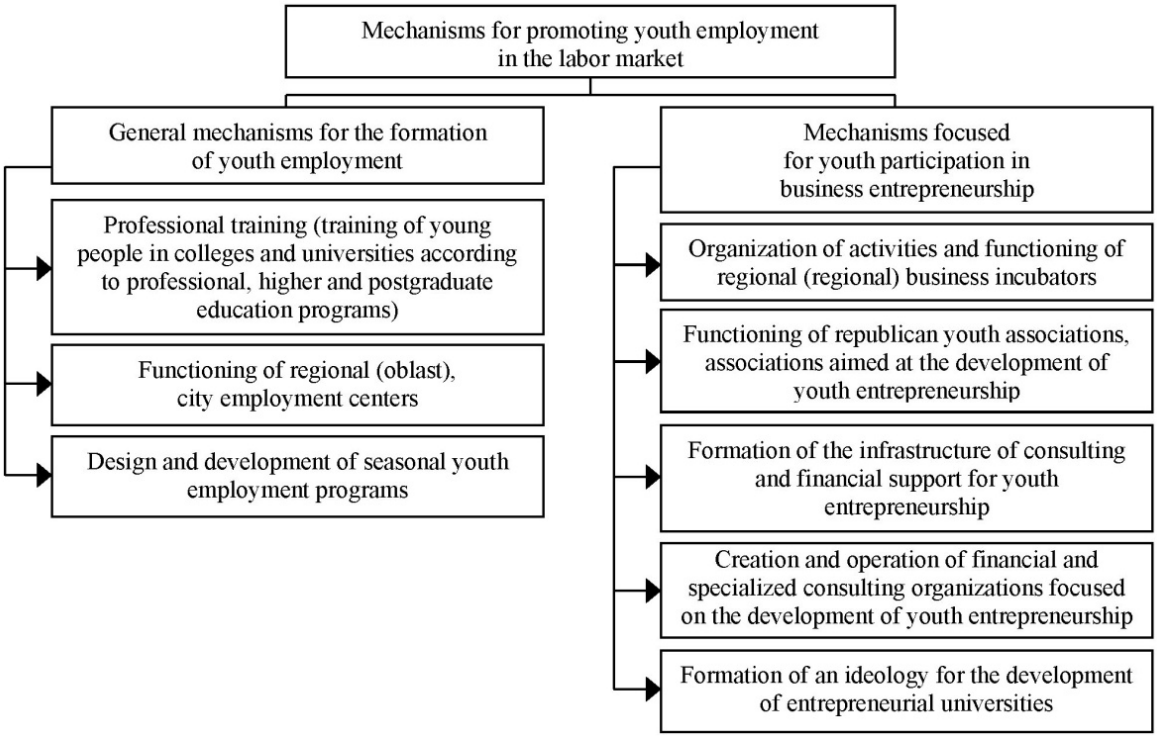


Figure 6. Modern mechanisms to promote youth employment in the Republic of Kazakhstan

Note: compiled by the authors

Along with the general mechanisms for ensuring employment and employment of youth, in the Republic of Kazakhstan the formation of mechanisms focused on the participation of youth in business entrepreneurship is considered as a strategic direction. These mechanisms provide for:

- organization of activities and functioning of regional business incubators;
- functioning of republican youth associations, associations aimed at the development of youth entrepreneurship;
- formation of the infrastructure of consulting and financial support for youth entrepreneurship;
- development of the activities of entrepreneurial universities.

Conclusions

Summarizing the above, it should be noted that motivational reasons, starting conditions for young people, state support are not sufficient conditions for starting a business. Young people often lack basic knowledge to run their own business. The development of youth entrepreneurship will be facilitated by the process of integrating the interests of educational institutions, entrepreneurs, the population (the public) and public authorities, which will achieve a synergistic effect.

To solve the problems of youth entrepreneurship the state should involve civil society institutions, public and non-profit organizations, and entrepreneurs themselves. At the same time, it is important to understand that young people should be a direct participant in the solution of regional problems and should not be exclusively in the role of an object of education, training and socialization. These measures, in our opinion, will contribute to the development of youth entrepreneurship, creating comfortable conditions for it; the state, in turn, can initiate the mass attraction of young people to entrepreneurial activity.

References

Asaul, A.N. (2009). *Organizaciya predprinimatelskoi deyatelnosti [Organization of business activities].* Saint Petersburg: ANO IPEV [in Russian].

Ahiyarova, N.V. (2009). Socialno-upravlencheskie problemy gosudarstvennoj podderzhki molodezhnogo predprinimatelstva v Respublike Bashkortostan [Social and administrative problems of state support of youth entrepreneurship in the Republic of Bashkortostan]. *Extended abstract of candidate's thesis.* Ufa [in Russian].

Bornshtejn, D. (2015). *Kak izmenit mir. Socialnoe predprinimatelstvo i sila novyh idei [How to Change the World: Social Entrepreneurs and the Power of New Ideas].* Moscow: Alpina Publisher [in Russian].

Demograficheskij ezhegodnik Kazahstana. 2020: stat. sb. [Demographic Yearbook of Kazakhstan]. (2020). Nur-Sultan [in Russian].

Ershova, T.V. (2016). Ekologicheskoe predprinimatelstvo: osnovnye napravleniya i etapy razvitiya issledovanii [Environmental entrepreneurship: main directions and stages of research development]. *Vestnik SPbGU, Ser. 8, Menedzhment — Bulletin of St. Petersburg State University. Ser. 8. Management, 1, 66–90* [in Russian].

Zhartaj, Zh.M. (2019). Analiz kolichestvennyh i kachestvennyh parametrov razvitiya molodezhnogo predprinimatelstva v Respublike Kazahstan [Analysis of quantitative and qualitative parameters of the development of youth entrepreneurship in the Republic of Kazakhstan]. *Vestnik Karagandinskogo universiteta. Ekonomicheskaya seriya — Karaganda University Bulletin Economic Series*, 96–4, 312–324 [in Russian].

Zhartay, Z., Khussainova, Z., Yessengeldin, B. (2020). *Journal Development of the youth entrepreneurship: Example of Kazakhstan. Entrepreneurship and Sustainability Issues, 8(1),* 1190–1208. Doi: 10.9770/jesi.2020.8.1(80) [in English].

Zhidikova, A.O., Rakitina, M.S. (2014). Innovacionnoe molodezhnoe predprinimatelstvo kak forma razvitiya grazhdanskogo obshchestva [Innovative youth entrepreneurship as a form of civil society development]. Youth policy and civil society in modern Russia: *Nauchno-prakticheskaya konferenciya — Scientific and practical conference.* (pp. 45–50). Rostov na/Donu [in Russian].

Ivanova, A.V. (2013). Kompleksnaya ocenka faktorov razvitiya molodezhnogo predprinimatelstva v universitetskoi srede [Comprehensive assessment of the factors for the development of youth entrepreneurship in the university environment]. *Extended abstract of candidate's thesis.* Ekaterinburg [in Russian].

Ignatov, V.I. (2015). Molodezhnoe predprinimatelstvo v Rostovskoj oblasti: sostoyanie, problemy razvitiya i napravleniya gosudarstvennoj podderzhki [Youth entrepreneurship in the Rostov region: state, development problems and directions of state support]. *Molodoi uchenyi — Young scientist, 24 (104), 443–447* [in Russian].

Klassifikaciya predpriyatii [Classification of enterprises]. (n.d.). econ.wikireading.ru. Retrieved from https://econ.wikireading.ru/30202 [in Russian].

Laricheva, A.A. (2014). Molodezhnoe predprinimatelstvo kak faktor innovacionnogo razvitiya ekonomiki Rossii [Youth entrepreneurship as a factor of innovative development of the Russian economy]. XVIII Tsarskoe Selo Readings. *Mezhdunarodnaya nauchno-prakticheskaya konferenciya — International scientific and practical conference.* (pp. 97–102). Saint Petersburg [in Russian].

Larchenko, A.V. (2015). Molodezhnoe predprinimatelstvo kak predmet socialnogo upravleniya: regionalnyj aspekt [Youth entrepreneurship as a subject of social management: regional aspect]. *Vlast i upravlenie na Vostoke Rossii — Power and control in the East of Russia, 3 (72), 92–98* [in Russian].

Lukov, V.A. (2012). *Teorii molodezhi: Mezhdisciplinarnyj analiz [Youth Theories: An Interdisciplinary Analysis]*. Moscow: "Kanon+" [in Russian].

Makkonnell, K.R., & Bryu, S.L. (2020). *Ekonomika: principy, problemy i politika [Economics: principles, problems and politics]*. Moscow: INFRA-M [in Russian].

Manngejm, K. (2010). *Izbrannoe: Diagnoz nashego vremeni [Selected: Diagnosis of Our Time]*. Moscow*: RAO "*Govoryashchaya kniga" [in Russian].

Muhambetova, D. E., Primbetova, S.Ch. (2020). Molodezhnoe predprinimatelstvo kak effektivnyj sposob resheniya problem molodezhnoj bezraboticy [Youth entrepreneurship as an effective way to solve the problems of youth unemployment]. The place of social sciences and humanities in the development of modern civilization. *Mezhdunarodnaya nauchno-prakticheskaya konferenciya (31 yanvarya 2020 goda) — International scientific and practical conference* (pp. 73–35). Belgorod: OOO "Agentstvo perspektivnyh nauchnyh issledovanii" [in Russian].

Petrishche, V.I. (2015). Innovacionnaya sreda i molodezhnoe predprinimatelstvo: problemy i perspektivy razvitiya [Innovation environment and youth entrepreneurship: problems and development prospects]. *Kontsept — Concept, 13, 766–770* [in Russian].

Husainova, Zh.S., & Zhartaj, Zh.M. (2020). Razrabotka metodologicheskih osnov Forsajt-modeli razvitiya molodezhnogo predprinimatelstva [Development of methodological foundations of a foresight model for the development of youth entrepreneurship]. *Vestnik Karagandinskogo universiteta. Ekonomicheskaya seriya — Karaganda University Bulletin Economic Series, 97–1, 58–65* [in Russian].

Shumik, E.G., Belik, E.V., Blinov, M.P. (2017). Molodezhnoe predprinimatelstvo: problemy i puti resheniya [Youth entrepreneurship: problems and solutions]. *Vestnik Tomskogo gosudarstvennogo universiteta. Ekonomika — Bulletin of Tomsk State University. Economy, 40, 11–17* [in Russian].

Shumpeter, J. A. (1982). *Teoriya ekonomicheskogo razvitiya [Economic development theory]*. Moscow: Progress [in Russian].

Zanyatost v Kazahstane. 2020: statisticheskii sbornik [Employment in Kazakhstan]. (2020). Nur-Sultan [in Russian].

Д.Н. Айтжанова, М.М. Бегентаев, С.К. Кунязова, А.А. Титков

Қазақстан Республикасындағы жастар кәсіпкерлігі: түсінігі, мәселелері және олардың шешілу жолдары

Аңдатпа

Мақсаты: Жас ұрпақты кәсіпкерлік қызметке қосу олар үшін әсіресе, шиеленіскен COVID-19 пандемиясы кезеңінде жұмыспен қамту проблемасының шешімдерінің бірі болып табылады. Экономиканы инновациялық трансформациялау процестері үшін жастар кәсіпкерлігін дамытудың маңыздылығын ескерсек, сондай-ақ, жастардың әлеуметтік бейімделу процесін басқарудың өзектілігі, оларды шығармашылық қызметке тарту және жеке өзін-өзі жүзеге асыруға мүмкіндік беру, жастар кәсіпкерлігін қолдау және дамыту механизмі Қазақстан Республикасының әлеуметтік-экономикалық даму мәселелерін шешудің орталық элементі болып табылады деп айтуға болады. Зерттеудің мақсаты жастардың жұмыспен қамтылу проблемаларын шешуге бағытталған жастар кәсіпкерлігінің вариативті нысандары мен түрлерін анықтау мақсатында жастар жұмыссыздығының пайда болу себептерін талдау.

Әдісі: Жастар кәсіпкерлігі жұмысының себеп-салдарлық факторлары туралы жиналған теориялық және практикалық деректер жүйелі талдау, ақпаратты құрылымдау, гипотеза құру және сұрау әдістерін пайдалана отырып талданды.

Қорытынды: Жастардың құрылымдық элементтерін түсінудің ғылыми тәсілдері негізінде жастардың концептуалды мәні жүйеленді, кәсіпкерлік қызметті жүзеге асыруға бағытталған мақсатты бағдарына сәйкес қарастырылатын жастар кәсіпкерлігі тұжырымдамасына объективті көзқарас анықталды. Сондай ақ, жастар кәсіпкерлігін дамытудың себеп-салдарлық факторлары айқындалды, жастар кәсіпкерлігін негізгі түрлері бойынша жіктеу әзірленді. Сауалнама жүргізу арқылы еңбек нарығындағы жастар кәсіпкерлігін дамыту проблемаларына қатысты жағдай зерделенді және жастар жұмыссыздығы проблемасын шешу жолдары ұсынылды.

Тұжырымдама: Жастар кәсіпкерлігі ұғымына ғылыми көзқарастарды нақты жүйелеу, жастар арасындағы жұмыссыздық себептерін, жастар кәсіпкерлігін дамыту проблемаларын анықтау жастар мен халықты еңбек нарығында толық жұмыспен қамтуға қол жеткізу үшін жастар кәсіпкерлігінің үдемелі дамуын қамтамасыз етуге мүмкіндік береді.

Кілт сөздер: жастар, жастар кәсіпкерлігі, бизнес және кәсіпкерлік, кәсіпкерлік қызмет, жұмыссыздық, жұмыспен қамту, сыныптау, инновациялық белсенділік, бәсекегеқабілеттілік.

Д.Н. Айтжанова, М.М. Бегентаев, С.К. Кунязова, А.А. Титков

Молодежное предпринимательство в Республике Казахстан: понятие, проблемы и пути решения

Аннотация

Цель: Включение в предпринимательскую деятельность молодого поколения является для них одним из решений проблемы трудовой занятости, особенно обострившейся в период пандемии COVID–19. Учитывая важность развития молодежного предпринимательства для процессов инновационной трансформации экономики, а также актуальность управления процессом социальной адаптации молодежи, вовлечения ее в созидательную деятельность и предоставления возможностей для максимальной личностной самореализации, можно утверждать, что механизм поддержки и развития молодежного предпринимательства является центральным элементом решения проблем социально-экономического развития Республики Казахстан. Цель данного исследования заключается в анализе причин возникновения молодежной безработицы с целью определения вариативных форм и видов молодежного предпринимательства, ориентированных на решение проблем занятости молодежи.

Методы: Собранные теоретические и практические данные о причинно-следственных факторах функционирования молодежного предпринимательства были проанализированы с использованием методов системного анализа, структурирования информации, построения гипотез и опроса.

Результаты: На основе научных подходов к пониманию структурных элементов молодежи была систематизирована понятийная сущность молодежи, определен объективный подход к понятию “молодежное предпринимательство”, которое рассмотрено в соответствии с его целевым ориентиром, направленным на осуществление предпринимательской деятельности. Более того выявлены причинно-следственные факторы развития молодежного предпринимательства, разработана классификация молодежного предпринимательства по основным видам. Посредством проведения опроса изучена ситуация на рынке труда относительно проблем развития молодежного предпринимательства и предложены пути решения проблемы молодежной безработицы.

Выводы: Чёткая систематизация научных подходов к понятию молодежного предпринимательства, выявление причин безработицы среди молодежи, проблем развития молодежного предпринимательства позволят обеспечить поступательное развитие молодежного предпринимательства для достижения полной занятости молодежи и населения на рынке труда.

Ключевые слова: молодежь, молодежное предпринимательство, бизнес и предпринимательство, предпринимательская деятельность, безработица, занятость, классификация, инновационная активность, конкурентоспособность.

References

Асаул, А.Н. Организация предпринимательской деятельности [Текст]: учебник / А.Н. Асаул — СПб.: АНО ИПЭВ, 2009 — 336 с.

Ахиярова, Н.В. Социально-управленческие проблемы государственной поддержки молодежного предпринимательства в Республике Башкортостан [Текст]: автореф. дис. канд. социол. наук / Н.В. Ахиярова — Уфа, 2009. — 24 с.

Как изменить мир. Социальное предпринимательство и сила новых идей [Текст] / Д. Борнштейн. — М.: Альпина Паблишер, 2015. — 496 с.

Ершова, Т.В. Экологическое предпринимательство: основные направления и этапы развития исследований [Текст] / Т.В. Ершова // Вестник СПбГУ. Сер. 8. Менеджмент. — 2016. — № 1. — С. 66 — 90.

Жартай, Ж.М. Қазақстандағы жастар кәсіпкерлігін дамытудың сандық және сапалық параметрлерін талдау [Текст] / Ж.М. Жартай // Вестник Карагандинского университета Эконом-серия. — 2019. — № 4 (96). — С. 312 — 324.

Zhartay, Z. Development of the youth entrepreneurship: Example of Kazakhstan / Z. Zhartay, Z. Khussainova, B. Yessengeldin // Entrepreneurship and Sustainability Issues. — 2020. — N8(1). — P. 1190 — 1208.

Жидикова, А.О. Инновационное молодежное предпринимательство как форма развития гражданского общества [Текст] / А.О. Жидикова, М.С. Ракитина // Молодежная политика и гражданское общество в современной России: сб. материалов науч.-практ. конф. Ростов н/Д, 2014. С. 45–50.

Иванова, А.В. Комплексная оценка факторов развития молодежного предпринимательства в университетской среде [Текст]: автореф. дис. канд. эконом. наук. / А.В. Иванова. — Екатеринбург, 2013. — 24 с.

Игнатов, В.И. Молодежное предпринимательство в Ростовской области: состояние, проблемы развития и направления государственной поддержки [Текст] / В.И. Игнатов // Молодой ученый. — 2015. — № 24 (104). — С. 443–447.

Классификация предприятий (https://econ.wikireading.ru/30202).

Ларичева, А.А. Молодежное предпринимательство как фактор инновационного развития экономики России [Текст]: материалы конференции XVIII ЦАРСКОСЕЛЬСКИЕ ЧТЕНИЯ. — СПб., 2014. С. 97–102.

Ларченко, А.В. Молодежное предпринимательство как предмет социального управления: региональный аспект [Текст] / А.В. Ларченко // Власть и управление на Востоке России — 2015. — № 3 (72). С. 92–98.

Луков, В.А. Теории молодежи: Междисциплинарный анализ [Текст] / В.А. Луков. — М.: “Канон+” РООИ “Реабилитация”, 2012. — 528 с.

Макконнелл, К.Р. Экономикс: принципы, проблемы и политика: пер. 17-го англ. изд. [текст] / К.Р. Макконелл, С.Д. Брю. — Издательство: ИНФРА-М, 2009. — 972 с.

Маннгейм, К. Избранное: Диагноз нашего времени [Текст] / К. Маннгейм. — М.: РАО Говорящая книга, 2010. — 744 с.

Мухамбетова, Д.Е., Примбетова, С. Ч. Молодежное предпринимательство как эффективный способ решения проблем молодежной безработицы [Текст]: // материалам Международной научно-практической конференции “Место социально-гуманитарных наук в развитии современной цивилизации”. — ООО Агентство перспективных научных исследований (АПНИ), 2020. — С. 73–75.

Петрище, В.И. Инновационная среда и молодежное предпринимательство: проблемы и перспективы развития [Текст] / В.И. Петрище // науч.-метод. журн. “Концепт”. Т. 13. — 2015. — С. 766–770.

Khussainova, Zh.S. Development of methodological bases for the foresight model of youth entrepreneurship development / Zh.S. Khussainova, Zh.M. Zhartay // Вестник Карагандинского университета Эконом-серия — 2020. — № 1(97). — С. 58–65.

Шумик, Е.Г. Молодежное предпринимательство: проблемы и пути решения [Текст] / Е.Г. Шумик, Е.В. Белик, М.П. Блинов // Вестник Томского государственного университета. Экономика — 2017. — № 40. — 11 с.

Шумпетер, Й.А. Теория экономического развития [текст] / Й.А. Шумпетер — М.: Прогресс, 1982. — 385 с.

Занятость в Казахстане [Текст]: статистический сборник. — 2020. — 242 с.

DOI 10.31489/2021Ec2/16-23
JEL 010, 030
UDC 332.142.4

G.A. Akzhanova

L.N. Gumilyov Eurasian National University, Nur-Sultan, Kazakhstan

(E-mail: gulzira_abd@mail.ru)

https://orcid.org/0000-0002-0874-1060

Innovation environment as a key factor in the development of the region's innovative potential

Abstract

Object: The regional innovation environment, as the major factor, is the object of research for the development of innovative potential.

Methods: This article uses such research methods as generalization, comparison, systematization and statistical analysis.

Results: It is important to reveal regional features, the group of factors that contribute to the development of innovative potential in an innovative environment. The innovation environment is considered from the point of view of the institutional, corporate and educational innovation environment that promotes effective innovation in the region. The basic factors at the micro-, meso-, macro levels that have a positive effect on the development of the region's innovation environment are revealed. The main indicators of innovation activity and dynamics of internal expenditures on research in Kazakhstan for 2015–2019 are analyzed in order to determine the significance of the educational innovation environment.

Conclusions: The conclusion is made about the importance of educational, institutional and corporate innovation environments based on the identified activities. The rational use and development of innovative potential is possible only when the studied factors of the innovation environment interact, which will allow us to concentrate all the obvious and hidden opportunities of the region into a single innovation system.

Keywords: innovative environment, innovative environment of the region, factors of the innovative environment, innovative potential, corporate culture, commercialization, knowledge generation, innovation system.

Introduction

In modern circumstances the way of innovative development is connected with the realization of all strategic programs of regional and state development. This involves the development of innovative environment that would response to all the requirements of social economic nature and its long term prosperity. An enabling environment in the country stimulates the development of innovative potential, functioning of innovative system and process. The relevance is revealing the regional peculiarities, the group of factors impacting the development of innovative potential in the given area.

Regional innovative environment provides an impact of existing groups of factors with characteristic features, cultural peculiarities of population, priorities in the innovational development, an attitude of residents toward changes. The novelty and significance of research include the development of theoretical methodological support, as well as the explanation of scientific and practical methods that are directed to achieve stable regional innovative development implementing environmental factors.

Of course, the goal of creating an innovative environment in the region and the country is the formation of a favorable regulatory framework for state innovation policy, economic and organizational conditions, which will contribute to the development of new scientific and technological achievements in production. During the forming process of innovative environment the sectorial features shall be taken into account as well as the specific characteristics of innovation development in the economic system.

On the basis of established triad, institutional, educational, and corporative aspects should undoubtedly find their application in an appropriate structure of a practical innovative activity.

Regional environment of innovation contributes to expand an interrelation between all the institutes and accelerates the work of innovative process to involve regional organizations and enterprises that are engaged in research developments and educational services as well.

Carried out analysis of the concept “innovative environment” will allow to disclose it as a combination of economical, legal, social and institutional ambiance, maintaining complex favorable conditions for realization of strategic programs. The term “innovative environment” is understood as multilayered system, which integrates external and internal factors, providing and retaining the development of innovative activity.

Definitely, varieties of the listed and considered factors influencing innovative environment in exact region make an effect on innovative process in general, therefore it is necessary to be precisely aware of existing innovative possibilities. The development and rational use of innovative potential is possible only with the interaction of factors of the innovative environment, which will allow concentrating and forming all the possibilities into a single innovation system.

Literature Review

The innovative development the in region, interactions between authorities and participants of innovative actions were investigated by both Russian and foreign scientists. In particular, many scientists believe that the innovation environment should be studied as a new trend that contributes to the formation and improvement of the innovation process.

In 1980s the group of explorers GREMI (Groupede Recherche Europeensurles Milieux) (Fromhold-Eisebith, M., 2002) in particular, considered the term "innovative environment" as a means of systematic conditions analysis that stimulates the development of new markets, creation of new manufacturing fields, the activation of innovative process and increase of new business ideas for entrepreneurship. Accordingly, GREMI group of researchers examined the following:

– Innovative environment as a certain condition for the formation, design and diffusion of innovations.

– Systematic interrelations between elements of innovative environment.

– Sociological aspect of innovative environment as the fundamental basis for creating innovative product.

The empirical approach helped GREMI scientists to create the groups of elements for innovative environment — the inventors of intellectual goods (NRI, Universities, and individual innovators), innovative infrastructure, investors and innovative process users.

The author of a given article supposes that above-considered definition embraces all the institutes, the elements of innovative environment that interact with each other to reach exact goals in a particular region or country. Definitely, it is a right way to activate the innovative process on a local or regional and state levels, which need responsible and close-knit team of various institutions, which could improve prosperity of a nation, increase and commercialize innovative product, manage the development of innovative potential.

The Dutch scientist Jenson J. Ole supposes that innovative process is influenced by social relationships and networks of different levels (local, regional, national), which assist an exchange of proposed ideas and prompt information (Jenson. J., 2004). In this case, networks mean informal relationship of participants in innovative system, which have common goals, defined by geographical locations and diverse values.

A.A. Nesterov (Nesterov A.A., 2012) assumes the regional innovative environment as a system, which takes into consideration several subsystems, like educational, research, innovative enterprises and companies, investment branches, political and institutional support.

In the opinion of Yu.A. Karmysheva and N.V. Ivanova (Karmysheva Yu. et al., 2015), innovative environment is the interrelation of regional external ambiances (mega-, macro- and meso-levels) and regional innovative system, which is identified by complex dynamically developing administrative, economic and financial relationships, making competitive regional innovative development and action between business entities.

R. Boschma examined innovative environment as a concept of "proximity" on the basis of GREMI and cluster theory, which presents a range of institutions that state necessary terms for the effective development of innovations. Thus, when forming innovational environment, social and institutional proximity sets up an effective link between innovation and know-how (Boschma R., 2005).

Kim G.H. investigates the structure of the innovative environment as a way that transforms innovative ideas into commercialization, so-called "path-breaking way", which requires availability of material and human resources, as well as infrastructural, financial and institutional resources. As a result the innovation environment is focused on the following interrelated aspects: educational, entrepreneurial, investment, and research (Kim G.H., 2014).

In 1980s Manuel Castells began to investigate the term "innovative environment" as a means of systematic condition analysis that offers to economic entities new ideas, goods and services to produce, setting up new manufacturing locations and development of new markets.

Innovative environment is the basis for growth of regional innovative capability and its realization through generation of knowledge, new products, and new innovative processes with a view to achieve prior innovative results for region (Kastel's M. et al., 2000; 368).

Systematically arranging reviewed studies, we conclude that innovative environment is a complex of interrelated factors, elements, special features and institutions that contribute to achieve goals of innovative development.

Based on the above-mentioned, the author suggests her own definition of "innovative environment" as a set of elements, clusters, factors and terms that provide interaction of all systems, creating innovations in the formation process, as well as managing them. Thus, the innovation environment has a positive impact on investment, helps to reduce the risks of an innovative project and has a fruitful impact on the commercialization of the results of research and development.

Methods

Scientific research materials in the sphere of innovative development of a region were studied, which were also used to write the given research work. To carry out given research method of comparison has been implemented according to the data from Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan. The number basic innovational activity indicators in the Republic of Kazakhstan in a period of 2015 and 2019, such as a share of innovative products to GDP, the amount of innovative products (goods, services), the volume of realized innovative products, and the level of innovational intensity under the technological innovations, general expenditure for research works and technological innovations were used. Currently the most spread method is statistical, which allows to gather, process and analyze quantity data to determine the state of the investigated object. In order to define the importance of educational innovative environment, comparative method for key branches of the science in Kazakhstan between 2015–2019 has been used, such as natural sciences, medical, agricultural, social humanitarian sciences an engineer development and technologies. Comparative method is often applicated to compare one or more indicators, to make a contrast between two things to systematize and group the data.

Results/Discussions

The regional progress of innovative environment is possible if there exists an effective and prospective innovative system, which makes a positive impact on the active engagement of the enterprise, innovative occupation, and the development of regional innovative capability. The key factors that have a positive impact on the creation of an innovative environment are considered at the micro-, meso-, and macro levels (Shmanev S., 2011):

– macro-economic level considers political stability, economic changes, legal framework, climate conditions, availability of national research centers, patent agencies;

– meso-economic level considers the progress of infrastructure, possibilities for investment, sophistication and market coverage, technical science information center, demand for innovative products and services, and research laboratories;

– micro-economic level of external sphere is provided with high qualified specialists, contract partners, the existence of business rivalry, availability and demand for innovative products and services, research laboratories;

– micro-economic level of internal sphere is determined by the availability of innovative infrastructure, liveliness, and improved level of innovative potential, level of advanced education, science and relation between them, financial support for innovative work.

These peculiar factors of forming the regional innovative environment present its special aspects in multifunctional economic development that will find their implementation in practical activity. Basically, development process of innovation can be effective only under definite terms; therefore the main task is to organize an effective innovation environment that promotes the development and commercialization of innovative ideas and economic growth in the region and the country as a whole.

Innovative environment represents the unity of internal and external factors of innovative process. The internal factors involve all the components of innovative potential, that is to say, all possibilities and used resources that are able to transform into business ideas, as well as their further commercializing. External factors are connected with institutional units and their changes, stimulating innovative development that represents national innovation system as a whole. Interconnection of internal and external factors, regional institutes, entrepreneurs and educational institutions play an important role in establishing of innovative environment of region. Regional innovative environment's development is based on the following aspects (Goryunova L., 2015, Erkenova A. et al., 2017, Raikhlina A., 2017):

1. Institutional environment.
2. Business environment.
3. Educational environment.

Institutional environment implies an interaction of financial, social and legal type of organizations. This sphere gives an opportunity to entities of innovative activity to associate with other segments of national

economics that have cultural and political characteristics, traditions, rules and mechanisms of regulating relations in society. Legal and regulatory framework is supposed to be its basic element. Also, due to the relations between the existing institutions, the efforts of certain state and local authorities and financial institutions to support and promote the innovative project are carried out and coordinated.

Accordingly, institutional environment shall be created by assistance of state bodies and institutions to promote innovative, science and technical, financial politics.

Further we will discuss business environment, which is made under the influence of innovative business culture. Business environment means traditions, moral and spiritual values, a set of behavior rules, internal and external values that occure during the work of company. The work of business environment in the company is executed under three levels: external, internal, and deep, i.e., during unconscious transformation of personal qualities in compliance with requirements, various rewards in company.

The system of innovative education for business environment depends on sincere interest of company's leadership in seminal and effective work over innovation activity. Business environment is unable to operate independently from other institutions. Hence, the progress of innovative business environment will depend on the combination of ideas, values, sustainable rules and principles, intrinsic to organization; focusing on final results and team work, qualitative business culture that establish social and economic relationships.

Correspondingly, innovative business environment and culture serve as mutually reinforcing foundation of innovative potential, which assists to execute innovative activity in region or country.

The basic elements of educational innovative environment include enlargement of marketability through education, cooperation degree with science organizations, other universities, foreign universities, organizations of research work and etc. Thus, innovative educational environment provides implementation and increase of new product; inventing and developing startups; acquiring individual skills in the sphere of innovation studies; long term realization of scientific innovational projects.

Obviously, creation of special science-based fields (research laboratory, technological hub, business incubator, startup center and others.) commonly become practical and research base for university students (Nazarbayev University, "Alatau" Innovative Park of Technologies, Astana Hub). Kazakhstan start-up market began to gain its turnover since 2014. In the startup markets of developed countries (Europe, USA, China, Japan) the share of innovations in the GDP structure exceeds 20 %, while in Kazakhstan it is only 1,4 %. By 2024 an increase of up to 5 % of GDP is forecast. It is likely that, intensity of innovation will increase on the basis of created research areas in a country in the future.

The author of the article supposes that the given scheme should obviously find its practical implementation in an appropriate triad of the innovative activity. Systematic use and realization of three aspects will definitely lead to a positive result, as they are connected and depend on each other. Thus, on the abovementioned basis, innovative environment of the region forms on three aspects (Figure 1).

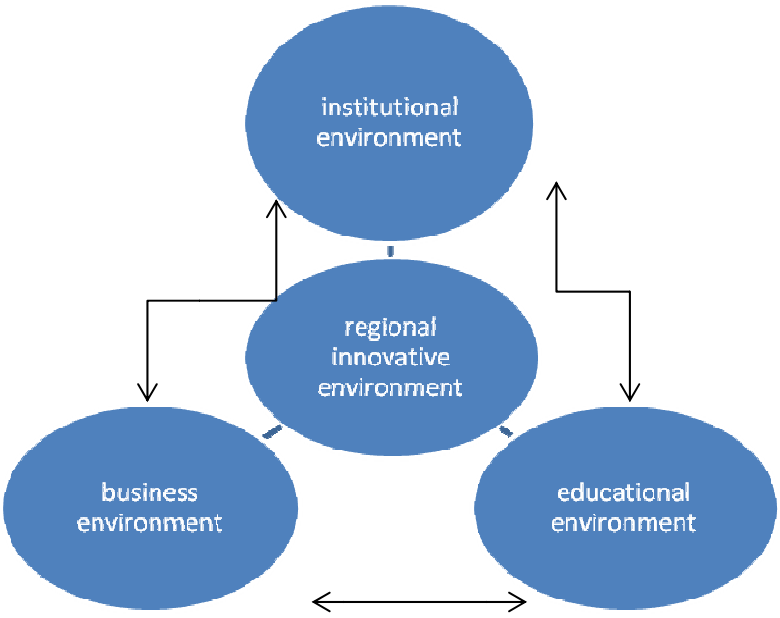


Figure 1. The formation of regional innovative environment

Note: compiled by author

The main objective of aspects described is the creation of enabling possibilities, close cooperation of educational institutions with institutes and state, fulfillment of scientific-practical ideas and business projects. In this case educational innovative environment (university) is regarded as a link because it is supposed to be the foundation of research elaboration, structural design works, and business ideas.

The final result depends on exact requirements, regional specific features, location, and innovative intensity of enterprises, existing innovative capacity and innovativeness, creativity of young professionals, etc.

Qualitative characteristic of innovative environment is determined by the increase of innovative intensity and innovative potential of region or country. Dynamic results of innovation activity in a country are reviewed in the Table 1.

Table 1. Main indicator analysis of innovative activity in the Republic of Kazakhstan, 2015–2019.

Indicators	2015	2016	2017	2018	2019
GDP, % proportion of innovative product	0.92	0.95	1.55	1.91	1.42
Amount of innovative product (goods, services), m. tenge	377 196.7	445 775.7	844 734.9	1 179 150.2	981 328.3
Amount of produced innovative products (goods, services), m. tenge	341 270.9	451 630.4	854 258.3	1 134 952.6	864 652.4
Level of intensity in the sphere of innovation under all types of innovations, %	8.1	9.3	9.6	10.6	11.3
Level of intensity in the sphere of innovation under processes of innovation and products, %	5.6	5.6	5.7	6.6	7.5
Expenditure on R&D	86 572.9	89 509.8	92 732.4	99 706.7	118 070.7
Internal expenditure, m. tenge	69 302.9	66 601.1	68 884.2	72 224.5	82 333.1
External expenditure, m. tenge	17 270.0	22 909.7	23 848.2	27 482.1	35 737.6
Expenditure on products and process innovations, m. tenge	655 361.0	1 528 645.9	899 681.8	856 449.5	535 046.2
Note: compiled by author on the basis of CS MNE RK source					

In accordance with performed analysis it is revealed that the proportion of innovative product in Kazakhstan has grown from 0,92 % up to 1,91 %, but in 2019, owing to the crisis, it is declined to 1,42 %. Correspondingly, the amount of innovative product has increased twice. The data regarding the level of activeness under all types of innovation has risen from 8,1 % to 11,3 %, i.e., 1,3 times. Expenditure on R&D is climbing each year, financial support went up 1,4 times in 2019 comparing to 2014. At this point of innovative development, there is a strong focus on R&D in the country.

The development of educational innovative environment is supported by State Program of Educational Development and Science of the Republic of Kazakhstan for 2020–2025, which ensures the continuation of modernization of Kazakhstan's education. The goal of this program is to increase the global competitiveness of Kazakhstan's education and science, education and training of individuals based on universal values, as well as to increase the contribution of science to the socio-economic development of the country (State Program for the Development of Education of the Republic of Kazakhstan for 2020–2025, 2019).

Nowadays, the facilities are provided for improvement of education, such as increasing educational scholarships, implementation of innovative methods and technologies of teaching in universities, involving international exchange programs (Tempus, Tasis, Erasmus Mundus, Irex and others), and opening research centers in universities. All these assist to make research discoveries in different branches of science (Figure 2).

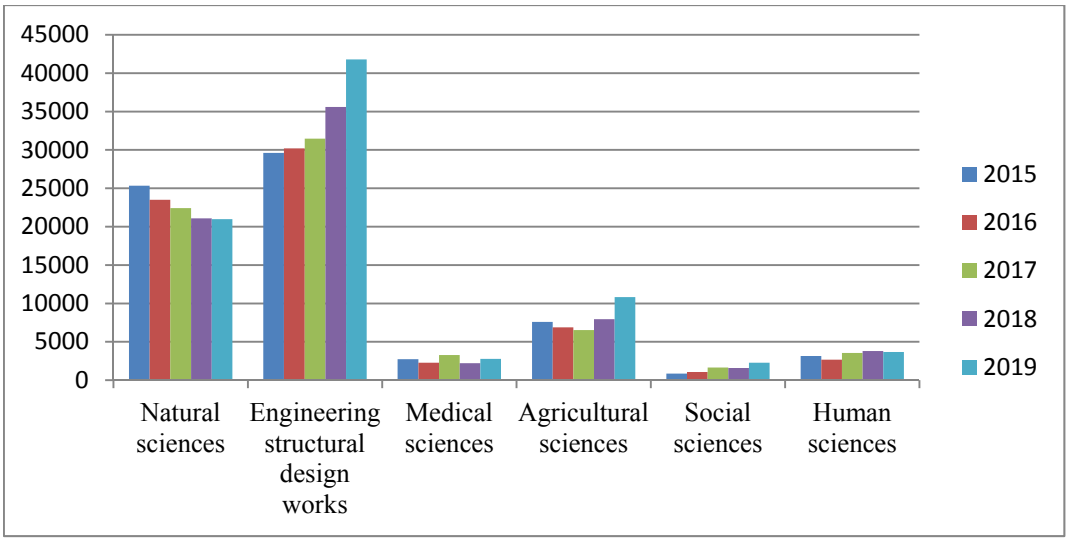


Figure 2. The dynamics of internal expenditure of R&D concerning branches of science Kazakhstan, 2015–2019

Note: compiled by authors based of CS MNE RK (source stat.gov.kz)

According to the data, the sphere of natural science, structural design and technology of engineering was and will always be relevant. In 2019 expenditure on engineering structural design has risen 1.4 times comparing to 2015. The less developed branch for investment is social science. In 2019 2275.1 million tenge had been spent compared with 2015 (850,5 m. tenge). As national practice shows, engineering technology is in demand for scientific discoveries and innovations.

In the opinion of international experts, the top science directions in Kazakhstan are nanotechnology, biotechnology, technology for hydrocarbon and mining and metallurgical sectors, informational and space technology.

Conclusions

Consequently, innovational environment is the set of composed for a certain period geographical features, innovative and enterprise culture, generation and application of acquired knowledge, mastering and presenting a new product to the market. Considering the interaction of institutional and educational aspects of innovative environment on the level of region, it is possible to systematize the following arrangements:

– Support and realization of main innovative projects.
– Mastering innovative field of region or country.
– Implementation of science based product, commercializing new technology in the sphere of education.
– The creation of new science based product and its presentation at international market.
– The state support and stimulation of innovative business structures.

Therefore the region has a good potential for innovation but it is not used to its full potential. At the state level, state programs and comprehensive measures to activate innovative activities are being developed and implemented, and separate institutional bodies and structures are being formed to ensure productive and competitive work. The primary objective of uniting the state, science and enterprise is creating an enabling innovative environment in region for the transformation into new level of national innovative system development.

References

Boschma R. (2005). Proximity and Innovation: A critical Assessment, *Regional Studies, 39, 1, 61–74.*

Fromhold-Eisebith, M. (2002, August 27–31). Innovative milieu and social capital-exploring conceptual complementarities (Example of the Aachen region, Germany). *Paper to be presented at the conference of the European Regional Science Association (ERSA).* Dortmund, 56–59.

Gorjunova L.A. (2015). Innovacionnaja institucional'naja sreda kak faktor ustojchivosti territorial'nogo razvitija. *Vestnik Burjatskogo gosudarstvennogo universiteta.* 2a, 21–25 [in Russian].

Jenson, J. O., & Tollin, N. (2004). Networks as Tools for Sustainable Urban Development. Paper presented at Innovation, *Sustainability and Policy*, Münich, Germany, 16.

Jerkenova, A.V., Urusova, Z.M. (2017). Sovremennye podhody k opredeleniju sushchnosti innovacionnoj obrazovatelnoj sredy vuza. *Problemy sovremennogo pedagogicheskogo obrazovanija*, 54, 6, 233–241 [in Russian].
Karmyshev, Ju.A., Ivanova, N.V. (2015). Kategorii "region" i "innovacionnaja sreda regiona": nauchnye podhody k ponimaniju sushchnosti i soderzhanija. *Social'no-jekonomicheskie javlenija i process*, 7, 10, 41–47 [in Russian].
Kastel's, M. (2000). Informatsionnaya epokha: ekonomika, obshchestvo i kul'tura *[Information epoch: economy, society and culture]*: per. s angl. / O.I. Shkaratan (Ed.). Moscow: GU "VShE" [in Russian].
Kim G.H. (2014). Faktory formirovaniia innovatsionnoi sredy natsionalnoi ekonomiki [Factors of the formation of the innovative environment of the national economy]. Uchenye zapiski SPb un-ta upravleniia i ekonomiki — *Scientific Notes of the St. Petersburg University of Management and Economics*. 3,47, 87–93 [in Russian].
Gosudarstvennaya programma razvitiya obrazovaniya Respubliki Kazakhstan na 2020–2025 gody № 988 ot 27 dekabrya 2019 g. — (https://iqaa.kz/normativno-pravovye-dokumenty-rk/gosudarstvennye-programmy).
Nesterov, A. A. (2012). Innovacionnaja sreda jekonomicheskih sistem: struktura, ocenka i upravlenie. *Upravlenie jekonomicheskimi sistemami: jelektronnyj nauchnyj zhurnal*, 9, 45, 37 [in Russian].
Offitsialnyi site Komiteta statistiki Ministerstva nacional'noj jekonomiki Respubliki Kazahstan [Official webside of the Statistic Committee Ministry of National Economy of the Republic of Kazakhstan]. *stat.gov.kz.* Retrieved from https://stat.gov.kz/faces/wcnav_externalId/ecolog-A-1? lang=ru [in Russian].
Offitsialnyi site Negosudarstvennogo uchrezhdenija "Nezavisimoe agentstvo po obespecheniju kachestva v obrazovanii" [Official website of the NO "Independent Agency for Quality Assurance in Education"]. *iqaa.kz.* Retrieved from https://iqaa.kz/normativno-pravovye-dokumenty-rk/gosudarstvennye-programmy [in Russian].
Rajhlina, A.V. (2017). Formirovanie innovacionnoj sredy regiona kak vazhnejshee uslovie jeffektivnoj innovacionnoj dejatel'nosti. *Internet-zhurnal "NAUKOVEDENIE*", 4, 9. *naukovedenie.ru.* Retrieved from http://naukovedenie.ru /PDF/38EVN417.pdf [in Russian].
Shmanèv, S.V. (2011). Dinamicheskaja model' prognozirovanija jeffektivnosti investicij v innovacionnye proekty na promyshlennom predprijatii. [Tekst]/ I.G. Parshutina, S.V. Shmanèv. *Vestnik OrelGIJeT,* 4, 18, 34–38 [in Russian].

Г.А. Акжанова

Инновациялық орта аймақтың инновациялық әлеуетін дамытудың негізгі факторы ретінде

Аңдатпа

Мақсаты: Инновациялық әлеуетті дамытудың маңызды факторы ретінде аймақтық инновациялық орта зерттеу объектісі болып табылады.

Әдісі: Мақалада жалпылау, салыстыру, жүйелеу және статистикалық талдау сияқты зерттеу әдістері қолданылды.

Қорытынды: Аймақтық ерекшеліктерді, инновациялық ортадағы инновациялық әлеуеттің дамуына ықпал ететін факторлар тобын ашу өзекті болып табылады. Инновациялық орта аймақтағы тиімді инновацияларға ықпал ететін институционалдық, корпоративті және білім беру инновациялық ортасы тұрғысынан қарастырылды. Аймақтың инновациялық ортасының дамуына оң әсер ететін микро, мезо-макродеңгейдегі негізгі факторлар анықталды. Білім беру инновациялық ортасының маңыздылығын анықтау мақсатында инновациялық қызметтің негізгі көрсеткіштері және Қазақстан Республикасы бойынша 2015–2019 жылдардағы ғылыми зерттеулерге ішкі шығындардың динамикасы талданды.

Тұжырымдама: Анықталған іс-шаралар негізінде білім беру, институционалдық және корпоративтік инновациялық ортаның маңыздылығы туралы қорытынды жасалды. Осылайша, инновациялық әлеуетті ұтымды пайдалану және дамыту инновациялық ортаның зерттелетін факторларының өзара іс-қимылы кезінде ғана мүмкін, бұл өңірдің барлық айқын және жасырын мүмкіндіктерін бірыңғай инновациялық жүйеде шоғырландыруға мүмкіндік береді.

Кілт сөздер: инновациялық орта, аймақтың инновациялық ортасы, инновациялық орта факторлары, инновациялық әлеует, корпоративтік мәдениет, коммерциализация, білімді қалыптастыру, инновациялық жүйе.

Г.А. Акжанова

Инновационная среда как ключевой фактор развития инновационного потенциала региона

Аннотация

Цель: Объектом исследования является региональная инновационная среда как важнейший фактор развития инновационного потенциала.

Методы: В статье использованы такие методы исследования, как обобщение, сравнение, систематизация и статистический анализ.

Результаты: Актуальным является раскрытие региональных особенностей, групп факторов, способствующих развитию инновационного потенциала в инновационной среде. Инновационная среда

рассмотрена с точки зрения институциональной, корпоративной и образовательной инновационной среды, способствующей эффективной инновационной деятельности в регионе. Раскрыты основные факторы на микро-, мезо- макроуровнях, которые положительно влияют на развитие инновационной среды региона. С целью определения значимости образовательной инновационной среды проанализированы основные показатели инновационной деятельности и динамика внутренних затрат на научные исследования по Республике Казахстан за 2015–2019 годы.

Выводы: Сделан вывод о значимости образовательной, институциональной и корпоративной инновационных сред на основе проведенных мероприятий. Таким образом, рациональное использование и развитие инновационного потенциала возможны только при взаимодействии исследуемых факторов инновационной среды, что позволит сконцентрировать все явные и скрытые возможности региона в единой инновационной системе.

Ключевые слова: инновационная среда, инновационная среда региона, факторы инновационной среды, инновационный потенциал, корпоративная культура, коммерциализация, генерация знаний, инновационная система.

References

Boschma R. (2005). Proximity and Innovation: A critical Assessment, Regional Studies, 39, 1, 61–74.

Fromhold-Eisebith M. Innovative milieu and social capital-exploring conceptual complementarities (Example of the Aachen region, Germany) // Paper to be presented at the conference of the European Regional Science Association. — Dortmund, August 27–31, 2002. — P. 56–59.

Jenson J. Ole. Networks as a tool for urban sustainable development // Paper for the international conference “Innovation, Sustainability and Policy”. — Munich, 23–25 May, 2004. — P. 5.

Государственная программа развития образования Республики Казахстан на 2020–2025 годы № 988 от 27 декабря 2019 г. — (https://iqaa.kz/normativno-pravovye-dokumenty-rk/gosudarstvennye-programmy).

Горюнова Л.А. Инновационная институциональная среда как фактор устойчивости территориального развития/ Л.А. Горюнова // Вестн. Бурят. гос. ун-та. — 2015. — № 2а. — С. 21–25.

Кастельс М. Информационная эпоха: экономика, общество и культура / М. Кастельс; пер. с англ., под науч. ред. О.И. Шкаратана. — М.: ГУ ВШЭ, 2000. — 608 с.

Кармышев Ю.А. Категории “регион” и “инновационная среда региона”: научные подходы к пониманию сущности и содержания / Ю.А. Кармышев, Н.В. Иванова // Социально-экономические явления и процессы. — 2015. — № 7(10). — С. 41–47.

Ким Г.Х. Факторы формирования инновационной среды национальной экономики / Г.Х. Ким // Ученые записки СПб. ун-та управления и экономики. — 2014. — № 3 (47). — С. 87–93.

Нестеров А.А. Инновационная среда экономических систем: структура, оценка и управление / А.А. Нестеров // Управление экономическими системами: электрон. науч. журн. — 2012. — № 9 (45). — С. 37.

Официальный сайт Комитета статистики Министерства национальной экономики Республики Казахстан. — (https://stat.gov.kz/).

Официальный сайт Негосударственного учреждения “Независимое агентство по обеспечению качества в образовании”. — (https://iqaa.kz/ob-agentstve/).

Райхлина А.В. Формирование инновационной среды региона как важнейшее условие эффективной инновационной деятельности / А.В. Райхлина // Интернет-журн. “НАУКОВЕДЕНИЕ”. — 2017. — № 4 (9). — (http://naukovedenie.ru/PDF/38EVN417.pdf).

Шманѐв С.В. Динамическая модель прогнозирования эффективности инвестиций в инновационные проекты на промышленном предприятии. [Текст] / С.В. Шманѐв, И.Г. Паршутина // Вестн. ОрелГИЭТ. — 2011. — № 4 (18). — С. 34–38.

Эркенова А.В. Современные подходы к определению сущности инновационной образовательной среды вуза / А.В. Эркенова, З.М. Урусова // Проблемы современного педагогического образования. — 2017. — № 54 (6). — С. 233–241.

DOI 10.31489/2021Ec2/24-33
JEL: O23
UDC 332.142

Z.A. Arynova[1], D.Zh. Tursynkhanov[2], S.Zh. Nurgalieva[3,*]

[1,3]Innovative University of Eurasia, Pavlodar, Kazakhstan
[2]Toraighyrov University, Pavlodar, Kazakhstan

[1]zaryn24@mail.ru, [2]Tdar74.@mail.ru, [3]n_saltanat_zh@mail.ru

[1]https://orcid.org/0000-0003-0123-6667, [2]https://orcid.org/0000-0001-5603-8153

Mechanism for the formation of the local self-government budget and the sources of its income

Abstract

Object: to determine the main directions of strengthening the financial base of local self-government in modern conditions in the framework of the implementation of national policies in the field of socio-economic development of territories.

Methods: The scientific abstraction method supported with information analysis and grouping.

Findings: The results of the analysis of the main characteristics of budgets of the fourth level and the proposed ways to strengthen the revenue base of local self-government contribute to the improvement of the theory of the budget process and inter-budget relations, as well as the development of methodological foundations for the formation of local budgets. The main factor limiting the independence of local governments in the formation of the local budget is the high level of concentration of the country's income (tax) potential at the stage of its primary distribution due to the model of budget-redistributive relations used.

Conclusions: By analyzing the problems of the fourth-level budgets, the directions of strengthening the financial base of local self-government were identified, the main of which are increasing the interest of rural districts in building revenue potential, improving medium-term planning, introducing progressive forms and methods of managing local finances.

Keywords: budget, budget system, taxes, local budget, local self-government, rural district, national income.

Introduction

The existence of territorial entities in the state structure of the country makes it necessary to give them certain responsibilities and the amount of financial resources to ensure life in them (Tysiac, 2018). In this connection, the structure of the financial system allocates a special link in the local budgets, uniting the revenues and expenditures of the local entity.

Increasing the level of financial independence of territorial entities is considered one of the areas of modernization in the modern financial management system. To address issues of local importance the authorities are obliged to make the most complete use of budget resources.

On the one hand, the use of all the designated means guarantees the local self-government bodies the full exercise of their powers, on the other hand, a system of direct and inverse relationships is formed in the performance of all tasks.

The local budget represents a monetary fund of an administrative-territorial unit and is approved by a decision of the relevant maslikhat. It is formed at the expense of revenues and financing the deficit (use of surplus) of the budget and intended to finance local budget programs that are determined by the local executive body to perform its functions (Schwartz et al., 2014).

The role of local budgets, their composition and structure are fully determined by the content and nature of functions and tasks assigned to local government bodies, as well as by the administrative and territorial structure of the state and its political and economic orientation (Sponem & Lambert, 2016).

One of the most important principles of any democratic system is the system of state governance, and the world practice of this very governance reforming shows that the specificity of local self-government largely predetermines the limits of decentralization (Mahlendorf et al., 2015). At the same time, the general trend of the reforms carried out is that they are aimed at eliminating a number of circumstances, first of all those that negatively affect the development of local self-government (Shajhraziev, 2012).

* Corresponding author.
E-mail address: *n_saltanat_zh@mail.ru*

Referring to the essence of local self-government, it should be noted that it represents a certain way of organizing and implementing local government, providing for independent resolution of local issues by the population (Luca et al., 2016).

The latter is due to the fact that local self-government is implemented directly by the residents as well as through elected and other local self-government bodies established in rural and urban communities of citizens. These communities, in their turn, represent associations of citizens who compactly live within a certain territory (Vasiliev, 2015).

Literature Review

Modern world practice shows that there are many models of local self-government, but it is undeniable that local relations in the world have evolved in different ways, and in the current environment these relations acquire new features.

Some steps in this direction have already been taken by now. In the Message of the President of Kazakhstan, the Leader of the Nation N.A. Nazarbayev to the people of Kazakhstan "Strategy Kazakhstan-2050 New political course of the established state" the goal of forming a new type of public administration was set. Herewith, one of the tools to achieve this goal is decentralization and local self-government development.

In accordance with this task the Republic of Kazakhstan has developed and approved the "Concept of development of local self-government in the Republic of Kazakhstan". Mainly, it is aimed at both defining the main conceptual directions of development of local self-government in Kazakhstan, and improving the effectiveness of the current system of public administration. It should be noted that this Concept absorbed all universally recognized values of local self-government, democracy and predetermined further stages of development of self-government in Kazakhstan.

Thus, according to the Concept, the development of local self-government in Kazakhstan is carried out in two consecutive stages. The first stage, covering the period of 2013–2014, was aimed at expanding the existing system at lower levels of government. At this stage, norms determining the powers of local authorities, activity of meetings of local community, the order of election of akims of cities of district importance, villages, settlements and rural districts were fixed. The expansion of the financial independence of village akims included the right to form revenue sources and open cash control accounts.

To date, elections of akims of cities of district importance, rural districts, towns and villages have become a reality in Kazakhstan. Thus, local self-government has received a legislatively fixed basis for its further development. The scale of this project testifies to the readiness of the state for more significant actions aimed at modernization of the state administration system. The election of local akims should give an impetus to the transition of state administration to a new qualitative level.

The goal of the second stage, covering the periods of 2015–2020, was to further delineate the functions of local government and self-government, budget formation and local self-government property.

Taking into account that the creation of an effective system of local self-government bodies is based on expanding economic and financial independence of rural districts, certain steps have been taken at this stage of local self-government development. Thus, in January 2001 the Law of the Republic of Kazakhstan "On amendments and additions to some legislative acts of the Republic of Kazakhstan on the development of local self-government in the Republic of Kazakhstan" was adopted (was amended on 08/01/2019), providing for the expansion of the revenue base of cash control accounts through the transfer of taxes on transport and land tax on legal entities to local governments.

Moreover, it is envisaged to expand the powers of the local community meeting to coordinate the candidacy of the local akim to participate in the elections and initiate his release. It became possible to create public structures for interaction between the akim and the population, to expand the akim's powers to control the targeted use of land plots, and to involve residents in the process of managing communal property.

The most important thing is that the new draft law prescribes the implementation of an independent budget and communal property. The solution of various issues of local importance within the framework of the Concept of Local Self-Government Development acquires new qualities that are adequate to the modern principles of the budget system. The availability of a budget for each of them strengthens their economic independence, activates economic activity, and allows them to design their own development programs and implement them in practice.

Local self-governance implies the resolution of issues of local importance with the participation of the population living on the territory. Financing of decisions of questions of local value, sources of formation of financing are the most important for development of local self-government.

As the world practice shows, today certain conditions of financial support of local government bodies have been formed, among them the following (Stammerjohan et al., 2015):

– the possibility of independent management of financial resources, enshrined in the legislation;

– the volume of financial resources of local authorities corresponds to their functions provided for by the Constitution and legal acts of the country;

– ability to form their own sources of income and local taxes and set rates of local taxes and fees;

– compensation of missing funds by the central government bodies;

– independent decision-making related to the management of financial resources and local government property;

– the possibility of issuing securities and obtaining loans and credits.

The Law of the Republic of Kazakhstan "On Amendments and Additions to Some Legislative Acts of the Republic of Kazakhstan on Development of Local Self-Government" dated 11 July 2017 specifies some changes related to the introduction of an independent budget and communal property of local self-government in cities of district significance, villages, settlements and rural districts.

It should be noted that in many cases the introduction of an independent budget of rural districts is caused primarily by an apparent imbalance in fiscal policy and inter-budgetary relations, which resulted in the fact that tax revenues from various enterprises entering the republican budget were redistributed among all regions of Kazakhstan without taking into account their contributions. Moreover, as practice has shown, the previous system of distributing financial aid to lower budgets had a disincentive effect on local self-government development. As a result, budgets with a low level of own income were in a better position compared to donor budgets. The authorities of the latter were interested in a decrease in their own revenues, the income tendency of which was characterized by temporary unevenness, while financial aid is received regularly and in the prescribed amounts. Thus, there was no motivation to develop entrepreneurship, small and medium businesses in their regions, as local authorities received a guaranteed transfer in any case.

Methods

The effectiveness of local self-government is largely determined by the availability of financial resources necessary to solve local problems, as well as to participate in the implementation of national policies in the field of socio-economic development of territories. At the same time, the local budget is a key form of formation of financial resources of local self-government bodies, which is a set of monetary relations arising in connection with the formation and use of funds of local self-government in the process of redistribution of national income. A wide range of various sources of official information was processed, including normative legal and strategic policy documents, statistical data, scientific and specialized publications, information and reference materials of international organizations.

Results

The developed system of formation of a profitable part of local budgets did not provide financial independence of regions, in particular local self-government (Schoute & Wiersma, 2011). Thus, it became necessary to narrow the scope of redistributive processes in interbudgetary relations by increasing the responsibility of local self-government bodies for developing their own tax potential in the territories of the respective territorial entities and strengthening the financial foundations of local self-government. From January 1, 2018, an independent budget of local self-government was introduced at the level of a rural district, aul, village, settlement or city of regional significance, corresponding to Level IV of the budget system schematically shown in Figure 1.

When developing legal acts on the implementation of the fourth level of the budget in Kazakhstan, the experience of implementing an independent budget of local self-government in individual countries of the Organization for Economic Cooperation and Development (OECD), in particular Poland, in which the administrative-territorial division is generally similar to the conditions of Kazakhstan, was studied. In the early 1990s, the Polish government implemented a good reform to strengthen local government units (gminas) and give them some financial independence. Eventually, in 1997, a certain independence in the competence of municipalities was introduced into the Polish Constitution. Currently Polish gminas are well-functioning administrative units that are positively evaluated by the population. They are also an example of gradually developing institutions that provide a good quality of life to their residents.

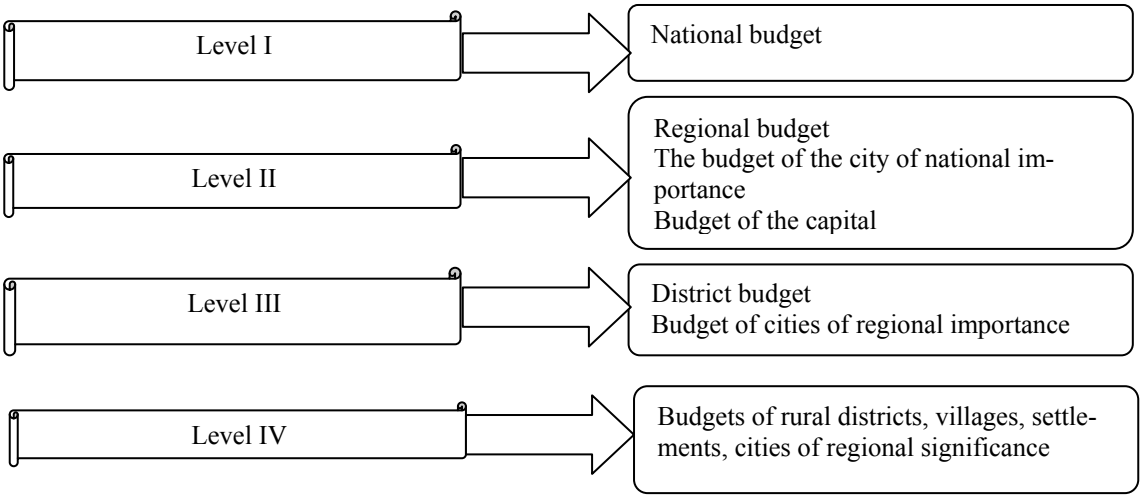


Figure 1. Budget system levels in Kazakhstan

Note: compiled by the authors

The experience of Poland corresponds to the conditions of Kazakhstan. In the years before the reform of local self-government, Poland endured systematic transitions, both political and economic, very similar to what happened in Kazakhstan after the collapse of the USSR. Before the reform, Poland had four administrative levels, three of which had an independent budget, just like Kazakhstan. Poland and Kazakhstan have almost the same number of local administrative-territorial units (2479 gminas in Poland, 2445 auls, districts and cities of district significance in Kazakhstan).

The formation of the Level 4 budget expands the akims' capacity to solve topical issues of community development. Moreover, the local authorities will be interested in maximizing the timely receipt of local taxes, increasing the taxable base, and developing business activities (Murphy, 2017). All this will increase the revenue part of the district's budget and provide more opportunities for the implementation of community development programs. Such innovations allow the population to solve local problems on their own, since akims of aul (villages), settlements and towns of significance are.

1) Permitted the right to form their own revenue sources, including income from paid services; voluntary and earmarked fees; contributions of charitable foundations and sponsors; fees for trade in specially designated places; fines for violations of the rules of improvement, damage to infrastructure facilities and greenery, trade in unidentified places and other sources not contrary to law.

2) Permitted the right to open special accounts within the treasury bodies that reflect income and expenditures aimed at implementing local self-government functions;

3) A part of the district communal property (clubs, libraries, nurseries, etc.) has been transferred in order to use them effectively, meeting the needs and demands of the local population and generating additional income.

The local self-government budget at the level of a city of regional significance, a village, a settlement or a rural administrative district shall be introduced as the fourth level of the state budget from 2018 in administrative territorial units with a population of over 2,000. In the future similar events are planned to be held throughout Kazakhstan.

In general, the state budget of the IV level was implemented in 1062 rural districts with population exceeding 2000 citizens. Among them is Kalkaman rural district, belonging to the rural zone of Aksu city of Pavlodar region, by the example of which let's consider the mechanism of formation of local government budget and sources of their income.

Kalkaman rural district is subordinated to Aksu city akimat, which is an industrially developed region of Pavlodar region. Economic specialization of Aksu city has industrial character and in the long term has high potential for development.

In accordance with the paragraph 2 of Article 75 of the Budget Code of the Republic of Kazakhstan dated 04 December 2008, subparagraph 1) of paragraph 1 of Article 63 of the Law of the Republic of Kazakhstan dated 23 January 2001 "On local government and self-government in the Republic of Kazakhstan",

Aksu City Maslikhat approved the budget of the Kalkaman Rural District for 2018–2020 in the amount of 113251 thousand tenge.

According to the data of Table 1, this is the largest budget size among rural districts of Aksu city, which 3.1 times exceeds the budget size of Kyzylzhar rural district, which is the minimum. Thus the largest part of a profitable part of the budget of Kalkaman rural district for 2018–2020 — 94,1 % from total amount is formed at the expense of receipt of transfers in the sum of 106588 thousand tenge.

Table 1. Budget volumes of rural districts of Aksu city on January 1, 2018, thousand tenge

The name of the rural district	Total amount of budget	including		Transfers	In total, including transfers
		own resources	subvention		
Apparatus of the Akim of Kalkaman Rural District	113251	6663	106588	3750	117001
Apparatus of the Akim of Kyzylzhar Rural district	36491	4978	31513	3750	40241
Apparatus of the Akim of Yevgenyevskiy Rural district	48683	6253	42430	3750	52433
Apparatus of the Akim of Dostyk Rural District	42869	5885	36984	3750	46619
Apparatus of the Akim of Algabas Rural District	54759	5218	49541	3750	58509
Apparatus of the Akim of rural district named after M. Omarov	50606	4878	45728	3750	54356
Note: compiled by the authors based on data of Department of economy and budget planning of Aksu city, 2018					

The above-mentioned Law determines the revenue sources of the local government budget, consisting of tax revenues:

– individual income tax on income not taxed at payment sources;
– property tax on individuals;
– transport tax on individuals and legal entities;
– land tax from individuals and legal entities on the lands of settlements;
– fees for the placement of outdoor (visual) advertising on the freeway right-of-way passing through the territories of towns, villages, settlements and rural districts;
– non-tax revenues (income from property hire (rent) of state property);
– voluntary fees of individuals and legal entities;
– fines levied by akims for administrative offences under the Code on Administrative Offences;
– revenues from the sale of communal property; transfers from the raion budget.

As can be seen from the data in Table 2, the tax receipts determining the revenue part of the budget of Kalkaman Rural District generate property taxes, including property tax, land tax and vehicle tax.

Table 2. Budget of Kalkaman Rural District for 2018–2020, thousand tenge

Indicators	2018	2019	2020
1. Revenues	113251	116635	116935
Tax revenue	6663	7000	7300
- personal income tax	1922	1922	1922
- taxes on property	130	130	130
- land tax	298	290	298
- vehicle tax	4313	4650	4950
Transfer receipts	106588	109635	109635
2. Expenses, including:	113251	116635	116935
Public services of general nature	22340	22407	22467
Education	54053	55819	55939
Social assistance and social security	8223	8617	8677
Housing and communal services	8130	8130	8130
Culture, sport, tourism and information space	17518	18675	18735
Transport and communications	1500	1500	1500
Others	1487	1487	1487
Note: compiled by the authors based on data of Department of economy and budget planning of Aksu city, 2018			

The budget of Kalkaman Rural District is balanced, the social profile of the budget will be kept, the budget deficit in 2018–2020 is not expected.

The priority areas of budget spending in the medium term are further development of the social sphere, utilities and transport infrastructure, and drinking water supply.

Budget planning and execution are the responsibility of the Rural District Akim's Office. In other words, the akimat plans expenditures that will be used to support pre-school education and training organizations, cultural institutions, landscaping and sanitary purification of settlements; create infrastructure for sports activities for individuals; build, reconstruct, renovate and maintain roads; provide water to settlements.

As can be seen in Table 3, the majority of planned expenditures — almost half of the total — are in the education sector.

Table 3. The structure of Kalkaman rural district budget expenditures, percentage for 2018–2020

Indicators	2018	2019	2020
Public services of general nature, %	19,7	19,2	19,2
Education, %	47,7	47,9	47,8
Social assistance and social security, %	7,3	7,4	7,3
Housing and communal services, %	7,2	7,0	7,0
Culture, sport, tourism and information space, %	15,5	16,0	16,0
Transport and communications, %	1,1	1,1	1,1
Others, %	1,5	1,4	1,6
Note: compiled by the authors			

As national and foreign practice shows, the existence of a mechanism of responsibility and effective control over targeted spending of local government budget funds is a guarantee of stable development of the territorial entity (Nikias, 2019).

At the same time, the strategy for creating and effectively using the financial base of local self-government should include three interrelated structural components:

– First, the formation of prognostic and analytical documents providing a justification for the goals and objectives and priorities of community development (Parker et al., 2014). In addition, the requirements to the size of the financial base sufficient to address social and economic problems of local self-government are defined (Libby & Lindsay, 2019).

– Secondly, the choice and substantiation of the most preferable from the standpoint of the local community main directions and ways to strengthen the financial base of its self-government. Herewith, the key element at this stage is the construction of constructive relations between the budgets of different levels: the budget of local self-government, the budget of the region, the state budget, between the budget of local self-government and the financial and economic potential of economic entities of the territory. The latter is due to the fact that the sufficiency of the financial base of the rural district is largely determined by the resource potential of entrepreneurship in its territory.

– And thirdly, according to data of SF Center for economic research, forecasting and monitoring about financial and economic foundations of local self-government in the Republic of Kazakhstan, the formation and functioning of an effective mechanism for redistribution of financial resources between the budgets of different levels, taking into account the accumulated territorial potential.

Discussion

The introduction of the local government budget by receiving taxes directly into its budget has really expanded the financial capacity of rural districts and strengthened the role of local government in solving local issues. At the same time, the period of implementation of the fourth level of the budget shows a low provision of expenditures of rural budgets with their own income.

With the granted independence, the budgets of rural districts, villages and settlements remain subsidized by more than 75 %, and in some regions — by more than 90 %. It is also necessary to note the gap in the indicators of the provision of local government budgets with their own revenues, which ranges from 1 % of the provision with their own revenues to the 25 % stated in the Minister's report. For example, the budget of the village with the population of more than 10 thousand people is 320 million tenge, of which own income is 24 million tenge, or 7,6 %. Moreover, due to the tax holidays for small businesses since the beginning of 2020, the financial independence of villages has significantly decreased.

Naturally, in these conditions an additional transfer of a number of separate types of taxes and payments from the higher budget to the rural level is necessary. For example, the transfer of fees for the use of land plots, a single land tax, proceeds from the sale of land plots and the right to lease land plots will increase the share of own revenues of local government budgets by 10–15 %.

The Ministry of Finance and other government bodies do not publish information on the implementation of the fourth-level budgets and the current norms for the distribution of tax revenues established by the regional authorities. Nevertheless, it is obvious that the filling of the budgets of district centers and villages depends on the regional authorities to no less extent than the filling of regional budgets depends on the decisions of the central government.

This approach to the distribution of income largely discourages the activity of local authorities in the implementation of economic policies aimed at the development of regions and individual localities. Stimulating regional business activity largely loses its meaning in the eyes of local authorities due to the fact that it does not lead to an increase in revenues to the local treasury. At the same time, the current budget policy causes hidden disapproval among the regional elites in the regions where the highest volumes of tax payments are collected. On the other hand, the rejection of the distributional system can seriously increase the level of economic and social inequality between different regions.

At the same time, the coronavirus pandemic has a serious negative impact on the filling of local budgets. As a result of the quarantine measures, the receipts of the IIT and taxes paid by SMEs, which account for the lion's share of tax revenues to local budgets, have sharply decreased. Perhaps, in the current conditions, it is necessary to change the budget system in such a way as to leave more taxes in the regions and thereby encourage local authorities to develop the economy in the territories entrusted to them.

To increase the level of security of rural budgets and strengthen their revenue base it is also very important to introduce a unified information base of state bodies. It is advisable to build a management system of financial resources in such a way as to increase the interest of local authorities in finding internal sources of budget revenue, as well as to reduce additional costs.

Conclusions

In general, summarizing the above, it can be concluded that the interbudgetary relations are based on a clear division of functions and authorities between the levels of public administration, a single distribution of revenues and expenditures between the levels of budgets.

The policy of interbudgetary relations in the medium term will be aimed at ensuring public availability and quality of public services.

Effective financial management of local self-government involves several steps:

1) Forecasting the amount of financial resources that will be available in the current year and the local issues to be addressed.

2) Assessing the needs and requirements of the local community. Needs assessment allows planning local government expenses correctly. The issues that should be solved in the first place, and what issues can be solved by the local community.

3) Defining priorities. Identification of current and future priorities makes it possible to create an actual plan for financing local self-government costs and to finance issues that are primarily expected to be addressed by community members.

4) Evaluation of the achieved results. Evaluation results can help in the future to plan more effectively, avoid repeating past failures and make timely corrective decisions.

References

Biudzhetnaia politika goroda Aksu (2018). Budget policy of the city of Aksu]. Aksu. Otdel ekonomiki i biudzhetnogo planirovaniia goroda Aksu — Department of economy and budget planning of Aksu city. *economica.aksu.pavlodar.gov.kz*. Retrieved from http://economica.aksu.pavlodar.gov.kz/index.php/ru/budgetpolitic. [in Russian].

Biudzhetnyi kodeks Respubliki Kazakhstan (2020). Budget Code of the Republic of Kazakhstan. *akorda.kz*. Retrieved from https://online.zakon.kz/document/? doc_id=30364477 [in Russian].

Finansovo-ekonomicheskie osnovy mestnogo samoupravleniia v Respublike Kazakhstan (2015). [Financial and economic foundations of local self-government in the Republic of Kazakhstan]. Astana. OF "Tsentr ekonomicheskikh issledovanii, prognozirovaniia i monitoring" — SF "Center for economic research, forecasting and monitoring". *ermec.kz*. Retrieved from http://ermec.kz/wp-content/uploads/2015/02/rukovod2_.pdf. [in Russian].

Libby, T. & Lindsay, R. M. (2019). The effects of superior trust and budget-based controls on budgetary gaming and budget value. *Journal of Management Accounting Research*, *31(3)*, 153–184. https://doi.org/10.2308/jmar-52238

Luca, M., Kleinberg, J. & Mullainathan, S. (2016). Algorithms need managers, too: Know how to get the most out of your predictive tools. *Harvard Business Review*, *1,* 96–101. https://doi.org/10.1787/34907e9c-en

Mahlendorf, M. D., Schaffer, U. & Skiba, O. (2015). Antecedents of participative budgeting — A review of empirical evidence. *Advances in Management Accounting*, *25*, 1–27. https://doi.org/10.1108/S1474–787120150000025001

Murphy, M. L. (2017). Using surplus budgeting to advance and sustain your mission. *Journal of Accountancy*, *2*, 40–43. https://doi.org/10.1186/s41937–017–0017–4

Nikias, A. D. (2019). An experimental examination of the effects of information control on budget reporting with relative project evaluation. *Journal of Management Accounting Research*, *31(2)*, 177–196. https://doi.org/10.2308/jmar-52172

O mestnom gosudarstvennom upravlenii i samoupravlenii v Respublike Kazakhstan. Zakon Respubliki Kazakhstan (2020). Law of the Republic of Kazakhstan "On local government and self-government in the Republic of Kazakhstan". *online.zakon.kz*. Retrieved from https://online.zakon.kz/document/? doc_id=1021546 [in Russian].

O vnesenii izmenenii i dopolnenii v nekotorye zakonodatelnye akty Respubliki Kazakhstan po voprosam razvitiia mestnogo samoupravleniia v Respublike Kazakhstan. Zakon RK (2019). Law of the Republic of Kazakhstan "On amendments and additions to some legislative acts of the Republic of Kazakhstan on the development of local self-government in the Republic of Kazakhstan". *online.zakon.kz*. Retrieved from https://online.zakon.kz/document/? doc_id=38280611 [in Russian].

Parker, R. J., Kohlmeyer, J. M., Mahenthirian, S. & Sincich, T. (2014). Procedural justice and information sharing during the budgeting process. *Advances in Management Accounting*, *23*, 93–112. https://doi.org/10.1108/S1475–148820140000017003

Schoute, M. & Wiersma, E. (2011). The relationship between purposes of budget use and budgetary slack. *Advances in Management Accounting*, *19*, 75–107. https://doi.org/10.1108/S1474–7871(2011)0000019010

Schwartz, S.T., Sudbury, A. & Young, R. A. (2014). A note on the benefits of aggregate evaluation of budget proposals. *Journal of Management Accounting Research*, *26(1),* 145–164. https://doi.org/10.6007/IJARBSS/v6-i9/2321

Shajhraziev, V.G. (2012). O ponjatii funkcii mestnogo samoupravlenija [On the concept of local government functions]. *Gosudarstvennaja vlast' i mestnoe samoupravlenie — State power and local self-government*, *12,* 3–5 [in Russian].

Sponem, S. & Lambert, C. (2016). Exploring differences in budget characteristics, roles and satisfaction: A configurational approach. *Management Accounting Research*, *3*, 47–61. https://doi.org/10.1016/j.mar.2015.11.003

Stammerjohan, W. W., Leach M. A. & Stammerjohan, C. A. (2015). The moderating effects of power distance on the budgetary participation-performance relationship. *Advances in Management Accounting*, *25*, 103–148. https://doi.org/10.1108/S1474–787120150000025006

Strategiia Kazakhstan – 2050. Novyi politicheskii kurs sostoiavshegosia gosudarstva (2012). ["Strategy Kazakhstan-2050. New political course of the established state"]. Stratehii i prohrammy Respubliki Kazakhstan. Ofitsialnyi sait Prezidenta Respubliki Kazakhstan — Strategies and programs of the Republic of Kazakhstan Official website of the President of the Republic of Kazakhstan. *akorda.kz*. Retrieved from http://www.akorda.kz. [in Russian].

Tysiac, K. (2018). The benefits of 'budgeting for results': Beginning with detailed, specific outcomes when building the budget can help not-for-profits attracts impact-driven donors. *Journal of Accountancy*, *11*, 28–32. https://doi.org/10.1080/23311975.2020.1786315

Vasiliev, V.I. (2015). Mestnoe samoupravlenie: istorija i sovremennaja praktika [Local self-government: history and modern practice]. *Zhurnal rossijskogo prava — Journal of Russian law*, 3, 5–15 [in Russian].

З.А. Арынова, Д.Ж. Турсынханов, С.Ж. Нургалиева

Жергілікті өзін-өзі басқару бюджетін қалыптастыру механизмі және олардың кіріс көздері

Аңдатпа

Мақсаты: Қазіргі жағдайда аймақтарды әлеуметтік-экономикалық дамыту саласында ұлттық саясатты іске асыру аясында жергілікті өзін-өзі басқару органдарының қаржылық әлеуетін қалыптастырудың негізгі бағыттарын анықтау.

Әдісі: Ақпаратты талдау және топтау арқылы көрсетілетін ғылыми абстракция әдісі.

Қорытынды: Төртінші деңгейдегі бюджеттердің негізгі сипаттамаларын талдау нәтижелері және жергілікті өзін-өзі басқарудың кіріс базасын нығайтудың ұсынылатын жолдары бюджет процесі мен бюджетаралық қатынастар теориясын жетілдіруге, сондай-ақ жергілікті бюджеттерді қалыптастырудың әдіснамалық негіздерін дамытуға ықпал етеді. Жергілікті бюджетті қалыптастыру мәселелерінде жергілікті өзін-өзі басқару органдарының дербестігін шектейтін негізгі фактор елдің кіріс (салық) әлеуетін оны бастапқы бөлу сатысында шоғырландырудың жоғары деңгейі болып табылады, бұл бюджеттік-қайта бөлу қатынастарының пайдаланылатын моделіне байланысты.

Тұжырымдама: Төртінші деңгейдегі бюджеттердің проблемаларын талдау арқылы жергілікті өзін-өзі басқарудың қаржылық базасын нығайту бағыттары айқындалды, олардың негізгілері ауылдық аймақтардың

кіріс әлеуетін өсіруге мүдделілігін арттыру, орта мерзімді жоспарлауды жетілдіру, жергілікті қаржыны басқарудың прогрессивті нысандары мен әдістерін енгізу болып табылады.

Кілт сөздер: бюджет, бюджеттік жүйе, салықтар, жергілікті бюджет, жергілікті өзін-өзі басқару, ауылдық аймақ, ұлттық табыс.

З.А. Арынова, Д.Ж. Турсынханов, С.Ж. Нургалиева

Механизм формирования бюджета местного самоуправления и источников доходов

Аннотация

Цель: Определение основных направлений укрепления финансовой базы местного самоуправления в современных условиях в рамках реализации общегосударственной политики в сфере социально-экономического развития территорий.

Методы: Метод научной абстракции, поддерживаемый анализом и обобщением информации.

Результаты: Результаты анализа основных характеристик бюджета четвертого уровня и предлагаемые пути укрепления доходной базы местного самоуправления способствуют совершенствованию теории бюджетного процесса и межбюджетных отношений, а также развитию методологических основ формирования местных бюджетов. Основным фактором, ограничивающим самостоятельность органов местного самоуправления в вопросах формирования местного бюджета, является высокий уровень концентрации доходного (налогового) потенциала страны на стадии его первичного распределения, что обусловлено используемой моделью бюджетно-перераспределительных отношений.

Выводы: Посредством анализа проблем бюджета четвертого уровня были определены направления укрепления финансовой базы местного самоуправления, основными из которых являются повышение заинтересованности сельских округов в наращивании доходного потенциала, совершенствование среднесрочного планирования, внедрение прогрессивных форм и методов управления местными финансами.

Ключевые слова: бюджет, бюджетная система, налоги, местный бюджет, местное самоуправление, сельский округ, национальный доход.

References

Budget Code of the Republic of Kazakhstan dated 04 December 2008 No. 95-IV of December 4, 2008 (with changes and additions as of 19.07.2020) [online] — (https://online.zakon.kz/document/? doc_id=30364477).

Budget policy of the city of Aksu, 2018. Department of economy and budget planning of Aksu city, Aksu [online] — (http://economica.aksu.pavlodar.gov.kz/index.php/ru/budgetpolitic).

Financial and economic foundations of local self-government in the Republic of Kazakhstan. 2015. SF "Center for economic research, forecasting and monitoring", Astana [online] — (http://ermec.kz/wp-content/uploads/2015/02/rukovod2_.pdf).

Law of the Republic of Kazakhstan "On amendments and additions to some legislative acts of the Republic of Kazakhstan on the development of local self-government in the Republic of Kazakhstan" № 148 of January 23, 2001 (as amended on 08.01.2019) [online] — (https://online.zakon.kz/document/? doc_id=38280611).

Law of the Republic of Kazakhstan "On local government and self-government in the Republic of Kazakhstan" № 148 dated 23 January 2001 (with changes and additions as of 15.11.2020) [online] — (https://online.zakon.kz/document/? doc_id=1021546).

Libby T., Lindsay R.M. The effects of superior trust and budget-based controls on budgetary gaming and budget value [text] / T. Libby, R.M. Lindsay // Journal of Management Accounting Research. — 2019. — № 31(3). — P. 153–184. https://doi.org/10.2308/jmar-52238

Luca M., Kleinberg J., Mullainathan S. Algorithms need managers, too: Know how to get the most out of your predictive tools [text] / M. Luca, J. Kleinberg., S. Mullainathan // Harvard Business Review. — 2016. — № 1. — P. 96–101. https://doi.org/10.1787/34907e9c-en

Mahlendorf M.D., Schaffer U., Skiba O. Antecedents of participative budgeting — A review of empirical evidence [text] / M.D. Mahlendorf, U. Schaffer, O. Skiba // Advances in Management Accounting. — 2015. — № 25. — P. 1–27. https://doi.org/10.1108/S1474–787120150000025001

Murphy M.L. Using surplus budgeting to advance and sustain your mission [text] / M.L. Murphy // Journal of Accountancy. — 2017. — № 2. — P. 40–43. https://doi.org/10.1186/s41937–017–0017–4

Nikias A.D. An experimental examination of the effects of information control on budget reporting with relative project evaluation [text] / A.D. Nikias // Journal of Management Accounting Research, — 2019. — № 31(2). — P. 177–196. https://doi.org/10.2308/jmar-52172

"On approval of the Concept of development of local self-government in the Republic of Kazakhstan". Decree of the President of the Republic of Kazakhstan No 438 from November 28, 2012 [online] — (https://tengrinews.kz/zakon/prezident_respubliki_kazahstan/hozyaystvennaya_deyatelnost/id-U1200000438/).

Parker R.J., Kohlmeyer J.M., Mahenthirian S., Sincich T. Procedural justice and information sharing during the budgeting process [text] / R.J. Parker, J.M. Kohlmeyer, S. Mahenthirian, T. Sincich // Advances in Management Accounting. — 2014. — № 23. — P. 93–112. https://doi.org/10.1108/S1475–148820140000017003

Shajhraziev V.G. On the concept of local government functions [text] / V.G. Shajhraziev // State power and local self-government. — 2012. — № 12. — P. 3–5.

Schoute M., Wiersma E. The relationship between purposes of budget use and budgetary slack [text] / M. Schoute, E. Wiersma // Advances in Management Accounting. — 2011. — № 19. — P. 75–107. https://doi.org/10.1108/S1474–7871(2011)0000019010

Schwartz S.T., Sudbury A., Young R.A. A note on the benefits of aggregate evaluation of budget proposals [text] / S.T. Schwartz, A. Sudbury, R.A. Young // Journal of Management Accounting Research. — 2014. — № 26(1). — P. 145–164. https://doi.org/10.6007/IJARBSS/v6-i9/2321

Sponem S., Lambert C. Exploring differences in budget characteristics, roles and satisfaction: A configurational approach [text] / S. Sponem, C. Lambert // Management Accounting Research. — 2016. — № 3. — P. 47–61. https://doi.org/10.1016/j.mar.2015.11.003

Stammerjohan W.W., Leach M.A, Stammerjohan C.A. The moderating effects of power distance on the budgetary participation-performance relationship [text] / W.W. Stammerjohan, M.A. Leach, C.A. Stammerjohan // Advances in Management Accounting. — 2015. — № 25. — P. 103–148. https://doi.org/10.1108/S1474–787120150000025006

“Strategy Kazakhstan-2050. New political course of the established state” [Text] / Strategies and programs of the Republic of Kazakhstan. Official website of the President of the Republic of Kazakhstan dated December 14, 2012 [online] — (http://www.akorda.kz).

Tysiac K. The benefits of “budgeting for results”: Beginning with detailed, specific outcomes when building the budget can help not-for-profits attracts impact-driven donors [text] / K. Tysiac // Journal of Accountancy. — 2018. — № 11. — P. 28–32. https://doi.org/10.1080/23311975.2020.1786315

Vasiliev V.I. Local self-government: history and modern practice [text] / V.I. Vasiliev // Journal of Russian law. — 2015. — № 3. — P. 5–15.

DOI 10.31489/2021Ec2/34-42
JEL C51, E24
UDC 331.526

A.K. Atabayeva[1*], T.P. Pritvorova[2], S.G. Simonov[3]

[1,2]Karagandy University of the name of academition E.A. Buketov, Kazakhstan
[3]Tyumen Industrial University, Russia

[1]atabaeva@list.ru, [2]pritvorova_@mail.ru, [3]v.simonova.67@mail.ru

[1]https://orcid.org/0000-0002-4644-184 3, [2]http://orcid.org/0000-0002-6306-3960,
[3]https://orcid.org/0000-0002-7231-2914

[2]Scopus Author ID: 55816012800, [3]Scopus Author ID: 56166169400
[2]Researcher ID: U-7564–2018

Non-standard employment modeling in the Republic of Kazakhstan

Abstract

Purpose: To determine the factors affecting non-standard employment in the Republic of Kazakhstan and their quantitative characteristics using the SmartPLS software.

Methods: Over the course of research we have been using the methods of sociological survey, structural equations modeling (SEM) based on SmartPLS, and partial least squares (PLS).

Results: We have hypothesized and tested the influence of such factors as education, social security, the human factor and digitalization on non-standard employment. We have assessed all test tasks and the suitability of the test entity. Using the Cronbach's Alpha coefficient, we have tested the internal consistency of the test questions and measured the effect of each question on the latent variable. Most of the indicators have high indicators, with the exception of the "Digitalization" factor. The low value of this factor is justified by the heterogeneity of the test responses. We have calculated average variance extraction (AVE) and reliability (Composite Reliability) coefficients of the model. We have checked the model variables for multicollinearity and calculated the determination coefficient.

Conclusions: Results of the analysis show that today the major issue is the lack or low accumulation of human capital among non-standard employees. The value of the R-square determination coefficient for the dependent variable "Non-Standard Employment" has a high value (0.75), which indicates that the factors included in the model describe well and have a high degree of influence on it. In general, the structural analysis has shown that the resulting model is adequate and built fairly well. Path Coefficients, reliability and validity coefficients are high enough to assess and analyze non-standard employment.

Keywords: non-standard employment, digitalization, human capital, education, social security, structural analysis.

Introduction

At the present stage of socio-economic development globalization processes in the world significantly affect the changes in the functioning of economy, including the level of employment. Demand for workers interested in flexible working conditions is growing. Development of non-standard employment caused by the transition to a post-industrial economy depends on a variety of internal and external factors affecting the transformation processes in this area. Identification and assessment of these factors are the subject of this study.

The authors perform a structural PLS analysis to build an empirical model of non-standard employment, using a modern software product SmartPLS. Based on the results obtained, we have tested the hypotheses. The information base for the study was obtained from the online social survey using the electronic platform SurveyMonkey. The novelty of the study is in the identification and assessment of a number of factors that can explain most of the differences in the impact on non-standard employment, contributing to the adoption of appropriate measures to improve the performance of various types of non-standard employees.

Review

World globalization contributes to the development of innovative processes, so that the employment sector is inevitably subject to transformational processes. As a result, new professions and forms of employment appear. In this regard, there is a growing interest in non-standard forms of employment and the study of factors contributing to their development (Buddelmeyer, McVicar, Wooden, 2015).

* Corresponding author.
E-mail address: *atabaeva@list.ru*

Digital competencies and new skills are emerging in many professions. Demand is generated for experts proficient in online service technologies and competent in electronic and digital platforms working remotely. (Green, Livanos, 2015, Taubayev, Legostayeva, Serikova, Orynbassarova, 2019).

Social security is one of the issues for non-standard employees, as it puts them at a disadvantage compared to those who work in standard jobs. Non-standard employment workers may be at risk of not being eligible for social and other benefits in the event of losing their jobs. (Hipp, Bernhardt, Allmendinger, 2015, Avlijas, 2019).

Another important issue of non-standard employment is human capital. In the context of the economy digitalization, the demand for intellectual labor increases, which encourages workers to increase their human capital and gives them freedom to choose forms of non-standard employment. (Horemans, 2016, Shelomentseva, Bespalyy, Beisembayeva, Soltangazinov, 2019).

Post-industrial economy is characterized by the service sector expansion. The emergence of new jobs is accompanied by an increase in the requirements for the educational level of employees. (Pedulla, 2016, Wefersova, 2017).

Our research is based on the dual market theory, where the main object of attention is the secondary segment of the labor market, which is considered in the works of D. Gordon, A. Atkinson, and V. Pulkka. (Gordon, 1972; Atkinson, 1984; Pulkka, 2018).

Methods

Over the course of research we have been using methods of sociological survey, structural equations modeling (SEM) based on SmartPLS, and partial least squares (PLS).

Results

To build the model we shall use the concept of labor market segmentation as a theoretical basis, as well as the opinions of scientists concerning the issues of the secondary labor market. We shall determine the factors that have the greatest impact on non-standard employment. These include digitalization, education, human capital and social security.

Let us formulate the following hypotheses:

H1: digitalization has a strong impact on the spread of non-standard employment.

H2: There is a strong link between education and non-standard employment.

H3: There is a strong link between human capital and non-standard employment.

H4: There is a strong link between social protection and non-standard employment.

Based on the results of the questionnaire, a structural model was built in the SmartPLS program, demonstrating the digital expression of the relationships between the variables (Figure 1).

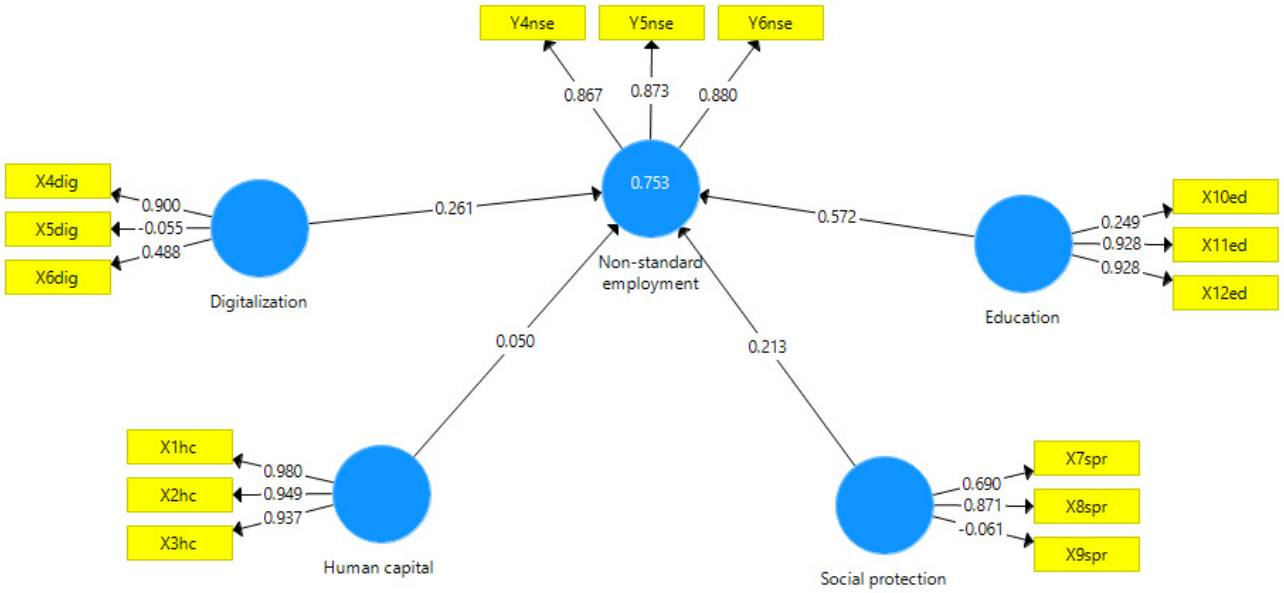


Figure 1. Structural model of non-standard employment

Note: compiled by the authors based on the analysis by the SmartPLS program

Almost all the obtained indicators of the model have rather high values. Let's check the results.

Testing the model.

This step assesses all test tasks and the suitability of the test entity. We check the internal consistency of the test questions in each block and measure the effect of each question on the latent variable. These calculations are performed by Cronbach's Alpha coefficient (Table 1).

Table 1. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Digitalization	-0.048	0.477	0.351
Education	0.712	0.785	0.595
Human capital	0.953	0.969	0.913
Non-standard employment	0.847	0.906	0.762
Social protection	0.721	0.772	0.532
Note: compiled by the authors based on data obtained using SmartPLS program			

Cronbach's Alpha coefficient is an indicator of the uniformity (internal consistency) of the indicator assessment. A satisfactory value of the coefficient is equal or greater than 0.7. The data in Table 1 shows fairly high indicators. The exception is the factor Digitalization (−0.048). The low value is justified by the heterogeneity of test responses.

The average variance extraction factor (AVE) is the variance of indicator elements. The AVE value must be 0.5 or greater, but less than the cumulative reliability (CR). That is, the variance explained by design should be greater than the measurement error and cross-loads. Since AVE and corresponding confidence coefficients are based on factor loads, their values vary depending on the factor model. The AVE for a factor or hidden variable must also be higher than its square of correlation with any other factor or hidden variable.

CR is the Composite Reliability coefficient, which determines the overall reliability of the structure. The coefficient is calculated using the square of the sum of standardized factor loads and the sum of error variance. The value of CR is within the range between 0 and 1 where 1 is absolute reliability. Threshold values of CP are as follows: 0.6 is suitable for exploratory studies, 0.7 for confirmatory studies, 0.8 or higher is a good reliability for confirmatory studies. CR must exceed the AVE value.

Thus, the obtained results of the analysis of the model reliability and validity show satisfactory values. This indicates internal consistency of the questionnaire and rather strong indicator influence on the latent variable. Deviation from the standards shows only the factor of “digitalization”, since respondent opinions were significantly divided. For this block of questions, the answers are characterized by heterogeneity and a large spread of values.

Collinearity check.

Collinearity describes a linear relationship between independent variables of the model. Closely related factors are deduced from the model, since they violate the condition of independence between the explanatory variables. The remaining factor is the one that, with a sufficiently close connection with the result, has the least close connection with other factors.

Table 2 shows the obtained collinearity statistics. To detect multicollinearity we use the VIF indicator. The maximum allowed value for this indicator is 5, while the minimum threshold is 0.2.

Table 2. Collinearity Statistics (VIF)

	Non-standard employment
Digitalization	1.371
Education	1.403
Human capital	1.086
Social protection	1.356
Note: Compiled by the authors based on data obtained using SmartPLS program	

The data in Table 2 is in the acceptable range of values, which indicates that there is no multicollinearity between the variables.

The coefficient of determination.

The square of a multiple correlation is the proportion of the variance of the dependent variable explained by the model under study (independent variables). The R-square is within the range between 0 and 1. Relationship between endogenous and exogenous variables increases as the coefficient approaches one. In regression models, this is interpreted as the model's matching to the data.

R Square Adjusted is the adjusted coefficient of determination. It is used to compare models with different numbers of factors so that the number of factors does not affect the R-squared statistics.

The coefficient of determination obtained in the model for the variable "Non-Standard Employment" is 0.75, that is, about 80 % of the variance of this construction is explained by this model (Table 3).

Table 3. Quality Criteria (R Square)

	R Square	R Square Adjusted
Non-standard employment	0.753	0.745
Note: compiled by the authors based on data obtained using SmartPLS program		

Bootstrapping test.

Let us check the results of the PLS analysis. To do this we shall use the Bootstrapping command built into SmartPLS to test the statistical significance of the analysis results. The Bootstrapping procedure initiates the verification program and stages the final verdict from simple to complex events. Table 4 shows the values of the coefficients of the independent variables, T statistics, the P Values criterion, and the hypotheses validity (Table 4).

Table 4. Path Coefficients

№	Hypotheses	Original Sample (O)	T Statistics (|O/STDEV|)	P Values	Hypothesis status
H1	Digitalization -> Non-standard employment	0.261	4.500	0.000	Accepted
H2	Education -> Non-standard employment	0.572	10.410	0.000	Accepted
H3	Human capital -> Non-standard employment	0.050	0.970	0.332	Rejected
H4	Social protection -> Non-standard employment	0.213	4.361	0.000	Accepted
Note: compiled by the authors based on data obtained using SmartPLS program					

The software tests hypotheses using the T-Statistics indicator. An empirical value of T is compared with the Student's tabular T-test. Coefficient is significant when the empirical value of T exceeds the tabular value (1.96 for a significance level of 5 %). Significance of the coefficients is shown by the P Values criterion; its value should not exceed 0.05.

The results of the analysis (Table 4) show that three hypotheses have been accepted (H2, H3, H4) and hypothesis H1 has been rejected. That is, today, the major issue is the lack or low accumulation of human capital among non-standard employees. The majority of respondents said they had "never taken a refresher course" or "once in their entire career."

In the context of the digitalization of the economy the demand for intellectual labor increases. This encourages workers to increase their human capital and gives them freedom to choose forms of non-standard employment. Unfortunately, not all non-standard employees receive professional development. Employers most often save and invest in employees on a standard contract. Enterprises intensively implementing innovative technologies primarily dismiss unskilled workers. Individuals working on a temporary contract are also likely to have a harder time meeting the qualifying conditions than the usual standard ones.

As the research results have shown, "Education" has the greatest impact on factors on non-standard employment in consideration (Figure 2).

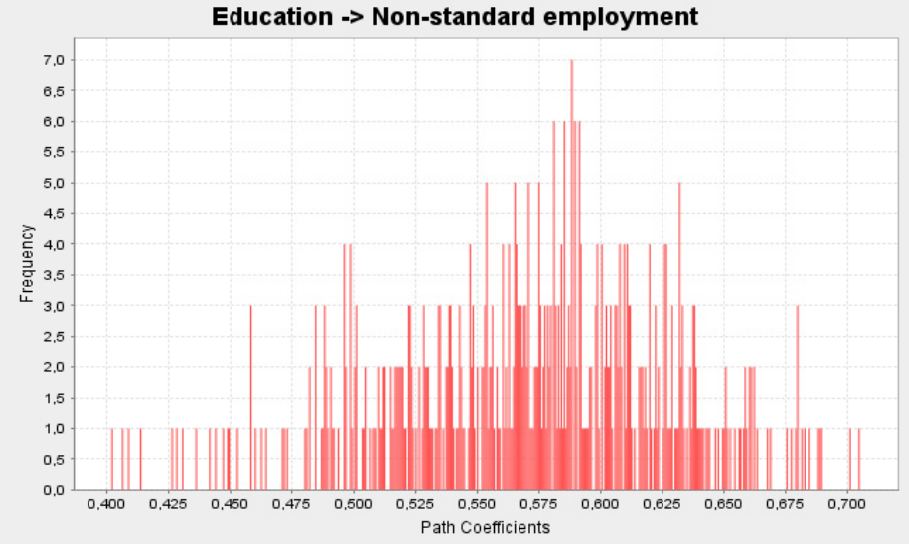


Figure 2. The value of the path coefficient of the independent variable "Education"

Note: compiled by the authors based on the analysis by the SmartPLS program

The high value of the education coefficient (0.572) confirms its significant impact on non-standard employment. In today's innovative society a good education is increasingly serving as an entry to the labor market. The employment rate for highly skilled men and women is significantly higher than that for less skilled men and women. Education is a strong indicator of people's professional positions in their activities. Employees with higher education voluntarily choose non-standard employment as a means of obtaining additional income. Thus, education can improve the chances of employment and perhaps even a qualitative improvement in work (i.e., higher wages, career growth, improved financial conditions).

The impact of digitalization on non-standard employment has a positive correlation (0.261) as well. A rapid development of the internet has created favorable conditions for remote work and the spread of the gig economy, where employer and employee communicate through online platforms. In light of recent developments related to the pandemic, there has been an increase in people working remotely. This is especially noticeable in education. Schools, universities, and colleges have switched to using modern online platforms. In the conditions of COVID-19 teachers had to master unusual for them work in a short time on such online platforms for network training as ZOOM, Microsoft Teams, GetCourse, etc. So, even without expecting such rapid changes, most of the population came face to face with information technologies and experienced the processes of digitalization. These days, this is nothing new for many of us.

A "social security" factor (0.213) plays at least an equally important role in the development of non-standard employment. Probably even a primary one, since it provides employees with guaranteed benefits, insurance deductions, pensions, paid labor leave and other benefits. Thus, reliable social security is an important factor in preserving the well-being of people.

The value of the R-square determination coefficient for the endogenous variable "Non-Standard Employment" has a high value (0.75), which indicates that the factors included in the model describe well and have a high degree of influence on it.

In general, the structural analysis has shown that the resulting model is adequate and built fairly well. Path Coefficients, reliability and validity coefficients are high enough to assess and analyze non-standard employment.

Discussion

The employment transformation under the influence of globalization processes is the subject of heated discussions in the scientific community. Of particular interest are the studies of development factors of these processes and the construction of a "new" employment model. Our approach to factor selection follows Bosch (2004) who believed that workers must be the first in line to be protected from economic and social risks.

In a sense, our results argue with the research of Ali (2020) whose model has shown the absence of a connection between digitalization and non-standard employment. However, given the diversity of the sample of models and the difference in the applied approaches and research methods, drawing unambiguous conclu-

sions still seems difficult. Additional evidence may be required before drawing conclusions about the extent of the impact of digitalization on non-standard employment.

We are impressed by the opinion expressed by B.A. Musayev (2017) that in flexible working conditions employees need to be provided with a sufficiently broad base of qualification skills to cope with the new requirements of the labor market. Professional development and realization of human capital should accompany employees throughout their career path, which unfortunately does not find application in modern realities. In this regard, in conditions of unstable labor companies primarily dismiss unskilled workers (Pritvorova, Simonov, Atabayeva, 2020).

We also support Oesch (2015) who claimed that the main issue of non-standard employment is its isolation from social guarantees. Those who work temporary and part-time jobs are more likely to have lower wages and shorter working hours than regular employees, which affects their eligibility for benefits, as well as the amount and duration of payments.

Different points of view on the "education" factor are found in the world literature. Some authors believe that in the modern economy the employment level for highly skilled workers is significantly higher than for less skilled workers, and education is the most significant parameter of people's professional positions in their activities. (Brown, Hesketh, Williams, 2004).

We disagree with Walsh (2007), who claimed that education does not have a strong impact on employment, including non-standard employment. Thus, the results of our study have shown a strong correlation between education level and non-standard employment. In general, literature does not widely cover relationship between education levels and non-standard employment.

Conclusion

Results of the study emphasize the importance of maintaining the level of professional qualifications. A rapid development of non-standard employment is accompanied by a number of issues, one of which is the low level of human capital accumulation. In the labor market, there is a demand for employees who not only have the ICT skills, but also are capable of independent activity, making creative decisions, regularly educating themselves and improving their professional qualities. Thus, the accumulation of human capital is one of the important factors for employment and should be a priority for the state employment policy.

In this context two things become apparent. First, Kazakhstan needs to apply adequate and flexible measures to improve the general welfare of the population. To do this the state must ensure a successful transition to a more flexible economic model based on the digital "Industry 4.0". It is necessary to abandon the traditional relationship between employer and employee developed in the industrial era. In other words, provision of social benefits to non-standard employees should be considered not as an onerous cost to the employer, but as a contribution to improving labor productivity.

Secondly, the country's policy on flexible employment should also be focused on increasing the level of human capital, as it is one of the important aspects of increasing the growth of economic development and the overall well-being of the country. For example, supporting greater labor market flexibility in the Scandinavian context seems to be a sustainable political and economic strategy. These countries invest heavily in human capital, so there is a certain institutional complementarity.

Thus, it is necessary to apply constructive measures at the legal, economic, and state levels to create favorable working conditions for non-standard employees, taking into account the changes and growth of this type of work.

References

Aly, H. (2020). Digital transformation, development and productivity in developing countries: is artificial intelligence a curse or a blessing? Review of Economics and Political Science, ISSN: 2631–3561. DOI 10.1108/REPS-11–2019–0145

Atkinson, A. (1984). Manpower strategies for flexible organizations. Personal Management, 16, 28–31.

Avlijas, S. (2019). The dynamism of the new economy: Non-standard employment and access to social security in EU-28. LEQS Paper, 141, 1–78. Retrieved from http://www.lse.ac.uk/european-institute/research/leqs-discussion-paper-series

Bosch, G. (2004). Towards a New Standard Employment Relationship in Western Europe British. Journal of Industrial Relations British Journal of Industrial Relations, 42(4), 617–636

Brown, P., Hesketh, A. & Williams S. (2004). Mismanagement of Talent: Employability and Jobs in the Knowledge Economy (Oxford, Oxford University Press).

Buddelmeyer, H., McVicar, D., & Wooden, M. (2015). Non-standard "contingent" employment and job satisfaction: A panel data analysis. Industrial Relations: A Journal of Economy and Society, 54(2), 256–275.

Gordon, D. M. (1972) Dual Labor Market Theory, Pp. 43–52, in: Theories of Poverty and Underemployment: Orthodox, Radical, and Dual Labor Market Perspectives, Lexington, MA: D.C. Heath and Company.
Green, A. E., & Livanos, I. (2015). Involuntary non-standard employment and the economic crisis: Regional insights from the UK. Regional Studies, 49(7), 1223–1235.
Hipp, L., Bernhardt, J., & Allmendinger, J. (2015). Institutions and the prevalence of nonstandard employment. Socio-Economic Review, 13(2), 351–377.
Horemans, J. (2016). Polarisation of non-standard employment in Europe: Exploring a missing piece of the inequality puzzle. Social Indicators Research, 125(1), 171–189.
Oesch D. (2015) Welfare regimes and change in the employment structure: Britain, Denmark and Germany since 1990. Journal of European Social Policy 25 (1) 1–17.
Pedulla, D. S. (2016). Penalized or protected? Gender and the consequences of nonstandard and mismatched employment histories. American sociological review, 81(2), 262–289.
Pulkka, V. (2018). “This time may be a little different” — exploring the Finnish view on the future of work International Journal of Sociology and Social Policy Vol. 39, 1(2), 22–37. DOI 10.1108/IJSSP-05-2018-0070 https://doi.org/10.1108/ IJSSP-05-2018-0070
Walsh, J. (2007), ‘Experiencing Part-Time Work: Temporal Tensions, Social Relations and the Work–Family Interface’, British Journal of Industrial Relations, 45, 1, 155–177.
Wefersova, J. (2017). Atypical employment. Sociálno-ekonomická revue, 3, 21–28.
Musayev, B.A. (2017). Nestandartnaya zanyatost' kak forma realizatsii usloviy novogo ekonomicheskogo uklada [Precarious employment as a form of realization of new economic order]. Naukovedenie [Science]. 2, 1. Retrieved from http://naukovedenie.ru/PDF/59EVN217.pdf [in Russian].
Pritvorova, T.P/, Simonov S.G. & Atabayeva, A.K. (2020). Temporary and part-time employment in the European labor market: factors, trends, features Vestnik Karagandinskogo Universiteta. Serija Ekonomika [Bulletin of the Karaganda University. Economy Series], 3(99)/2020, 110–123.
Shelomentseva, V.P., Bespalyy, S.V., Beisembayeva, G.M. & Soltangazinov, A.R. (2019). Self-employment of economically active population in the region. Bulletin of the Karaganda University. Economy Series, 2(94), 80–87.
Taubayev, A.A., Legostayeva, A.A., Serikova, G.S. & Orynbassarova, Y.D. (2019). Non-standard employment in Kazakhstan: scales, tendencies and social protection measures. Bulletin of the Karaganda University. Economy Series, 1(93), 31–40.

А.К. Атабаева, Т.П. Притворова, С.Г. Симонов

Қазақстан Республикасындағы стандартты емес жұмысты модельдеу

Аңдатпа:

Мақсаты: SmartPLS бағдарламасын қолдана отырып, Қазақстан Республикасындағы қауіпті жұмысқа әсер ететін факторларды және олардың сандық сипаттамаларын анықтау.

Әдісі: Зерттеу барысында әлеуметтік зерттеу, SmartPLS негізіндегі құрылымдық теңдеулерді (SEM) және ішінара квадраттар әдісін (PLS) қолдана отырып модельдеу әдістері пайдаланылды.

Қорытынды: Білім, әлеуметтік қорғау, адам факторы және цифрландыру сияқты факторлардың қауіпті жұмыспен қамтылуға әсері туралы гипотезалар жасалды және тексерілді. Барлық тест тапсырмаларының бағасы және тестілер мәнінің сәйкестігі келтірілген. Альфа Кронбах коэффициенті арқылы тест сұрақтарының ішкі сәйкестігі тексеріліп, әр сұрақтың жасырын айнымалыға әсері өлшенді. Тек «цифрландыру» факторын есептемегенде көрсеткіштердің көпшілігінде жоғары қарқын бар. Бұл фактордың төмен мәні тест жауаптарының әркелкілігімен негізделген. Үлгінің сенімділігі (AVE) және сенімділік (Композиттік сенімділігі) коэффициенттері есептелген. Үлгінің айнымалылары мультиколлинеарлыққа тексеріліп, анықтау коэффициенті саналған.

Тұжырымдама: Талдау нәтижелері бүгінгі күні ерекше мәселе стандартты емес жұмыспен қамту қызметкерлері арасында адами капиталдың болмауын немесе төмен жинақталуы болып табылатынын көрсетті. «Қатерлі жұмыспен қамту» тәуелді айнымалысы үшін R-квадрат бойынша анықтау коэффициентінің мәні жоғары мәнге ие (0,75), бұл модельге енгізілген факторлар жақсы сипаттайтындығын және оған жоғары дәрежеде әсер ететіндігін көрсетеді. Тұтастай алғанда, құрылымдық талдау нәтижесінде алынған модель барабар және жеткілікті жақсы құрылымға ие болды. Жол, сенімділік және жарамдылық коэффициенттері қауіпті жұмысты бағалау және талдау үшін жеткілікті жоғары.

Кілт сөздер: қауіпті жұмыспен қамту, цифрландыру, адами капитал, білім, әлеуметтік қорғау, құрылымдық талдау.

А.К. Атабаева, Т.П. Притворова, С.Г. Симонов

Моделирование нестандартной занятости в Республике Казахстан

Аннотация

Цель: Определить факторы, влияющие на нестандартную занятость в Республике Казахстан, и их количественные характеристики с помощью программы Smart PLS.

Методы: При проведении исследования были использованы методы социологического опроса, моделирования с помощью структурных уравнений (SEM) на основе Smart PLS и частичных наименьших квадратов (PLS).

Результаты: Выдвинуты и протестированы гипотезы о влиянии таких факторов, как образование, социальная защита, человеческий фактор и цифровизация на нестандартную занятость. Дана оценка всем тестовым заданиям и пригодности сущности тестов. С помощью коэффициента Alpha Cronbach's выполнена проверка внутренней согласованности тестовых вопросов и измерено влияние каждого вопроса на латентную переменную. Многие индикаторы имеют высокие показатели, исключение составил только фактор "Цифровизация". Низкое значение данного фактора обосновано разнородностью тестовых ответов. Рассчитаны коэффициенты достоверности (AVE) и надежности (Composite Reliability) модели. Выполнена проверка переменных модели на мультиколлинеарность, и рассчитан коэффициент детерминации.

Выводы: Результаты анализа показывают, что острой проблемой на сегодняшний день является отсутствие или низкое накопление человеческого капитала среди работников нестандартной занятости. Значение коэффициента детерминации R-квадрат для зависимой переменной "Нестандартная занятость" имеет высокое значение (0,75), что свидетельствует о том, что включенные в модель факторы хорошо описывают и имеют высокую степень влияния на нее. В целом, результаты структурного анализа показали, что полученная модель адекватна и имеет достаточно хорошую структуру. Path Coefficients, коэффициенты надежности и валидности обладают достаточно высокими показателями для оценки и анализа нестандартной занятости.

Ключевые слова: нестандартная занятость, цифровизация, человеческий капитал, образование, социальная защита, структурный анализ.

References

Aly H. Digital transformation, development and productivity in developing countries: is artificial intelligence a curse or a blessing?/ H.Aly // Review of Economics and Political Science. — 2020. — № 3. — P. 1–19.

Atkinson A. Manpower strategies for flexible organizations / A.Atkinson // Personal Management. — 1984. — № 16. — P. 28–31.

Avlijas S. The dynamism of the new economy: Non-standard employment and access to social security in EU-28 / S.Avlijas // LEQS Paper. — 2019. — № 141. — P. 1–78.

Bosch G. Towards a New Standard Employment Relationship in Western Europe British / G.Bosch // Journal of Industrial Relations British Journal of Industrial Relations. — 2004. — № 42(4). — P. 617–636.

Brown P. Mismanagement of Talent: Employability and Jobs in the Knowledge Economy / P. Brown, A.Hesketh, S.Williams // Oxford University Press. — 2004. — No 2. — P. 1–18.

Buddelmeyer H. Non-standard "contingent" employment and job satisfaction: A panel data analysis / D.McVicar, M.Wooden // Industrial Relations: A Journal of Economy and Society. — 2015. — № 54(2). — P. 256–275.

Gordon D.M. Dual Labor Market Theory / D.M. Gordon // MA: D.C. Heath and Company. — 1972. — № 3. — P. 43–52.

Green A.E. Involuntary non-standard employment and the economic crisis: Regional insights from the UK / A.E. Green, I.Livanos // Regional Studies. — 2015. — № 49(7), P.1223–1235.

Hipp L. Institutions and the prevalence of nonstandard employment / L.Hipp, J.Bernhardt, J.Allmendinger // Socio-Economic Review. — 2015. — № 13(2). — P. 351–377.

Horemans J. Polarisation of non-standard employment in Europe: Exploring a missing piece of the inequality puzzle / J.Horemans // Social Indicators Research. — 2016. — № 125(1). — P. 171–189.

Oesch D. Welfare regimes and change in the employment structure: Britain, Denmark and Germany since 1990 / D.Oesch // Journal of European Social Policy. — 2015. — № 25(1). — P. 1–17.

Pedulla D.S. Penalized or protected? Gender and the consequences of nonstandard and mismatched employment histories / D.S. Pedulla // American sociological review. — 2016. — № 81(2). — P. 262–289.

Pritvorova T.P. Temporary and part-time employment in the European labor market: factors, trends, features / T.P. Pritvorova, S.G. Simonov, A.K. Atabayeva // Vestnik Karagandinskogo Universiteta. Serija Ekonomika. — 2020. — № 3(99). — P. 110–123.

Pulkka V. "This time may be a little different" — exploring the Finnish view on the future of work / V.Pulkka // International Journal of Sociology and Social Policy. — 2018. — № 1(2). — P. 22–37.

Shelomentseva V.P. Self-employment of economically active population in the region / V.P. Shelomentseva, S.V. Bespalyy, G.M. Beisembayeva, A.R. Soltangazinov // Vestnik Karagandinskogo Universiteta. Serija Ekonomika. — 2019. — № 2(94). — P. 80–87.

Taubayev A.A. Non-standard employment in Kazakhstan: scales, tendencies and social protection measures / A.A. Legostayeva, G.S. Serikova, Y.D. Orynbassarova // Vestnik Karagandinskogo Universiteta. Serija Ekonomika. — 2019. — № 1(93). — P. 31–40.

Walsh J. 'Experiencing Part-Time Work: Temporal Tensions, Social Relations and the Work–Family Interface' / J.Walsh // British Journal of Industrial Relations. — 2007. — № 1. — P. 155–177.

Wefersova J. Atypical employment / J.Wefersova // Sociálno-ekonomická revue. — 2017. — № 3. — P. 21–28.

Мусаев Б.А. Нестандартная занятость как форма реализации условий нового экономического уклада / Б.А. Мусаев // Науковедение. — 2017. — № 2. — С. 1–7.

DOI 10.31489/2021Ec2/43-55
JEL O18
UDC 669.713.7(574)

D.R. Batkeyeva[*], S.N. Ulakov[2], Z.N. Borbasova[3], R.A. Abramov[4]

[123]Karaganda Economic University of Kazpotrebsoyuz, Kazakhstan
[4]G.V.Plekhanov Russian University of Economics, Moscow, Russia

[1]diko_18@mail.ru, [2]S_ulakov@mail.ru,[3]borbasova@mail.ru, [4]abramov.ra@rea.ru

[1]https://orcid.org/0000-0003-2253-4161
[2]https://orcid.org/0000-0002-6792-7244
[31]https://orcid.org/0000-0002-6867-2407

[2]Scopus Author ID:57148290800, [3]Scopus Author ID:57148334500,

Problems of attracting investment in housing and communal services

Abstract

Object: The article deals with the problems of creating incentives to attract investment in order to modernize and create fixed assets in the housing and utilities sector. The main negative factors that negatively affect the attraction of investments for the reproduction of fixed assets of housing and utilities organizations are reflected.

Methods: The paper analyzes the pricing policy for housing and communal services for enterprises and the population of the Republic of Kazakhstan, highlights the positive foreign experience of attracting private capital to the housing sector through concession agreements.

Results: Monetarization of benefits for the population was not used in the field of housing and communal services, which led to the emergence of a mechanism for issuing subsidies for housing and communal services. Currently, about a third of the population of the Republic of Kazakhstan is entitled to benefits for housing and utilities companies do not always receive full or timely budget subsidies for additional payments to preferential categories of the population. This circumstance increased financial risks in the activities of housing and utilities enterprises and led to a decrease in their profits and, accordingly, investment activity.

Conclusions: The sphere of housing and communal services is characterized by the provision of two types of services to homeowners. Housing services include everything that is necessary for the proper maintenance of the common property of the owners of premises in an apartment building. A specific list of housing services is agreed by the owners and the management organization in the contract. Housing services, for example, include maintenance and repair of common property of owners of premises in an apartment building (inspections of common property, detection of damage and violations), including sanitary maintenance of common property (janitor services, cleaning of entrances, their disinsection and deratization, services for cleaning garbage chutes); services for managing common property and common funds (receiving, storing and transmitting technical documentation, filling in and updating information in the GIS housing and utilities, debt collection, etc).

Keywords: housing and communal services (HCS), investments, capital investments, housing and communal services (HCS), benefits for the population to pay for housing and communal services, financial risks, competition, concession agreement, tariff regulation.

Introduction

One of the priority tasks of the socio-economic development of the Republic of Kazakhstan is to improve the living conditions of citizens. This task involves the formation of an affordable housing market through the development of mortgage housing lending and increasing the volume of housing construction.

The solution to the problem of affordable mortgage is possible on the basis of the state's balanced and consistent economic policy aimed at increasing the volume of housing construction and the necessary municipal infrastructure. The development of financial and credit institutions and effective financial mechanisms will ensure the availability of housing for citizens with different income levels, as well as bring the existing housing stock and municipal infrastructure in line with quality standards.

The sphere of housing and communal services concerns everyone, so it needs supervision and control by the state. State and municipal authorities monitor the implementation of laws and regulations, and they are the ones to contact if you realize that your home is being serviced poorly or utility rates have been inflated (Address of the President of the Republic of Kazakhstan N.A. Nazarbayev to the people of Kazakhstan, 2017).

* *Corresponding author.*
E-mail address: diko_18@mail.ru

Analysis of activity of the enterprises of housing and communal services shows that at the moment the lack of investment in housing sector is due to several reasons:

– the lack of incentives to attract investment, high payback period of capital investment and there are real risks of non-repayment are not achieving the performance indicators for investment projects;

– a short-term action plans, binding tariff regulation of the budget process, the planning of which is carried out for a period of not more than three years, while the timing of the implementation of investment projects more than 5 years;

– concentration of activities within the framework of state and municipal management: just over 30 % of the housing and utilities market is occupied by private operators (including 1 % — foreign companies), about 69 % of housing and utilities enterprises are state or municipal owned. The situation is somewhat better in energy supply companies, where the share of private enterprises is about 60 %;

– the applied methods of tariff regulation do not create incentives for public sector organizations to increase their investment activity;

– the lack of tools to insure the risk of non-return of direct investment;

– financial dependence of the utility sector on budgets through mechanisms of subsidizing losses and direct subsidizing of organizations in order to serve preferential categories of consumers;

– instability of the financial condition of most organizations of the utility complex, which does not guarantee its solvency and investment attractiveness (capital investments) in the long term within the limits of the acceptable level of risk;

– politicization of the tariff decision-making process;

– short-term operation of property relations and lack of inventory and state registration of the majority of objects in the public sector;

– high technological risks;

– low quality of design solutions and, consequently, the lack of high-quality investment projects in the public sector;

– lack of quality production and management personnel in the public sector. Thus, there is a situation of closed instability of land and privatization legislation (Askarova, 2012).

Methods

The task is to ensure that the population has access to the consumption of housing and utilities in accordance with effective demand and social standards.

This has already led to the fact that the average level of depreciation for housing and communal services in Kazakhstan has reached 60 %, and for many objects it has exceeded 70 %. Consequently, the financing of housing and communal services in Kazakhstan remains at an unacceptably low level and should be increased by 4 times. Before diving into the analysis of the reasons for such a depressing situation, it seems advisable to turn to the models of development of the housing and utilities sector in foreign countries. We will look at the industry and understand the condition of the Russian housing and public utilities, which in turn will help to develop an exit strategy from the crisis, and housing attractive to investors. Business must turn to the consumer. Creating a competitive environment will increase the quality of services (Obojmova & Grebenkina, 2016). There will be a serious struggle to get money from the consumer, and the winner will be the one who will provide a better service. Socially responsible investment is a more comprehensive concept: from creating a stable business environment, reducing operational risks to raising financial indicators, increasing sales, improving labor productivity, and ultimately increasing the company's market value in the long term. Thus, in order to attract investment in housing and utilities, the following steps should be taken:

– creating incentives to invest in the sphere of housing and utilities modernization: payment of 50 % interest rate on loans from regional budgets; cancellation of VAT on the purchase of equipment and construction and installation works; unchanged tariff policy during the implementation of investment projects (up to 10 years);

– before implementing concession relations in the housing and utilities sector it is recommended to conduct an inventory and re-state registration of public utilities before entering into concession agreements;

– creating a competitive environment in the industry by transferring public utilities to private entrepreneurs and conducting contract auctions for housing and utilities services;

– creating tools for insurance of the risk of non-return of direct investment;

– development and approval of a single regional pricing methodology for utility services, preparation of the rules and procedures of interaction of participants of process of tariff setting, as well as methods of verification and control; increase of tariff plans for the long term;

– the statutory audit for investment projects, and concessional agreements;

– the state examination of the effectiveness of investment projects on modernization of housing and communal services;

– preparation and implementation of educational programs in leading construction universities to train professional production and management personnel for work in housing and utilities enterprises (Daulethanova, 2016).

For example, the index calculation is given in table 1.

Table 1. The index of efficiency of implementation of investment programs in the utilities sector entities RK

Stage	Characteristics
The index of efficiency of implementation of investment programs in the utilities sector entities RK	The index of the effectiveness of the implementation of investment programs is the ratio of investments invested in utility networks to investments invested in the construction of residential buildings. This index allows us to determine the efficiency of the distribution of investments in the municipal sector, since the construction of residential areas directly depends on the development of municipal infrastructure and the modernization of existing ones. Criteria for evaluating the index: from 0 to 0.3; where 0 is a negative result (shows us the direction of investment in the housing stock without the development and modernization of utility networks); 0.3 - positive result (even distribution of investments). $I_{ERIP} = \frac{V_{IGT}+V_{ITE}+V_{IRB}+V_{ICB}}{V_{IJ}}$ I_{ERIP} — index of modernization of engineering networks; V_{IGT} — the volume of investments in fixed assets for the distribution of gaseous fuels; V_{ITE} — the volume of investments in fixed assets for the distribution of steam and hot water (heat energy); V_{IRB} — volume of investments in fixed assets for water distribution; V_{ICB} — the volume of investments in fixed assets for the disposal of wastewater, waste and similar activities; V_{IJ} — volume of investment in housing; According to this index, it is possible to determine which regions do not invest in the utility sector
Note: compiled by the authors	

According to the statistics Committee of the MNE of Kazakhstan, in January-August of this year the total volume of investments in the infrastructure of public services in Kazakhstan amounted to 390.79 billion tenge. Of these, 252.18 billion tenge is invested in the modernization of electricity, gas, steam and air conditioning, and 138.61 billion tenge is invested in the development of the water supply system, sewerage system, control over waste collection and distribution. In total, funds allocated to the housing and utilities system account for 6.1 % of the total investment in fixed assets in all sectors of the economy.

Over the past 15 years much has been said about the need to modernize the country's housing and utilities sector, since the existing regulatory mechanisms, as well as the state of fixed assets, do not meet economic conditions. To solve the accumulated problems in the housing and utilities sector various support measures have been taken and funds have been allocated.

For example, only in the past five years the state has adopted the program "Energy Saving–2020", "Program of modernization of housing and communal services of the Republic of Kazakhstan for 2011–2020", "Program of modernization of housing and communal services of the Republic of Kazakhstan until 2020" and "Program of regional development until 2020". These programs are aimed at modernizing the entire housing and utilities sector by providing comfortable living conditions for citizens and the functioning of various organizations (Increased funding and local content: how housing construction is developing in Kazakhstan, 2020).

Pavlodar region invested more than other regions in the development of its municipal systems in 2018 — 58.13 billion tenge, including 44.61 billion tenge in electricity, gas, steam and air conditioning, and 13.51 billion tenge in water supply, sewerage system, control over waste collection and distribution. Compared to the same period of the previous year the volume of investments increased by 58.8 %

In the second place in terms of investment in housing and communal services for the first eight months of this year was the city of Almaty with a figure of 35.6 billion tenge. 16.86 billion tenge was invested in the power supply system, gas supply, steam and air conditioning, 18.75 billion tenge in water supply, sewerage system, control over waste collection and distribution. Total investment decreased by 21 % compared to the same period of the previous year. The city authorities recently reported that Almaty is fully ready for the heating season. For these purposes the budget and monopolists allocated a total of more than 60 billion tenge.

Almaty region closes the top five. Since the beginning of the year the volume of investments in housing and utilities in the region has amounted to 30.47 billion tenge. Compared to the same period of the previous year, the indicator decreased by 37.1 %. 21.91 billion tenge was allocated for the modernization of electricity supply, gas supply, steam and air conditioning, and 8.55 billion tenge was allocated for improving water supply, sewerage system, control over waste collection and distribution.

Today the region is actively working on gas supply. Supplying of the Zhetysu region with natural gas is being implemented in stages. According to the regional scheme, 107 localities out of 187 have been gasified in the Almaty agglomeration to date. By the end of 2020, it is planned to increase this figure to 212 localities at the expense of budget funds and attracted private investment. The main event will be the construction of the Zhetygen AGRs and the Baiserke–Zhetygen gas pipeline, which will further supply with gas more than 30 thousand people (Aktanov, 2019).

World practice shows that public-private partnership mechanisms remain an effective management tool in the housing sector. In some countries, such as Sweden, France, and Finland, the state and private business have effectively allocated roles in housing and utilities management. Realizing that private enterprise is more motivated to manage successfully, the state reserves only the function of supervision.

Another successful example of Kazakhstan's PPP in the housing and utilities sector is the introduction of a comprehensive solid waste management system in Almaty. It does not require financial resources from the budget for the construction of a waste sorting plant, but the state provides a guarantee of consumption and allocates plots. The investor company organizes the collection and removal of solid household waste for a fee, compensating for the investment and making a profit. The investor, who signed a long-term contract, has already invested 5.4 billion tenge. In turn, the mayor's office of the largest city in the country provided land and summed up all engineering communications.

Results

In connection with this problem, it seems that along with the work aimed at improving the efficiency of public institutions in general it is necessary to provide for accelerated deadlines at the legislative level for the performance of their duties by state authorities in relation to concession agreements. It is also necessary to increase the level of responsibility of officials for the performance of their functions in full and in accordance with the terms corresponding to the terms of performance of work by concessionaires specified in agreements with them. In fact, this question has something to do with how equal the parties to the concession agreements are. In practice, they are not, and it is necessary to amend the concession legislation in order to equalize the rights of government authorities and private businesses that have agreed to invest in the industry.

It is clear that today there are many problems in the housing and utilities sector that are not solved at once. Water supply and sanitation networks are worn out, and many electric networks remain unattended. To solve these problems new approaches to attracting investment are also being developed. In his messages to the president, Nursultan Nazarbayev has repeatedly stressed that housing and communal services should be transferred to management or to a concession with possible further privatization. The widespread use of this practice will make it possible to actually implement the idea of People first, which is the best practice approved by the UNECE. It also assumes the ability of a businessman to establish a connection with a client and not just listen, but actually hear their consumer (Bednyakov, 2019).

There are three main models for the development of housing and communal services abroad:

1. State ownership and management. This model is used, for example, in the United Arab Emirates, Kuwait, and Turkmenistan. Citizens of these countries do not pay for housing and communal services (or do not pay for a certain amount of these services). In the Middle East this is due to the wealth of the state.

2. The housing and communal services industry is almost entirely privately owned and regulated by market laws, and government intervention is minimized. The most striking example of using such a model is the United States. It should be noted that this practice is accompanied by a strong and independent judicial and legal system.

3. Mixed model. In this model the state can act as a regulator of the most important strategic issues (for example, the maximum tariffs set, as in the UK), and private companies provide services on competitive terms. Users can at any time choose another provider of a service from the many existing on the market. Moreover, the system of providing housing services in London is so flexible that it is possible to simultaneously use several providers to provide the same service at different time intervals of the day (for example, as in the case of electricity transmission).

Table 2. Indicators that characterize investment activity in housing and communal services

Indicator	The contents of the index
Growth in fixed capital investment in the distribution of gaseous fuels	The ratio of the volume of investments in fixed assets for the distribution of gaseous fuel in the current period to the previous period
Growth in the volume of investments in fixed assets for the distribution of steam and hot water (heat energy)	The ratio of the volume of investments in fixed assets for the distribution of steam and hot water (heat energy) in the current period to the previous period
Growth in fixed capital investment in water distribution	The ratio of the volume of investments in fixed assets for the distribution of water in the current period to the previous period
The growth of investments in fixed capital in the sewage, waste, and similar activities	The ratio of the volume of investments in fixed assets for the disposal of wastewater, waste and similar activities in the current period to the previous period
Growth of investment in housing	The ratio of the volume of investment in housing in the current period to the previous period
Growth of expenditures of the consolidated budget of the subject of the Republic of Kazakhstan on housing and communal services financing	The ratio of the total amount of expenditures of the consolidated budget of the subject of the Republic of Kazakhstan for housing and communal services in the current period to the previous period
Note: compiled by the authors	

Housing and utilities consists of two main interrelated elements:

– the municipal sector consists of systems that provide water supply, gas supply, heat, electricity and water disposal, improvement and maintenance of public facilities and on the territories of localities, as well as special-purpose facilities and territories;

– the housing stock includes multi-apartment residential buildings and individual housing construction and are the main consumers of public services.

The program will ensure the development and adoption of measures to modernize the housing and utilities sector, which will improve its functioning and improve the quality of public services, as well as implement a mechanism to attract investment in the housing and utilities sector (Kondybaeva, 2014).

Taking into account the special importance of providing the population with high-quality drinking water, the Government of the Republic of Kazakhstan decided to develop a special program document. In this regard, this program does not address issues of water supply to localities.

To date, the housing and utilities sector in the Republic is characterized by an inefficient management system of subjects-housing and utilities enterprises and their unsatisfactory financial situation, high operating costs and lack of economic incentives to reduce them.

According to the Agency of the Republic of Kazakhstan for statistics, the total area of the Republic's housing stock was 267.8 million square meters, equating 261.4 million dollars. 97.6 % of housing is privately owned.

Discussions

Based on the analysis of the development of the housing and communal services industry in the Republic of Kazakhstan, as well as based on the opinion of the expert community, it can be argued that the main

problematic issues that hinder the increase in investment activity in the housing and communal services sector are related to the imperfection of legislation, primarily concession legislation. In detail, the issues related to the need to improve the legislation on concession agreements are considered in the work of the author (Beketova, 2007). Also, there are many purely sectoral problems in the regulation of the industry, which have been the subject of analysis by many other experts. Such an analysis, for example, is presented by D.Yu. Nifontov in the article "Trends in the development of housing legislation of the Russian Federation" (Nifontov, 2018).

Speaking in general about the problem of attracting private investment in the housing and utilities sector, we can note the following five key problem areas that require immediate solutions at the legislative level:

– the parties to the concession agreements are in an unequal position, which leads to the risk of abuse by government officials;

– insufficient state investment in public utilities, which discourages private investors;

– lack of long-term nature of work with housing and utilities projects: there are no long-term plans for the development of territories, long-term tariffs, tariff modeling;

– the inconsistency of the technical data about an underground network data in public registers;

– procedures for registration of land relations, registration of construction permits and other documentary issues take a long time, which leads to inconsistency of work schedules with the actions of state authorities.

The housing and communal services sector will remain unattractive for large, small and medium-sized businesses. Depreciation of fixed assets, long payback period under strictly regulated tariffs, lack of legal framework for long-term investment and other factors do not encourage the involvement of private capital in the development of activities in this sector of the economy (Kulumbetova, 2007). There are a number of risks in the field of housing and communal services, the reduction of which will increase the investment attractiveness of the industry:

– sectoral risks: the housing and utilities sector is unattractive due to the need for some initial costs and long-term investment in infrastructure projects;

– political risks: with the change of the head of the local executive body, the investment project may be revised and the priorities for the development of public infrastructure may change;

– the local executive body responsible for the level of inflation and the solvency of the local population, as well as the bodies authorized to regulate utility tariffs are forced to agree to increase tariffs;

– financial (currency) risks: long payback period makes borrowers dependent on fluctuations in the national currency and borrowed exchange rates;

– technological risks: due to significant wear and tear of the systems, the used utility systems often stop and have accidents, and in this connection the rates of technological and non-commercial losses are high.

It is impossible to predict the amount of operating costs from such technical factors. Analysis of the state of domestic production of housing and communal services in the domestic market and the data obtained on the basis of foreign trade indicators show that the competitiveness of goods produced in housing and communal services is not high. According to the Customs Control Committee of the Ministry of Finance of the Republic of Kazakhstan the total turnover of goods in 2015 amounted to 280,548.8 million tenge. Including 218 092.8 mln. tenge 62 456 mln. tenge were exported. The main supplier of goods used in the field of housing and communal services is Russia, which imported goods in the amount of 76 878 481.6 thousand tenge, which is 35.2 % of total imports of goods in the field of housing and communal services; China — 31 861 247, 6 thousand tenge, or 14.6 %. At the same time, it should be noted that there is a potential to increase the share of Kazakhstani content in the production of goods, works and services in the field of housing and communal services, in particular; central heating boilers — 2890 units (Kazakhstani content is 68 %); radiators for central heating without electric heating made of ferrous metal — 648 tons (the share of Kazakhstan content is 100 %) (Atamkulov, 2020).

According to the comprehensive plan for the modernization of housing and communal services, as a pilot program in the cities of Ust-Kamenogorsk and Semey complex repairs were carried out, allowing to save up to 30 % of thermal energy with the use of thermal modernization. This project has been successfully implemented. In addition, this year in the country it is planned to repair 1200 multi-apartment residential complexes using this method. All preparatory work on the repair of apartment buildings has now been completed. Regulates capital and current repairs of the common property of condominium facilities.

At the same time, another important task of the comprehensive program is the modernization of heating, energy, gas, water and other infrastructure systems. According to the program, 24.4 thousand km of infra-

structure networks will be modernized by 2015. In particular, 1.1 thousand km of heating networks will be involved. 451034 million tenge was allocated for complex measures implemented at the first stage of housing and communal services modernization for 2011–2015 (Bednyakov, 2017).

As it was noted at the meeting, for the first 6 months of this year, the country conducted an energy audit of 415 apartment buildings. As a result of this event, a report on the energy efficiency of apartment buildings was compiled, and the mechanisms for energy saving of residential complexes were determined. In addition, observations were made on the technical condition of heating networks in the cities of Kostanay, Karaganda, Uralsk, Taldykorgan, Taraz, Kyzylorda, Aktobe and Shymkent. As a result, in November 2011 a report will be prepared on the specific definition of the technical and economic condition of the heating networks of eight of these cities and determine its effectiveness.

A new program for the modernization of housing and communal services was developed and adopted in accordance with the task in the Address of the Head of state to the people of Kazakhstan in January 2011 (Mamytbekov, 2005).

The head of state said in his recent address, “In 2008 72 % of communications reached the level requiring repair or replacement. As part of the road map, we have done a lot of work to repair housing and utilities facilities for 2011–2015. Now we have to continue this work. We must carry out a large-scale modernization of water, heat, electricity and gas supply systems, as well as ensure the creation of effective models of housing relations”. Thus, the Head of state instructed the Agency for construction and housing and communal services established in 2011 to develop a program for the modernization of housing and communal services for the period up to 2020. This document was adopted by the government in April this year, consists of three directions.

First, the modernization of heat, electricity and gas supply in accordance with the requirements of the “road map”. Second providing repair of multi-storey buildings. Third, improving the efficiency of the housing and utilities sector.

Chairman of the Agency for construction and housing and communal services Serik Nokin noted that the modernization of state engineering systems will be carried out at the expense of budget funds and the implementation of investment programs of enterprises based on tariff regulation. Modernization of engineering networks that are privately owned is carried out at the expense of tariffs. The construction of new engineering networks that will allow the population to use public services will be carried out at the expense of budget funds. The cost of enterprises formed by tariffs is 71 %, that is, 452 billion dollars. 184 billion tenge was allocated from the budget for the reconstruction of engineering networks. This year it is planned to allocate 18 billion tenge from the local budget.

In addition, according to the Ministry of emergency situations of the Republic of Kazakhstan, there are 414 multi-storey buildings in the Republic, where the project provides equipment for fire protection systems. At the same time, 264 buildings have automatic fire alarms and defects in air injection systems in elevator shafts. In 257 residential buildings smoke removal systems do not work; in 251 residential buildings internal fire water supply does not function.

This situation requires restoration and seismic reinforcement of fire protection systems of multi-storey residential buildings and social facilities (On the approval of the State Program of housing and Communal Development “Nurly Zher” for 2020–2025, 2019).

Since 2012 in the city of Saran (total length of 31.4 km and a boiler capacity of 100 GCal) the construction of heating networks is underway, which, in turn, allowed to eliminate 21 local boiler houses. Completion in 2015.

To reduce wear of heat networks in conjunction with the Ministry of national economy of the Republic of Kazakhstan discussed the project of raising funds from the Asian development Bank for reconstruction of thermal networks in the Soviet operation of the city, which will serve as the basis for a significant improvement in their condition and quality of heat supply. Implementation of the state loan of $200.0 million, the loan term is 25 years, depreciation will be reduced by 27 %.

According to the order of the head of state, work is underway in the region to install common-house heat metering devices. For the period from 2012 to 2018 in the region with the need for 4,448 houses, 3,623 multi-storey residential buildings are equipped with heat metering devices (81.5 %), including 160 devices, or 3.6 % in 2012; 1,456 devices, or 32.7 % in 2018; 3,623 devices, or 81.5 % in 2019.

In addition, the tariff for heat supply services for consumers with or without heat meters is at the stage of approval in ERTOS. In this regard, we ask the population that the invoice for services is not provided based on the readings of metering devices.

In 2017–2019 the companies implemented a number of investment measures through the construction of new substations, their equipment, reconstruction and modernization of electric networks. In 2019 the construction of the 1st stage of the 220/110 kV Zharyk station was completed, which will help to build confidence in the region's electricity supply and increase the capacity of power distribution networks.

In addition, in the period from 2018 to 2019 “Karagandy Zharyk” LLP reconstructed the 110 kV air line “New City-plumbing” 18 km in length.

According to the investment program over the period 2017–2019 the volume of investments amounted to more than 3 billion US dollars. Reconstruction and technical equipment of 10–6-0.4 kV electric networks for the total amount of 10–6-0. 4 kV was performed.

JSC “Zhezkazgan REC” carried out major repairs of 1367.3 km of air lines and 22 stations, in 2014 5 220 kV stations were repaired (“Barsengir”, “Karazhalskaya”, “Zhayrem”, “Stroitelnaya”, “Mointy”) and 3 110 kV stations (“Tsentralnaya”, PS “No. 5”, PS “No. 1”).

In addition, in 2013–2014, JSC “REC” replaced 117 reference power lines in Balkhash, Zhanaarkinsky, Ulytau and Shet districts.

LLP “Karaganda REC” in 2012–2014 made for migrating networks “Chernihivka-Novokurovka”, and the refurbishment and reconstruction of stations “Barchino”, “Taldysay”, “Shubarkol” Nurskaya district, the replacement of transformer in the village of Youth, the reconstruction of 0.4 kV overhead line in Karkaraly district.

Despite a lot of work on repairing and replacing networks, 60 % remain old. In the cities of Karaganda, Zhezkazgan, Priozersk and in the village of Saryagash of the Aktogay district, water treatment is carried out from open sources, through water treatment facilities. Water supply to other cities and rural localities is provided from underground sources. In the region water treatment facilities are located in the cities of Karaganda, Zhezkazgan, Priozersk and in the village of Saryagash, Aktogay district. Cleaning devices are outdated. In this regard, it is necessary to conduct secondary water treatment.

There are 18 operating organizations and enterprises in the region, two of which are the main water utility of “Karaganda Su” LLP and “Heat Supply Enterprise” JSC in Zhezkazgan. In 2018, three-year investment programs and marginal tariffs from 2017 to 2019 were approved as a natural monopoly entity. In addition, three-year investment programs and marginal tariffs of KGP “Balkhash Su”, KGP “UZHKR”, KGP “Taza Su” were approved at 3 state-owned utilities. In order to reduce water prices to the population in 2018, water supply enterprises of the Karaganda region (branch of RSE “Kazvodkhoz”) named after Satbayev, KGP “Taza Su” of Zhanaarkinsky district, KGP “Karatal of nurinsky district”) receive subsidies for water supply services from the state budget.

Only in the Karkaraly district there is no centralized organization that provides water supply and sanitation services.

The total length of water supply networks as of 01.01.2015 is 7,070. 8 km (in the city — 5,442. 6 km, in the village — 1,628. 3 km), including:

– 6,728. 3 km in 2017 (remaining — 5,453. 2 km, in the village — 1,275. 1 km);

– 6,616. 8 km in 2018 (in the city — 5,279. 4 km, in the village — 1,337. 4 km);

– 6,787 km in 2019 (in the city — 5,357. 8 km, in the village — 1,429. 2 km).

The length of the water pipeline has increased by 59 km over the past three years. Due to the increase in water consumption by the population, water distribution increased by 24 %.

In the management of common property that corresponds to a low level of legal awareness and culture of the population in relation to condominium objects, it is impossible to solve the problem in the residential sector without solving the passive problem of apartment owners. Civil liability provided for by current legislation for non-performance or improper performance of their duties by persons who manage condominium facilities, as well as for non-performance or improper performance by individual owners of premises (apartments) of obligations to maintain and operate the common property of a residential building, does not effectively solve the problems of maintenance and repair of apartment buildings (Report on the development of small and medium-sized enterprises of the Republic of Kazakhstan in 2019 by region, 2020).

The positive experience of former socialist countries shows that it is possible to bring the relationship between the subjects of the public sector and consumers of public services to a situation, in which the state practically does not participate in the management of housing and utilities and the service market will be competitive and self-regulated.

Despite the fact that the types of housing and communal services are developing at a good pace, in 2014 they are still low to ensure the sufficiency of public infrastructure and an appropriate level of satisfaction:

– the level of access to the centralized water supply system in cities is 83.9 %, in rural areas — 53.2 %;

– in the total area of urban housing stock, the share of those provided with hot water is 63 % (56 % on average in the Republic), central heating — 76.9 % (62 % on average in the Republic), sewerage system — 91.7 % (80 % on average in the Republic), gas — 64.4 % (88 % on average in the Republic).

– of the total area of the rural housing stock of 87.7 % accounted for water (average in the Republic 94 %), 37,9 % — sewer system (the country's average of 24 %) and 7.3 % for district heating (average in the Republic 4 %), 87,8 % on gas (average in the Republic 88 %), 4,4 % — on hot water (the country's average of 2 %).

The potential of housing and communal services is supported by the state program "Development of regions until 2020", which aims to provide solutions to housing construction problems to increase housing affordability for the population.

Currently, the heat and power complex of the Karaganda region is one of the largest in Kazakhstan. It consists of 9 power stations and 3 large power grid companies (Karimova, 2018).

In 2012–13173 million us dollars kW.10 % more than in 2011, 16264 million us dollars kW were produced. In 2013 — $13,992 million kW. 6.2 % more than in 2012, $15,504 million kW.t. were produced, which is 4.7 % less than in 2012. In 2014–13741 million US dollars kW including 2 % less than in 2013, 15435 million US dollars. kW.C. consumed 1 % less than in 2013.

These two types of markets will depend on different variables, complementing each other. Based on the doctrine of the formation of the housing stock of the stock market and the housing services market of the housing sector, the author defines the structural system of the domestic housing market:

1. ensuring the normative content of the housing stock;
2. conducting an energy survey of housing and social facilities to develop standard recommendations for energy conservation and drawing up regional plans for social facilities and thermal modernization of residential buildings;
3. development of schemes for financing returnable budget funds and co-financing of apartment owners and placement of projects for thermal modernization and improvement of condominium facilities;
4. to attract apartment owners in the process of thermal modernization of condominium facilities, it is necessary to carry out activities to promote party associations and public associations, energy conservation among the population with the involvement of the potential and funds of NGOs in this activity;
5. development of a mechanism for the creation and functioning of ESCO for the implementation of the project on thermal modernization and creation of energy-efficient equipment for residential buildings, as well as for the implementation of measures to create automated systems for regulating heat consumption in residential buildings and social facilities;
6. it is necessary to implement a pilot project for thermal modernization of condominium facilities.

Conclusions

The analysis of the problematic issues in the sphere of housing in this paper suggests that to attract private investment into the sector in the wider scope conducted is necessary to solve many existing regulation of the industry first. Constant chaotic changes in legislation in the past have led to a huge set of regulations that do not reflect the needs of investors and may contradict each other. This includes both industry-specific legislation and general rules of law applicable to concession agreements. It is necessary to consider this problem as a potential but poorly realized opportunity for investors who are ready to make investments, provided that a reliable transparent regulatory system is built — as is the case in developed countries, whose experience can be borrowed in order to effectively develop the housing and utilities sector. We hope that the rich expert experience accumulated over the years of reforming the housing and utilities sector will be positively perceived by legislators, as well as by executive bodies of state power, and they will pay attention to the most problematic issues for their early resolution, including those outlined in this article.

It was found that the housing market is influenced by such factors as the market price of housing, the cost of construction, the price of materials, prices for transport services, electricity tariffs, the pace of technological changes in the sectors of financial and tax policy, the provision of various benefits, control over the use of land, the amount of rent, building regulations, legal rules and regulations.

Demand for housing is formed under the influence of economic, social, political, demographic, natural and climatic factors at the stages of development of the zhanui life cycle. To individual consumer requests for housing are:

– financial capabilities of the consumer;

– population;

– cost of housing and expenses for its maintenance in normal condition;

– personal preferences of the person, the cost of other goods and services;

– the actual amount of bank interest;

– it is proved that the influence on the location of the publishing house and the presence of social infrastructure on the territory.

Analysis of foreign practices in the organization and regulation of the housing sector has shown that the housing market can solve the problem of housing in society in a harmonious organization of 3 types of market, such as individual housing, commercial or social rental housing, housing and public, i.e. municipal, houses.

Housing construction is one of the priority directions of the development strategy of Kazakhstan till 2050, which is one of the most important tasks of a national nature. In recent years, Kazakhstan has seen a large growth rate of housing construction. This is the most important indicator of the development of the standard of living of the country's population. Now one urgent task is to speed up the solution of housing problems. The government and akims of all levels should take responsibility and show the people of Kazakhstan what will come from the funds. Housing construction is a powerful force that moves our economy forward.

The main quality indicator of housing is the level of improvement that meets the modern requirements of consumers. Currently, new houses will be built with water sewerage, heating and hot water. Over the past 2 years, 7.6 % of commissioned residential buildings have been provided with modern heating equipment. The average size of apartments increases to improve the living conditions of the rural population.

In the period from 2011 to 2014, the housing stock of the Republic of Kazakhstan amounted to 11.7 million US dollars. The state ceased to be the main participant in housing construction, the total share of housing construction for the analyzed period was 2.2 million US dollars, a 22 % decrease in growth rates.

Reference

Aktanov, Amir (2019). Obzor rynka nedvizhimosti Kazakhstana [Review of the real estate market of Kazakhstan]. Polucheno iz https://*forbes.kz/process/property/obzor_ryinka_nedvijimosti_kazahstana* [in Russian].

Askarova, A. (2012). Ekonomicheskie problemy zhilishchnogo stroitel'stva [Economic problems of housing construction]. *Vestnik Kazahskogo nacional'nogo universiteta. Seriya ekonomicheskaya — Bulletin of the Kazakh National University. Economic series, 5 (57), 89* [in Russian].

Atamkulov, B. (2020). Novye predpriyatiya, stroitel'stvo dorog, obespechenie zhil'em — razvitie promyshlennoj otrasli Kazahstana. [New enterprises, road construction, housing provision-development of the industrial sector of Kazakhstan]. Polucheno iz: *https://primeminister.kz/ru/news/reviews/novye-predpriyatiya-stroitelstvo-dorog-obespechenie-zhilem-razvitie-promyshlennoy-otrasli-kazahstana-354351* [in Russian].

Bednyakov, A.S. (2017). *Gosudarstvenno-chastnoe partnerstvo: mirovoj opyt i pravovoe regulirovanie v Rossijskoj Federacii. [Public-private partnership: world experience and legal regulation in the Russian Federation]. Moscow:* Kreativnaya ekonomika, 150, doi: 10.18334/9785912921827 [in Russian].

Bednyakov, A.S. (2019). Mezhdunarodnyj opyt razvitiya zhilishchno-kommunal'nogo hozyajstva. [International experience in the development of housing and communal services]. *Izvestiya Sankt-Peterburgskogo gosudarstvennogo ekonomicheskogo universiteta — Izvestiya Sankt-Peterburgskogo gosudarstvennogo ekonomicheskogo universiteta, 4,* 66–71 [in Russian].

Beketova, G.N. (2007). Rynok zhil'ya Kazahstana: sovremennoe sostoyanie i perspektivy razvitiya, [Housing market of Kazakhstan: current state and prospects of development]. *Vestnik Kazakhskogo nacional'nogo universiteta. Seriya ekonomicheskaya — Bulletin of the Kazakh National University. Economic series, 2(60),*50– 55 [in Russian].

Britanova, S.V. (2017). V Kazakhstane gotovitsya revolyuciya dlya otechestvennogo ZhKKh [Kazakhstan is preparing a revolution for domestic housing and communal services]. Polucheno iz: *https://www.caravan.kz/gazeta/v-kazakhstane-gotovitsya-revolyuciya-dlya-otechestvennogo-zhkkh-406103 /* [in Russian].

Daulethanova, Zh.D. (2016). Issledovanie mekhanizma gosudarstvennogo regulirovaniya social'noj sfery Respubliki Kazakhstan [Study of the mechanism of state regulation of the social sphere of the Republic of Kazakhstan]. *Ekonomicheskij analiz: teoriya i praktika — Economic analysis: theory and practice, 3(450)*, 111–120 [in Russian].

Karimova, M. (2018). Modernizaciya ZhKKh v Kazakhstane kak faktor povysheniya kachestva zhizni naseleniya. [Modernization of housing and communal services in Kazakhstan as a factor of improving the quality of life of the population]. Polucheno iz: *https://strategy2050.kz/ru/news/51864/* [in Russian].

Kondybaeva, S.K. (2014). Social'noe razvitie Kazakhstana na sovremennom etape [Social development of Kazakhstan at the present stage]. *Vestnik Kazahskogo nacional'nogo universiteta. Seriya ekonomicheskaya — Bulletin of the Kazakh National University. Economic series,* 6(100), 158 — 163 [in Russian].

Kulumbetova, L.B. (2007). Tendencii i etapy razvitiya zhilishchnogo sektora. [Trends and stages of development of the housing sector]. *Vestnik KazATK — Bulletin of the Kazakh Academy of Transport and Communication, 4,* 181– 82 [in Russian].

Mamytbekov, E. (2005). Gosudarstvennaya programma razvitiya zhilishchnogo stroitel'stva na 2005–2007 gody. [State program of housing construction development for 2005–2007]. *Rezhim dostupa: http: // kazpravda.kz.* [in Russian].

Nifontov, D.A. (2018). Tendencii razvitiya zhilishchnogo zakonodatel'stva RF [Trends in the development of housing legislation of the Russian Federation]. *Reforma Zh.Kh. Sostoyanie i problemy — Housing and utilities reform. Status and issues, 11,* 54–62 [in Russian].

Obojmova, N.T. & Grebenkina, A.S. (2016). Sozdanie konkurentnoj sredy na territorii municipal'nyh obrazovanii: osnovnye napravleniya i instrumenty (na primere zhilishchno-kommunal'noj sfery). [Creating a competitive environment on the territory of municipal education: main directions and tools (on the example of housing and communal services)]. *Izvestiya Volgogradskogo gosudarstvennogo tekhnicheskogo universiteta — Bulletin of the Volgograd State Technical University, 16(195*), 124–129 [in Russian].

Ob utverzhdenii Gosudarstvennoj programmy zhilishchno-kommunal'nogo razvitiya "Nurly Zher" na 2020–2025 gody. Postanovlenie Pravitel'stva Respubliki Kazahstan No. 1054. [On the approval of the State Program of housing and Communal Development "Nurly Zher" for 2020–2025. Resolution of the Government of the Republic of Kazakhstan 1054]. (2019). Polucheno iz: *http://adilet.zan.kz/rus/docs/P1900001054* [in Russian].

Otchyot o razvitii malogo i srednego predprinimatel'stva Respubliki Kazahstan v 2019 godu v razreze regionov. (2020). [Report on the development of small and medium-sized enterprises of the Republic of Kazakhstan in 2019 by region]. Nur-Sultan: OO "Molodye invalidy goroda Astany", 176 [in Russian].

Poslanie Prezidenta Respubliki Kazakhstan N.A. Nazarbaeva narodu Kazahstana ot 31 yanvarya 2017 goda. "Tret'ya modernizaciya Kazahstana: global'naya konkurentosposobnost'". [Address of the President of the Republic of Kazakhstan N.A. Nazarbayev to the people of Kazakhstan. January 31, 2017. "The third modernization of Kazakhstan: global competitiveness"]. (2017). Polucheno iz *https://www.akorda.kz/ru/addresses/addresses_of_president /poslanie-prezidenta-respubliki-kazahstan-nnazarbaeva-narodu-kazahstana-31-yanvarya-2017g* [in Russian].

Uvelichenie finansirovaniya i mestnogo soderzhaniya: kak v Kazakhstane razvivaetsya zhilishchnoe stroitel'stvo (2020). [Increased funding and local content: how housing construction is developing in Kazakhstan]. Polucheno iz: *https://primeminister.kz/ru/news/reviews/uvelichenie-finansirovaniya-i-mestnogo-soderzhaniya-kak-v-kazahstane-razvivaetsya-zhilishchnoe-stroitelstvo-155630* [in Russian].

Д.Р. Баткеева, С.Н. Улаков, З.Н. Борбасова, Р.А. Абрамов

Тұрғын үй құрылысы мен коммуналдық қызметтерге инвестициялар тарту мәселелері

Аңдатпа

Мақсаты: Мақалада тұрғын үй-коммуналдық шаруашылығында негізгі қорларды құру және жаңғырту мақсатында инвестицияларды тарту үшін ынталандыру мәселелері қарастырылған. Тұрғын үй-коммуналдық шаруашылық ұйымдарының негізгі қорларын молайту үшін инвестициялар тартуға теріс әсер ететін негізгі теріс факторлар көрсетілген.

Әдісі: Қазақстан Республикасының кәсіпорындары мен тұрғындары үшін тұрғын үй-коммуналдық қызметтерге баға саясаты талданды, концессиялық келісімдер арқылы тұрғын үй саласына жеке капиталды тартудың шетелдік оңтайлы тәжірибесі жарияланған.

Нәтижелері: Халық үшін жеңілдіктерді монетаризациялау тұрғын үй-коммуналдық шаруашылық саласында пайдаланылмады, бұл тұрғын үй-коммуналдық қызметтерге субсидия беру тетігінің пайда болуына әкелді. Қазіргі уақытта Қазақстан Республикасы халқының үштен біріне жуығы халықтың жеңілдік санаттарына қосымша төлемдерге бюджеттік субсидияларды әрдайым толық немесе уақтылы ала бермейтін тұрғын үй-коммуналдық шаруашылық кәсіпорындары үшін жеңілдіктерге құқығы бар. Бұл жағдай тұрғын үй-коммуналдық шаруашылық кәсіпорындарының қызметіндегі қаржылық тәуекелдерді ұлғайтты және олардың кірістерінің және тиісінше, инвестициялық белсенділіктің төмендеуіне әкелді.

Қорытынды: Тұрғын үй-коммуналдық шаруашылық саласы тұрғын үй иелеріне екі қызмет түрін ұсынумен сипатталады. Тұрғын үй қызметтері көп пәтерлі үйдегі үй иелерінің ортақ мүлкін тиісті түрде ұстау үшін қажет нәрсенің бәрін қамтиды. Тұрғын үй-коммуналдық қызметтердің нақты тізбесі меншік иелерімен және басқарушы ұйыммен шартта келісіледі. Тұрғын үй қызметтері, мысалы: көп пәтерлі үйдегі үй-жайлардың меншік иелерінің ортақ мүлікті күтіп-ұстау және жөндеу (ортақ мүлікті тексеру, бүлінулер мен бұзушылықтарды анықтау), оның ішінде ортақ мүлікті санитариялық күтіп-ұстау (аула сыпырушы қызметтері, кіреберістерді тазалау, оларды дезинфекциялау және дератизациялау, қоқыс құбырларын тазарту қызметтері); ортақ мүлікті және ортақ қорларды басқару жөніндегі қызметтер (техникалық құжаттаманы қабылдау, сақтау және беру, ТКШ ГАЖ-да ақпаратты толтыру және өзектендіру, қарыздарды игеру).

Кілт сөздер: тұрғын үй-коммуналдық шаруашылық, инвестициялар, күрделі салымдар, тұрғын үй-коммуналдық қызметтерге ақы төлеу бойынша халыққа берілетін жеңілдіктер, қаржылық тәуекелдер, бәсекелестік, концессиялық келісім, тарифтік реттеу.

Д.Р. Баткеева, С.Н. Улаков, З.Н. Борбасова, Р.А. Абрамов

Проблемы привлечения инвестиций в жилищное строительство и коммунальные услуги

Аннотация

Цель: В статье рассмотрены проблемы создания стимулов для привлечения инвестиций в целях модернизации и создания основных фондов в жилищно-коммунальном хозяйстве. Отражены основные факторы, негативно влияющие на привлечение инвестиций для воспроизводства основных фондов организаций жилищно-коммунального хозяйства.

Методы: В статье проанализирована ценовая политика на жилищно-коммунальные услуги для предприятий и населения Республики Казахстан, освещен положительный зарубежный опыт привлечения частного капитала в жилищную сферу через концессионные соглашения.

Результаты: Монетаризация льгот для населения до сих пор не использовалась в сфере жилищно-коммунального хозяйства, что привело к появлению механизма выдачи субсидий на жилищно-коммунальные услуги. В настоящее время около трети населения Республики Казахстан имеет право на льготы для предприятий жилищно-коммунального хозяйства, не всегда получающих в полном объеме, или своевременно бюджетные субсидии на дополнительные выплаты льготным категориям населения. Это обстоятельство увеличило финансовые риски в деятельности предприятий жилищно-коммунального хозяйства и привело к снижению их прибыли и, соответственно, инвестиционной активности.

Выводы: Сфера жилищно-коммунального хозяйства охарактеризована предоставлением собственникам жилья двух видов услуг. Жилищные услуги включают в себя все, что необходимо для надлежащего содержания общего имущества собственников помещений в многоквартирном доме. Конкретный перечень жилищно-коммунальных услуг согласовывается собственниками и управляющей организацией в договоре. Жилищные услуги включают, например, содержание и ремонт общего имущества собственников помещений в многоквартирном доме (осмотры общего имущества, выявление повреждений и нарушений), в том числе санитарное содержание общего имущества (услуги дворника, уборка подъездов, их дезинсекция и дератизация, услуги по очистке мусоропроводов); услуги по управлению общим имуществом и общими фондами (прием, хранение и передача технической документации, заполнение и актуализация информации в ГИС ЖКХ, взыскание долгов и др.).

Ключевые слова: жилищно-коммунальное хозяйство, инвестиции, капитальные вложения, льготы для населения по оплате жилищно-коммунальных услуг, финансовые риски, конкуренция, концессионное соглашение, тарифное регулирование.

References

Актанов Амир. Обзор рынка недвижимости Казахстана 29 декабря, 2019 г. [Электронный ресурс] / Амир Актанов. — Режим доступа: https://forbes.kz/process/property/obzor_ryinka_nedvijimosti_kazahstana

Аскарова А. Экономические проблемы жилищного строительства / А. Аскарова // Вестн. Казах. нац. ун-та. Сер. Экон. — 2012. — 5 (57). — С. 89.

Атамкулов Б. Новые предприятия, строительство дорог, обеспечение жильем — развитие промышленной отрасли Казахстана. — Июнь, 2020 г. [Электронный ресурс] / Б. Атамкулов. — Режим доступа: https://primeminister.kz/ru/news/reviews/novye-predpriyatiya-stroitelstvo-dorog-obespechenie-zhilem-razvitie-promyshlennoy-otrasli-kazahstana-354351

Бедняков А.С. Государственно-частное партнерство: мировой опыт и правовое регулирование в Российской Федерации. — М.: Креативная экономика, 2017. — 150 с. — ISBN: 978-5-91292-182-7. doi:10.18334/9785912921827

Бедняков А.С. Международный опыт развития жилищно-коммунального хозяйства / А.С. Бедняков // Изв. СПб. гос. экон. ун-та. — 2019. — № 4. — С. 66–71.

Бекетова Г.Н. Рынок жилья Казахстана: современное состояние и перспективы развития / Вестн. Казах. нац. ун-та. Сер. Экон. — 2007. — 2(60). — С. 50– 55.

Британова С.В Казахстане готовится революция для отечественного ЖКХ [Электронный ресурс] / С.В. Британова. — Декабрь, 2017 г. — Режим доступа: https://www.caravan.kz/gazeta/v-kazakhstane-gotovitsya-revolyuciya-dlya-otechestvennogo-zhkkh-406103/

Даулетханова Ж.Д. Исследование механизма государственного регулирования социальной сферы Республики Казахстан / Ж.Д. Даулетханова // Экономический анализ: теория и практика. — 2016. — 3(450). — С. 111–120. URL: https://cyberleninka.ru/article/n/issledovanie-mehanizma-gosudarstvennogo-regulirovaniya-sotsialnoy-sfery-respubliki-kazahstan

Каримова М. Модернизация ЖКХ в Казахстане как фактор повышения качества жизни населения. — 2018, август [Электронный ресурс] / М. Каримова. — Режим доступа: https://strategy2050.kz/ru/news/51864/

Кондыбаева С.К. Социальное развитие Казахстана на современном этапе / С.К. Кондыбаева // Вестн. Казах. нац. ун-та. Сер. экон. — 2014. — 6 (100). — С. 158–163.

Кулумбетова Л.Б. Тенденции и этапы развития жилищного сектора / Л.Б. Кулумбетова // Вестн. КазАТК. — 2007. — № 4. — С. 181,182.

Мамытбеков Е. Государственная программа развития жилищного строительства на 2005–2007 годы [Электронный ресурс] / Е. Мамытбеков. — Режим доступа: http: // kazpravda.kz.

Нифонтов Д.А. Тенденции развития жилищного законодательства РФ / Д.А. Нифонтов // Реформа ЖКХ. Состояние и проблемы. — 2018. — Вып. 11 — С. 54–62.

Об утверждении Государственной программы жилищно-коммунального развития “Нұрлы Жер” на 2020–2025 годы. Постановление Правительства Республики Казахстан от 31 декабря 2019 года № 1054. — [Электронный ресурс]. — Режим доступа: http://adilet.zan.kz/rus/docs/P1900001054

Обоймова Н.Т. Создание конкурентной среды на территории муниципальных образований: основные направления и инструменты (на примере жилищно-коммунальной сферы) / Н.Т. Обоймова, А.С. Гребенкина // Известия Волгоград. гос. техн. ун-та, 2016. — 16 (195). — С. 124–129.

Отчёт о развитии малого и среднего предпринимательства Республики Казахстан в 2019 году в разрезе регионов. — Нур-Султан: ОО “Молодые инвалиды города Астаны”, 2020. — 176 с.

Послание Президента Республики Казахстан Н.А. Назарбаева народу Казахстана. 31 января 2017 года. “Третья модернизация Казахстана: глобальная конкурентоспособность” [Электронный ресурс]. — Режим доступа: https://www.akorda.kz/ru/addresses/addresses_of_president/poslanie-prezidenta-respubliki-kazahstan-nnazarbaeva-narodu-kazahstana-31-yanvarya-2017g

Увеличение финансирования и местного содержания: как в Казахстане развивается жилищное строительство. [Электронный ресурс]. — июнь, 2020. — Режим доступа: https://primeminister.kz/ru/news/reviews/uvelichenie-finansirovaniya-i-mestnogo-soderzhaniya-kak-v-kazahstane-razvivaetsya-zhilishchnoe-stroitelstvo-155630

DOI 10.31489/2021Ec2/56-66
JEL F30, G11, G15, G23
UDC 339.7, 336.7, 330.322

O.O. Borzenko[1*], A.B. Hlazova[2]

Institute for economics and forecasting, National Academy of Science of Ukraine, Kyiv, Ukraine
[1]slozko2003@ukr.net, [2]annapelo@ukr.net
[1] https://orcid.org/0000–0002–1017–5942, [2] https://orcid.org/0000–0003–0102–1420
[*]Scopus Author ID: 57208315150, [*]Researcher ID: 0782819
[2]Scopus Author ID:56602876300

Cryptocurrency as a secondary form of manifestation of finance virtualization

Abstract

Object: Object of the paper is to develop theoretical principles that reveal the content, functions and role of cryptocurrency as new, quite controversial means of settlements appeared in digital society. Cryptocurrency is studied as a secondary form of finance virtualization. The investigation is directed on cryptocurrency's theoretical and practical aspects of functioning.

Methods: The investigation used statistical and economic-mathematical methods to analyze the current trend of development in bank and non-bank payment systems. The authors collected data about legal status of cryptocurrencies, then the obtained data was analyzed according to its official status in developed and developing countries.

Findings: It was found that the biggest non-bank electronic payment system PayPal, as a secondary form of virtualization manifestation it currently shows higher growth of rate than the biggest bank card payment system — VISA. The position of cryptocurrencies in National Legal Systems of developed and developing countries was collected and analyzed, according to its legal status. The possible risks and controversial questions of cryptocurrency's influence on price stability, stability of payment and financial systems are determined.

Conclusions: Emergence of cryptocurrency in modern society is the evidence of global digitalization. Virtualization in its primary and secondary manifestation form affects financial sector. Secondary form of virtualization results in non-bank sector development, namely non-bank electronic payment systems (e.g., PayPal) and non-institutional digital schemes of settlements (cryptocurrency). Developed countries are mostly more progressive in cryptocurrency regulation than developing countries. In the case of global cryptocurrency spreading wide there are some risks national economies may face. They include the problem of price stability, the stability of the financial system, the stability of payment systems. Generally, the authors substantiate the requirement for search of the complete definition of cryptocurrency that may be integrated into national legal system for further regulation and risks controlling.

Keywords: virtualization, cryptocurrency, virtualization of finance, information society, non-banking sector, non-banking electronic payment systems, regulation of cryptocurrencies.

Introduction

Information and telecommunication technologies (ICT) have caused qualitative economic transformation, deepening development of information society, emerging new independent instrument of settlements, i.e., cryptocurrencies. The issue of financial sector modernization through information and telecommunications technologies implementation is on the agenda. Economic aspect of the process is the development of branches, markets, institutions etc. on ITC foundation.

The implementation of IT in the financial sector leads to increased productivity of operating activities, changes of money existence form, highlighting the information component. The use of IT allows financial institutions to obtain information about changes in market conditions, coordinate resources, choose the optimal strategy. The presence of the above-mentioned features is inextricably linked to competitiveness and profitability. The convergence of information and communication technologies with finance and the further development of the latest tools and schemes of settlements on this basis have led to transformation of finance that violates the necessity for investigation the problem of virtual currencies interaction with economic and financial system.

Literature Review

Reviewing recent studies and scientific research in the field of cryptocurrencies, it should be admitted that the lack of investigation about economic effects of cryptocurrencies influence on domestic and global systems in the case of its legal recognition, interaction of real financial system with cryptocurrencies, prob-

* Corresponding author.
E-mail address: *slozko2003@ukr.net*

lems of world monetary and financial system may be faced. While there are studies focused on world monetary and financial system regulation (Bush, Farrant, Wright, 2011), problem of the financial system stability (Solt, 2015), reviewing reserve currencies functioning (Bordo, Levin, 2019) etc.

So, to transform world monetary and financial system different scenarios of transformation were proposed (i.e., SDR as unique global reserve currency, the status quo of the dollar, a new reserve currency on the basic of basket etc.) but no one determines cryptocurrency'u place or its role in global financial system. However, cryptocurrency's impacts on financials system are poorly studied and require further investigation as the main indicator of digital society development.

Methods

The purpose of the paper is to develop theoretical principles that reveal the content, functions and role of cryptocurrency and to explore cryptocurrency's possible influence on real financial system as distinctive feature of digital society and its consequences for the global economy.

The theoretical and methodological basis of the study is the position of modern economics, scientific works of leading domestic and foreign scientists in the field of global financial market research, virtualization and globalization.

The study uses modern research methods, namely:

- system approach (to study the theoretical possible foundations of cryptocurrency's influence on the international monetary system);
- statistical and economic-mathematical methods (to analyze the current trend of development in bank and non-band payment systems);
- methods of scientific analysis (to obtain data about common backgrounds of cryptocurrency's official status in developed and developing countries).

Results and Discussion

As a result of using mathematical-statistic methods it was found that the biggest non-bank electronic payment system PayPal currently shows higher growth of rate than the biggest bank card payment system VISA. The position of cryptocurrencies in national legal systems of developed and developing countries was collected and analyzed according to its legal status. The possible risks and controversial questions of cryptocurrency's influence on price stability, stability of payment and financial systems are determined.

The virtualization of the world monetary and financial system is expressed in the deprivation of the monetary value of intrinsic value, emphasizing its informational nature, as well as the deeper integration of server systems of the global financial market. Finance under the conditions of virtualization takes the form of alienated intrinsic value of goods embodied in electronic payment units circulating in the information economy to mediate exchange.

Conceptually, we have to admit both forms of manifestation of finance virtualization, namely primary and secondary. The primary form of the phenomenon defined money as the alienated intrinsic value of goods, expressed in digital form of information-cash flows to mediate the relationship of exchange and settlement (including bank settlements). It is based on digitalization of operational processes, as well as convergence of information technologies and communication systems with the finance. The secondary form of finance virtualization is expressed as in the transformation of money into financial and information flows, as the emergence of non-banking electronic payment systems, non-institutional monetary units and payment systems (cryptocurrency).

It is concluded that during recent years non banking sector has been steadily growing under digital technologies and communication system influence. Based on the study, ICT development has been causing the evolution and qualitative transformation of the global financial system: the creation and activation of non-bank electronic payment systems expressed in electronic non-bank payment system (PayPal, Striple, YooMoney etc.) and non-bank cryptocurrencies spreading (Bitcoin, Ethereum, Tether, XRP, Cardano, etc.). Talking about the non-bank payment system, we have concluded that the largest non-bank payment system PayPal demonstrates higher growth rates than the largest bank payment system VISA. It was found that both of them show positive growth dynamics. In spite of larger scale of VISA (USD 11.6 trillion) compared to PayPal (USD 0.712 trillion) (Statista, 2019; Visa Annual Report, 2019), the non-bank payment system PayPal shows higher rate of growth in 2019 compared to 2018 (18 %) than VISA (3 %).

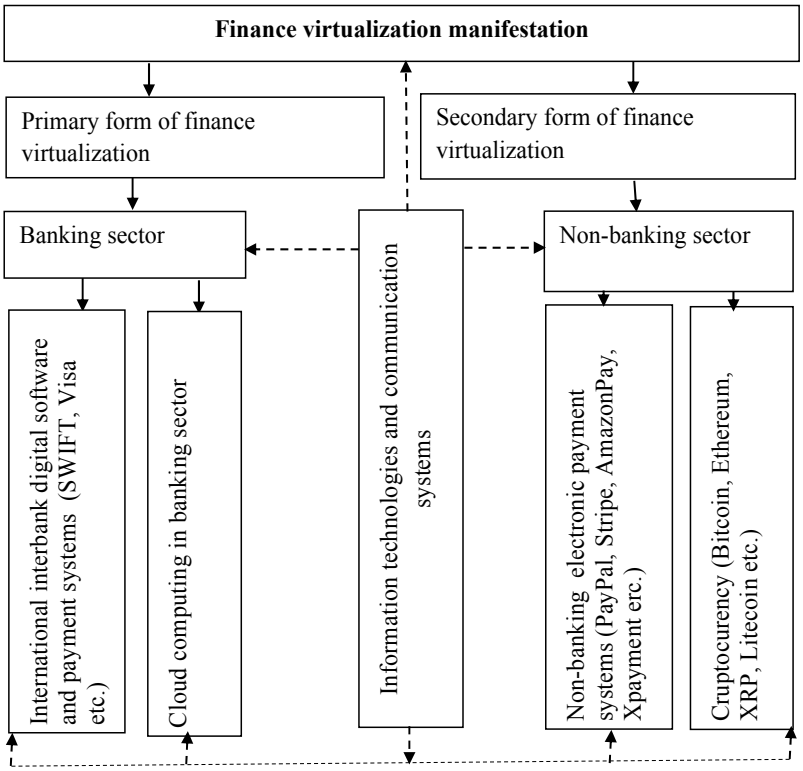


Figure 1. Generalized concept of finance virtualization

Note: made up by the authors

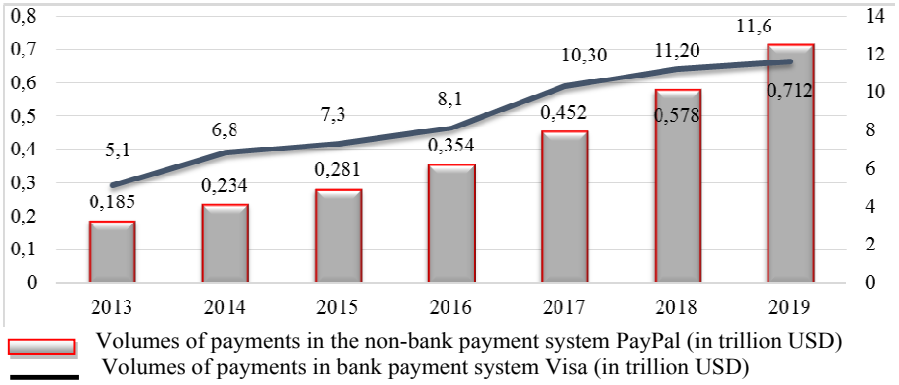


Figure 2. Dynamics of payments in the VISA card payment system and the non-bank PayPal payment system

Note: made up authors on a basis of (Statista, 2019; Visa Annual Report, 2019)

But talking about theoretical and practical side of cryptocurrency functioning, first of all, we have to analyze the possibility of money function implementation by cryptocurrency. So, classical economic theory distinguishes five functions of money: a measure of value, a means of circulation, a means of accumulating capital, a means of payment, and world money. In the context of virtualization, these functions have two aspects: 1) if we consider fiduciary money in the primary form of virtualization, then all five functions of money remain, and virtualization has a positive impact on finance; 2) if we consider virtual currencies as a manifestation of the secondary form of virtualization of the world financial market, then the performance of the basic functions of money by virtual currencies remains in question. The functions of measure of value, means of circulation, means of payment, and world money will exist only as long as they are used and accepted by all the subjects. As for the function of capital accumulation, in modern conditions the volatility of the cryptocurrency market puts the performance accumulation function under risk. Thus, in our opinion, cryptocurrency may not fully perform as a means of capital accumulation, but sometimes may act as a means of capital losing.

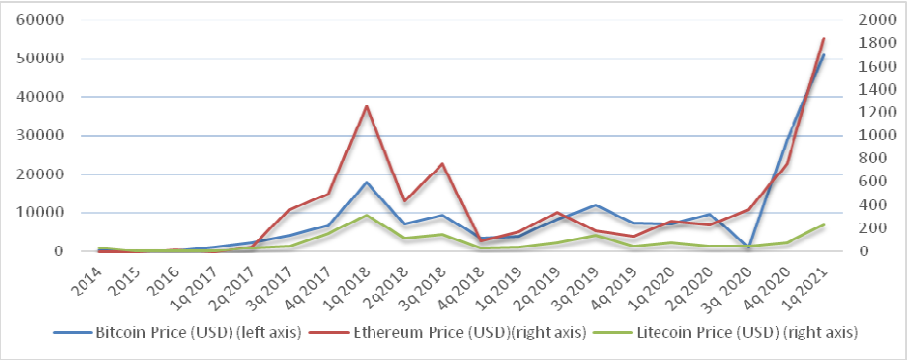


Figure 3. Volatility of cryptocurrencies' price (in USD) (Bitcoin, Ethereum, Litecoin) 2014–2021

Note: compiled by the authors on a basis of Coinmarketcap, 2021

In terms of the impact of virtual currencies on the country's monetary system, a closed in-house scheme of cryptocurrency (non-convertible) that focuses on the functioning of a specific virtual community (e.g. an online game) has no relation to the central bank and has no effect. As for more open schemes (partially convertible and fully convertible), we note that they are related to the real sector of the economy (Report of ECB, 2012). There is the possibility of speculative transactions, and convertible virtual currencies can be used to buy real goods and services, thus creating competition with traditional means of payment. Therefore it is necessary to analyze the potential impact of virtual currencies on international monetary system in relation to the main tasks: 1) price stability; 2) the stability of the financial system; 3) the stability of payment systems (Figure 4).

The most important problems the financial sector may get in the context of virtual payment systems existence are:

1) preservation of the unit of settlements;
2) risks associated with monetary policy and its adequate implementation;
3) possible distortion of monetary aggregates.

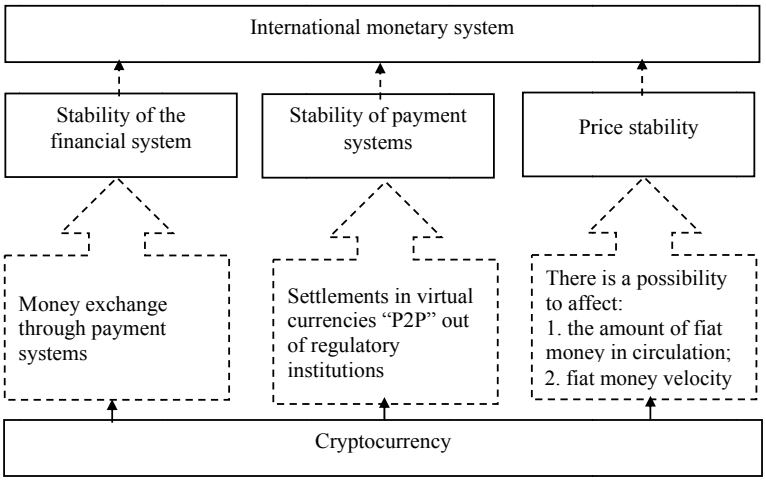


Figure 4. The potential impact of virtual currencies on international monetary system

Note: made up by the authors

Conceptually, virtual currencies can affect price stability and monetary policy if they change the demand for bank liabilities and interfere with the management of money supply through open market operations. Virtual currencies can affect price stability if they significantly change the amount of money in circulation; affect the velocity of money and the use of cash and/or affect monetary aggregates; there is an interaction between the virtual currency and the real economy.

With regard to the first aspect — the impact on the amount of money in circulation — this phenomenon is difficult to assess due to the lack of reliable information on the amount of real money created by virtual one. However, in principle, these schemes operate on a prepaid basis, i.e., the emergence of virtual currency

is possible when fiat money is converted into virtual, and vice versa — virtual currency is absorbed when exchanged back for real money. Therefore, theoretically, there is no significant impact.

In view of the above, the cryptocurrency supply should remain stable without significant changes. It is argued that the issue limit is a safeguard against inflation, as a limited supply will allow upward exchange rate. This stimulates the speculative accumulation of bitcoins. Some authors believe that the limited number of bitcoins is not a sufficient condition to guarantee the absence of exchange rate upward trend, because non-speculative value of bitcoins directly depends on the volume of only those goods and services that can be purchased for them, but not on the global commodity mass.

It is necessary to note two important points: first, the volatility of the money supply in the long term; second, the impact of cryptocurrency supply on the real money sector must be assessed after the exchanging as additional liquidity due to exchange rate fluctuations is still claimed.

The second important issue is the impact of virtual currencies on the velocity of the currency and on monetary aggregates. The velocity of a currency is measured by an indicator that shows how often the currency is spent on the purchase of goods and services produced by the national economy. In the short term, the speed of rotation is stable because it depends on institutional and technological features that can not be changed in a short time. However, it is still unclear how technological innovations represented by cryptocurrencies can change the rate of currency turnover. It will mainly depend on the number of users of the virtual currency (users include buyers who want to use this currency in payments, and sellers who are willing to accept it). In the extreme case virtual currencies can have the effect of replacing the central bank's currency if they become a widely accepted means of payment. Increasing usage of cryptocurrencies can reduce the demand for fiat money, thereby reducing the number of required for transactions. As a result, the widespread replacement of central bank money by privately issued cryptocurrencies could significantly reduce central bank balance sheets and, as a result, their ability to influence on interest rates in the short term. In this case, the Central Bank will have to use a variety of tools to combat new risks (for example, an attempt to set minimum reserve requirements for virtual currencies).

The substitution effect will also lead to difficulties in measuring monetary aggregates and will therefore affect the relationship between monetary aggregates and inflation. Other important point about the impact of cryptocurrencies on monetary aggregates is that because these currencies operate outside the jurisdiction of central banks, the amount of credit granted in cryptocurrency can be significantly increased and central bank has no powers of control it.

But despite the risks cryptocurrencies continue to gradually consolidate their positions, transforming the global monetary system. A comparative analysis of the non-unified policy around the world on the official status of cryptocurrencies revealed that developed countries are stimulating the cryptocurrencies development more than developing countries.

Table 1. Comparative profile of cryptocurrency official recognition in developed and developing countries

Criteria	**Developed countries**	**Developing countries**
1	2	3
Official status		
Settlement currency	Germany (2018), Spain (2014), Japan (2017) – legal tender; UK and Switzerland – foreign money	
Investment asset	USA, Canada, Israel (financial asset), Switzerland	
Financial instrument	Germany, UK	Singapore, Hong Kong
Virtual product	Czech Republic, Austria	Hong Kong, Taiwan
Announced launch of cryptocurrency of central banks	France, Germany, Turkey	China, Singapore, Uruguay, Thailand, UAE, Iran, etc.
Adjustment tools		
Taxation of income from transactions	USA, Canada, Great Britain, Norway, Poland, Finland, Spain, Sweden (legally tax-free)	
Licensing of cryptocurrency transactions	Germany, Estonia, Switzerland, USA	Thailand
Crypto stock exchange	USA, Great Britain, Japan, South Korea, Australia, Switzerland	China, Malaysia, Taiwan, Thailand, Malta, Russia, Hong Kong, Singapore

1	2	3
In the process of recognizing the legal status		
Development of regulatory framework	Italy, Australia, Belgium, Israel, the Czech Republic, Denmark, etc.	Brazil, Colombia, Croatia, South Korea, Malta, Belarus, Ukraine, Crete, Greece, Georgia, etc.
Controversial question	Latvia	Montenegro, Libya, Albania, Indonesia, India, etc.
Cryptocurrencies are not given official status		
Illegal means of payment, complete ban		Egypt, Algeria, Morocco, Iraq, Bolivia, Ecuador, Vietnam
Restrictions on the use of "private" cryptocurrencies	Iceland	Bangladesh, India, China, Russia, Lebanon, Venezuela, etc.
Note: made up by the authors		

The policy on cryptocurrencies is differentiated throughout the world. In general, developed countries are more progressive in recognizing and regulating the legal status of cryptocurrencies than developing countries (except Singapore, Hong Kong, Taiwan). The complexity of state regulation lies in the multiplicity of interpretations of the legal status of cryptocurrencies. For example, cryptocurrencies are considered to be an asset (USA, Canada, Switzerland), financial instrument (Germany, Great Britain, Hong Kong, etc.), commodity (Austria, Taiwan), foreign unit of account (Great Britain, Switzerland), legal tender (Japan). In general, many countries recognize cryptocurrencies, but have not yet developed a regulatory framework (Italy, Australia, Belgium, Israel, the Czech Republic, etc.). Among developing countries there are those that restrict the use of private cryptocurrencies (India, China, Russia, Lebanon), and some officially ban them (Egypt, Iraq, Vietnam, etc). However, despite the fact that the status of cryptocurrencies is a very controversial issue, there is a growing trend in the world to introduce blockchain technology and launch cryptocurrencies of central banks (France, Germany, Turkey, etc.).

Talking about practical implementation of cryptocurrency usage, we have to admit large-scale acceptance of virtual money by the biggest companies globally. The world's largest companies such as Microsoft, Dell, Galactic, AirBaltic, Innovecs, VirginGalactic, The New York Times, CNN, Reuters, Zynga, Overstock, Tiger Direct, and the global online store eBay accept cryptocurrency to pay for goods and services (Rysin, Rysin, Fedyuk, 2018). In Europe some institutions have also joined to the use of cryptocurrency, the Swiss University of Applied Sciences in Lucerne accepts tuition fees for students in Bitcoin, and it is noted that payments will be weekly or daily converted into Swiss currency after the threshold of 10 thousand Swiss francs will have been reached (Petruk, Novak, 2017). In early 2017 the world's first Bitcoin-Bank was officially opened in Vienna (Austria). Bitcoins began to serve as a full-fledged currency in Japan dated April 2017 (Halushka, Pakon, 2017). Cryptocurrency is accepted for payment in many restaurants and hotels around the world. There are even known cases of issuing salaries to US civil servants in Bitcoin. In several Asian countries bitcoins are used as an alternative to bank accounts and plastic cards, as banking services in these countries are quite expensive (Likhachev, 2017). Ukraine is also involved in cryptocurrencies usage. Particularly, in 2017 an American client purchased an apartment in Kyiv with the help of the decentralized real estate platform Propy and paid for it with digital currency Ethereum. More than 20 companies in Ukraine officially accept cryptocurrencies to pay for goods and services, for example, grocery store "Natural Products" (Kyiv), service center for repair of equipment Ukrainian iPhone Service (Kyiv), Ukrainian startup Yaware, etc. (Petruk, Novak, 2017). For the first time in 2016 the share capital of firm Axon Partners was formed with the help of cryptocurrency Bitcoin in Ukraine. At the night of PrivatBank nationalization, the exchange volumes of cryptocurrency purchases doubled, and Bitcoin revenue for the week amounted to almost UAH 2.3 million. (Yatsyk, 2017).

Although cryptocurrency can be considered to be a product of labor (as it is the result of operating activities — mining) and the object of purchase and sale, it satisfies neither individual, nor productive needs, in other words, it has no consumer value. Undoubtedly, cryptocurrency, as mentioned before, also has the characteristics of financial instruments, financial investments, financial and intangible assets, securities and so on. However, the analysis of definitions and classifications of these assets in regulations of both Ukraine and foreign countries, as well as the peculiarities of cryptocurrency functioning as an instrument of financial and economic relations, allow us to conclude that this category has its qualitative differences from other assets that do not allow to refer it to a particular type for a number of reasons. Firstly, the fundamental difference

between cryptocurrency and other assets is the multiplicity of ways in which it can be obtained by economic entities. Thus, cryptocurrency on the enterprise can occur as a result of several events:

– exchange for goods, works, services;
– purchase for cash and electronic money;
– as a contribution of the founders to the share capital of the enterprise;
– self-manufacturing (production) — mining;
– settlements with related parties (joint activities, participation in capital, etc.);
– settlements with individuals (settlements for accountable amounts, wages, compensation for material damage, etc.).

Secondly, cryptocurrency as an instrument of financial and economic relations is a multifaceted phenomenon due to the variety of areas of its use in economic activities. Depending on the functional characteristics, cryptocurrency may perform the functions of different types of assets: means of exchange, means of payment, investment instrument, savings funds, product of production, etc. However, in our opinion, based on the analysis of the peculiarities of the creation and operation of cryptocurrency, its main function is communication (information exchange).

Thirdly, the distinctive feature of cryptocurrency is its technical nature of creation and functioning as a tool of financial and economic relations, based on modern information technologies (telecommunication systems, cryptography, etc.), and the environment of creation and development is the Internet. This aspect allows us to consider cryptocurrency as a factor of information economy development.

Thus, the technological features of cryptocurrency as an asset of the enterprise, the multiplicity of ways to obtain it by business entities and areas of economic activity, as well as the complexity of relationships and interdependencies in the system of financial and economic relations determine cryptocurrency as a special type of assets. Thus, in the accounting aspect under the cryptocurrency we understand the information asset (resource), resulting from production, commercial and financial activities of the entity, that is on the balance sheet of the enterprise, and ensuring the achievement of their goals (growth of profits and capital, business processes, etc.). In turn, the information asset (resource) is a communication tool of financial and economic relations, the operation of which is based on modern information technologies, telecommunications systems, cryptography, etc., controlled by the company as a result of past events and the use of which is expected to lead to economic benefits. These specific features and special properties of cryptocurrency as an information asset (resource), a variety of ways to obtain and use it, as well as the novelty of its relationships necessitate detailed analysis of accounting functions of cryptocurrencies to develop the classification and mechanism of financial accounting of its functioning.

Cryptocurrency as a means of payment is not yet popular in Ukraine, due to its uncertain position of public authorities. There are a number of institutions that accept certain types of cryptocurrencies for payment. These include grocery stores, coffee shops, online stores etc.

The development of cryptocurrency in Ukraine is mainly associated with investment activity of representatives of the IT sector, due to favorable conditions for the extraction of cryptocurrency (climate and energy). The existence of cryptocurrency in our country is actually ignored by the authorities, which can cause not only economic but also social problems. For a long time there were discussions about the draft Law “On the circulation of cryptocurrency in Ukraine” [7183] (Draft law “On the circulation of cryptocurrency in Ukraine”, 2017). There was no agreement on a common approach to definition of the nature and role of the financial instrument. Understanding its prevalence throughout the world, an alternative draft Law “On stimulating the market of cryptocurrencies and their derivatives in Ukraine” was proposed (Draft law “On the circulation of cryptocurrency in Ukraine”, 2017). Both projects are currently under development. Ukraine’s integration into the European community, as well as the processes of globalization in the field of cryptocurrency circulation, are complicated by the lack of legal support and objective statistical information.

Cryptocurrency should be positioned at the legislative level as a monetary equivalent or its separate role should be defined, how it is done in highly developed countries. Studies have shown that cryptocurrency in essence can not be equated to a commodity. It is proved that the mechanism of appearance and turnover of cryptocurrency is based on supply and demand. However, the functioning of the financial instrument, based on its essence, requires innovation, particularly in the software field. Most cryptocurrencies aim to ensure the anonymity of transactions, which attracts more and more users. This situation requires immediate settlement of the cryptocurrency's position in Ukraine's economy.

Conclusions

Emergence of cryptocurrency in modern society is the evidence of global digitalization. Virtualization in its primary and secondary manifestation form affects financial sector. Primary form of virtualization is expressed in digitalization of operational processes, as well as convergence of information technologies and communication systems with the finance. Secondary form of virtualization results in non-bank sector development, namely non-bank electronic payment systems (e.g., PayPal) and non-institutional digital schemes of settlements (cryptocurrency).

Current trend demonstrates developing of non-bank system, namely PayPal growth rate is bigger than bank payment system (VISA) rate.

A comparative analysis of the non-unified policy around the world on the official status of cryptocurrencies revealed that developed countries are stimulating the cryptocurrencies development more than developing countries. The complexity of state regulation lies in the multiplicity of interpretations of the legal status of cryptocurrency.

In the case of global cryptocurrency wide spreading there are some risks national economies may face. To these belong the problem of price stability, the stability of the financial system, the stability of payment systems.

Generally, the authors substantiate the requirement for search the complete definition of cryptocurrency that may be integrated into national legal system to further regulation and risks controlling.

References

Bush, O., Farrant, K., Wright, M. (2011). Reform of the International Monetary and Financial System*,* Bank of England Financial Stability Paper, *№ 13.* Retrieved from http://dx.doi.org/10.2139/ssrn.1979433

Solt, E. (2015). The Quest for the Stability of the Global Financial System, Procedia Economics and Finance, № 34, 485–492. Retrieved from https://doi.org/10.1016/S2212–5671(15)01658–5

Michael, D. Bordo, Andrew T. Levin. Improving the Monetary Regime: The Case for U.S. Digital Cash, Cato Journal. — 2019. –Vol. 39, No. 2. — P. 383–405. Retrieved from https://www.cato.org/sites/cato.org/files/serials /files/cato-journal/2019/5/cj-v39n2–9.pdf

Visa Annual Report. (2019). Retrieved from https://www.annualreports.com/Company/visa-inc

Volume of PayPal payments. (2019). Retrieved from https://www.statista.com/statistics/419783/paypals-annual-payment-volume/

Bitcoin, Ethereum, Litecoin dynamic. (2021). Retrieved from https://coinmarketcap.com/currencies/

Virtual Currencies Schemes, Report of ECB. (2012). Retrieved from http://www.ecb.europa.eu

Rysin, V., Rysin, M. and Fedyuk, I. (2018). Legal status of cryptocurrency as a financial instrument, *Efektyvna ekonomika, Vol. 11*. DOI: 10.32702/2307–2105–2018.11.7

Petruk, O.M., Novak, O.S. (2018). The essence of cryptocurrency as a methodological prerequisite for its accounting, *Bulletin of ZhSTU, Series "Economic Sciences", 4 (8),* 48–55. Retrieved from https://doi.org/10.26642/jen-2017–4(82)-48–55

Halushka, E., Pakon, O. (2017). The essence of cryptocurrency and its development prospects, *A young scientist, № 44,* 634–638.

Likhachev, M. (2017). Modest charm of bitcoin: Ukrainian realities of using cryptocurrencies. Retrieved from http://forbes.net.ua/ua/opinions/1428255-skromnacharivnist-bitkoina-ukra yinski-realiyi-vikoristannya-kriptovalyut?utm_medium=social&utm_source=faceboo k.com&utm_campaign=skromna-charivnist-bitkoina-ukrayinski-realiyi-vikoristannya — kriptovalyut.

Yatsyk T.V. (2017). Methods of financial accounting of cryptocurrency as special type of electronic money, *A young scientist, 42,* 349–354.

Draft law "On the circulation of cryptocurrency in Ukraine" dated October 6, 2017. Retrieved from http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1? pf3511=62684

Draft law "On the circulation of cryptocurrency in Ukraine" dated 10.10.2017. Retrieved from http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1? pf3511=62710

О.О. Борзенко, А.Б. Глазова

Криптовалюта қаржылық виртуализацияның екінші түрі ретінде

Аңдатпа

Мақсаты: Сандық қоғамда пайда болған жаңа, өте қарама-қайшы есептеу құралы ретінде криптовалюта мазмұнын, функциялары мен рөлін ашатын теориялық ережелерді әзірлеу. Мақалада криптовалюта қаржыны виртуализациялаудың екінші түрі ретінде қарастырылған және зерттеу криптовалюта жұмысының теориялық және практикалық аспектілеріне бағытталған.

Әдісі: Зерттеуде банктік және банктік емес төлем жүйелерінің ағымдағы даму тенденцияларын талдау үшін статистикалық және экономикалық-математикалық әдістер қолданылды. Авторлар криптовалюталардың құқықтық мәртебесі туралы мәліметтерді жинады, содан кейін алынған мәліметтер дамыған және дамушы елдердегі ресми мәртебесіне сәйкес талданды.

Нәтижелері: Зерттеу қазіргі уақытта PayPal-дың ең ірі банктік емес электрондық төлем жүйесі екінші виртуализацияның көрінісі ретінде ең үлкен төлем жүйесі — VISA-ға қарағанда жоғары өсу қарқынын көрсетті. Сонымен қатар, дамыған және дамушы елдердің ұлттық құқықтық жүйелеріндегі криптовалюталардың жағдайы олардың құқықтық мәртебесіне сәйкес жиналды және талданды. Сондай-ақ, криптовалютаның баға тұрақтылығына, төлем және қаржы жүйелерінің тұрақтылығына әсер етуі мүмкін тәуекелдер мен даулы мәселелер анықталды.

Қорытындылар: Қазіргі қоғамда криптовалютаның пайда болуы — жаһандық цифрландырудың дәлелі. Виртуализация оның бастапқы және қайталама көріністерінде қаржы секторына әсер етеді. Виртуализацияның екінші формасы банктік емес сектордың дамуына әкеледі, атап айтқанда банктік емес электрондық төлем жүйелері (мысалы, PayPal) және институционалды емес сандық есептеу схемалары (cryptocurrency). Дамыған елдер көбінесе дамушы елдерге қарағанда криптовалюталарды реттеу мәселесінде прогрессивті. Жаһандық криптовалютаның кең таралуы жағдайында ұлттық экономикалар тап болуы мүмкін белгілі бір қауіптер бар. Оларға баға тұрақтылығы, қаржы жүйесінің тұрақтылығы, төлем жүйелерінің тұрақтылығы мәселелері жатады. Тұтастай алғанда, авторлар тәуекелдерді одан әрі реттеу және бақылау мақсатында ұлттық құқықтық жүйеге интеграциялануы мүмкін криптовалютаның толық анықтамасын іздеу қажеттілігін негіздейді.

Кілт сөздер: виртуализация, криптовалюта, қаржыны виртуализациялау, ақпараттық қоғам, банктік емес сектор, банктік емес электрондық төлем жүйелері, крипто-есеп айырысуларды реттеу.

О.О. Борзенко, А.Б. Глазова

Криптовалюта как вторичная форма проявления финансовой виртуализации

Аннотация

Цель: Разработка теоретических положений, раскрывающих содержание, функции и роль криптовалюты как нового, достаточно противоречивого средства расчетов, появившегося в цифровом обществе. В статье криптовалюта рассмотрена как вторичная форма виртуализации финансов, и исследование направлено на теоретические и практические аспекты функционирования криптовалюты.

Методы: В исследовании использованы статистические и экономико-математические методы для анализа текущих тенденций развития банковских и внебанковских платежных систем. Авторы произвели сбор данных о правовом статусе криптовалют, затем они были проанализированы в соответствии с их официальным статусом в развитых и развивающихся странах.

Результаты: Исследование показало, что на данный момент крупнейшая небанковская электронная платежная система PayPal, как форма проявления вторичной виртуализации, демонстрирует более высокий темп роста, чем крупнейшая платежная система VISA. Кроме того, было собрано и проанализировано положение криптовалют в национальных правовых системах развитых и развивающихся стран в соответствии с их правовым статусом. Также определены возможные риски и спорные вопросы влияния криптовалюты на стабильность цен, платежных и финансовых систем.

Выводы: Появление криптовалюты в современном обществе — свидетельство глобальной цифровизации. Виртуализация в ее первичной и вторичной формах проявления затрагивает финансовый сектор. Вторичная форма виртуализации приводит к развитию небанковского сектора, а именно небанковских электронных платежных систем (например, PayPal) и неинституциональных цифровых схем расчетов (криптовалюта). Развитые страны в большинстве своем более прогрессивны в вопросе регулирования криптовалют, чем развивающиеся страны. В случае широкого распространения глобальной криптовалюты есть определенные риски, с которыми могут столкнуться национальные экономики. К ним относятся проблемы стабильности цен, финансовой системы и платежных систем. В целом, авторы обосновывают необходимость поиска полного определения криптовалюты, которое может быть интегрировано в национальную правовую систему с целью дальнейшего регулирования и контроля рисков.

Ключевые слова: виртуализация, криптовалюта, виртуализация финансов, информационное общество, небанковский сектор, небанковские электронные платежные системы, регулирование крипторасчетов.

References

Bitcoin, Ethereum, Litecoin dynamic. — 2021. https://coinmarketcap.com/currencies/

Bush O., Farrant K., Wright M. Reform of the International Monetary and Financial System, Bank of England Financial Stability Paper. — 2011. — № 13. http://dx.doi.org/10.2139/ssrn.1979433

Draft law “On the circulation of cryptocurrency in Ukraine” dated October 6, 2017. http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1? pf3511=62684

Draft law “On the circulation of cryptocurrency in Ukraine” dated 10.10.2017. http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1? pf3511=62710

Halushka E., Pakon O. The essence of cryptocurrency and its development prospects, A young scientist. — 2017. — № 44. — P. 634–638.

Likhachev M. Modest charm of bitcoin: Ukrainian realities of using cryptocurrencies. — 2017. http://forbes.net.ua/ua/opinions/1428255-skromnacharivnist-bitkoina-ukra yinski-realiyi-vikoristannya-kriptovalyut? utm_medium=social&utm_source=faceboo k.com&utm_campaign=skromna-charivnist-bitkoina-ukrayinski-realiyi-vikoristannya — kriptovalyut.

Michael D. Bordo, Andrew T. Levin. Improving the Monetary Regime: The Case for U.S. Digital Cash, Cato Journal. — 2019. — Vol. 39, No. 2. — P. 383–405. https://www.cato.org/sites/cato.org/files/serials/ files/cato-journal/2019/5/cj-v39n2–9.pdf

Petruk, O.M., Novak, O.S. The essence of cryptocurrency as a methodological prerequisite for its accounting, Bulletin of ZhSTU, Series “Economic Sciences”. — 2018. — 4 (8). — P. 48–55. https://doi.org/10.26642/jen-2017–4(82)-48–55

Rysin V., Rysin M. and Fedyuk I. Legal status of cryptocurrency as a financial instrument, Efektyvna ekonomika. — 2018. — Vol. 11. DOI: 10.32702/2307–2105–2018.11.7

Solt E. The Quest for the Stability of the Global Financial System, Procedia Economics and Finance. — 2015. — № 34. — P. 485–492. https://doi.org/10.1016/S2212–5671(15)01658–5

Virtual Currencies Schemes, Report of ECB. — 2012. http://www.ecb.europa.eu

Visa Annual Report. — 2019. https://www.annualreports.com/Company/visa-inc

Volume of PayPal payments. — 2019. https://www.statista.com/statistics/419783/paypals-annual-payment-volume/

Yatsyk T.V. Methods of financial accounting of cryptocurrency as special type of electronic money, A young scientist. — 2017. — № 42, P. 349–354.

DOI 10.31489/2021Ec2/66-74
JELC 43
UDC 330.1

G. Dinzhanova

University of International Business, Almaty, Kazakhstan

dinzhanovagulbakhyt@gmail.com

https://orcid.org/0000-0002-4964-2747

A measure of human development

Abstract

Object: The paper aims to define the appropriate approach to measuring human development in Kazakhstan. A new approach to human capital measurement is proposed.

Methods: We used statistical data analysis, index calculation method, method of UNDP, and method of correlation and regression analysis. The sample mean method is used in the calculation of average national test results.

Results: Results indicate the level of human development in the regions of Kazakhstan, including the level of health, education and life. Also, we have discovered the interrelation of human capital and the average income of the population.

Conclusion: This article investigates the components of human capital development index, the computing of human development within Kazakhstan and its regions, relationship of the human development to income. The effect of income on HDI is explained in the article. The human capital index in Kazakhstan is high, however, in 6 regions it is average.

Keywords: human capital development index, human capital, methodology of HDI, level of education in Kazakstan, theory of human capital.

Introduction

The theory of human capital, which has an impact on educational and social sciences, is the most controversial and complex in economic theory. The concept of human capital appeared in the XVII century by measuring human value to assess the wealth of a nation (Petty, 1899). So, A. Smith (2020), W. Petty, D. Ricardo (Stigler, 1958) made the basis of the concept “Human capital”. However, human capital theory became popular only in the 50s of the XX century. Human capital is a non-renewable resource (Becker, 1964). Humans are not only an aim but a resource in social and economical development. The human factor is becoming more important as an object of investment than fixed assets and technologies (Sagadiev, 2012). Therefore, countries are interested in developing human resources to get a labour force to implement low skilled and high skilled jobs.

As President K.Zh. Tokayev (2020) pointed out in the message to the people: “Firstly, it is necessary to increase assets of the population by creating workplaces and providing fair wages. However, it is impossible without the rising quality of human capital”. Within midterm Strategic plan 2025 of the Republic of Kazakhstan (2018) mentioned that national human capital is a key factor of development in the XXI century.

There are many definitions of the term “human capital”. We propose the following interpretation of the term: “human capital is a set of high quality skills and abilities of people who can make an economic contribution to the development of the country”.

In a market economy, a quick return on investment is possible in the long term if many countries provide a strong link between physical and human capital. Consequently, sustainable development depends on a person's standard of living or quality of life. One of these aggregate indicators for assessing the standard of living of a person is the human development index (HDI). The human development index is an aggregate indicator calculated to measure the standard of living, literacy, education, and longevity (UNDP, 2019).

Kazakhstan's healthcare expenditures in 2019 amounted to 4.5 trillion tenge, i.e., 6.47 % of GDP (Statistics Kazakhstan, 2020). In developed countries this indicator is significantly higher, for instance, the United States (17.06 %, 2017), Germany (11.25 %, 2017), and Canada (10.57 %, 2017) (Worldbank statistics, 2020). Conversely, the cost of education in 2019 amounted to 2.33 trillion tenge (Statistics Kazakhstan, 2020), which is half of the amount spent on healthcare. In developed countries, such as the USA (4.99 %, 2014), Germany (4.93 %-2014), Canada (5.27 %, 2011), this indicator is higher (Our world in data, 2020).

Secondary statistics of Kazakhstan were required that would allow to fully show the picture of the current situation in the country to calculate the human development index. Since some statistical data is not available, we have modified the methodology for calculating the level of human development. The aim of the research is to define the human development level in the regions of Kazakhstan and propose recommendations to the sustainable development of human capital. There are two hypotheses: 1) human development index in the regions will be lower than in the megapolises as Almaty, Nur-Sultan, and Shymkent; 2) human development and income of strongly correlated and linked.

This article consists of three main sections. The first section will cover the components of the human development index. The second section will present the author's methodology for calculating human development in Kazakhstan. In the third section, we will look at the relationship between the human development index and the income of the population.

Literature Review

The first attempts to quantify human capital began to be accepted from the beginning of the XX century. Economists tried to calculate the cost of human capital, the impact of education on economic growth, and government spending on education and the upbringing of the population using economic, mathematical, and statistical research methods. Fischer (1906), Forsyth (1914), Dublin (1930) made a great contribution to these studies. Forsyth investigated the cost of human capital based on financial losses. He considered financial losses as a result of average life expectancy, life expectancy, and age-related mortality rates. Dublin and Lotka (1930) published the work "The Monetary value of a person", in which they estimated the age and annual earnings of a person until the end of life by subtracting the amount of living expenses. Ashton & Green (1996) insisted that measurement of human capital should be considered within a social and political context, and between human capital should correlate with economic performance.

Three approaches in human capital measurement, output-based approach, coast-based approach, and income-based approach, are common among researchers and will be considered.

There is the output-based approach where school enrollment rates, accumulated years of schooling the ratio between skilled-adults and total adults the average years of schooling are considered to measure the stock of human capital.

Ilynskyi considered human capital as a combination of education, health, and culture. By culture he means the stereotypes of behaviour in the framework of traditions, general culture, and social interaction, while experience and professional skills are included in education (Petkova, 2020).

Seryabrakova, Volkova, and Volkova (2019) considered integral method of human capital evaluation, which includes demographic factor, labour and educational factor, research, and sociocultural factors.

Baldissera and Cornali (2020) analyzed human capital in the regions of Italy comparing educational attainment, assessment of adult competencies, and literacy. They have determined that being young, well-educated and with a high professional position predicts a high level of proficiency. Also, geographical variance incompetence of human capital is possible due to the local education.

The cost-based approach is based on the calculation of human capital by invested costs for individuals' human capital. So, the method based on all expenditures on human capital formation and accumulation, including, households and education. Depreciation and discounted income in the future are used to calculate the invested cost. Kendrick (1976), Eisner (1985, 1988, 1989) calculated human capital by twofold calculation of student expenses as time expenditure during study, tuition fee, education materials and government expenses as salaries and investment into universities and institutions.

However, according to Kiker (1966) and Le (2003), human capital should be determined by demand and supply, that's why it contradicts the conceptual ground of human capital value. Also, identifying expenditures between investment and consumption is complicated (Liu & Fraumeni, 2016).

Cost-based approach is used in the calculation of human capital in Germany (Ewerhart, 2001), the Netherlands (Rooijen-Horsten et al., 2008), and Finland (Kokkinen, 2008, 2010).

The income-based approach is based on the returns that an individual obtains from a labour market through education investment (Dae-bong, 2009, p.6). This approach helps to assess a person's earning power to see human capital price in the market, while the labour market takes into account other factors such as ability, effort, productivity and education, as well as the institutional and technological structures of the economy (Dagum & Slottje, 2000). This method also allows to evaluate the future productive capacities economy (Graham and Webb, 1979).

Meanwhile, scientists discovered the drawbacks of the method. De Foville (1905) and Eisner (1988) argued that maintenance costs don't deduct from gross earning and may lead to overestimation of human capital. Weisbrod (1961) discovered that it is difficult to differentiate the maintenance costs from public goods.

According to the research "Measuring Human Capital: Alternative Methods and International Evidence" (Oxley, Le & Gibson, 2008), the income-based method's drawback is lack of availability of data on earnings in countries such as Kazakhstan. Wages data in many developing counties are not available or not reliable. Oxley, Le, and Gibson argue that income-based measures of human capital will be biased because of the reasons in the different wages range which does not always depends on productivity.

According to Krueger and Lindahl (2001), human capital is not measured enough because of the mixed evidence. The traditional approaches of measuring human capital have the following disadvantages as incomplete indicators, interconnection of economy and human capital is not taking into account.

Methods

There are various methodologies for calculating the human development index (UNDP, WorldBank, ILO). As a basis of measurement human development index of UNDP is used. The calculations are mainly based on the health index, the education level index, and the standard of living index. The structure of the education index has modified, we use governmental statistics for 2019. Also, the relationship of human development index to income is considered in regression.

Quantitative method used in order to evaluate the dependence of the human development index on the population's income. Statistical data is studied in a period from 1993 to 2019. At the specification stage, a paired linear regression and correlation were selected. Its parameters are estimated using the least-squares method.

Results

The concepts of maximum and minimum are used as tools for transforming indicators into an index from 0 to 1. The minimum values are the natural zero, and the maximum values are the desired norm.

Table 1. The components of human development index

Measurement	Indicator	Actual value of Kazakhstan	Minimum	Maximum
Health	Life expectancy (years)	73.18	20	85
Education	Net primary school enrolment rate (children aged 7–10 years)	99.6	0	100
	Gross enrolment ratio in secondary education	104.6	0	100
	Gross enrolment in higher education	54.29	0	100
	Average point of National test	65.5	0	140
Standard of living	GDP per capita	9812.5	100	75 000
Note: modified by author based on UNDP technical notes (2019)				

$$\text{Dimension index} = \frac{\text{Actual value} - \text{min}}{\text{Max} - \text{min}} \quad (1)$$

The health index will be calculated based on the life expectancy of the country's citizens. Life expectancy is a statistical measure of a person's average lifetime. The maximum indicator is the age of expected death of a person. For this measurement, we use the age of 80 years. The natural zero life expectancy is 20 years. People's life was minimum 20 even in the medieval period (Human development report technical notes, p.2).

$$\text{Health index} = \frac{73.18 - 20}{85 - 20} = 0{,}818 \ (1)$$

The education index is calculated taking into account that the required length of education and the average length of training are replaced by the net primary education coverage rate (children aged 7–10 years), the gross secondary education coverage rate, and the gross higher education coverage rate.

$$\text{The index of the enrolment ratio in primary education} = \frac{99.6 - 0}{100 - 0} = 0.996 \ (2)$$

$$\text{The index of the enrolment ratio in secondary education} = \frac{104.6 - 0}{100 - 0} = 1.046 \ (2)$$

$$\text{The index of the enrolment ratio in higher education} = \frac{54.29 - 0}{100 - 0} = 0.5429 \ (2)$$

Education coverage index $= \frac{0.996+1.046+0.5429}{3} = 0.861$ (3)

At the moment there is a theory (Frumin, 2018) about the need to calculate the education index not in terms of coverage but in terms of the quality of education, where a large role is given to cognitive and analytical skills of a person. For this data the World Bank uses the results of the PISA exam among 15-year-old citizens of the country but taking into account that the exam is conducted entirely in English, it is impossible to judge the level of education in general since the level of English language proficiency is still low. Therefore we will use the results of National Test (NT) for 2019 for the calculation.

NT index $= \frac{65,5 - 0}{140-0} = 0,468$ (4)

Education index= $\frac{education\ coverage\ index+NT\ index}{2} = \frac{0.861+0.468}{2} = 0,6645$ (5)

In the index of living standards in this calculation we will replace GNI per capita with GDP due to the lack of statistical data in Kazakhstan.

The income index $= \frac{\ln 9812.5 - \ln 100}{ln75000-ln100} = 0.692$ (5)

$$HDI = \frac{\text{education index+health index+income index}}{3} = \frac{0.6645+0.818+0.692}{3} = 0.724 \text{ (6)}$$

According to UNDP (2019) classification, Kazakhstan is a country with a high human development index.

Using the same methodology we have computed HDI in the regions of Kazakhstan (figure 1).

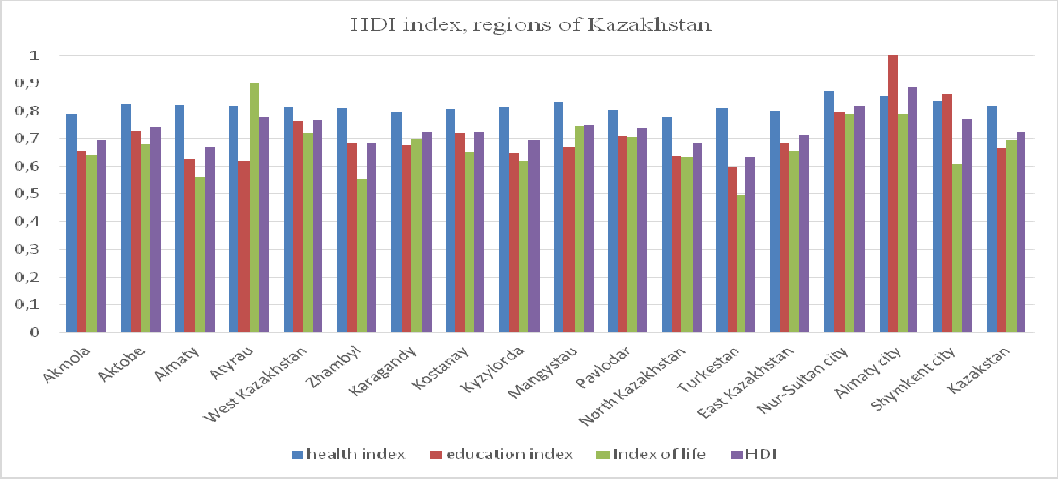


Figure 1. Human development index in the regions of Kazakhstan

Note: compiled by author

Figure 1 shows that the human capacity in the cities Almaty and Nur-Sultan is 0.89 and 0.82 respectively, which is very high. In Akmola region, Almaty region, Zhambyl region, Kyzylorda region, North Kazakhstan region, and Turkestan region human capacity is average, while in the rest of the regions human development index is high. It is important to notice that education and life level in Turkistan region is low in comparison with average indicators in the country.

Relationship of the human development index to income

Quantitative method used in order to evaluate the dependence of the human development index on the population's income. Statistical data is studied in a period from 1993 to 2019. At the specification stage a paired linear regression and correlation were selected. The regression parameters are estimated using the least-squares method. The correlation of human capital index and income are strong which is 0,88.

An economic interpretation of the model parameters is possible: an increase in the human development index by 1 unit leads to an increase in income by an average of 0.00021 units (Figure 2).

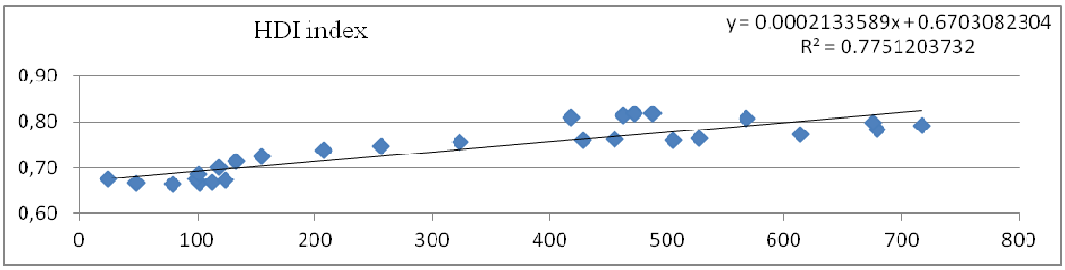


Figure 2. HDI index and income interrelation

Note: compiled by author

Table 2. Regression statistics

Multiple R	0.880409
R-square	0.77512
Normalized R-square	0.766125
Standard error	0.026321
Observations	27
Note: compiled by author	

The HDI change depends on the population's income by 77 %, while other factors that are not accounted for in the model account for 23 % of the HDI change. If the coefficient of determination is 0.77, then the HDI change is 77 % of the population's income, and the share of other factors not accounted for in the model remains 23 % of the HDI change (table 2).

Table 3. Analysis of variance

	df	SS	MS	F	Significance of F
Regression	1	0.059699	0.059699	86.17059	1.41E-09
Remains	25	0.01732	0.000693	-	-
Subtotal	26	0.077019	-	-	-
Note: compiled by author					

Table 4. Linear Regression Model Findings

0	The coeffi-cients	Standard error	t-statistics	p-value	Lower 95 %	Top 95 %	Lower 95.0 %	Upper 95.0 %
Y-intersection	0.670308	0.00911	73.5821	9.54E-31	0.6515	0.68907	0.65154	0.68907
Average monthly nomi-nal salary per employee	0,000213	2,3E-05	9,282811	1.41E-09	0.0002	0.00026	0.00016	0.00026
Note: compiled by author								

According to Tables 3, 4, the resulting linear regression model is proved this model statistically significant.

Discussion and conclusion

According to the literature review, human capital calculation has complicated and complex computing, i.e., it has incomplete indicators in income, productivity, and education. The methods in use have their advantages and drawbacks, therefore we considered a modified human development index to measure human capital in the regions of Kazakhstan.

First, we have considered the components of the human development index. The indicators of the education index were modified by adding quality factor. It allows to fulfil the knowledge of the current state of education and human capital in Kazakhstan.

Secondly, the author's methodology for calculating human development in Kazakhstan is presented. According to calculations, Kazakhstan is a country with a high human development index. The human capacity in the cities Almaty and Nur-Sultan is very high, 0.89 and 0.82 respectively, while in Shymkent (0,769) this indicator is nearly the same as Atyrau (0,779) and West Kazakhstan (0,766) regions. In Akmola region, Almaty region, Zhambyl region, Kyzylorda region, North Kazakhstan region, and Turkestan region human capacity is average, while in the rest of the regions human development index is high. The state should take measures to improve these indicators by investing in education. Therefore, the hypothesis that Almaty, Nur-Sultan, and Shymkent have a high human development index is rejected. Moreover, one more computation of the reasons for low human development index in some regions should be defined in future research.

Third, the dependence of the human development index on the population's income was studied. An economic interpretation of the model parameters is possible: an increase in income by 1 unit of change leads to an increase in HDI by an average of 0.00021 units of change. Income and human development index are strongly linked, human development affects income, which, in turn, reflects on the economic growth of the country, therefore investing in human capital is necessary. The hypothesis is proved.

References

Ashton, D. &Francis, G. (1996). *Education, Training and the Global Economy.* Cheltenham, UK: Edward Elgar. http://dx.doi.org/10.14507/er.v0.31

Baldissera, A., & Cornali, F. (2020). *Geography of human capital in Italy: a comparison between macro-regions. Modern Italy, 1–17.* doi:10.1017/mit.2020.25

Becker, G.S. (1964). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*. 3rd Edition, The University of Chicago Press, Chicago.

Current health expenditure (% of GDP). (n.d). Retrived from 4/10/2020 https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS

Dae-bong, K. (2009). Human Capital and its Measurement, the 3rd OECD World Forum on "Statistics, Knowledge and Policy", Charting progress, Building Visions, Improving life, Busan Korea 27–30 October. Retrieved from http://www.oecd.worldforum.org

Dagum, C. & Slottje, D.J. (2000). A new method to estimate the level and distribution of household human capital with application. Structural Change and Economic Dynamics, 11(2):67–94.

De Foville, A. (1905). Ce que c'est la richesse d'un peuple. Bulletin de l'Institut International de Statistique, 14(3):62–74. Cited in Kiker (1966).

Dublin, L. I.& Lotka, A. (1930) The Money Value of Man. New York: Ronald Press Co.

Eisner, R. (1985). The Total Income System of Accounts. Survey of Current Business, vol. 65, pp. 24–48.

Eisner, R. (1988). Extended Accounts for National Income and Product. *Journal of Economic Literature*. Vol. 26, pp. 1611–1684.

Eisner, R. (1989). The Total Incomes System ofAccounts. Chicago: University of Chicago Press.

Ewerhart, G. (2001). Humankapital in Deutschland. Bildungsinvestitionen, Bildungsvermögen und Abschreibungen auf Bildung. Bielefeld. ISBN: 978-3-7639-3935-0

Fisher, I. (1906). Nature of capital and income. New York. Macmillan.

Forsyth, C.H. (1914–15). Vital and Monetary Losses in the United States Due to Preventable Deaths. American Statis. Assoc. Publication, XIV 758–89.

Frumin, I. (2018). Chelovecheskii kapital 2.0, Retrieved November 28, 2020, from https://www.youtube.com/watch?v=e6K5sPkee8I&ab_channel=2035university [in Russian].

Graham, J.W. and Webb, R.H. (1979). Stocks and depreciation of human capital: New evidence from a present-value perspective. Review of Income and Wealth, 25(2), p.209–224.

Kiker, B.F. (1966). The historical roots of the concept of human capital. Journal of Political Economy, 74(5), p. 481–499.

Kendrick, J. (1976), The Formation and Stocks of Total Capital, New York, Columbia University Press for NBER.

Kokkinen, A. (2008). Human Capital and Finland's Economic Growth in 1910–2000 — Assessing Human Capital Accumulation by Education inside the National Accounts Framework. The 30th General Conference of the International Association for Research in Income and Wealth, Poster Session I: National Accounts Issues. Portoroz, Slovenia.

Kokkinen, A. (2010). Assessing Human Capital in the National Accounts — Is there a Feedback to Theory. The 31st General Conference of the International Association for Research in Income and Wealth (IARIW), Session 8C. St. Gallen, Switzerland.

Krueger, A.B. & Lindahl, M. (2001). Education for growth: Why and for whom? *Journal of Economic Literature*, 39(4), p.1101–1136.

Le, T.V.T., Gibson, J., & Oxley, L. (2003). Cost- and income-based measures of human capital. *Journal of Economic Surveys*. 17(3), p.271–307.

Liu, G., & Fraumeni, B. (2016). Measuring human capital: Country experiences and international initiatives. In D. Jorgenson, K. Fukao, & M. Timmer (Eds.), *The World Economy: Growth or Stagnation?* p. 429–468) Cambridge: Cambridge University Press. doi:10.1017/9781316534502.012

Oxxley L., Le, T., Gibsonm J. (2008). Measuring Human Capital: Alternative Methods and International Evidence. *Korean Economic Review*. Korean Economic Association, vol. 24, p. 283–344.

Petkova, T.A. (2020). Chelovecheskii kapital kak osnovnoi faktor innovacionnogo razvitiya predpriyatii // Vestnik Chelyabinskogo gosudarstvennogo universiteta. Ekonomicheskie nauki, 6 (440), 69, 218–224. DOI 10.47475/1994–2796–2020–10626 [in Russian].

Petty, W., Graunt, J., & Hull, C.H. (1899). *The economic writings of Sir William Petty*. Cambridge: University Press.

President of Kazakhstan Kassym-Jomart Tokayev's State of the Nation Address, September 1, 2020 // https://www.akorda.kz/ru/addresses/addresses_of_president/poslanie-glavy-gosudarstva-kasym-zhomarta-tokaeva-narodu-kazahstana-1-sentyabrya-2020-g

Rooijen-Horsten, M van, D. van den Bergen, M. de Haan, A. Klinkers and M. Tanriseven (2008). Intangible capital in the Netherlands: Measurement and contribution to economic growth. Statistics Netherlands. The Hague/Heerlen.

Sagadiev, K.A. (2012). Rol' chelovecheskogo kapitala v innovacionnom razvitii Kazahstana. Mezhdunarodnyj forum "Pervye Nazarbaevskie chtenija", "Novyj Kazahstan v novom mire", Ministerstvo obrazovanija i nauki RK i GU Nazarbaev centr, Astana, 28–29, November, 2012 [in Russian].

Serebryakova, N.A., Volkova, S.A., & Volkova, T.A. (2019). Metodika integralnoy otsenki chelovecheskogo kapitala regiona. *Proceedings of the Voronezh State University of Engineering Technologies*, 81(3), p.375–380. https://doi.org/10.20914/2310–1202–2019–3–375–380 [in Russian].

Smith, A. (2020). *The wealth of nations*. NewYork: VintageBooks.

Statisticheskie dannye ENT. (n.d.). Raspredelenie vypusknikov shkol tekushhego goda po nabrannym ballam po rezul'tatam ENT v razrezeoblastej (vypuskniki gorodskih shkol). Retrieved November 28, 2020, from https://testcenter.kz/ru/stats/statisticheskie-dannye-ent/? PAGEN_1=2 [in Russian].

Statisticheskie dannye ENT. (n.d.) Raspredelenie vypusknikov shkolte kushchegogoda po nabrannym ballam po rezul'tatam ENT v razreze oblastej (vypuskniki sel'skih shkol). Retrieved November 28, 2020, from https://testcenter.kz/ru/stats/statisticheskie-dannye-ent/? PAGEN_1=2 [in Russian].

Statistika obrazovanija (n.d) chistyj kojefficient okhvata nachal'nym obrazovaniem (deti v vozraste 7–10 let). Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7 [in Russian].

Statistika obrazovanija. (n.d). Valovyj kojefficient okhvata srednim obrazovaniem (deti v vozraste 7–10 let). Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7 [in Russian].

Statistika obrazovanija. (n.d). Kojefficient valovogo okhvata vysshim obrazovaniem (deti v vozraste 7–10 let) .Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7 [in Russian].

Stigler, J.G. (1958). Riccardo and the 93 % labour theory of value. *The American Economic Review*, 48

Strategicheskij plan 2025. (Decree of the President of the Republic of Kazakhstan #636 dated on 15 February, 2018). Retrieved from https://primeminister.kz/ru/documents/gosprograms/stratplan-2025

The dynamics of main indicators. (2020). Statistical data of Kazakhstan. Retrived from 4/10/2020 www.stat.gov.kz

Total government expenditure on education. (n.d.). Retrieved November 28, 2020, from https://ourworldindata.org/grapher/total-government-expenditure-on-education-gdp? tab=table

UNDP. (2019). Human Development Report 2019. Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century. New York. http://hdr.undp.org/en/content/human-development-report-2019

Weisbrod, B.A. (1961). The valuation of human capital. *Journal of Political Economy.* 69(5), p. 425– 436.

Г. Динжанова

Адам дамуының өлшемі

Аңдатпа

Мақсаты: Мақала Қазақстандағы адами дамуды өлшеудің сәйкес тәсілдерін анықтауға бағытталған. Адам капиталын өлшеудің жаңа тәсілі ұсынылған.

Әдісі: Мақалада статистикалық деректерді талдау, индекстерді есептеу әдісі, БҰҰДБ әдісі және регрессия әдісі қолданылған. Ұлттық тестілеудің орташа нәтижелерін есептеу кезінде орташа үлгі әдісі пайданылған.

Қорытынды: Жұмыстың нәтижесінде денсаулық сақтау, білім және өмір деңгейін қоса алғанда, Қазақстан аймақтарындағы адамның даму деңгейі көрсетілген. Сонымен қатар, адам капиталы мен халықтың орташа табысының өзара байланысы анықталған.

Тұжырымдама: Осы мақалада адами капиталды дамыту индексінің компоненттері, Қазақстандағы және оның аймақтарындағы адами дамуды есептеу, адам дамуының табысқа қатынасы зерттелген. Қазақстандағы адами капиталдың индексі жоғары, алайда көрсеткіштердің ішінде бұл индекс республиканың 6 аймағында орташа.

Кілт сөздер: адами капиталды дамыту индексі, адам капиталы, АДИ әдістемесі, Қазақстандағы білім деңгейі, адами капитал теориясы.

Г. Динжанова

Измерения человеческого развития

Аннотация

Цель: Целью данной статьи является выявление подходящего подхода в измерении человеческого развития (ИЧР) в Казахстане. Автором предложен новый подход к измерению человеческого капитала.

Методы: В статье использованы статистический анализ данных, методы расчета индекса, ПРООН и регрессионного анализа. Метод выборочного среднего используется для расчета средних результатов единого национального тестирования.

Результаты: В результатах работы отражен уровень человеческого развития в Казахстане и его регионах, включая уровни здоровья, образования и жизни. Также рассмотрена взаимосвязь между человеческим развитием и доходами населения.

Заключение: В статье изучены компоненты индекса развития человеческого капитала, расчет человеческого развития в Казахстане и его регионах. Кроме того, объясняется влияние дохода на ИЧР в регрессионной модели. Индекс человеческого капитала в Казахстане высокий, однако в 6 регионах он ниже средних показателей республики.

Ключевые слова: индекс развития человеческого капитала, человеческий капитал, методология ИЧР, уровень образования в Казахстане, теория человеческого капитала.

References

Ashton, D., Francis, G. Education, Training and the Global Economy [Текст] / D. Ashton, G. Francis. — Cheltenham, UK: Edward Elgar, 1996 http://dx.doi.org/10.14507/er.v0.31

Baldissera, A., & Cornali, F. Geography of human capital in Italy: a comparison between macro-regions [Текст] / Baldissera, A., & Cornali, F. — Modern Italy, 1–17, 2020. doi:10.1017/mit.2020.25

Becker, G.S. Human Capital: A Theoreticaland Empirical Analysis with Special Reference to Education. 3rd Edition [Текст] / G.S. Becker. — Chicago: The University of Chicago Press, 1964.

Chelovecheskii kapital 2.0 [Видео] / Frumin, I., 2018. Retrieved November 28, 2020, from https://www.youtube.com/watch? v=e6K5sPkee8I&ab_channel=2035university

Current health expenditure (% of GDP) // Retrived from 4/10/2020 https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS

Dae-bong, K. Human Capital and its Measurement [Текст] / Dae-bong, K. // the 3rd OECD World Forum on "Statistics, Knowledge and Policy", Charting progress, Building Visions, Improving life, Busan Korea 27 — 30 2009. October. Retrieved from http://www.oecd.worldforum.org

Dagum, C., Slottje, D.J. A new method to estimate the level and distribution of household human capital with application. [Текст] / Dagum, C., Slottje, D. J. // Structural Change and Economic Dynamics, 2000, 11(2):67–94.

De Foville, A. Ce que c'est la richesse d'un peuple. [Текст]/ De Foville, A. // Bulletin de l'Institut International de Statistique, 1905, 14(3):62–74. Cited in Kiker (1966)

Dublin, L. I., Lotka, A. The Money Value of Man[Текст] / Dublin, L. I., Lotka, A. — New York: Ronald Press Co., 1930.

Eisner, R. The Total Income System of Accounts [Текст] / Eisner, R. //Survey of Current Business, 1985, vol. 65, pp. 24–48.

Eisner, R. Extended Accounts for National Income and Product[Текст]/ Eisner, R. // Journal of Economic Literature, 1988, vol. 26, pp. 1611–1684.

Eisner, R. The Total Incomes System ofAccounts [Текст] / Eisner, R. — Chicago: University of Chicago Press, 1989.

Ewerhart, G. Humankapital in Deutschland. Bildungsinvestitionen, Bildungsvermögen und Abschreibungen auf Bildung. [Текст] / Ewerhart, G. — Bielefeld, 2001 ISBN: 978–3–7639–3935–0

Fisher, I. Nature of capital and income[Текст]/ Fisher, I. — New York: Macmillan, 1906.

Forsyth, C.H. Vital and Monetary Losses in the United States Due to Preventable Deaths [Текст] / Forsyth,C.H. — American Statis. Assoc. Publication, XIV 758–89,1914–15.

Graham, J. W. and Webb, R.H. Stocks and depreciation of human capital: New evidence from a present-value perspective [Текст]/ Graham, J. W. and Webb, R. H.// Review of Income and Wealth, 1979, 25(2): 209–224.

Kiker, B.F. The historical roots of the concept of human capital[Текст]/ Kiker, B. F. // Journal of Political Economy, 1966, 74(5). p.481–499.

Kendrick, J. The Formation and Stocks of Total Capital[Текст]/ Kendrick, J. — New York, Columbia University Press for NBER, 1976.

Kokkinen, A. Human Capital and Finland's Economic Growth in 1910–2000 — Assessing Human Capital Accumulation by Education inside the National Accounts Framework[Текст]/ Kokkinen, A. // The 30th General Conference of the International Association for Research in Income and Wealth, Poster Session I: National Accounts Issues. Portoroz, Slovenia, 2008.

Kokkinen, A. Assessing Human Capital in the National Accounts — Is there a Feedback to Theory. [Текст] / Kokkinen, A. // The 31st General Conference of the International Association for Research in Income and Wealth (IARIW), Session 8C. St. Gallen, Switzerland, 2010.

Krueger, A. B., Lindahl, M. Education for growth: Why and for whom? [Текст]/ Krueger, A. B., Lindahl, M.// Journal of Economic Literature, 2001, 39(4):1101–1136.

Le, T. V. T., Gibson, J., Oxley, L. Cost- and income-based measures of human capital [Текст]/ Le, T.V.T., Gibson, J., Oxley, L.// Journal of Economic Surveys, 2003, 17(3), p.271–307.

Liu, G., & Fraumeni, B. Measuring human capital: Country experiences and international initiatives / Liu, G., & Fraumeni, B., edited by D. Jorgenson, K. Fukao, & M. Timmer //*The World Economy: Growth or Stagnation?* — Cambridge: Cambridge University Press.. 2016, pp. 429–468. doi:10.1017/9781316534502.012

Oxxley, L., Le, T., J Gibson, J. Measuring Human Capital: Alternative Methods and International Evidence. [Текст]/ Oxxley, L., Le, T., J Gibson, J. // *Korean Economic Review*. Korean Economic Association, 2008 vol. 24, pages 283–344.

Petkova, T.A. Chelovecheskiĭ kapital kak osnovnoĭ faktor innovacionnogo razvitiya predpriyatiĭ. [Текст] / Petkova, T. A. // Vestnik Chelyabinskogo gosudarstvennogo universiteta. Ekonomicheskie nauki, 2020, No 6 (440)., vyp. 69. p. 218—224. DOI 10.47475/1994–2796–2020–10626

Petty, W. The economic writings of Sir William Petty/ Petty, W., Graunt, J., & Hull, C. H. — Cambridge: University Press,1899

President of Kazakhstan Kassym-Jomart Tokayev's State of the Nation Address, September 1, 2020[Электронныйресурс]// https://www.akorda.kz/ru/addresses/addresses_of_president/poslanie-glavy-gosudarstva-kasym-zhomarta-tokaeva-narodu-kazahstana-1-sentyabrya-2020-g

Rooijen-Horsten, M van, D. van den Bergen, M. de Haan, A. Klinkers, Tanriseven, M. Intangible capital in the Netherlands: Measurement and contribution to economic growth. [Текст]/ Rooijen-Horsten, M van, D. van den Bergen, M. de Haan, A. Klinkers and M. Tanriseven// Statistics Netherlands, The Hague/Heerlen, 2008

Sagadiev, K.A. Rol' chelovecheskogo kapitala v innovacionnom razvitii Kazahstana [Текст] / K.A. Sagadiev // Mezhdunarodnyj forum "Pervye Nazarbaevskie chtenija", "Novyj Kazahstan v novom mire", Ministerstvo obrazovanija i nauki RK i GU Nazarbaev centr, Astana, 28–29 November, 2012.

Serebryakova, N.A., Volkova, S.A., & Volkova, T.A. Metodika integralnoy otsenki chelovecheskogo kapitala regiona [Текст]/ Serebryakova, N.A., Volkova, S.A., & Volkova, T.A. // *Proceedings of the Voronezh State University of Engineering Technologies*, 2019, 81(3), 375–380. https://doi.org/10.20914/2310–1202–2019–3–375–380

Smith, A. The wealth of nations[Текст] /Smith, A. — New York: Vintage Books,2020

Statisticheskie dannye ENT / Raspredelenie vypusknikov shkol tekushhego goda po nabrannym ballam po rezul'tatam ENT v razreze oblastej (vypuskniki gorodskih shkol) [Электронный ресурс] // Retrieved November 28, 2020, from https://testcenter.kz/ru/stats/statisticheskie-dannye-ent/? PAGEN_1=2

Statisticheskie dannye ENT / Raspredelenie vypusknikov shkol tekushchegogoda po nabrannym ballam po rezul'tatam ENT v razreze oblastej (vypuskniki sel'skih shkol) [Электронный ресурс] // Retrieved November 28, 2020, from https://testcenter.kz/ru/stats/statisticheskie-dannye-ent/? PAGEN_1=2

Statistika obrazovanija / Chistyj kojefficient okhvata nachal'nym obrazovaniem (deti v vozraste 7–10 let) [Электронный ресурс] // Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7

Statistika obrazovanija / Valovyj kojefficient okhvata srednim obrazovaniem (deti v vozraste 7–10 let) [Электронный ресурс] // Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7

Statistika obrazovanija / Kojefficient valovogo okhvata vysshi mobrazovaniem (deti v vozraste 7–10 let) [Электронный ресурс] // Retrieved November 28, 2020, from https://stat.gov.kz/official/industry/62/statistic/7

Stigler, J.G. Riccardo and the 93 % labour theory of value [Текст] / Stigler, J.G. // *The American Economic Review*, 48,1958

Strategicheskij plan 2025 [Электронный ресурс] / Decree of the President of the Republic of Kazakhstan #636 dated on 15 February, 2018. Retrieved from https://primeminister.kz/ru/documents/gosprograms/stratplan-2025

The dynamics of main indicators [Электронный ресурс] / Statistical data of Kazakhstan // Retrived from 4/10/2020 www.stat.gov.kz

Total government expenditure on education[Электронный ресурс] // Retrieved November 28, 2020, from https://ourworldindata.org/grapher/total-government-expenditure-on-education-gdp? tab=table

UNDP. Human Development Report 2019. Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century [Электронный ресурс]. New York, 2019. http://hdr.undp.org/en/content/human-development-report-2019

Weisbrod, B.A. The valuation of human capital [Текст] / Weisbrod, B.A. // Journal of Political Economy, 1961, 69(5):425– 436.

DOI 10.31489/2021Ec2/75-83
JEL A22, I21
UDC 378.1

Zh.T. Konurbayeva[1*], O.K. Denissova[2], E.S. Nurekenova[3]

D. Serikbayev East Kazakhstan Technical University, Ust-Kamenogorsk, Kazakhstan

[1]kzhadyra@yandex.kz, [2]denokkas@mail.ru, [3]emadiyarova@mail.ru

[1]hhttps://orcid.org/0000-0002-6457-392X, [2]hhttps://orcid.org/0000-0001-7899-500X,
[3]https://orcid.org/0000-0002-9219-1603

[1]Scopus Author ID: 56712848600, [2]Scopus Author ID: 56712848600
[3]Scopus Author ID: 56712848600, [3]Researcher ID: AAF-6844-2019

Modern Approaches to Evaluating the Effectiveness of Higher Education Programs

Abstract

Object: The application of modern approaches to assessing the effectiveness of academic programs in the university is a key task of the higher education management, ensuring the quality of the educational process and the formation of professional competencies of graduates.

Methods: The study included methods of systematizing the information of the analyzed literature sources, among them analysis, synthesis, structuring. Methods of expert evaluations were also applied, the peculiarity of which lies in the scientific understanding of the organization of all stages of the examination, as well as in the application of quantitative methods at each stage. The analytical part of this study was based on the use of statistical methods of data processing.

Results: The proposed methodology for assessing the effectiveness of educational programs has been tested in the bachelor's academic programs of D. Serikbayev East Kazakhstan Technical University. This methodology makes it possible to assess the demand for educational programs on qualitative and quantitative parameters and to develop management decisions to develop their potential.

Conclusions: The study of domestic and foreign experience allowed recognizing many problems of methodological nature in the field of modern approaches to assess the effectiveness of academic programs of higher education institutions and propose modern methods of their evaluation.

Keywords: higher education institution, educational program, efficiency.

Introduction

The higher education in Kazakhstan is currently developing quite dynamically. The key innovation is the granting of academic autonomy to higher education institutions (HEIs). One of the purposes of academic and scientific freedom for universities is to train in-demand personnel for the national labor market. The transition to new economic conditions of universities and increased competition in the market of educational services also affect the appearance and content of the modern university. In this regard, one of the main objectives of the corporate management of universities is to ensure the effectiveness of academic activities, which is determined by the balance of the portfolio of academic programs (AP). The national Law "On Education" defines the concept of "academic program" as a single set of basic characteristics of education, including the objectives, results and content of training, the organization of the educational process, methods and techniques for their implementation, the criteria for evaluation of learning outcomes (The Law RK "On Education").

The change in the management and legal form of the national and state universities of Kazakhstan has opened up new opportunities for academic and financial freedom, which in turn forms a new framework of responsibility and expands the scope and range of risks.

The authors identified negative trends in the policy of formation and development of the AP portfolio in domestic universities, which may ultimately lead to very negative consequences (reducing the quality of students, inefficient allocation of all types of resources, the lack of qualified personnel, an increase in unprofitable study groups, etc.):

1) Unreasonable increase in the number of educational programs. There are 9,288 records in the USHEI in the Register of academic programs, on average there are 77 academic programs per university.

2) Opening of new areas of training that do not correspond to the main profile of the educational activity of the university, especially in multidisciplinary universities.

Such distribution of resources leads to underfunding of educational programs in complex technical areas of training and, as a consequence, a decrease in the quality of educational services. In this regard, the use of

* Corresponding author.
E-mail address*: kzhadyra@yandex.kz*

methods to assess the effectiveness of AP of the university is relevant in terms of improving the competitiveness of domestic higher education.

In modern literature and scientific papers, there are many definitions of the concept of "economy efficiency":

1) Characteristic of the quality of the system in terms of the ratio of costs and results of its operation.

2) Effectiveness of the process, operation, project, defined as the ratio of the effect, result to costs, which led to its receipt, etc. (Guseva, A.I., Vesna, E.V., 2013).

As part of this study we will stick to the following definition of the term efficiency: it is an indicator of the desire for the final result, but not the result itself, a version of the correctness, the accuracy of the direction to it.

Literature Review

Attempts to summarize the conceptual foundations of the formation and development of the modern system of higher education have recently been undertaken by many scientists. The scientific positions of the authors of the article were formed on the basis of the study and analysis of works dealing with this issue (Stukalova, I.B., Seljanskaja, G.N., Ponomarev, M.A., Bobkov, A.L., Mastalygina, E.E., 2014), (Kirkpatrick D., Kirkpatrick J., 2007). In this way, O.V. Saginova's works for the first time focus on the fact that it is the educational program that is the main product of any educational institution (Saginova, O.V., 2005).

Scientific publications available in the subject area can be roughly grouped thematically as follows: some focus more on the program itself and its content, the structure; in others, the priority criterion is the effectiveness of the program, others, assess the resource (Anderson, L., Krathwohl, D., 2013), (Freeberg, N.E., 2005).

Methodologies of AP analysis are quite often associated with the assessment of demand, significance for different types of stakeholders and assessment of their satisfaction. Quite a number of techniques affect the conditions of implementation, since the conditions, ranging from organizational and pedagogical to infrastructural, depend on the internal logic of the program and its effectiveness (Tatum, Ch. B., 2017). Academic programs differ in their inputs, which can be considered in terms of quantity, quality, and uniqueness (Korovkin, M., 2013), (Ruane, M., 2016). Nevertheless, all methods focus on internal aspects, on what is happening within the AP: process, products, resources, without taking into account other factors. The authors concluded the following points:

– the "effective" AP's profile must include:

1) relevance (market trends, industry development, demand);

2) productivity (qualitative and quantitative achievements);

3) satisfaction (employment rate, NPS (Net Promoter Score);

– need for a comprehensive methodology that will evaluate the AP from different sides to determine its competitiveness.

Methodology for evaluating the effectiveness of AP establishes a procedure for monitoring the state and effectiveness of the implementation of APs on the key indicators that characterize the quality of their implementation and is designed to serve as the basis for operational management of the university's AP.

Methods

Research methodology is based on the laws of dialectical logic, systematic and integrated approaches. The main methods of cognition used are synthesis, structuring, expert-analytical, analytical hierarchy, and others.

The method of synthesis made it possible to combine, according to the general classification features, the existing disparate approaches to assessing the effectiveness of the AP.

The method of structuring allowed to organize all the obtained information about the approaches to assessing the effectiveness of educational programs in the university into a system that is easy to understand and interpret further.

Expert-analytical methods are used to assess the effectiveness of educational programs. In this case, on the basis of the system analysis by analytical way, a set of indicators is identified, with the help of which an evaluation of any property can be conducted, the system of evaluation scales and evaluation criteria themselves are developed.

The "expert" determines the threshold acceptable values for the indicators, the final target function for the evaluation is formed.

Ranking the effectiveness of the AP is a classic problem of ordering multi-criteria alternatives, which makes it advisable to apply the method of analytical hierarchy.

Results

To improve any assessment space there must be a common basis, according to which it is possible to combine the effective interaction of all participants in the process. According to the research outcomes of the concept of effectiveness and features of the implementation of the AP three groups of indicators were formed, taking into account both quantitative and qualitative individual indicators of AP development:

1. Image effectiveness — "Productivity".
2. Positioning the university in the international and scientific space — "Relevance".
3. Collaboration of APs with the main stakeholders — "Satisfaction".

The scales and significance of the assessment indicators, obtained through expert evaluations and coordinated with each other, are shown in more detail in Table 1. The threshold acceptable values for each individual indicator, which are taken into account in the formation of the final score, are defined.

Table 1. Hierarchical system of KPIs of academic programs

№	Evaluating the AP's effectiveness	Unit	Norm	Index scale	Score
1	2	3	4	5	6
Image effectiveness					
1.	Position of the AP in the national educational rankings	place	1 2 3 4 5–10	**15** 12 9 6 3	**50**
2.	Visiting foreign teacher who has worked at the university for at least one academic period/Outgoing academic mobility of faculty	availability	yes/no	**10**/0	
3.	Proportion of international students	% of the total contingent	>2 >1,5 >1 >0,5 >0,5	**15** 12 9 6 3	
4.	Number of students with the title of Altyn Belgi and winners of international competitions	people	>15 >10 >5 >1	**4** 3 2 1	
5.	Dual degree AP/joint AP/innovative AP/new AP/AP implemented in the educational process in English	availability	yes/no	**6**/0	
Positioning the university in the international and scientific space					
6.	Incoming academic mobility of students/Outgoing academic mobility of students	availability	yes/no	**5**/0	**30**
7.	Implementation of an educational program in a network form or with elements of networking/Placement of massive open online courses (MOOC) on the platform of NAS HSE Al-Farabi KazNU	contract	yes/no	**5**/0	
8.	Faculty publications in international journals included in the Clarivate Analytics scientometric databases/Scopus/International patents	edition	2 4 over 6	1 2 **3**	
9.	Citation rate of scientific articles (Hirsch index by Clarivate Analytics and Scopus) (per full-time faculty member)	index	up to 0,15 over 0,15	1 **5**	

1	2	3	4	5	6
10.	Share of salaries at the expense of grants, program-targeted and contractual research (of the total share of salaries on the AP)	%	up to 8 over 8	1 **2**	
11.	Involvement of students in research projects through participation in research conducted at the expense of grant, target financing and national hedge sources	% of the full-time students	over 5 up to 5	**10** 5	
Collaboration of APs with the main stakeholders					
12.	Employment of graduates according to the rating of "Atameken" NPP/University Career Center	%	81–100 61–80 41–60 1–40	**3** 2 1 0	**20**
13.	Receiving feedback from employers on satisfaction with the effectiveness of the AP	survey	yes/no	**1**/0	
14.	Proportion of teachers from the production, accompanying the educational process during the year	% of the total number of faculty	up to 10 over 10	1 **2**	
15.	Share of winners of international/republican subject, scientific Olympiads, research and development competitions, creative competitions and scholarship holders	% of the full-time students	up to 5 over 5	1 **2**	
16.	Publications of the faculty in the publications recommended by the Committee for Control in the Sphere of Education and Science/monographs	edition	over 5 over 10 over 15	1 2 **3**	
17.	Number of students based on state educational grant	%	up to 5 up to 15 over 25	1 2 **3**	
18.	Number of students on a fee basis	people	up to 50 up to 100 over 100	2 4 **6**	
Note: compiled by author					

Group indicators combine individual indicators for a homogeneous group of parameters:

$$Ka = \sum_{i=1}^{n} P_i = P_1 + P_2 + P_3 \quad (1)$$

A rule of thumb is used to make a decision about the effectiveness of the academic program, which was established by expert judgment (Table 2).

Table 2. Rule for evaluating the effectiveness of the academic program

Category	Value	Management decision
Highly effective AP	100–70 points	Recognize as effective one
Effective AP	40–70 points	Further consideration is required for the final decision
Ineffective AP	up to 40 points	Recognize as ineffective one
Note: compiled by author		

The indicator "effectiveness of the educational programs", according to the established rules, should not exceed some acceptable limits (Figure 1).

Evaluation of the academic program effectiveness by this methodology will identify actions needed to plan improvements, corrective or preventive actions to improve the quality of educational services and achieve the key objectives of the university.

Discussions

The following modern approaches are used in universities to develop a competitive AP.

1) The analytical approach examines the labor market and employers' requirements for future professionals. The reasoned proofs (demands of society, needs of the labor market) of necessity of realization of AP with a reference to a vector of development of a corresponding direction of science and technology are described.

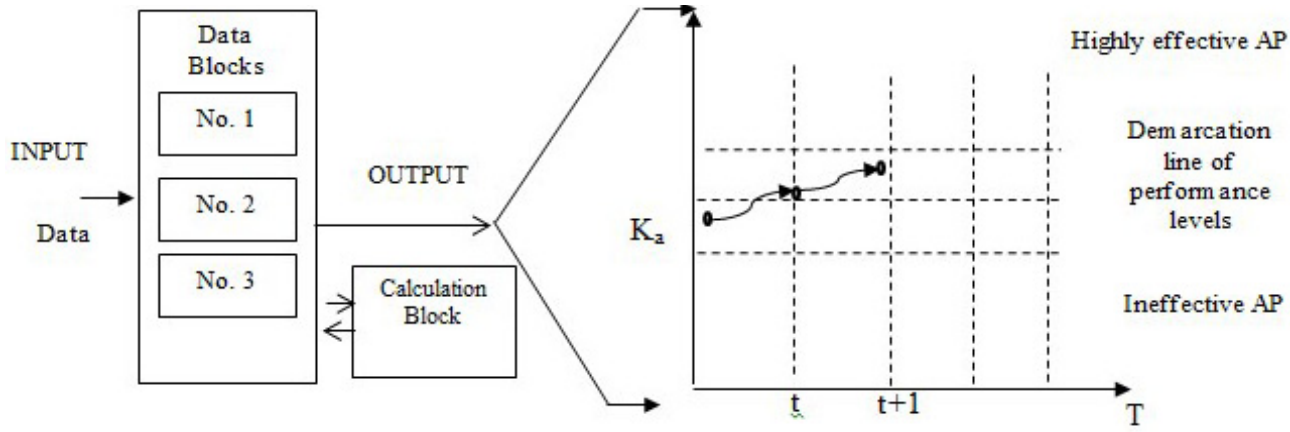


Figure 1. Dynamics of change in the indicator "Effectiveness of academic programs"

2) The competency-based approach provides for the formation of basic and professional competencies in accordance with national and industry qualifications frameworks, as well as future professional activities. Information is provided on employment opportunities, the professional field of work and on the list of positions for which graduates can work on the basis of professional standards.

3) The practice-oriented approach provides that the developers of the AP build relationships with employers on the terms of partnership. Employers participate in the AP development, in the examination of the AP's content. Responding to the requests and wishes of employers, the developers of AP change the content of the program, make the necessary changes, expand the range of disciplines in the areas of training.

4) The modular approach forms the AP on the basis of a modular representation of educational information and interdisciplinary correspondence. The modular structure of the AP allows to quickly and qualitatively expand and deepen the AP through the creation of educational modules, as well as change the depth and focus of training, respond quickly to the needs of the participants of the educational process, employers and the labor market, to develop competencies that represent a logical completed part of the learning process.

5) In the integration approach to improve the quality and competitiveness of educational services innovative APs, including double-diploma ones, are developed jointly with leading foreign partner universities. The integrative approach to the development of the AP contributes to the attractiveness for foreign stakeholders (students, faculty, researchers).

D. Serikbayev East Kazakhstan Technical University (EKTU) is a strategic educational center for training engineering and technical personnel, primarily for non-ferrous metallurgy, energy, and mechanical engineering. At present EKTU is one of largest HEIs in Kazakhstan, the leading center of science, education, and culture in East Kazakhstan region. There are 9 departments, 14 sub-departments in the university.

The EKTU is constantly improving the mechanism for managing the effectiveness of the academic programs, which includes the four specific stages:

Stage 1. Strengthening profiling/specialization (effective allocation of resources — market segment/point positioning).

Stage 2. Optimization and balance of the program's portfolio (Boston Consulting Group (BCG) Matrix — reduction/repositioning of unprofitable APs).

Stage 3. Ensuring the sustainable development of the academic program (the "Golden Triangle" (also called "relevance-result-satisfaction"), the AP development strategy).

Stage 4. Assessment and monitoring (an automated evaluation system on the platform e-monitoring) — adjustment of the development trajectory of the academic program (Figure 2). There are eleven indicators which exported for calculation in automatic mode daily, the rest are entered into the system manually as they are achieved.

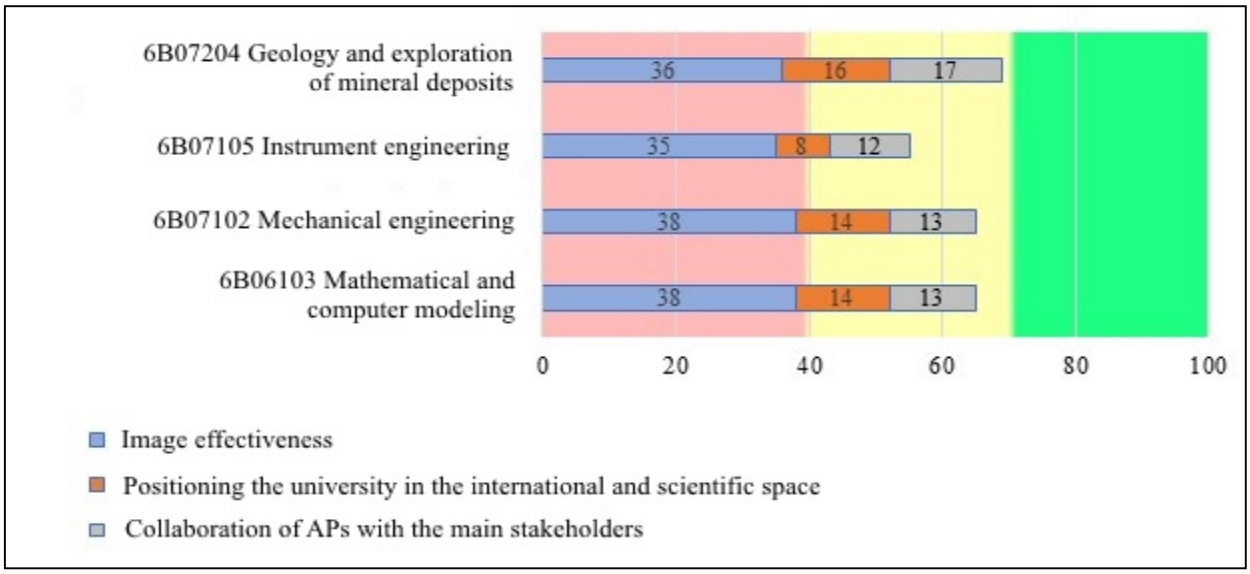


Figure 2. Example of visualization of the evaluation of the effectiveness of educational programs on the platform E-Monitoring of the D.Serikbayev EKTU

Based on the results of the integral assessment of the effectiveness of educational programs in D. Serikbayev East Kazakhstan Technical University using BCG matrix (Boston Consulting Group), a strategic portfolio of EP development is formed (Figure 3):

– The "Question Marks" portfolio includes academic programs with a small market share but high sales rates. This portfolio also includes innovative or brand new APs of the university, training in which is at the intersection of several industries and is a major trend in the world of professions. It takes a lot of effort and expense to increase market share.

– The "Star" portfolio includes APs that are in demand on the educational services market and occupy a leading position now and in the near future, and require significant investment in them.

– The APs in the "Cash Cows" portfolio are characterized by a low growth rate of sales volume due to the regional economy and a high proportion of employment in these professions in the region. These programs do not require costly investments, generating stable and high income. Due to this income the university finances other academic programs.

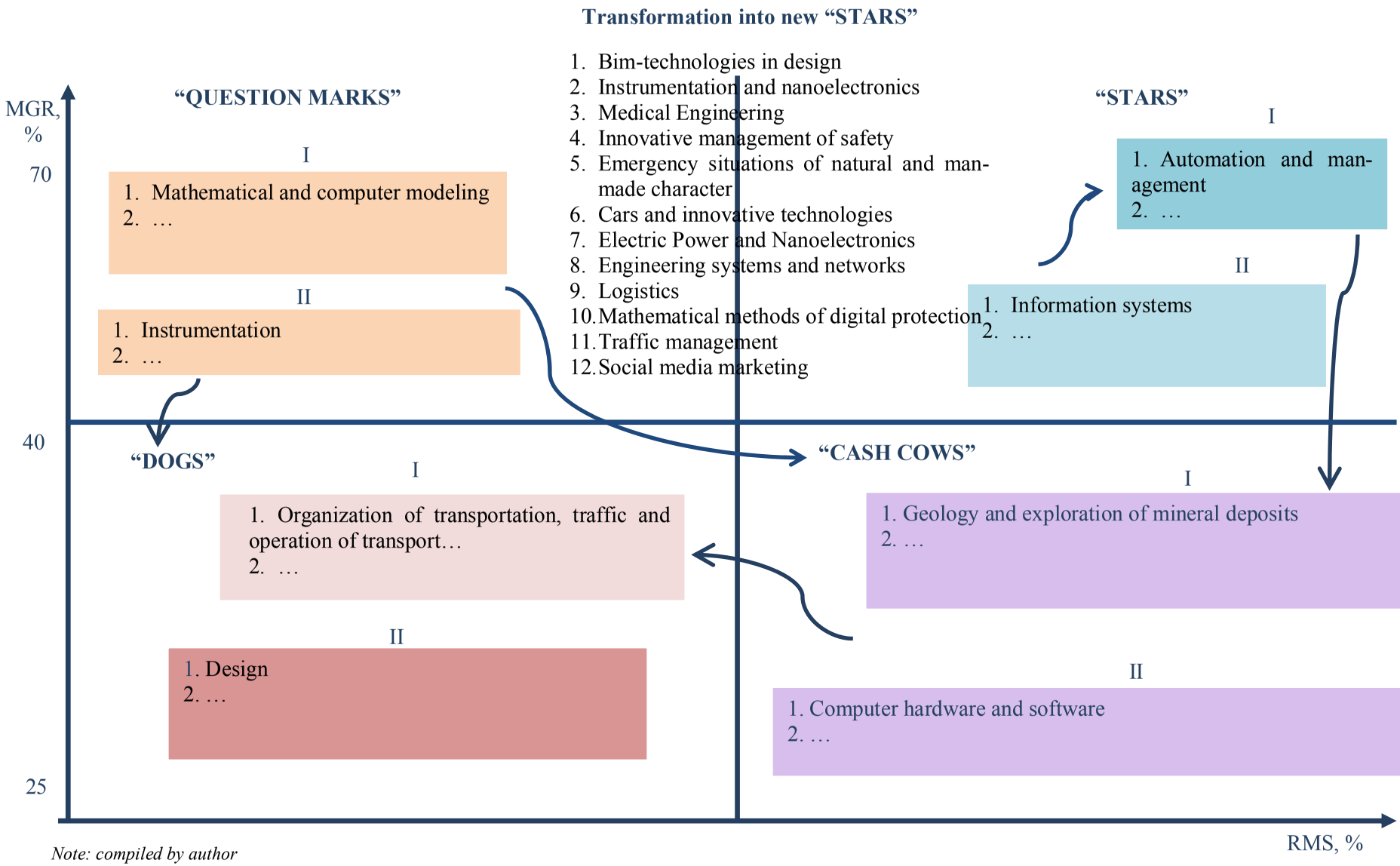
– Academic programs in the portfolio of "Dog" are unprofitable and inefficient for the university, their possible strategy is to leave the market or to upgrade in view of new industry trends.

In this way, D. Serikbayev EKTU has an effective AP portfolio, as the APs in the "Cash Cows" portfolio are twice as large as those in the "Stars" and "Dogs" portfolios.

The calculations show that there is a direct dependence on the portfolio in the BCG matrix and the evaluation of the academic program effectiveness by the list of indicators. Consequently, to ensure a balanced portfolio of educational programs, it is necessary to abandon unprofitable areas of training.

Based on the methodologies outlined above, the transformation of the university's academic activities is currently underway at EKTU: diversification of educational programs depending on the needs of production, development of educational programs in cooperation with leading foreign universities and national enterprises, compliance with professional standards, integration of professional practices in theoretical training, introduction of modular training system; advanced training of teaching staff in innovative learning technologies, Posting MOOCs and blended courses on the OpenEdX and MOODLE platform, transferring 100% of courses to Blended Learning.

Thus, as an approach to a comprehensive assessment of the effectiveness of the AP these methods are preferred, as they reflect the current state of the AP in the market of educational services and help to develop a strategy for their further development, taking into account the conditions of new regulations.



Note: compiled by author

Modern Approaches to Evaluating…

Conclusions

Ensuring the quality of education throughout the developed world is seen as a key factor in the stability and development of society and an important vector of progress and sustainable growth of the country. Higher education institutions of the countries and society should be deeply interested in the promotion of educational programs of universities and in improving the competitiveness of educational services.

The change in the organizational-legal form of universities in Kazakhstan opens up new opportunities for academic and financial freedom, which in turn forms a new framework of responsibility and expands the scope and range of risks. For the sustainable development of a university one of the most important components of corporate governance is academic risk management. Today many regions are experiencing an exodus of top school graduates to major metropolitan areas and foreign universities. This circumstance is exacerbated by the decline in the productivity of the country's economy in the post COVID-19 period under conditions of risk and uncertainty, which requires the university to change its approaches to the development of educational programs using foresight analytics.

Application of modern approaches to assessing the effectiveness of educational programs allows universities to analyze the relevance of educational products depending on the growth of the market. The evaluation methodology, which includes a hierarchical system of indicators and a criterion rating scale for each indicator, is oriented to ensure the balance of the portfolio of educational programs.

References

Anderson, L. & Krathwohl, D. (2013). Bloom's Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. New York, NY: Longman.

Freeberg, N.E. (2005). Assessment of disadvantaged adolescents: A different approach to research and evaluation measures. *Journal of Educational Psychology, 61*, 229–240.

Kirkpatrick D., Kirkpatrick J. (2007). Implementing the Four Levels: A Practical Guide for Effective Evaluation of Training Programs. San Francisco, CA: Berrett-Koehler.

Korovkin, M., Mogilnitsky, S. & Yanushevskaya, M. (2013). Quality management system at national research university. *Journal of International Scientific Publication: Educational Alternatives, Vol. 11. — 3*, 122–128.

Ruane, M. (2016). Action learning in postgraduate executive management education: an account of practice/M. Ruane // *Action Learning: Research and Practice, Vol. 13. — 3*, 272–280.

Tatum, Ch.B. (2017). Developing and Evaluating Educational Programs. Cincinnati, OH: Southwestern College.

Guseva, A.I. & Vesna, E.B. (2013). Ocenka rezultativnosti i effectivnosti setevyh obrazovatelnyh program [Evaluation of the effectiveness and efficiency of network educational programs]. *Sovremennye problemy nauki i obrazovaniya — Modern problems of science and education*, *6*, 353–358 [in Russian].

Saginova, O.V. (2005). Priroda i harakter obrazovatelnyh uslug [Nature and nature of educational services]. *Marketing*, *3,* 53–63 [in Russian].

Stukalova, I.B., Seljanskaja, G.N., Ponomarev, M.A., Bobkov, A.L. & Mastalygina, E.E. (2014). Napravleniya povyşeniya konkurentosposobnosti obrazovatelnoy dejatelnosti vuza (na primere REU im. G.V. Plehanova) [Directions of increasing the competitiveness of educational activities of the university (on the example of Plekhanov Russian University of Economics)]. *Vestnik Rossiiskogo ekonomicheskogo universiteta imeni G.V. Plehanova — Bulletin of the Plekhanov Russian University of Economics*, *1(67)*, 15–24 [in Russian].

Zakon Respubliki Kazakhstan "Ob obrazovanii" [Law of the Republic of Kazakhstan "On Education"]. Retrieved from https://online.zakon.kz/document/? doc_id=30118747#pos=8 [in Russian].

Ж.Т. Конурбаева, О.К. Денисова, Э.С. Нурекенова

Жоғары оқу орындарында білім беру бағдарламаларының тиімділігін бағалаудың заманауи тәсілдері

Аңдатпа

Мақсаты: Заманауи тәсілдерді қолдану жоғары оқу орындарында білім беру бағдарламаларының тиімділігін бағалаудың, білім беру процесінің сапасын, түлектің кәсіби құзыреттілігін қалыптастыруды қамтамасыз ететін білім беру ұйымы менеджментінің негізгі міндеті болып табылады.

Әдісі: Жұмыста талданған әдеби дереккөздердің ақпаратын жүйелеу әдістері пайдаланылды, олардың ішінде: талдау, синтез, құрылымдау. Сонымен қатар, сараптамалық бағалау әдістері де қолданылды, оның ерекшелігі сараптаманың барлық кезеңдерін ұйымдастыруды ғылыми түсіну және де әр кезеңде сандық әдістерді қолдану болып табылады. Зерттеудің аналитикалық бөлігі ақпаратты өңдеудің статистикалық әдістерін қолдануға негізделген.

Қорытынды: Білім беру бағдарламаларының тиімділігін бағалауға ұсынылған әдістеме Д.Серікбаев атындағы Шығыс Қазақстан техникалық университетінің мысалында сыналған. Бұл әдістеме сапалы және сандық параметрлер бойынша білім беру бағдарламаларына сұранысты бағалау және олардың әлеуетін дамыту бойынша басқарушылық шешімдерді әзірлеуге мүмкіндік жасайды.

Тұжырымдама: Отандық және шетелдік тәжірибені зерттеу университеттің білім беру бағдарламаларының тиімділігін бағалаудың заманауи тәсілдері саласындағы әдіснамалық сипаттағы проблемаларды анықтауға және оларды бағалаудың заманауи әдістерін ұсынуға мүмкіндік береді.

Кілт сөздер: жоғары оқу орны, білім беру бағдарламасы, тиімділік.

Ж.Т. Конурбаева, О.К. Денисова, Э.С. Нурекенова

Современные подходы к оценке эффективности образовательных программ вуза

Аннотация

Цель: Применение современных подходов к оценке эффективности образовательных программ в вузе является ключевой задачей менеджмента образовательной организации, обеспечивающей качество образовательного процесса, формирование профессиональных компетенций выпускника.

Методы: В работе использованы методы систематизации информации анализируемых литературных источников, среди которых анализ, синтез и структурирование. Также применялись методы экспертных оценок, особенность которых заключается в научном понимании организации проведения всех этапов экспертизы, в применении количественных методов на каждом этапе. Аналитическая часть исследования основывалась на использовании статистических методов обработки информации.

Результаты: Предложенная методика оценки эффективности образовательных программ апробирована на примере Восточно-Казахстанского технического университета им. Д. Серикбаева. Эта методика позволяет произвести оценку востребованности образовательных программ по качественным и количественным параметрам и разработать управленческие решения по развитию их потенциала.

Выводы: Изучение отечественного и зарубежного опыта позволило выявить проблемы методологического характера в области современных подходов к оценке эффективности образовательных программ вуза и предложить современные методики их оценки.

Ключевые слова: высшее учебное заведение, образовательная программа, эффективность, качество, профессиональные компетенции.

References

Anderson, L., Krathwohl, D. Bloom's Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives/L. Anderson, D. Krathwohl // New York, NY: Longman. — 2013.

Freeberg, N.E. Assessment of disadvantaged adolescents: A different approach to research and evaluation measures/N.E. Freeberg // Journal of Educational Psychology. — 2005. — № 61. — P. 229 — 240.

Kirkpatrick D., Kirkpatrick J. Implementing the Four Levels: A Practical Guide for Effective Evaluation of Training Programs/D. Kirkpatrick, J. Kirkpatrick // San Francisco, CA: Berrett-Koehler. — 2007.

Korovkin, M. Quality management system at national research university/M. Korovkin, S. Mogilnitsky, M. Yanushevskaya // Journal of International Scientific Publication: Educational Alternatives, Vol. 11. — 2013. — № 3. — P. 122–128.

Ruane, M. Action learning in postgraduate executive management education: an account of practice/M. Ruane // Action Learning: Research and Practice. — 2016. — Vol. 13. — 3, 272–280.

Tatum, Ch. B. Developing and Evaluating Educational Programs/Ch. B. Tatum // Cincinnati, OH: Southwestern College. — 2017.

Гусева А.И. Оценка результативности и эффективности сетевых образовательных программ / А.И.Гусева, Е.Б. Весна // Современные проблемы науки и образования. — 2013. — № 6. — С. 353–358.

Сагинова О.В. Природа и характер образовательных услуг / О.В. Сагинова // Маркетинг. — 2005. — № 3. — С. 53–63.

Стуколова И.В. Направления повышения конкурентноспособности образовательной деятельности вуза (на примере РЭУ им. Г.В. Плеханова) / И.В. Стуколова, Г.Н. Селянская, М.А. Пономарев, А.Л. Бобков, Е.Е. Масталыгина // Вестн. Рос. экон. ун-та им. Г.В. Плеханова. — 2014. — № 1(67). — С. 15–24.

Закон Республики Казахстан "Об образовании". — Режим доступа: https://online.zakon.kz/document/?doc_id=30118747#pos=8.

DOI 10.31489/2021Ec2/84-91
JEL G10, G17
UDC 336.7

A.M. Nurgaliyeva[1], D.Y. Mynbayeva[2], A.N. Lambekova[3*]

[1,2]Narxoz University, Almaty, Kazakhstan
[3]Karagandy University of the name of academician E.A. Buketov, Kazakhstan

[1]aliya_mn@mail.ru, [2]mde2000@mail.ru, [3]aigerim.lambekova@gmail.com

[1]https://orcid.org/0000-0001-6044-6926, [2]https://orcid.org/0000-0003-3533-3908
[3]https://orcid.org/0000–0001–6818–3665

[1]Scopus Author ID: 559334946000, [3]Scopus Author ID 57204244683
[1]Researcher ID: Y-2788–2018

QSPM budgeting development level analysis in Bank CenterCredit JSC

Abstract

Object: The purpose of this study is to identify the main problems of budgeting in second-tier banks in Kazakhstan based on the analysis of the development of the level of budgeting and modern methods of budgeting in Kazakh banks.

Methods: The collected data for the assessment and development of budgeting were analyzed using the matrix method for evaluating internal (IFE) and external factors (EFE), and QSPM (Quantitative Strategic Planning Method).

Findings: As a result of the QSPM analysis, the Bank can become aware of its position in the market and step up its activities to improve management accounting, including budgeting in the bank.

Conclusions: QSPM analysis in JSC Bank CenterCredit revealed the main strengths and weaknesses of budgeting development, as well as existing opportunities and threats. As a result, it was revealed that the bank is aware of its position in the market and is stepping up its activities to improve management accounting, including budgeting in the bank.

Keywords: Second-level banks, management accounting, income, expenses, planning, budgeting, financial management center, quantitative strategic planning method, budget, matrix method for assessing external factors.

Introduction

Most modern Kazakhstani banks apply management accounting partially. Mostly it is an abbreviated form of financial statements, which reflects the plan, fact, deviation and forecasts. In this setting, forecasts are still being carried out on past period budgets, which are carried forward to the next period with insignificant adjustment to the projected inflation rate and profit, division expenses, etc. that are supposed in a similar way.

QSPM analysis allows to identify main strengths and weaknesses of budgeting development, opportunities and threats, as a result of which the bank can realize its market position and intensify its activities to improve management accounting, including budgeting in the bank.

Management accounting in banks aims at obtaining reliable information on the actual state of affairs with resources and their allocation, risks, ensuring control over profitability of all operations and providing it to management for decision making.

Literature Review

According to I. Kasasbeh, management accounting in banks acts as a basis for financial accounting (bookkeeping) and reporting. The main factor in its creation is its economic efficiency, a significant excess of income over expenses associated with the creation and introduction of banking products and services (Kasasbeh, 2018).

We feel worth noting that budgeting serves as a basic tool of management accounting. Since budgeting has always remained the primary concern of any accounting, it has always been the focus of attention. At the same time, the development of budgeting would be accompanied by certain problems that banks face constantly in their activities.

The modern approach to budgeting in banks is based not only on the preparation of cost and income estimates with their subsequent analysis, but also includes certain actions aimed at achieving the strategic or

* Corresponding author.
E-mail address: *aigerim.lambekova@gmail.com*

operational goals of the bank, which use budgeting methods to control and manage the bank's financial resources.

Strategic planning refers to the preparatory stages for budgeting, which is an essential element of management (Bindra et al., 2019). Strategic planning is a part of the management process aimed at maintaining balance and alignment between the goals and resources of the bank in a constantly changing environment (Papke-Shields, K. E., & Boyer-Wright, K. M., 2017). At the same time, those indicators that the management considers necessary to determine as standards for each FAC can be designated as targets. For instance, profitability of capital, profitability of assets, rate of return, cost limitation, cost rationing, etc. Forecasting is of great significance, which, moreover, should be actively used not only at the preparatory stage.

Methods

The collected data for the assessment and development of budgeting were analyzed using the matrix method for evaluating internal (IFE) and external factors (EFE), and QSPM (Quantitative Strategic Planning Method — a method of quantitative strategic planning

Forecasting macroeconomic indicators allows to determine the main regulatory guidelines for the activities of both the bank as a whole and financial accounting centers (Forgione, A.F., & Migliardo, C., 2018). Establishment of strategic guidelines is the prerogative of the bank's board of directors, which sometimes delegates these powers to the chairman of the board or the bank's budget committee. Designing a precise budgeting schedule will allow to determine not only time frames, but also an indication of the budgeting stages themselves, which will contribute to effective planning. Our proposed timetable can be used as an example (Table 1).

Table 1 — Timetable for budgeting

№	Budgeting stage	Term, days	Period, date	Responsible
1	2	3	4	5
1.	Account of transfer rates and internal norms	1	20.09.2019	Budgeting department
2.	Informing FAC about changes in transfer rates and norms			
3.	Development of planned budget forms of the FAC and submission to the Budgeting Department	1	21.09.2019	FAC
4.	Cost-benefit analysis	1	22.09.2019	Budgeting department
5.	Establishment of a management budget balance			
6.	Establishment of own budget capital	1	23.09.2019	Budgeting department
7.	Profit and loss budgeting			
8.	Profit and loss budgeting based on transfer pricing	2	24.09.2019 25.09.2019	Budgeting department
9.	Approval of budgets	1	26.09.2019	Budget committee
Note: compiled by the authors				

Thus, according to Table 1, budgeting will take no more than 7 days. The last stage of budgeting is monitoring and control over the execution of budgets. Here it can be said that budgeting ends and at the same time starts again, which testifies to the renewability of this process and its endlessness.

In the process of budgeting, it is important that the FAC budgets are made not for themselves, as is often the case (employees manipulate indicators), but directly for making management decisions. This kind of manipulation is called a "mine" of delayed action (Nurgaliyeva et al., 2020).

In order to build an effective budgeting system in a bank, it is necessary to carry out comprehensive and purposeful activities of bank managers in the following areas: structuring information flows between various structural divisions of the bank; distribution of budgeting functions across the FAC; motivating FAC to execute budgets (Alabdullah, Tariq Tawfeeq Yousif, 2019).

It should be noted that PBB is based on the BPM model (Business Performance Management (Brimson, 2007), the use of which in the bank will allow the formation of management accounting with feedback (Figure 1).

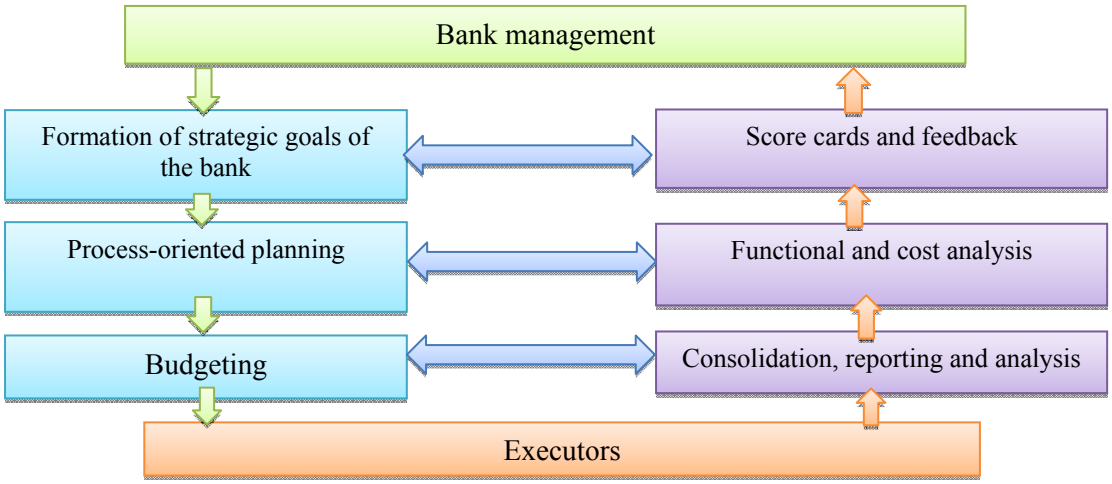


Figure 1. Organization of management accounting based on the BPM system

Note: compiled by the authors based on the source (Belokrylov, 2013)

In Figure 1, management accounting includes both top-down and bottom-up processes. The first cycle begins with the formation of the bank's goals, key performance indicators, and the structure of communications between the financial accounting centers.

Results

The results of an empirical study conducted in Kazakhstan banks have shown that budgeting in banks is for the most part uses traditional methods, which have a number of drawbacks. Current period budgets get carried over to projected values only with insignificant adjustment to projected values of inflation and exchange rate. As a result, the shortcomings and mistakes of past periods smoothly transition into future ones while real expenses are not taken into account. There is also the problem of estimating costs; the self cost of banking products, to be precise. Traditional methods misrepresent and unfortunately, are incompatible with modern management accounting.

The dynamics of the modern banking market is increasing every day. Second-tier banks are increasingly under pressure from non-bank organizations, which constitute a serious competition for them. As a result, banks are trying to become more flexible and are revising conservative approaches, including those to budgeting, since in a dynamic market spending several months on budgeting is doomed to failure.

Moreover, traditional budgeting is a constant conflict of shareholders and bank management. Managers strive to demand the maximum amount of resources, increase the budget. Shareholders want to perform large tasks with a minimum of resources. As a result, bank remains ineffective financially.

Many economists identify several reasons why traditional budgeting is outdated today. In general, negative aspects of traditional budgeting in banks are as follows:

– it does not promote value creation;
– budget for the future period is prepared on the basis of the previous one with arbitrary correction;
– it does not take into account the features of banking products and customers;
– it gives the opportunity to manipulate the budget;
– it does not take into account the workload by type of activity;
– it does not take into account business processes;
– it does not track service levels;
– it does not take into account functional capabilities of the bank units.

As per the results of an empirical study on the development of management accounting in Kazakhstan banks, currently most banks use traditional budgeting (67.2 % of experts) and only 32.3 % have indicated the use of a more advanced method of Activity Base Budgeting. 59.1 % of experts have indicated a standard cost estimate in banks.

This state of affairs creates the need for analysis of the budgeting development in banks. For these purposes we used QSPM (Quantitative Strategic Planning Method), a high-level strategic management approach to evaluate possible strategies. QSPM provides an analytical method for comparing possible alternative actions and is based on IFE and EFE matrices (Zulkarnain et al., 2018).

The Internal Factor Evaluation (IFE) is a strategic tool for managing an audit or evaluating the main strengths and weaknesses in budgeting in a bank. The IFE matrix provides the basis for identifying and evaluating the relationships between budgeting elements.

The matrix method of evaluating external factors (EFE) is used to assess current business conditions (Mina Salehi et al., 2018). The EFE matrix is a great tool for visualizing and prioritizing the opportunities and threats the bank faces.

In general, the EFE and IFE matrices are very similar. The main difference between the two is the type of factors included in the model: the IFE matrix evaluates internal factors, while the EFE matrix evaluates external factors exclusively.

The external factors evaluated in the EFE matrix are those that obey the will of social, economic, political, legal and other external forces.

In turn, the QSPM technique consists of several stages:

1) Listing the key factors reflecting strengths and weaknesses of budgeting in the bank.

2) Determination of scores (score — S) of each factor. With that, in the IFE matrix, a predetermined group of experts evaluates the factors on a scale of 1 to 4 as follows: 1 — the factor is the bank's main weakness, 2 — the factor is the bank's insignificant weakness; 3 — the factor is the bank's minimum strength; 4 — the factor is the bank's main strength. Thus, weaknesses are scored 1 and 2, and strengths are scored 3 and 4. In the EFE matrix, a predetermined group of experts evaluates the factors on a scale of 1 to 4 as follows: 1 — a weak response to the environmental factor, 2 — response to the environmental factor is weaker than average, 3 — response to the environmental factor is higher than average, 4 — a very strong response to the environmental factor.

3) Determination of the attractiveness (attractiveness score — AS) of each factor in such a way that the total of attractiveness of both strengths and weaknesses is 1.

4) Determination of the weighted total score (total attractiveness score — TAS) for each factor by multiplying the score by attractiveness.

5) Definition of the result as a sum of the final points (final total attractiveness score — FTAS) for each factor.

6) Building a diagram where the value of the IFE matrix is displayed on the X axis, and the EFE matrix on the Y axis.

To evaluate these factors we have created a group of experts consisting of senior and middle managers, and bank unit employees with a total of 116 people.

AS and S indicators in tables 2 and 3 have been calculated as the weighted average of the results obtained from the expert group.

So, let us assess the strengths and weaknesses of budgeting development in the Bank CenterCredit JSC (Table 2).

Table 2. IFE matrix of strengths and weaknesses of the budgeting development in Bank CenterCredit JSC

Factors	Weight (AS)	Rating (S)	Weighted score (TAS)
1	2	3	4
Strengths			
Interconnected management system formation	0.07	2.8	0.196
Ability to introduce modifications at a particular level of the business system	0.04	3.1	0.124
Ability to introduce modifications when deviations occur, not in response to	0.06	3.87	0.2322
Orientation of employees to achieve measurable goals	0.04	3.92	0.1568
Has a positive effect on employee motivation	0.07	3.73	0.2611
Allows to improve the resource allocation process	0.08	3.3	0.264
Ability to track any stage of budgeting	0.03	2.66	0.0798
Release of a large amount of time and labor	0.06	4	0.24
Creation of accounting by financial management centers	0.09	3.21	0.2889
Ability to take into account overhead dynamics	0.05	4	0.2
Weaknesses			
Different perceptions of FMC budgets	0.04	1.98	0.0792
Conflict of interests of employees and management	0.08	0.95	0.076

1	2	3	4
The discrepancy between forecasts and facts	0.08	1.13	0.0904
Inadequate staff skills to apply advanced budgeting methods	0.03	1.84	0.0552
Lack of budget flexibility	0.05	1.66	0.083
Exaggeration of own results by some unit employees	0.05	0.97	0.0485
Errors in the distribution of overhead costs for banking services	0.04	1.72	0.0688
Lack of feedback required for immediate management	0.04	1.33	0.0532
FTAS	100		*2.5971*
Note: made up on the basis or research and calculations			

According to the data obtained, the most powerful aspects of budgeting development in Bank CenterCredit JSC are accounting by financial management centers — 0.2889, improvement of the resource allocation process — 0.264 and presence of a positive effect in the form of employee motivation — 0.2611.

The weakest points of the budgeting development strengths in the bank are the ability to track any stage of budgeting — 0.0798, the ability to introduce modifications to the budget at a particular level of the business system — 0.124, and orienting employees to achieve measurable goals — 0.1568.

In addition, the following areas are the main weaknesses in budgeting development in Bank CenterCredit JSC: many employees exaggerate their performance as a result of KPI introduction — 0.0485; the bank has not established feedback information necessary for effective immediate management — 0.0532; the score and qualifications of employees of the budgeting unit are not enough to apply new budgeting methods — 0.0552.

Thus, this analysis allows the bank to identify problem points and work directly in strictly defined areas without spreading on other factors with much higher scores.

Let us analyze the possibilities and threats of budgeting development in Bank CenterCredit JSC (table 3).

Table 3. EFE Matrix of Opportunities and Threats of Budgeting Development in Bank CenterCredit JSC

Factors	Weight (AS)	Rating (S)	Weighted score (TAS)
Opportunities			
The use of more advanced budgeting methods	0.09	3.46	0.3114
Estimation of the cost of individual banking products	0.12	3.11	0.3732
Providing feedback information for managers	0.07	2.11	0.1477
Increased budget flexibility	0.11	2.85	0.3135
Elimination of the budget manipulation	0.09	2.18	0.1962
Further training for employees and management	0.05	3.76	0.188
Conducting regular surveys of bank employees to improve the budget process quality	0.04	2.34	0.0936
Threats			
Global competition	0.07	2.96	0.2072
High cost of software for budgeting	0.08	3.88	0.3104
The use of more advanced costing methods by competitor banks	0.09	2.98	0.2682
Distortion of financial results as a result of the introduction of modern budgeting methods	0.08	2.77	0.2216
Failure to adopt a new budgeting method by employees	0.06	2.13	0.1278
Transformation of budgeting from a method of increasing efficiency into a system of supervision over employees	0.05	2.35	0.1175
FTAS	1		*2.8763*
Note: made up on the basis or research and calculations			

The results of the analysis show that currently, to the fullest extent Bank CenterCredit JSC has the ability to estimate the cost of individual banking products — 0.3732 with the use of more advanced budgeting techniques — 0.3114, which shall increase budget flexibility — 0.3135.

At the same time, the high cost of budgeting software products — 0.3104, the use of more advanced budgeting methods by competing banks — 0.2682, and the distortion of financial results due to the incorrect

introduction of modern budgeting methods may prevent the bank from achieving its goals using the available capabilities — 0.2216.

Thus, the results shown in the EFE matrix also allow us to focus on the identified opportunities and threats to the greatest extent.

Discussions

The obtained FTAS results for both matrices are reflected in the X and Y coordinate system. In this case, the IFE matrix value is on the X axis, and EFE matricx value is on the Y axis. As a result, both points shall indicate a specific segment of the IE matrix shown in Figure 2.

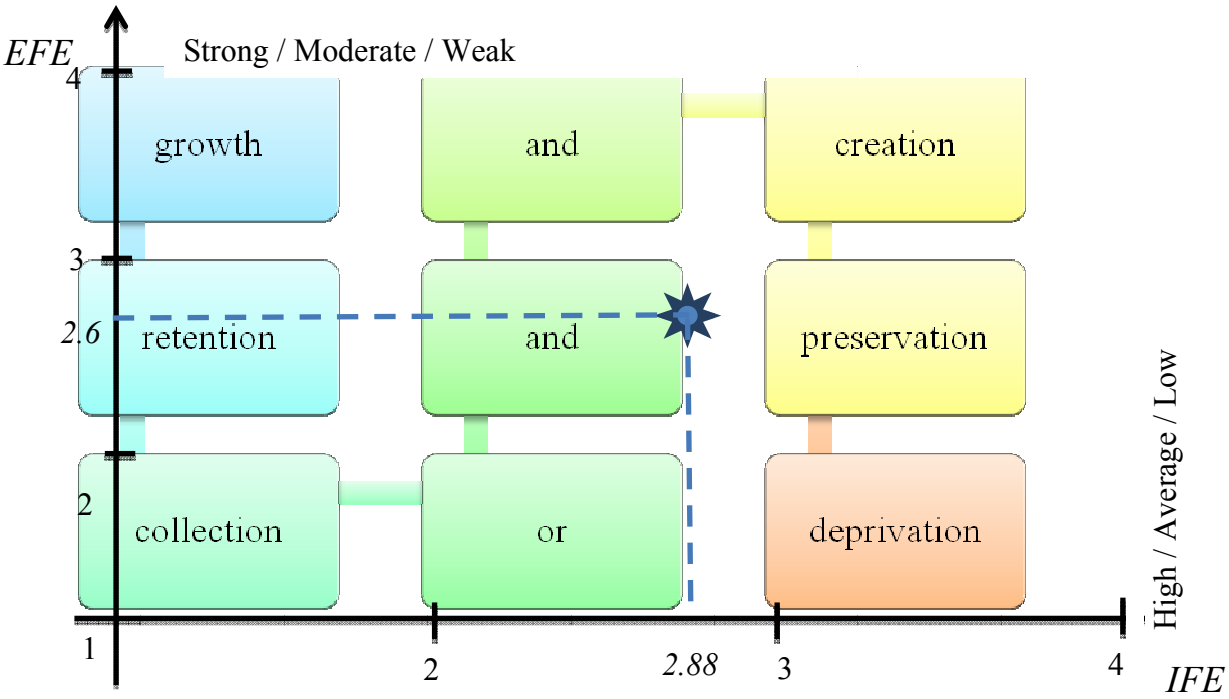


Figure 2. IEQSPM analysis matrix

Note: made up on the of basis source (Allahyari et al., 2017)

The strategy of "growth and creation" means intense and aggressive tactical behavior. The bank should be focusing on creating new budgeting system, developing a methodological and organizational base and designing a new strategy different from all those available on the banking market.

The "retention and preservation" strategy assumes that the bank needs to continue the existing initiatives regarding the restructuring of the budgeting system in the bank in the same direction and hold on to those positions that the bank has been able to take and present them in the form of its strengths.

The "collection or deprivation" strategy suggests that the bank needs to choose between investing in this area and its further development, or explore other ways to improve budgeting.

Thus, according to the data obtained, the IFE value is close to 3, a value that approaches the retention strategy, and the EFE value is in the middle of the retention strategy. Such a result indicates that the bank in question has certain strategically important positions in the development of the budgeting system. These need to be maintained and directed towards improving the results, having established the existing positions as the strengths of the bank's budgeting system.

Employees of Bank CenterCredit JSC have pointed out the most significant aspects of the development of the budgeting system in the bank. In particular, such strengths of improving the budgeting process as the ability to introduce modifications when deviations occur, and not in response to, orienting employees to achieve measurable goals, and having a positive effect on employee motivation have received the highest significance: 3.87; 3.92 and 3.73 out of 4 maximum points, respectively. This data indicates that the ongoing processes of improving budgeting in the bank primarily had an effect on human capital (the active use of KPI also played a role here as the main method for assessing the performance of the central financial institution).

The most significant weak aspects of budgeting development are different perceptions of the FMC budgets, insufficient qualifications of employees for applying advanced budgeting methods, and errors in the

distribution of overhead costs for banking services that received 1.98; 1.84 and 1.72 out of 2 maximum possible points, respectively. Thus, once again the main issue of improving the budgeting process in the bank is human capital. However, as can be noted, these aspects are quite fixable and require introduction of minor but decisive measures to develop these areas. Especially if we consider that the basic capabilities of the bank were the advanced training of employees and management, the use of more advanced budgeting methods and the ability to assess the cost of individual banking products, which received 3.76, 3.46 and 3.11 out of 4 maximum points, respectively.

Conclusions

Thus, the bank solves the issues identified as weaknesses in improving budgeting on its own. The only thing that the bank is particularly concerned about as external challenge factors is the presence and growth of global competition seen from not only local but also foreign banks; the relatively high cost of budgeting software and the ability of competing banks to use more advanced costing methods. We feel worth noting that the acquisition of expensive software products may possibly be unjustified due to the fact that budgeting techniques are constantly being improved due to the internationalization and globalization of banking markets. However, regular further training of employees may be much less costly, yet more progressive because it allows the development and not just introduction of modern budgeting methods in the bank.

References

Alabdullah, Tariq Tawfeeq Yousif (2019). Management Accounting and Service Companies' Performance: Research in Emerging Economies, Australasian Accounting, Business and Finance Journal, 13(4), 100–118. doi:10.14453/aabfj.v13i4.8

Allahyari, H., Nasehi S., Salehi E. and Zebardast L. (2017). Evaluation of visual pollution in urban squares, using SWOT, AHP, and QSPM techniques // Pollution, 3 (4), 655–667.

Belokrylov, I.S. (2013). Aktualnost' transformacii byudzhetirovaniya v kreditnyh organizaciyah v processno-orientirovannoe byudzhetirovanie [The relevance of the transformation of budgeting in credit organizations into a process-oriented budgeting] // Vysshaya shkola — biznesu – Higher school — to business. 19(3), 156–162 [in Russian].

Bindra, S., Parameswar, N., & Dhir, S. (2019). Strategic management: The evolution of the field. Strategic Change, 28(6), 469–478. doi:10.1002/jsc.2299

Brimson James (2007). Process-oriented budgeting. Implementation of a new company value management tool. from English V.D. Goryunova; under the general. ed. V.V. Bad luck. — M.: Peak.

Forgione, A. F., & Migliardo, C. (2018). Forecasting distress in cooperative banks: The role of asset quality. International Journal of Forecasting, 34(4), 678–695. doi:10.1016/j.ijforecast.2018.04.008

Kasasbeh, I. (2018). Problems of Management Accounting Implementation: The Case of Balanced Scorecard Implementation within Jordanian Commercial Banks. International Journal of Academic Research in Accounting, Finance and Management Sciences, 8, 200–207

Mina Salehi, Jalal Ebrahimi Askari, (2014). Shaghayeghe Behrouzi Strategy Formulating by SWOT and QSPM Matrix // International SAMANM Journal of Marketing and Management. 2 (2), 226–240.

Nurgaliyeva A.M., Mynbaeva D.E., Zhapbarkhanova M.S. (2020). Budgeting as a STEM-tool for management accounting in second-tier banks // Economics and Management Systems Management, 1 (35), 50–56

Papke-Shields, K. E., & Boyer-Wright, K. M. (2017). Strategic planning characteristics applied to project management. International Journal of Project Management, 35(2), 169–179. doi:10.1016/j.ijproman.2016.10.015

Zulkarnain A., Wahyuningtias D., Putranto T.S. (2018) Analysis of IFE, EFE and QSPM matrix on business development strategy // IOP Conference Series Earth and Environmental Science. 126, P. 012062 Retrieved from https://iopscience.iop.org/article/10.1088/1755–1315/126/1/012062/pdf.

А.М. Нургалиева, Д.Е. Мыңбаева, А.Н. Ламбекова

«Банк ЦентрКредит» АҚ-ның бюджеттеуінің даму деңгейін QSPM талдау

Аңдатпа

Мақсаты: Зерттеудің мақсаты Қазақстанның екінші деңгейдегі банктерінде бюджеттеу деңгейінің дамуын және банктердегі бюджеттеудің қазіргі заманғы әдістерін талдау нәтижелері бойынша бюджеттеуді ұйымдастырудың негізгі проблемаларын анықтау болып табылады.

Әдісі: Бюджеттеуді бағалау және дамыту үшін жиналған деректер ішкі (IFE) және сыртқы факторларды (EFE) бағалаудың матрицалық және QSPM (Quantitative Strategic Planning Method) әдісі — сандық стратегиялық жоспарлау әдісін пайдалана отырып талданды.

Қорытынды: QSPM-талдау нәтижесінде банк нарықтағы өз позициясын біліп, банктегі бюджеттеуді қоса алғанда, басқарушылық есепті жетілдіру бойынша өз қызметін жандандыра алады.

Тұжырымдама: «Банк ЦентрКредит» АҚ-ның QSPM-талдау бюджеттеудің дамуының негізгі күшті, әлсіз жақтарын, сондай-ақ қолда бар мүмкіндіктер мен қауіптерді анықтауға мүмкіндік берді, соның нәтижесінде банк нарықтағы өз ұстанымын түсініп, банктегі бюджеттеуді қоса алғанда, басқару есебін жетілдіру жөніндегі қызметті жандандыратыны анықталды.

Кілт сөздер: екінші деңгейдегі банктер, басқарушылық есеп, кірістер, шығыстар, жоспарлау, бюджеттеу, қаржылық басқару орталығы, сандық стратегиялық жоспарлау әдісі, бюджет, сыртқы факторларды бағалаудың матрицалық әдісі.

А.М. Нургалиева, Д.Е. Мынбаева, А.Н. Ламбекова

QSPM-анализ уровня развития бюджетирования в АО “Банк ЦентрКредит”

Аннотация

Цель: Целью данного исследования является выявление основных проблем организации бюджетирования в банках второго уровня Казахстана по результатам анализа развития уровня бюджетирования и современных методов бюджетирования в казахстанских банках.

Методы: Собранные данные для оценки и развития бюджетирования были проанализированы с использованием матричного метода оценки внутренних (IFE) и внешних факторов (EFE), метода QSPM (Quantitative Strategic Planning Method) — метода количественного стратегического планирования.

Результаты: В результате QSPM-анализа банк может осознавать свои позиции на рынке и активизировать свою деятельность по совершенствованию управленческого учета, включая бюджетирование в банке.

Выводы: QSPM-анализ в АО “Банк ЦентрКредит” позволил выявить основные сильные, слабые стороны развития бюджетирования, а также спрогнозировать имеющиеся возможности и угрозы. Это позволило банку осознать свои позиции на рынке и активизировать деятельность по совершенствованию управленческого учета, включая бюджетирование в банке.

Ключевые слова: банки второго уровня, управленческий учет, доходы, расходы, планирование, бюджетирование, центр финансового управления, метод количественного стратегического планирования, бюджет, матричный метод оценки внешних факторов.

References

Kasasbeh, I. Problems of Management Accounting Implementation: The Case of Balanced Scorecard Implementation within Jordanian Commercial Banks. International Journal of Academic Research in Accounting, Finance and Management Sciences. — 2018. — № 8. — P.200–207.

Nurgaliyeva A.M., Mynbaeva D.E., Zhapbarkhanova M.S. Budgeting as a STEM-tool for management accounting in second-tier banks // Economics and Management Systems Management. — 2020. — № 1 (35). — P.50–56.

Brimson James. Process-oriented budgeting. Implementation of a new company value management tool. from English V.D. Goryunova; under the general. ed. V.V. Bad luck. — M.: Peak, 2007. — 336 p.

Zulkarnain A., Wahyuningtias D., Putranto T.S. Analysis of IFE, EFE and QSPM matrix on business development strategy // IOP Conference Series Earth and Environmental Science. — 2018. — Vol. 126, iss. 1, P. — (https://iopscience.iop.org/article/10.1088/1755–1315/126/1/012062/pdf).

Mina Salehi, Jalal Ebrahimi Askari, Shaghayeghe Behrouzi Strategy Formulating by SWOT and QSPM Matrix // International SAMANM Journal of Marketing and Management. — 2014. — Vol. 2, № 2. — P.226–240.

Allahyari, H., Nasehi S., Salehi E. and Zebardast L. Evaluation of visual pollution in urban squares, using SWOT, AHP, and QSPM techniques // Pollution. — 2017. — № 3 (4). — P.655–667.

Белокрылов И.С. Актуальность трансформации бюджетирования в кредитных организациях в процессно-ориентированное бюджетирование / И.С. Белокрылов // Высшая школа — бизнесу. — 2013. — № 19–3. — С. 156–162.

Bindra, S., Parameswar, N., & Dhir, S. Strategic management: The evolution of the field. Strategic Change. — 2019. — № 28(6). — P.469–478. doi:10.1002/jsc.2299

Papke-Shields, K. E., & Boyer-Wright, K.M. Strategic planning characteristics applied to project management. International Journal of Project Management. — 2017. — № 35(2). — P.169–179. doi:10.1016/j.ijproman.2016.10.015

Forgione, A. F., & Migliardo, C. (2018). Forecasting distress in cooperative banks: The role of asset quality. International Journal of Forecasting. — 2018. — № 34(4). — P.678–695. doi:10.1016/j.ijforecast.2018.04.008

Alabdullah, Tariq Tawfeeq Yousif, Management Accounting and Service Companies' Performance: Research in Emerging Economies, Australasian Accounting, Business and Finance Journal. — 2019. — № 13(4). — P.100–118. doi:10.14453/aabfj.v13i4.8

DOI 10.31489/2021Ec2/92-98
JEL G21
UDC 336 (574)

Yu.M. Saifullina[1*], G.S. Serikova[2], M.A. Assanova[3], G.N. Amirova[4], S.Sh. Akenov[5]

[1,2,3,4]Karaganda University of Kazpotrebsoyuz, Kazakhstan
[5]Karaganda Technical University, Kazakhstan

[1]ulia_alex@mail.ru, [2] serikovagul@mail.ru, [3]marina.asnv@gmail.com, [4]amirova.galiya@bk.ru, [5]serik_2006a@mail.ru

[1]https://orcid.org/0000-0002-1251-846X, [2]https://orcid.org/0000-0001-9013-7059, [3]https://orcid.org/0000-0001-9404-887, [4]https://orcid.org/0000-0001-9827-3952, [5]https://orcid.org/0000-0002-6280-38879

[1]Scopus Author ID 57209529469 [2]Scopus Author ID 57189092776 [3]Scopus Author ID 56584760300

Digital payment technologies and interbank clearing in the Republic of Kazakhstan in terms of digitalization

Abstract

Object: To analyze background and implementation conditions of national digital currency in Kazakhstan in the conditions of digitalization and forecast the development of digital money in Kazakhstan using economic and statistical modelling. To develop the electronic money circulation system, second-tier banks, which are the main subjects of the financial market, provide remote services, develop strategies for general development, which prescribe rational ways to attract customers to remote service, apply modern technologies and improve the system of cashless money circulation, both nationally and internationally.

Methods: Statistical resources of the Committee of statistics of the Ministry of National economy of the Republic of Kazakhstan were used in the paper. Methods of deduction and systematization were applied. In this study an extrapolation forecast was made for the indicator "the volume of payments in the interbank money transfer system and the interbank clearing system" for 2021-2023.

Results: Nowadays financial ecosystems based on digital technologies are being actively implemented. This trend is noticed in different countries of the world. It opens new possibilities for development of national currencies. Commercial banks are creating new types of digital money by incorporating them into traditional economic interactions.

Conclusion: Kazakhstan is a perspective region for the implementation of its own digital currency. The country's unique geographical position, economic relationships with China, Russia and the West, the presence of international technology giants in the country make the electronic tenge a popular financial instrument that will significantly improve the competitiveness of the Kazakhstani economy, increase its attractiveness with similar projects from other countries at the global level. The concept of introducing digital currency and its transition to widespread use in Kazakhstan will ensure not only the creation and development of completely new ecosystems of financial products and services, but also the modernization of existing "traditional" ones.

Keywords: finance, national currency, money circulation, digitalization, innovation, payment system.

Introduction

The introduction and widespread use of new generation of digital currencies will help to change payment, clearing and interbank settlements significantly, increasing their efficiency, security, instant settlements and reducing financial transaction risks.

The increase in the level of digitalization of services in Kazakhstan stimulates an increase in the system of online payments and money transfer among population.

In general, for the analyzed 2020, 41.6 million transactions amounting to 538.8 trillion tenge were carried out through the Interbank Money Transfer System (IMTS) and the Interbank Clearing System. Compared to the same period in 2019, the number of payments in these payment systems increased by 21.4% (by 7317.5 thousand transactions), the amount of payments decreased by 16.9% (by 109.4 trillion tenge).

29.6 million electronic payment messages in the amount of 5.9 trillion tenge were sent through the specified system in 2020. Compared to 2019, the number and amount of payment messages in the QMS increased by 32.5% (by 7259.0 thousand documents) and 2.2% (by 124.0 billion tenge) respectively.

In general, 144.5 thousand payment messages in the amount of 28.6 billion tenge were passed through the Interbank Clearing System per day in 2020, which is 33.1% more than in 2019 in terms of the number of payments (by 35.9 thousand transactions) and 2.7% (by 0.7 billion tenge) on the amount of payments.

* Corresponding author.
E-mail address: *ulia_alex@mail.ru*

During the pandemic, the number of online transfers and payments in mobile and Internet banking had increased by 18%. It is interesting to note that after the weakening the regime of pandemic, the indicator decreased slightly — to 16%. Thus, the population of Kazakhstan continues to use online services actively.

The volume of non-cash payments in 2020 amounted to 18.7 trillion tenge (43.6 billion dollars). According to analytical data, this is 2.7 times more than at the same period in 2019. Also, there is an increase in the share of non-cash payments from card turnover for the year from 40.1% to 64.2%.

A significant volume of non-cash payments are performed through Internet and mobile phones: 15.1 trillion tenge (35.2 billion dollars) – it is 3.2 times more than last year.

POS terminals account for 3.5 trillion tenge (8.1 billion dollars), an increase over the year by 59.4%. Other systems for conducting non-cash transactions account for less than 1%, or 99.3 billion tenge (over $ 232 million) — minus 19.1% per year.

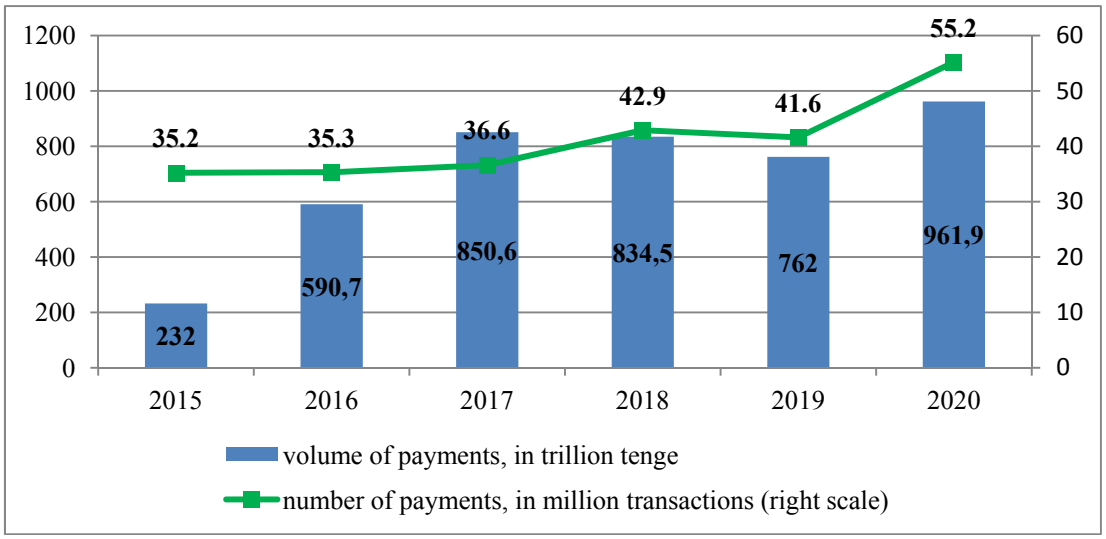


Figure 1. Dynamics of payment flows in the payment systems
of the National Bank of the Republic of Kazakhstan

Note: made by the authors

Literature Review

Having analyzed the possible forms and instruments of payments, we think, despite the ongoing digital transformation in Kazakhstan, there is one official form of the monetary unit which is enshrined in law — tenge. However, payment instruments are both cash and non-cash money (including electronic), which is established by the legislation and rules of the National Bank of the Republic of Kazakhstan. From the point of view of the implementation of the technology of payment instruments, the continuation of the development of electronic forms can be presented by forms of payments in digital currency.

Despite the widespread consolidation by national legislation of the monopoly right to issue money by the National Bank, there is a tendency towards the formation of private digital money and decentralized payment systems (Ali R., Clews R., Southgate J., Barrdear J., 2014).

Already there are several thousand different digital currencies, which may differ from each other in their characteristics. For example, they may depend on the presence of an emission limit. As you know, the most popular cryptocurrency Bitcoin has a release limit. At the same time, for example, Novacoin, PPCoin have no emission limit (Zvyagin L., 2018)

Digital money can be not only private, but also national. The issuer can be represented by the National Bank or different financial institution with monetary functions. Digital currencies are understood as "a new form of money that is issued electronically by a central bank and which is intended to serve as legal tender. It differs from other forms of money issued by central banks: cash and reserve balances and is intended for a wide range of people" (T. Mancini-Griffoly, Martinez Peria M., Agur I., Ari A., Kiff J., Popescu A., Rochon C., 2018).

Head of the Bank for International Settlements thought that central banks and regulators should pay special attention to cryptocurrencies and regulatory requirements (Carstens A., 2018). US Federal Reserve experts A. Berentsen and F. Shar (Berentsen A., Schar F., 2018) investigated different currencies, especially

cryptocurrencies. They had found a huge demand on this asset among households and business entities for serving private sector's needs.

Bank of Canada economists B. Fung and H. Galaburda (Fung B., Halaburda H., 2014) point out that digital currency will be accepted by market participants only if it is more attractive to use or better suited to meet their payment needs than existing alternatives.

Methods

Modern financial technologies use "block chain" for recording transactions with securities and confirming ownership of them. That is, each financial transaction is recorded in an unbreakable chain of blocks in the form of a distributed ledger, which ensures the safety and immutability of information. The National Bank issued electronic money for settlements on operations with securities.

In this study, an extrapolation forecast was made for the indicator "the volume of payments in the interbank money transfer system and the interbank clearing system" for 2021–2023 years.

Initially, using Irwin's criterion, it was found that the initial time series does not contain anomalous observations, but using a series criterion based on the median that the series contains a trend component (Table 1).

Table 1. Trend checking

General view of the series criterion based on the median (violation of at least one inequality is sufficient for a trend to exist)	Calculated values with probability of error $0,05 < \alpha < 0,0975$
$\nu(n) > \left[\frac{1}{2}\left(n+2-1{,}96\sqrt{n-1}\right)\right]$	2 < 3
$K_{\max} < [3{,}3(\lg n + 1)]$	5 < 6
Note: made by the authors	

Using the least squares method, which provides the minimum distance of the function graph from the points of the original data, the initial data were approximated. The result was the following linear trend model:

$$y_t = -57.620 + 100.925t \quad (1)$$

To check the model, a number of residuals were investigated to fulfill the following properties: equality of the mathematical expectation to zero, randomness of the residuals and their compliance with the normal distribution law (Table 2).

Table 2. Checking the adequacy of the model

Checked property	Used statistics		Limit	Conclusion
	Name, calculation formula	The resulting value		
Randomness	Peak (turning point) criterion $p > \left[\frac{2}{3}(n-2) - 1{,}96\sqrt{\frac{16n-29}{90}}\right]$	3 > 2	2	Adequate
Rationality	RS-criterion $RS = \frac{e_{\max} - e_{\min}}{S}$	3,206	2.67–3.69	Adequate
Equality of the mathematical expectation of the levels of a series of residuals to zero	*t*-statistics of Student $t_{набл.} = \frac{\lvert\overline{e}\rvert}{S}\sqrt{n}$	0	2.26	Adequate
Note: made by the authors				

Thus, the model is qualitative and can be used for forecasting. The results of constructing point and interval forecasts for 2021–2023 are presented in Table 3.

Table 3. Point and interval forecasts of the volume of payments in the interbank money transfer system and the interbank clearing system for 2021-2023

Year	Point forecast, trillion tenge	Interval forecast, trillion tenge	
		Upper limit	Lower limit
2021	1052.560	667.516	1437.604
2022	1153.485	749.800	1557.171
2023	1254.411	830.010	1678.812

Note: made by the authors

Results

The results of modeling and forecasting are presented in Figure 1 (trln tenge).

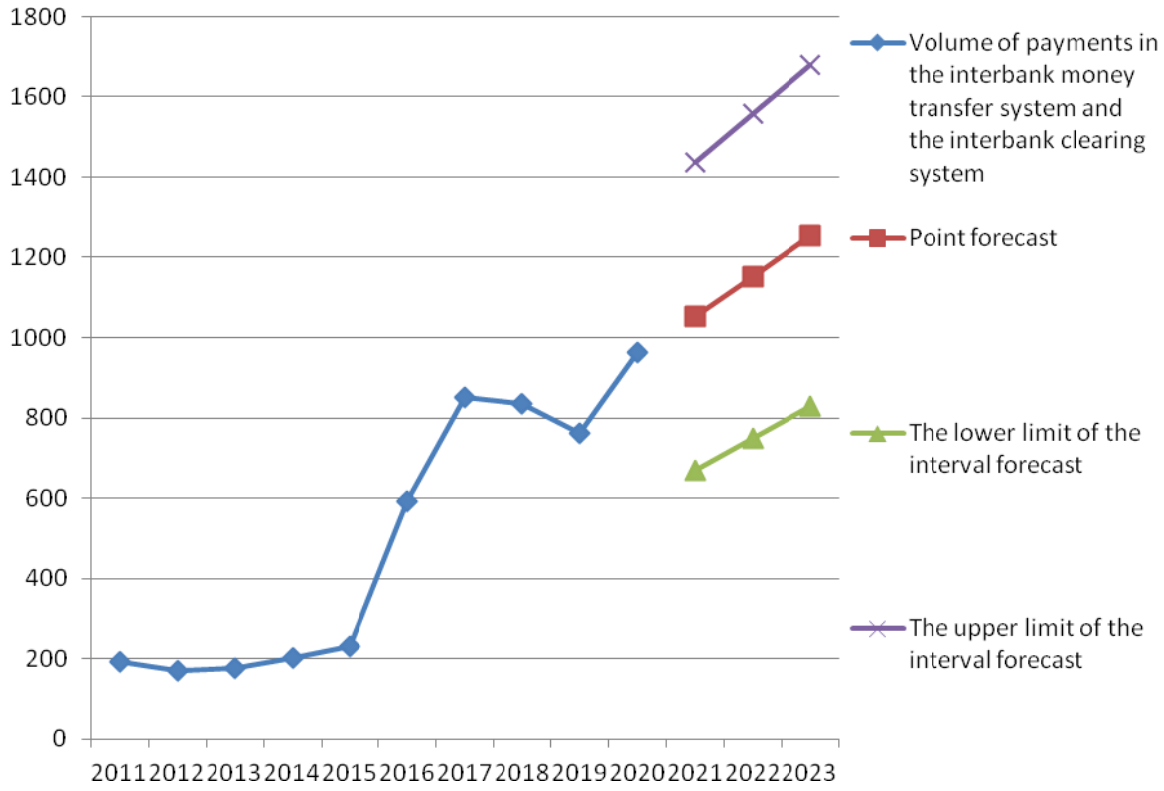


Figure 2. Point and interval forecasts of the volume of payments in the interbank money transfer system and the interbank clearing system for 2021-2023

Note: made by the authors

The forecasting results obtained using the linear trend model allow us to assume that with a 95% probability the volume of payments in the interbank money transfer system and the interbank clearing system will be in the range of 667.516 trillion tenge to 1,437.604 trillion tenge in 2021, in 2022 from 749.800 trillion tenge up to 1,557,171 trillion tenge; in 2023 from 830.010 trillion tenge up to 1,678.812 trillion tenge. The point forecast for the same period of time will be: for 2021 1052.560 trillion tenge; for 2022 1153.48 trillion tenge; for 2023 1254.411 trillion tenge.

Thus, the indicator “volume of payments in the interbank money transfer system and the interbank clearing system” has a linear increasing trend of development.

Conclusion

Kazakhstan is a perspective region for the implementation of its own digital currency. The country's unique geographical position, economic relationships with China, Russia and the West, the presence of international technology giants in the country make the electronic tenge a popular financial instrument that will significantly improve the competitiveness of the Kazakhstani economy, increase its attractiveness with similar projects from other countries at the global level. The concept of introducing digital currency and its tran-

sition to widespread use in Kazakhstan will ensure not only the creation and development of completely new ecosystems of financial products and services, but also the modernization of existing “traditional” ones.

References

Ali R., Barrdear J., Clews R., Southgate J. (2014). Innovation in payment technologies and the emergence of digital currencies. *Bank of England Quarterly Bulletin.* Retrieved from https://www.bankofengland.co.uk/-/ media/boe/files/quarterly-bulletin/2014/innovations-in-payment-technologies-and-the-emergence-of-digitalcurrencies.pdf

Berentsen A., Schar F. (2018). The Case for Central Bank Electronic Money and the Non-case for Central Bank Cryptocurrencies. *Federal Reserve Bank of St. Louis.* Retrieved from https://research.stlouisfed. org/publications/review/2018/02/13/the-case-for-central-bank-electronic-money-and-the-non-case-forcentral-bank-cryptocurrencies

Borzenko O., Kropova A. (2020). The role of clusters in the modern economy, their advantages and world experience. *Vestnik of Karaganda University. Economy Series. № 4(100)/2020.* DOI 10.31489/2020Ec4/24-32

Carstens A. (2018). Money in the Digital Age: What Role Central Banks? *BIS.* Retrieved from https://www.bis.org/ speeches/sp180206.htm

forklog.com (2020). The future of the fintech industry: main trends and forecasts. Retrieved from https://forklog.com/budushhee-finteh-industrii-osnovnye-trendy-i-rognozy

inform.kz (2020). When central banks can implement digital currencies. Retrieved from https://www.inform.kz/ru/kogda-central-nye-banki-smogut-vnedrit-cifrovye-valyuty_a3667543

Kumar A., Smith C. (2017). Crypto-currencies — An introduction to not-so-funny moneys. *Reserve Bank of New Zealand. Analytical Note Series AN2017/07* Retrieved from https://www.rbnz.govt.nz

Mancini-Griffoly T., Martinez Peria M., Agur I., Ari A., Kiff J., Popescu A., Rochon C. (2018). Casting light on central bank digital currency. *IMF Staff Discussion Note*. Retrieved from https://www.imf.org/en/Publications/StaffDiscussion-Notes/Issues/2018/11/13/Casting-Light-on-Central-Bank-Digital-Currencies-46233

N. Salkova. (2018). Digitalization of the banking sector will make getting financial services more accessible. *Kursiv.kz.* Retrieved from https://kursiv.kz/news/finansy/2018-11/cifrovizaciya-bankovskoy-sfery-sdelaet-poluchenie-finansovykh-uslug-dostupnee?page=50

nationalbank.kz . (2019). Review of the results of supervision (oversight) of payment systems and the development of the payment services market. Retrieved from https:// nationalbank.kz

Ruziyeva E.A., Nurgaliyeva A.M., Yessymkhanova Z.K., Chaykovskaya L.A. (2020). Modeling and analysis of the mutual influence of the RUB / KZT and USD / KZT exchange rates: the period before the pandemic and as a result of the impact of COVID-19. *Vestnik of Karaganda University. Economy Series. № 4(100)/2020*. DOI 10.31489/2020Ec4/122-130

zakon.kz. (2019). Law of the Republic of Kazakhstan “On payments and payment systems” Retrieved from http://zakon.kz

Ю.М. Сайфуллина, Г.С. Серикова, М.А. Асанова, Г.Н. Амирова, С.Ш. Акенов

Цифрландыру шарттарында Қазақстандағы цифрлық есептеу технологиялары және банкаралық клиринг

Аңдатпа

Мақсаты: Зерттеу тақырыбының өзектілігі қаржы нарығы мен қаржылық технологиялардың дамуына байланысты электрондық ақша қаражатын белсенді қолдануға, сондай-ақ елдердің экономикасын цифрландыруға, шаруашылық өмірдің жаһандануы мен интернационализациясына негізделген.

Әдісі: Мақалада ҚР Ұлттық экономика министрлігі Статистика комитетінің ақпараттық ресурстары пайдаланылды. Сонымен қатар мақалада шегеру, индукция, жүйелеу әдістері қолданылды. Зерттеуде 2021-2023 жылдарға арналған «банкаралық ақша аудару жүйесіндегі төлемдер көлемі» көрсеткіші үшін болжамды әдіс пайдаланылған.

Нәтижелері: Қазіргі уақытта цифрлық технологияларға негізделген қаржы экожүйелері белсенді түрде енгізілуде. Бұл үрдіс әлемнің әртүрлі елдерінде байқалады. Бұл ұлттық валюталарды дамыту үшін жаңа мүмкіндіктер ашады. Коммерциялық банктер сандық ақшаның жаңа түрлерін жасайды, оларды дәстүрлі экономикалық өзара әрекеттестікке біріктіреді.

Қорытындылар: Қазақстан — өзінің цифрлық валютасын енгізу үшін перспективалы өңір. Елдің бірегей географиялық жағдайы, Қытаймен, Ресеймен және Батыспен экономикалық байланыстар, елде әлемдік технологиялық алыптардың болуы электрондық теңгені танымал қаржы құралына айналдырады, ол қазақстандық экономиканың бәсекегеқабілеттілігін айтарлықтай арттырады, әлемдік деңгейдегі басқа елдерден ұқсас жобалар есебінен оның тартымдылығы артады. Цифрлық валютаны енгізу және оның Қазақстанда кеңінен пайдалануға көшу тұжырымдамасы қаржы өнімдері мен қызметтерінің мүлдем жаңа экожүйелерін құруды және дамытуды ғана емес, қолданыстағы «дәстүрлі» экожүйелерді жаңғыртуды қамтамасыз етеді.

Кілт сөздер: қаржы, ұлттық валюта, ақша айналымы, цифрландыру, инновациялар, төлем жүйесі.

Ю.М. Сайфуллина, Г.С. Серикова, М.А. Асанова, Г.Н. Амирова, С.Ш. Акенов

Цифровые технологии расчетов и межбанковский клиринг в Казахстане в условиях цифровизации

Аннотация

Цель: Актуальность темы исследования основана на активном применении электронных денежных средств в связи с развитием финансового рынка и финансовых технологий, а также цифровизации экономики стран, глобализации и интернационализации хозяйственной жизни.

Методы: В статье использовались информационные ресурсы Комитета по статистике Министерства национальной экономики РК, а также методы дедукции, индукции, систематизации. Кроме того, в исследовании был применен прогнозный метод для показателя “Объем платежей в межбанковской системе перевода денег” на 2021–2023 гг.

Результаты: В настоящее время активно внедряются финансовые экосистемы, основанные на цифровых технологиях. Эта тенденция наблюдается в разных странах мира, что открывает новые возможности для развития национальных валют. Коммерческие банки создают новые типы цифровых денег, интегрируя их в традиционные экономические взаимодействия.

Выводы: Казахстан — перспективный регион для внедрения собственной цифровой валюты. Уникальное географическое положение страны, экономические связи с Китаем, Россией и Западом, присутствие в стране мировых технологических гигантов делают электронный тенге популярным финансовым инструментом, который значительно повысит конкурентоспособность казахстанской экономики, ее привлекательность за счет аналогичных проектов из других стран на мировом уровне. Концепция внедрения цифровой валюты и ее переход к широкому использованию в Казахстане обеспечат не только создание и развитие совершенно новых экосистем финансовых продуктов и услуг, но и модернизацию существующих “традиционных”.

Ключевые слова: финансы, национальная валюта, денежное обращение, цифровизация, инновации, платежная система.

References

Ali R., Barrdear J., Clews R., Southgate J. Innovation in payment technologies and the emergence of digital currencies // Bank of England Quarterly Bulletin. — 54(3):262–275. — 2014. — (https://www.bankofengland.co.uk/-/ media/boe/files/quarterly-bulletin/2014/innovations-in-payment-technologies-and-the-emergence-of-digitalcurrencies.pdf)

Berentsen A., Schar F. The Case for Central Bank Electronic Money and the Non-case for Central Bank Cryptocurrencies // Federal Reserve Bank of St. Louis. — 2018. — (https://research.stlouisfed.org/publications/review/2018/02/13/the-case-for-central-bank-electronic-money-and-the-non-case-forcentral-bank-cryptocurrencies)

Borzenko O., Kropova A. The role of clusters in the modern economy, their advantages and world experience // Vestnik of Karaganda University. Economy Series. — № 4(100)/2020. — (https://economy-vestnik.ksu.kz/apart/2020-100-4/3.pdf)

Carstens A. Money in the Digital Age: What Role Central Banks? // BIS. — 2018. –(https://www.bis.org/ speeches/sp180206.htm)

forklog.com. The future of the fintech industry: main trends and forecasts. — 2020. — (https://forklog.com/budushhee–finteh–industrii–osnovnye–trendy–i–prognozy)

inform.kz. When central banks can implement digital currencies. — 2020. — (https://www.inform.kz/ru/kogda-centralnye-banki-smogut-vnedrit-cifrovye-valyuty_a3667543)

Kumar A., Smith C. Crypto-currencies — An introduction to not-so-funny moneys // Reserve Bank of New Zealand. Analytical Note Series AN2017/07. November 2017. (https://www.rbnz.govt.nz)

Mancini-Griffoly T., Martinez Peria M., Agur I., Ari A., Kiff J., Popescu A., Rochon C. Casting light on central bank digital currency // IMF Staff Discussion Note.;(08). — 2018. — (https://www.imf.org/en/Publications/StaffDiscussion-Notes/Issues/2018/11/13/Casting-Light-on-Central-Bank-Digital-Currencies-46233)

N. Salkova. Digitalization of the banking sector will make getting financial services more accessible // Kursiv.kz. — 2018. — (https://kursiv.kz/news/finansy/2018–11/cifrovizaciya-bankovskoy-sfery-sdelaet-poluchenie-finansovykh-uslug-dostupnee? page=50)

nationalbank.kz . Review of the results of supervision (oversight) of payment systems and the development of the payment services market. — 2019. — (https:// nationalbank.kz)

Ruziyeva E.A., Nurgaliyeva A.M., Yessymkhanova Z.K., Chaykovskaya L.A. Modeling and analysis of the mutual influence of the RUB / KZT and USD / KZT exchange rates: the period before the pandemic and as a result of the impact of COVID-19//// Vestnik of Karaganda University. Economy Series. № 4(100)/2020. — (https://economy-vestnik.ksu.kz/apart/2020–100–4/11.pdf)

zakon.kz. Law of the Republic of Kazakhstan "On payments and payment systems". — 2019. — (http://zakon.kz)

DOI 10.31489/2021Ec2/99-107
УДК 2964
JEL classification: 04: Economic Growth and Aggregate Productivity

А.М. Расулова[1*], А.А. Умырзакова[2]

[1,2]Университет «Нархоз», Алматы, Казахстан
[1]Asem.Rasulova@narxoz.kz; [2]Aida.umyrzakova@narxoz.kz
[1] https://orcid.org/0000-0003-3748-4734; [2]https://orcid.org/0000-0001-9594-7974

Пути повышения конкурентоспособности производителей сливочного масла в условиях импортозамещения

Аннотация

Цель: В статье отображены статистические данные стран ЕАЭС, где указана доля импорта молочной продукции Казахстана. А также пояснение того, по каким критериям потребители молочной продукции отдают предпочтение продукции импортного производителя, а по каким — отечественного производителя.

Методы: Используемая методология и подход — статистические данные, качественный метод, а именно: анкетирование.

Результаты: Теоретическая ценность работы: найти особенности отечественных предприятий, рассмотреть конкурентные, экономические факторы предприятия. Благодаря количественным и качественным исследованиям (структурированное интервью) авторы рассмотрели необходимость изучения вкусов потребителей и замены их на отечественную продукцию.

Выводы: По результатам анкетирования среди потребителей сливочного масла выяснилось, что большинство при выборе сливочного масла руководствуются такими критериями, как качество, натуральность ингредиентов, а также ценовая политика. Для того, чтобы предприятие было конкурентоспособным на рынке пищевой промышленности, необходимо особое внимание уделять качеству продукции. Так как это напрямую влияет на дальнейший выбор потребителя.

Ключевые слова: сливочное масло, импорт, конкурентоспособность, качество, цена, пищевая промышленность, потребители, страны ЕАЭС.

Введение

Конкурентоспособность национальной экономики необходима, так она обеспечивает занятость населения, повышает платежеспособность населения и дает возможность отечественным производителям конкурировать с импортными производителями. Результат высокой степени конкурентоспособности, в составе нынешней международный экономики, вероятен только лишь в государстве с большой степенью денежных средств. Развитие отечественной пищевой промышленности, преобразование ее в эффективный и доходный сектор экономики являются главным фактором обеспечения продовольственной защищенности государства и затрагивают интересы всей экономической системы страны.

Конкурентоспособность предприятий характеризуется различными критериями и показателями, которые можно разделить на следующие категории: промышленные, торговые, координационные (сервисные) и финансовые. К внутренним критериям относятся промышленные, координационные, финансовые, общественно-финансовые. К внешним: финансовые, общественно-политические, научно-технические. Совокупность компонентов состоит из стоимости товара, качества и привлекательности. Подсчет особенностей сведений компонентов даст возможность создать теорию, стратегию и программные указатели для увеличения конкурентоспособности продуктов (продукта, труда, услуг), изготовления, хозяйствующих субъектов, сферы, района (региона) и государства.

В Республике Казахстан существует ряд вопросов касательно снижения объемов внутреннего производства молочной продукции. Большинство производителей сталкиваются с такими проблемами, как финансовые затруднения, устаревание основных средств, вопрос выживаемости, нехватка сырья, вероятность банкротства. И по этим причинам, зачастую, отечественным предприятиям сложно конкурировать с импортными производителями.

Литературный обзор

Импортозамещение пищевой индустрии в Казахстане считается одной из приоритетных задач, стоящих перед государством. Так как дает представления определенного образа финансовой стратегии и промышленной деятельности страны. Импортозамещение направлено на обеспечение отечест-

* Автор корреспондент.
E-mail address: *Asem.Rasulova@narxoz.kz*

венного потребителя товарами, произведенными внутренними производителями, за счет замещения импортируемых продуктов государственного производства (Grabowski R., 1994). Но это самое сплошное представление об импортозамещении, которое нужно дополнить надлежащими жизненными обстоятельствами, такими как конкурентоспособность фирмы. В условиях импортозамещения конкурентоспособность отечественных предприятий, как правило, повышается (Igor N. Goretov, Faina Z. Gumarova & Evgeny I. Tsaregorodtsev, 2015). Как показывают исследования в области повышения конкурентоспособности отечественных предприятий, отечественная продукция зачастую неконкурентоспособна, и по этой причине возникают вопросы импортозамещения в стране. Далее выделим три направления.

Первое направление нацелено на рассмотрение вопроса актуальности импортозамещения. Рассмотрим подробнее опыт России, который исследовал ученый О.А. Миронов. Он описывал успешный опыт Восточной Азии по внедрению стратегии импортзамещения. Восточная Азия сделала акцент касательно импортозамещения на разносторонность по географическому местоположению экспорта. Основной экспорт со стороны Восточной Азии было нацелен на Европу с целью обеспечения сельскохозяйственной продукцией. Главная причина — не развитие данного сектора в Европе, а отсутствие рационального обмена в агропромышленном секторе (A.A. Ivanovich, D.V. Vasilyevich, 2015).

Как показывает международная практика, импортозамещение в стране может иметь и отрицательный характер. По этой причине государственная поддержка в области развития пищевой промышленности в стране очень необходима, поскольку влияет на повышение конкурентоспособности отечественных производителей. Того же мнения придерживаются и исследователи Республики Казахстан и России.

В результате исследований ученых (В.А. Семыкин, В.В. Сафронов, В.П. Терехов, 2014) было выяснено, что импортозамещение — это процесс оптимизации структуры экономики страны. Для уменьшения риска увеличения импортных товаров в пищевой промышленности, необходимо создать условия для повышения конкурентоспособности отечественных предприятий. А также путем создания дополнительных производств, способствующих замене импорта, позволяющих делать экономику независимой от внешних рисков, внутренних факторов и удорожания сырья, услуг логистики и продовольствия. Эффективность импортозамещения состоит из стратегии, которая позволяет переходить на использование отечественной продукции, помогает избавляться от импортной продукции и дает возможность перейти на мировой уровень, создавая дополнительный спрос на собственное оборудование, сырье, энергоносители, рабочую силу.

Далее ученые Н. Пронина, Д.И. Оганезова, О.В. Усенкова (2014) исследовали вопрос о том, как стратегия импортозамещения в стране мотивирует отечественных производителей пищевой промышленности выпускать более конкурентоспособный товар, соответствующий международным стандартам. Но, как правило, такая продукция будет выпускаться с высокой добавленной стоимостью.

Кроме того, отдельного внимания заслуживет анализ конкурентоспособности на макроуровне (Piwowar, 2012). М. Портер (2003) доказал, что международная конкурентоспособность отраслей способствует стимулированию конкурентоспособности страны. Но конкурентоспособность непосредственно индустриальной компании возможно вообразить, равно как и умение осуществить работу с абсолютным применением возможных способностей, нацеленных на увеличение производительности продукции. Данное исследование объясняет его формирование в базе его конкурентоспособных положительных сторон, вероятность в конкретный промежуток конкурировать ему с иными бизнесменами-соперниками в отраслевом торге, а также снабжать покупателей поставляемыми продуктами, предложениями, также исполняемым трудом (Н.Т. Асылбекова, 2013). По мнению Н.Т. Асылбековой, если в стране процесс переработки в пищевой промышленности не налажен, то это оказывает влияние на низкую конкурентоспособность отечественных производителей, что, в свою очередь, ведет к росту доли импорта. Абсолютно справедливо отмечено, что конкурентоспособность на рынке должна быть приоритетом не только для предприятий, но и для всей страны (B. Corchuelo, F.J. Mesías, 2017).

Впоследствии необходимо определить методы управления качеством, применяемые в компаниях. Результаты отдельных шагов сравнивались и с выводами относительно фактического уровня удовлетворенности клиентов качеством продукции, оценивалось влияние управления качеством на качество продукции и удовлетворенность клиента управлением качеством на производительность компании (Petr Suchánek, Jiří Richter, Maria Králová, 2017). На современном рынке основным источником конкурентных преимуществ является способность предприятий разрабатывать и внедрять новые или значительно улучшенные продукты и процессы (Piwowar, 2015).

Одна из основных причин, по которой страдает агропродовольственный сектор, состоит в том, что данная отрасль сильно зависит от логистики и маркетинга, поскольку значительная часть компаний (86,7 % от компании с менее чем 10 сотрудниками) также определяет его стратегические возможности и их конкурентоспособность, ограничивая их потенциал, продуктивные и технологические инновации, логику (B.Corchuelo, F.J. Mesías).

Методы

Было проведено анкетирование среди потребителей сливочного масла. Выявлено, что многие респонденты предпочитают отечественное сливочное масло, однако по качеству оно их полностью не удовлетворяет. В анкетировании участвовало население из разных городов Казахстана. В опросе были задействованы 554 человека.

Процесс реализации импортозамещения в данном случае в этих и других отраслях возможен за счет наличия:

- высокопроизводительных технологий;
- конкурентоспособных предприятий, способных предложить продукцию высокого качества по рыночным ценам.

В длительной перспективе сокращение импортной зависимости возможно путем внедрения инноваций и стимулирования вложений в технические отрасли и формирования новых производств в различных регионах.

Авторами дана оценка состояния молочной продукции стран Евразийского экономического союза за 2014–2019 гг. с использованием статистических данных стран-членов Таможенного союза и Единого экономического пространства.

Производство основных видов молочной продукции, в целом, по ЕАЭС за период 2014–2019 гг. имеет положительную динамику. В 2017 г. было произведено: молока жидкого обработанного — 7 210,9 тыс. т, или на 17,2 % больше уровня 2011 г., сливочного масла — 393,9 тыс. т, или на 19,5 %; сыров — 815,0 тыс. т, или на 32 %, соответственно.

На рисунке 1 приведена статистика динамики производства молочной продукции стран ЕАЭС, где наглядно показано соотношение производства по каждой разновидности молочной продукции.

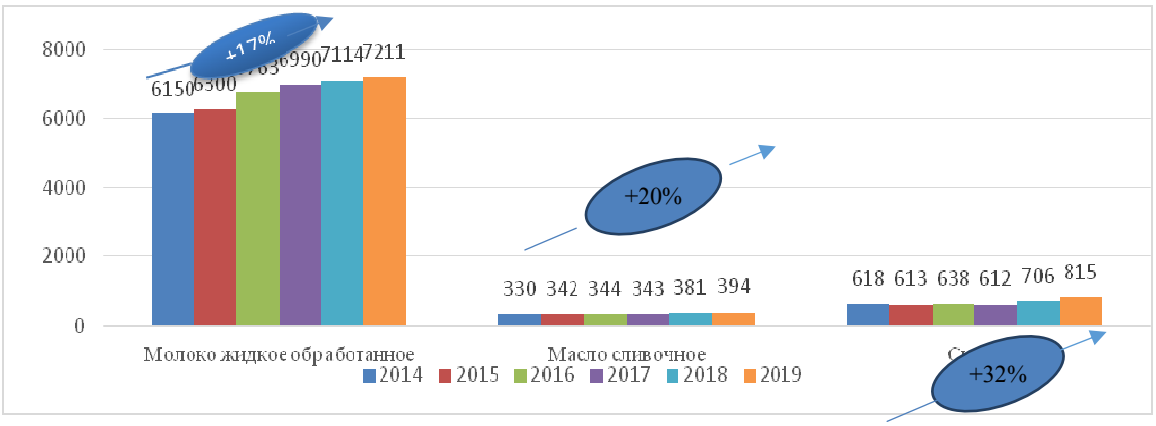


Рисунок 1. Динамика производства основных видов молочной продукции в ЕАЭС, тыс. т

Примечание. Составлено авторам и на основе статистических данных.

По статистическим данным наблюдается рост производства с 2014 г.: по молоку жидкому обработанному в Казахстане — в 1,6 раза, Беларуси и Армении — в 1,5, в Кыргызстане — на 18 % и России — на 9 %; сливочному маслу в России — на 23 %, Казахстане — на 22 %, Беларуси — на 15 %; сырам — в Казахстане — в 1,9 раза (включая творог), России — на 34 %, Беларуси — на 24 %, Армении — на 9 %.

Как видно из графика, Казахстан по производству сливочного масла занимает второе место из среди стран ЕАЭС (см. рис.).

Значительно сократились по сравнению с 2015 г. объемы производства масла сливочного в Армении и Кыргызстане (в 2 раза), кроме того, в Кыргызстане уменьшилось производство сыров (на 6 %) (см. табл.).

Таблица. Производство молочной продукции в государствах-членах ЕАЭС, тыс. т

Продукция по странам	2015 г.	2016 г.	2017 г.	2018 г.	2019 г.	2019 г. в % к 2015 г.
Молоко жидкое обработанное — всего, в том числе	**7 113,6**	**7 323,6**	**7524,6**	**7706,8**	**7958,6**	**112**
Армения	430,0	460,9	476,3	492,8	502,3	116
Кыргызстан	30,6	31,8	33,4	34,2	36,8	120
Беларусь	831,8	886,6	902,8	922,7	934,9	112
Казахстан	472,9	466,7	489,4	492,3	501,7	106
Россия	5 348,3	5490,5	5622,7	5764,8	5982,9	111
Масло сливочное — всего, в том числе	**381,5**	**393,9**	**418,1**	**437,5**	**454,2**	**119**
Армения	1,1	0,6	0,9	1,02	1,3	118
Кыргызстан	2,2	3,2	3,8	4,1	4,4	50,0
Беларусь	106,7	117,8	123,5	134,8	142,3	133
Казахстан	16,8	16,6	17,8	18,2	18,7	111
Россия	252,7	260,6	272,1	279,4	287,5	113
Примечание. Составлено авторами на основе статистических данных.						

По сравнению с 2015 г. во всех государствах-членах отмечен рост производства основных видов молочной продукции, за исключением молока. Потребление молока и молокопродуктов населением государств-членов ЕАЭС по сравнению с 2017 г. увеличилось, за исключением России, где среднедушевое потребление уменьшилось на 3 кг до 244 кг при рекомендуемой рациональной норме — 320–340 кг в год.

Производство молока обработанного выросло в Кыргызстане — на 20 % до 36,8 тыс. т, в Армении — на 16 % до 502,3 тыс. т, в Казахстане — на 6 % до 501,7 тыс. т, в Беларуси — на 12 % до 934,9 тыс. т. Высокий рост к уровню 2015 г. достигнут в государствах-членах по производству масла сливочного — в Кыргызстане в 2,3 раза до 4,4 тыс. т, в России — на 13 % до 287,5 тыс. т, в Беларуси — на 33 % до 142,3 тыс. т и в Казахстане — на 11 % до 18,7 тыс. т.

В 2015 г. потребление молочных продуктов в Беларуси увеличилось на 6 кг, что показывает увеличение потребности в данной продукции. Однако необходимо отметить, что, в связи с ростом потребительских цен, объемы среднедушевого потребления молока падают.

Значительно повысилось по сравнению с 2015 г. потребление молока и молочных продуктов в Армении на 32 кг до 261 кг, однако это меньше рекомендуемой нормы потребления (337 кг).

Так как в Казахстане потребление за период 2013–2019 г. увеличилось на 22 кг до 226 кг, это означает, что нормы потребляемого населения молочной продукции значительно растут. В Кыргызстане — на 4 кг до 216 кг (национальные нормы потребления — 218 и 200 кг, соответственно) (рис. 2). Ниже приведены статистические данные по реализации молочной продукции на рынке Казахстана.

Рисунок 2. Структура реализации молочной продукции
(без учета молока свежего) за 2019–2020 гг. (январь – ноябрь)

Примечание. Составлено авторами на основе данных Молочного союза Казахстана.

В группе молочных продуктов отмечено незначительное увеличение экспорта на 0,5 %, в январе – ноябре 2020 г. он составил 54127 т, когда в январе – ноябре 2019 г. было 53859 т. Отмечена положительная тенденция импорта на 22 % в январе – ноябре 2020 г. и равнялась 153 093 т, когда в январе — ноябре 2019 г. его объем составлял 125044 т. Реализация на внутреннем рынке выросла на 6 %. В условиях пандемии в 2020 г. многие импортные товары были недоступны для потребителей. По этой причине необходимость развития производства отечественных производителей пищевой промышленности ежедневно растет.

Структура рынка Казахстана по продукции сливочного масла за период 2019–2020 гг. отображена в рисунке 3.

Рисунок 3. Структура реализации масла сливочного в Казахстане 2019–2020 гг. (январь – ноябрь)

Примечание. Составлено авторами на основе данных Молочного союза Казахстана.

В группе «Масло сливочное» отмечен значимый подъем импорта на 47 % в январе – ноябре 2020 г. и составляет 6356 т, когда в январе – ноябре 2019 г. было 4334 т. Наблюдаются негативные колебания экспорта и снижение на 50 % с 2660 т в январе – ноябре 2019 г. до 1323 т в январе – ноябре 2020 г. Реализация на внутреннем рынке увеличилась на 37 %.

Результаты

В ходе исследования рынка молочной продукции было выявлено, что импортные товары, а именно молочная продукция, широко используются среди потребителей. И необходимо было выяснить, по каким причинам потребители выбирают отечественное сливочное масло, а по каким — импортное. Ниже на рисунке 4 приведена диаграмма результатов анкетирования среди потребителей сливочного масла.

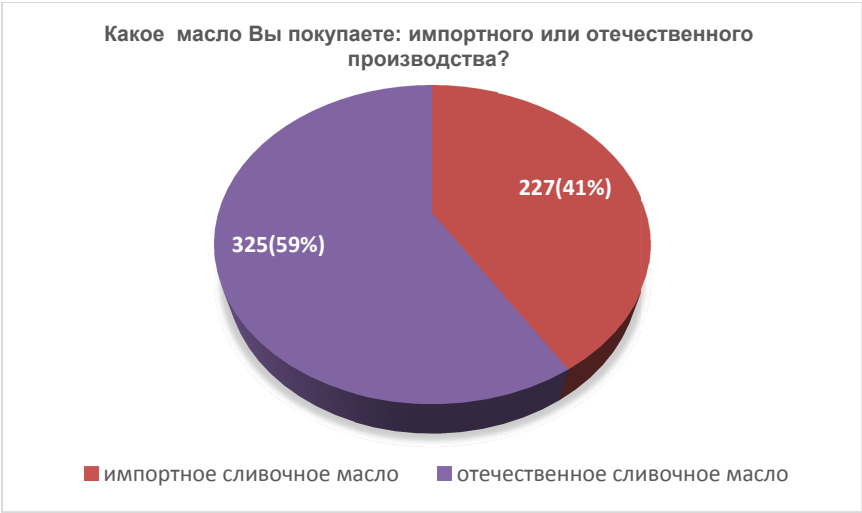


Рисунок 4. Результаты анкетирования среди потребителей сливочного масла

Примечание. Составлено авторами на основе анкетирования.

Анкетирование было проведено среди 500 респондентов. Результаты исследования показали, что 59 % потребителей выбирают отечественное сливочное масло и значительную долю (41 %) составляют потребители, отдающие предпочтение импортному сливочному маслу. Далее необходимо было обозначить факторы, влияющие на выбор потребителей относительно покупательского спроса на масло отечественного или импортного производства. Задано было 8 вопросов касательно критериев, влияющих на выбор сливочного масла.

На рисунке 5 отображен перечень основных факторов, влияющих на выбор сливочного масла среди потребителей.

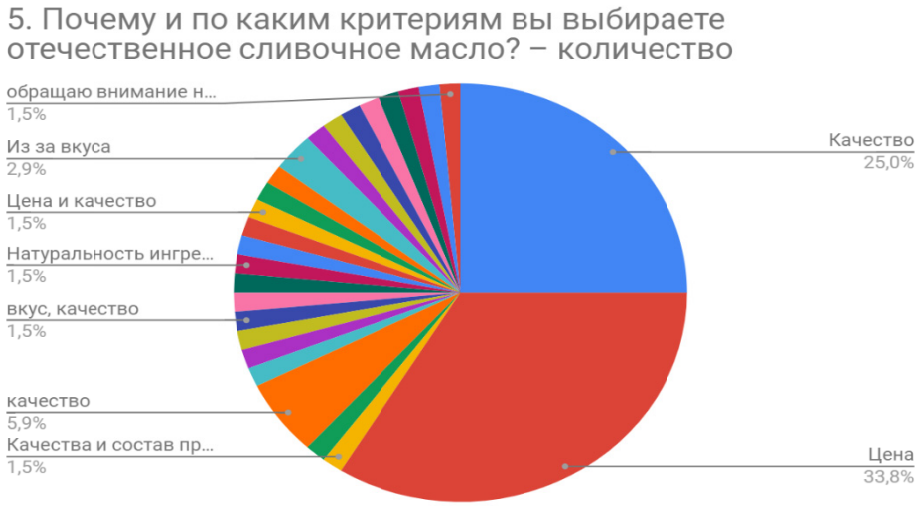


Рисунок 5. Факторы, влияющие на выбор сливочного масла среди потребителей

Примечание. Составлено авторами на основе анкетирования.

В результате исследования было выявлено, что респонденты выбирают отечественное сливочное масло по ценовой политике. Так как оно значительно дешевле по сравнению с импортным, что, несомненно, влияет на качество сливочного масла.

В ходе исследования имел место один значительный факт: потребители более доверительно относятся к продукции импортного производителя, так как считают, что зарубежом производят более качественную продукцию.

Обсуждение

В качестве существенно значимых внешних факторов, влияющих на развитие пищевой промышленности Казахстана, определены:

- изменение структуры мирового спроса на продукты питания, усиление конкуренции на мировых рынках продуктов питания;
- последующее развитие Таможенного союза.

Исходя из этого, в качестве внутренних факторов были выделены следующие: поддержка со стороны государства, инновации, инвестиции, повышение квалификации персонала; обновление основных фондов; присутствие значительных природных ресурсов; внедрение международных стандартов качества.

Пищевая промышленность регулярно стремится повышать качество производства, увеличивать ассортимент и совершенствовать качество готовой продукции, организовать производство товаров с повышенной степенью готовности. Вместе с тем, проведения этих мер недостаточно для более полного удовлетворения населения продуктами питания как по качеству, так и по количеству. В данном случае на многое влияет степень развития и эффективности взаимодействия смежных отраслей: агропромышленного комплекса машиностроения, транспорта и торговли. Более 70 % потребительского рынка образуются, в первую очередь, из продовольствия и товаров, приготовленных на основе сельскохозяйственного сырья. На качество продукции существенное влияние оказывает и транспорт. Грамотно организованные перевозки сельскохозяйственной продукции — это несколько тысячи тонн сохраненного сырья. Население является главным покупателем, вследствие этого сокращение уровня жизни населения характеризуется как важнейший

фактор развития пищевой промышленности. Безусловным фактором является и то, что качество используемых продуктов, рацион питания влияют на состояние здоровья человека, качество и продолжительность жизни. Вопреки сокращению, в целом, платежеспособность населения и снижение объемов производства продукции пищевой промышленности, объем реализации товаров пищевой промышленности в нашей стране с каждым годом неуклонно растет на 5–10 %. Качество рыночной среды как этапа жизненного цикла рынка можно проанализировать путем использования показателей темпов роста продаж, или уровня рентабельности продаж.

Заключение

Зависимость от импорта в пищевой промышленности обусловливает состояние молочного подкомплекса сельского хозяйства страны. В условиях девальвации национальных валют себестоимость производства молока и его переработки существенно возросла, из-за чего производители вынуждены использовать не натуральное сырье, а также производить продукцию не на обновленных основных средствах. Если рассмотреть опыт Белоруссии, то 90 % продукции производится в сельскохозяйственных организациях, что благоприятно сказывается на развитии пищевой промышленности. В результате перерабатывающие предприятия испытывают дефицит сырья, особенно для производства таких молокоемких продуктов, как масло и сыры. Кроме того, сырое молоко, произведенное в личных подсобных хозяйствах, по своим характеристикам, в основном, является малопригодным для сыроделия. Дефицит сырья приводит к недозагруженности мощностей молокоперерабатывающих предприятий и вынуждает производителей искать замену молочному жиру, включая использование пальмового масла, что снижает вкусовые и качественные показатели выпускаемой продукции. В борьбе с нарушениями требований «Технического регламента на молоко и молочную продукцию» могло бы сыграть положительную роль увеличение штрафов за фальсификацию (например, в странах ЕС такой штраф составляет годовой оборот организации).

Для развития молочной отрасли на рынке молока приоритетными направлениями могут стать:

– расширение ассортимента выпускаемой продукции за счет внедрения инновационных технологий, повышающих пищевую и биологическую ценность продуктов, применение упаковочных материалов нового поколения;

– развитие технологий глубокой переработки молочного сырья, в том числе побочного (обезжиренное молоко, молочная сыворотка, пахта), т.е. максимальное вовлечение вторичного сырья в промышленную переработку.

На сегодняшний день темпы пищевой промышленности Республики Казахстан набирают обороты. Однако, к сожалению, в стране присутствуют импортные производители, которые смещают отечественных с рынка пищевой промышленности. Многие потребители Казахстана выбирают и доверяют импортному производителю. Причина кроется в том, что отечественные производители используют ненатуральное сырье в продукции, а это, в первую очередь, сказывается на качестве сливочного масла.

References

A.Hadi-Vencheha, R.K. An application of IDEA to wheat farming efficiency. Agricultural Economics. — 2010. — № 42. — P.487–493.

Bilson, A., & Darku, S. Sources and Measurement of Agricultural Productivity and Efficiency in Canadian Provinces. *Cropsand Livestock*. — 2015. — № 64, Issue 1. P. 49–70. http://dx.doi.org/10.1111/cjag.12061

Bontemps. C., Bouamra — Mechemache, Zohra; Simioni, Michel. Quality label sand firm survival: some first empirical evidence. — 2012.

Epanchiczeva S.E`. Legkaya promy`shlennost` Kazakhstana: problema importozameshheniya. Vestnik KazNU. Seriya e`konomicheskaya. — 2014. — № 1 (101). — P. 146–152.

Food and Agriculture Organization of the United Nations. FAO Statistics Database. — 2017. http://www.fao.org/faostat/en/#data/TP

Grabowski, R., "Import substitution, export promotion and the state in economic development." *The Journal of Developing Areas*. — 1994. — № 28 (4). P. 535–539.

Igor N. Goretov 1, Faina Z. Gumarova1 &Evgeny I. Tsaregorodtsev. Management of Competitiveness of a Regional Agricultural Sector. — 2015. — № 8, P. 105–111.

Ivanovich, A.A., Vasilyevich, D.V. Review of European Studies. — 2015. № 7 (8). P.105–111.

Jaana Rekolainen. Import Substitution — Opportunity or Challenge? — 2016. — P.2–6.

Kankesu Jayanthakumaran. Industrialisation: Import Substitution to Export Promotion. — 2000. Pp. 1–31.

Marette S., Crespi J. M. Can quality certification lead to stable cartels?, Review of Industrial Corchuelo, B. Incentiv osfis cales y decisions de innovacion. Revista de Economia Aplicada. — 2003. — № 40. P. 5–34.

Porter M. Konkurentnoe preimushhestvo: Kak dostich` vy`sokogo rezul`tata i obespechit` ego ustojchivost`. M.: Al`pina Pablisher, 2008. — P.720.

Pronina, N. N. Oganezova, D. I. Usenkova, O. V. Real`nost` importozameshheniya v Rossii// Vestnik Penzenskogo gosudarstvennogo universiteta. — 2015. — Str. 68–74.

Semy`kin, V.A., V.V. Safronov, V.P. Terekhov, Importozameshhenie kak e`ffektivny`j instrument optimal`nogo razvitiya ry`nochnoj e`konomiki//Vestnik Kurskoj gosudarstvennoj sel`skokhozyajstvennoj akademii. — 2014. — Str.121–134.

Suchánek, P., Richter, J. Králová M. Customer Satisfaction, Product Quality and Performance of Companies. — 2015.– Pg.329–344.

Zhakeevich A.G. Importozameshhenie: problemy` i perspektivy`. Vestnik MIE`P. — 2015. — № 1 (18).

Асылбекова Н.Т. Анализ конкурентоспособности пищевой промышленности Республики Казахстан / Н.Т. Асылбекова // Междунар. журн. эксп. обр. — 2013. — № 8. — С. 145–150. URL: http://www.expeducation.ru/ru/article/view? id=3905

Миронова О.А. Импортозамещение: зарубежный опыт уроки для России / О.А. Миронова. — 2015. — № 7–3 (38). — С. 84–87.

А.М. Расулова, А.А. Умырзакова

Импорталмастыру жағдайында сары май өндірушілердің бәсекегеқабілеттілігін жоғарлату жолдары

Аңдатпа

Мақсаты: Мақалада ЕАЭО мемлекеттерінің статистикалық мәліметтер негізінде, Қазақстанның сүт өнімдерінің импорттық үлесі келтірілген. Сондай-ақ тұтынушылар қандай критерийлер бойынша импорттық сүт өнімдерін таңдайды, қандай критерийлер бойынша отандық өнімдерді тұтынудың себептері негізделген.

Әдісі: Қолданылған әдіснамалар мен тәсілдер: статистикалық мәліметтер, сапалы әдіс, атап айтқанда сауалнама.

Қорытынды: Жүргізілген зерттеудің теориялық құндылығы кәсіпорынның экономикалық, бәсекелестік факторлары арқылы отандық кәсіпорындардың ерекшеліктерін айқындау болып табылады. Сандық зерттеулер мен сапалық зерттеулер (құрылымдық сұхбат) негізінде авторлар тұтынушылардың талғамын зерттеп, оларды отандық өніммен алмастыру қажеттілігін қарастырған.

Тұжырымдама: Сары май өнімдерін тұтынатын тұтынушылар арасында жүргізілген сауалнама нәтижесінде тұтынушылардың негізгі үлесі сары майды таңдау барысында сапа, қоспалардың табиғилылығы, сондай-ақ баға саясаты сияқты критерийлерді басшылыққа алатыны дәлелденді. Тамақ өнеркәсібінің нарығында кәсіпорын бәсекегеқабілетті болу үшін, үнемі өнімнің сапасына назар аудару қажет. Себебі бұл фактор тікелей тұтынушының таңдауына әсер етеді.

Кілт сөздер: сары май, импорт, бәсекегеқабілеттілік, сапа, баға, тамақ өнеркәсібі, тұтынушылар, ЕАЭО мемлекеттері.

A. Rassulova. A. Umyrzakova

Ways to improve the competitiveness of butter producers in the context of import substitution

Abstract

Object: This article displays the statistical data of the EAEU countries, where the share of imports of dairy products from Kazakhstan is indicated. An explanation of the criteria by which consumers of dairy products consume products from an imported manufacturer, and by what criteria from a domestic manufacturer, is given.

Methods: methodology and approach used are statistical data, qualitative method, namely questionnaire.

Findings: The theoretical value, to find the features of domestic enterprises, to consider the competitive, economic factors of the enterprise. Through quantitative and qualitative research (structured interviews), we can consider the need to study consumer tastes and replace them with domestic products.

Conclusions: according to the results of a survey among consumers of butter, it turned out that the majority of consumers are guided by such criteria as quality, naturalness of ingredients, as well as pricing policy when choosing butter. In order for the company to be competitive in the food industry market, it is necessary to pay special attention to product quality, since this directly affects the choice of the consumer.

References

A.Hadi-Vencheha, R.K. (2010). An application of IDEA to wheat farming efficiency. Agricultural Economics, 42, pp. 487–493.

Asylbekova, N.T. (2013). Analiz konkurentosposobnosti pishhevoj promy`shlennosti Respubliki Kazakhstan // Mezhdunarodny`j zhurnal eksperimentalnogo obrazovaniya, 8, 145-150. URL: http://www.expeducation.ru/ru/article/view?id=3905 [in Russian].

Bilson, A., & Darku, S. (2015). Sources and Measurement of Agricultural Productivity and Efficiency in Canadian Provinces. *Cropsand Livestock*. Volume 64, Issue 1. pp. 49-70. http://dx.doi.org/10.1111/cjag.12061

Bontemps. C., Bouamra – Mechemache, Zohra; Simioni, Michel. (2012). Quality label sand firm survival: some first empirical evidence.

Epanchiczeva, S.E. (2014). Legkaya promyshlennost Kazakhstana: problema importozameshheniya // Vestnik Kazakhskoho natsionalnoho universitet. Seriya ekonomicheskaya, 1 (101), 146–152 [in Russian].

Food and Agriculture Organization of the United Nations. (2017). FAO Statistics Database. Retrieved March 3, 2017 from http://www.fao.org/faostat/en/#data/TP

Grabowski, R. (1994), "Import substitution, export promotion and the state in economic development." *The Journal of Developing Areas*, 28 (4), 535-539.

Igor N. Goretov 1, Faina Z. Gumarova1 &Evgeny I. Tsaregorodtsev (2015): Management of Competitiveness of a Regional Agricultural Sector. 8, Pp.:105-111.

Ivanovich, A.A., Vasilyevich, D.V. (2015). Review of European Studies; Vol. 7, No. 8, pp.105-111.

Jaana Rekolainen. (2016). Import Substitution – Opportunity or Challenge? Pp.:2-6

Kankesu Jayanthakumaran (2000). Industrialisation: Import Substitution to Export Promotion. Pp. 1-31.

Marette S., Crespi J. M., (2003). Can quality certification lead to stable cartels?, Review of Industrial Corchuelo, B.(2006). Incentiv osfis cales y decisions de innovacion. Revista de Economia Aplicada, Vol.40, Pp. 5-34.

Mironova, O.A. (2015). Importozameshchenie: zarubezhnyi opyt i uroki dlia Rossii, 7-3 (38), 84–87 [in Russian].

Porter, M. (2008). Konkurentnoe preimushchestvo: Kak dostich vysokoho rezultata i obespechit ego ustojchivost. Moscow: Alpina Pablisher, 720 [in Russian].

Pronina, N.N., Oganezova, D.I., & Usenkova, O.V. (2015). Realnost importozameshheniya v Rossii // Vestnik Penzenskogo gosudarstvennogo universiteta, 68-74 [in Russian].

Semy`kin, V.A., Safronov V.V., & Terekhov V.P. (2014). Importozameshchenie kak e`ffektivny`j instrument optimal`nogo razvitiya ry`nochnoj e`konomiki // Vestnik Kurskoj gosudarstvennoj sel`skokhozyajstvennoj akademii, 121-134 [in Russian].

Suchánek, P., Richter, J. Králová M. (2015). Customer Satisfaction, Product Quality and Performance of Companies. Pg.329-344.

Zhakeevich, A.G. (2015). Importozameshchenie: problemy i perspektivy // Vestnik MIE`P, 1 (18), 36–39 [in Russian].

DOI 10.31489/2021Ec2/108-119
JEL I15
УДК 338.46

Б.Т. Смайлов[1*], Р.К. Андарова[2], Е.А. Вечкинзова[3]

[1,2]Карагандинский университет имени академика Е.А. Букетова, Казахстан;
[3]Институт проблем управления им. В.А. Трапезникова РАН, Москва, Россия

[1]b_smaylov@bk.ru , [2]ark_roza@mail.ru , [3] kvin07@list.ru

[1]https://orcid.org/0000-0002-3248-8739, [2] https://orcid.org/0000-0003-4847-6422,
[3] https://orcid.org/0000-0003-2543-625X

[2]Scopus Author ID: 55816012800, [3]Scopus Author ID: 57205541959

Кумулятивный характер эффективности системы здравоохранения и прикладные модели ее организации

Аннотация

Цель: На основе обзора существующих подходов и детализации теоретических конструктов к анализу эффективности системы здравоохранения структурировать типологию прикладных моделей организации системы здравоохранения с выделением доминант их организационного механизма и параметров их кумулятивной эффективности на микро- и макроуровнях.

Методы: В работе использовался арсенал системного, структурного и компаративистского методов анализа.

Результаты: Проведен обзор основного спектра исследований по кумулятивной эффективности системы здравоохранения как интегрального показателя его медицинской, социальной и экономической эффективности; обоснована структура медицинских услуг как частного, общественного, смешанного общественного блага; исследована типология современной сферы здравоохранения на базе детализации теоретических конструктов, лежащих в основе прикладных моделей с выделением доминант их организационного механизма и специфики кумулятивной эффективности на микро- и макроуровнях.

Выводы: Целевой задачей всех прикладных моделей организации системы здравоохранения является поиск оптимальной результативности. Соизмерительная основа моделей — кумулятивный характер эффективности (медицинской, социальной, экономической) как на микроуровне, так и в макроизмерении. Микроэкономическая медицинская эффективность порождает организационную результативность лечебных мероприятий; социальная эффективность — степень доступности к медицинским услугам; экономическая эффективность здравоохранения — ресурсоотдачу. На макроуровне медицинская эфективность приводит к инновационной результативности, социальная проявляется в максимизации социальной полезности, а экономическая — в росте качества жизни и человеческого капитала.

Ключевые слова: система здравоохранения, эффективность системы здравоохранения, медицинская эффективность, социальная эффективность, экономическая эффективность, медицинская услуга как смешанное общественное благо, модели здравоохранения.

Введение

Экономический формат сферы здравоохранения в сегодняшней ситуации предполагает актуализацию не только механизма функционирования, но и конкретизацию алгоритмов результативности той или иной модели здравоохранения. В этом аспекте наиболее важным представляются не только варианты национальных систем, но и структурная эффективность здравоохранения по микроэкономическому и макроэкономическому уровням. Причем актуализируется сам кумулятивный характер эффективности и эндогенные связи между структурными ее элементами (медицинской, социальной и экономической эффективностью).

Поэтому авторский подход принципиально отличен от анализа традиционных параметров здравоохранения. Если в работах большинства авторов исследуются отдельные факторы развития данной сферы, содержание той или иной модели, приводится отдельный анализ медицинской, социальной и экономической эффективности, то целью данной работы является выявление границ кумулятивной эффективности здравоохранения на микро- и макроэкономическом уровнях. Для этого выдвигаются следующие гипотезы:

*Corresponding author.
E-mail address: *b_smaylov@bk.ru*

1) исходя из многофакторной природы эффективности системы здравоохранения, структурировать основной спектр исследований по данной проблематике с выделением по каждому разрезу основных «якорных» подходов, на которых строится исследовательский ландшафт;

2) учитывая методологические основы параметров здравоохранения, дать сводную оценку основных типов и национальных моделей здравоохранения;

3) исходя из доминирования концептуальной базы медицинских услуг как смешанного общественного блага, конкретизировать, что факторные особенности каждого вида эффективности здравоохранения на микроэкономическом уровне приводят к активизации общей организационной результативности;

4) с учетом различных моделей и источников финансирования здравоохранения, обосновать нелинейную природу общей кумулятивной эффективности.

Обзор литературы

Проблематика параметров здравоохранения является отдельной самостоятельной частью общего экономического анализа. Ее направления многообразны и неравнозначны с позиции методологических, прикладных, страновых особенностей. Так можно структурировать следующие направления исследований в этой сфере.

Первое — сегмент общего анализа эффективности здравоохранения. Первоначальной ступенью анализа является переход от традиционного определения эффективности к специфике эффективности в здравоохранении (Peacock et.al., 2001; Вялков, 2004; Орлова, Соколова, 2010; Туренко, 2013; Швец, 2016).

Следующий методологический пласт вырастает из выделения медицинских услуг как блага. Исходя из различных определений медицинских услуг как фундаментального блага (Grossman, 1972; Becker, 1974; Culyer, Newhouse, 2000), общественного блага (Пономаренко, Исаев, 2007), смешанного общественного блага (Якобсон, 2015), приходим к обоснованию того, что вся система здравоохранения включает в себя как чисто рыночные блага, так и общественные и смешанные общественные. Это характеризует многосекторность и многофакторность данной сферы.

Из построения подобной теоретической конструкции вырастает и третье направление — анализ моделей и вариантов систем здравоохранения. Наибольший объем исследований в данном ракурсе представляют элементы двух-трех моделей и вариантов их модификаций в страновом разрезе. Большинство работ посвящены анализу модели Бисмарка (Борисов, Задворная, 2012; Рагозин и др., 2015; Садовничий и др., 2017) и модели Бевериджа (Кучеренко, Данишевский, 2000; Davis et.al, 2014; Салтман, Фигейрас, 2016). Выделяются и работы по механизму преимущественно частной модели (Кимбол, 2007; Enthoven, 2015). Именно на них строятся страновые варианты организационно-экономического механизма развития здравоохранения (Фигейрас и др., 2008; Клисов, 2010). Базовым фактором той или иной вариации системы здравоохранения выступает механизм финансовых источников, направляемых в данную сферу. Именно этому вопросу финансовой институциональности посвящен солидный исследовательский блок (Tomson et. al, 2010).

Несмотря на широкий пласт исследовательских доктрин, следует отметить, что большинство проблем анализируются отдельно друг от друга. Так, в частности, при рассмотрении проблем состояния той иной национальной системы здравоохранения детализируются элементы страновой специфичности, что отодвигает общие алгоритмы развития. А для стран с развивающейся рыночной экономикой, в том числе и Республике Казахстан, необходим общий диапазон результативности. Потому актуализируются вопросы как специфических видов эффективности (медицинской, социальной, экономической), так и их кумулятивных эффектов в микро- и в макродиапозоне.

Методы

Для достижения аналитических результатов в статье использован ряд методов. В частности, для обоснования теоретических концептов кумулятивной эффективности системы здравоохранения был применен системный и структурный анализ; при анализе моделей здравоохранения использованы системный и компаративистский подходы.

Результаты

Анализ эффективности системы здравоохранения имеет многофакторную природу, связанную с методологическими причинами, оценкой эффективности, структурирования видов эффективности и т.п. Весь спектр исследований по данной проблематике можно структурировать следующим образом.

В первую очередь, это сегмент общего анализа эффективности здравоохранения. Так, первоначальной ступенью анализа является переход от традиционного определения эффективности к специфике эффективности в здравоохранении (Peacock et.al., 2001; Вялков, 2004; Орлова, Соколова, 2010; Туренко, 2013; Швец, 2016). Если в общеэкономическом смысле под эффективностью понимается соотношение полученных результатов деятельности и ресурсов, затраченных на достижение данных результатов, то в здравоохранении такое измерение эффективности не представляется полным и возможным для оценки. Это объясняется тем, что при использовании продуктивных ресурсов экономический результат может быть нулевой или отрицательный, исходя из специфики медицинских услуг, и потому интегральные показатели здоровья не всегда являются и носителями экономической информации и экономического эффекта.

В связи с социально-экономической природой здравоохранения сам механизм эффективности регулируется трехзвенным алгоритмом — выделением медицинской, социальной и экономической эффективности (Шамшурина, 2005; Решетников и др., 2010; Кадыров, 2011; Вишняков, 2018).

С такой, уже привычной, классификацией согласно большинство исследователей эффектов и результатов здравоохранения. Но для большей четкости анализа ряд исследователей акцентируют внимание и на более детальной спефицикации видов эффективности. В частности, в работе И. Леонтьева, Н. Махиновой (Леонтьев, Махинова, 2010) эффективность в здравоохранении представлена в пространственном аспекте как внешняя и внутренняя эффективность. Если внешняя эффективность, по мнению авторов, демонстрирует воздействие на макроэкономику и общие параметры сохранения человеческого капитала, то внутренняя — регламентирует результативность хозяйствования в здравоохранении. Как внешняя, так и внутренняя, эффективность в здравоохранении включает медицинскую, социальную и экономическую составляющую. Данный подход представляется перспективным в русле нашего анализа в рамках поиска оценочных индикаторов кумулятивной эффективности.

Определенные нюансы в характеристике видов эффективности здравоохранения вносит работа Т.А. Туренко (Туренко, 2013), в которой выделяется только экономическая и социальная эффективность. Так, экономическая эффективность связывает объемы медицинских услуг с затратами, и ее повышение позволяет сохранить или увеличить объемы медицинской помощи при сохранении или экономии ресурсов. Социальная эффективность характеризует доступность медицинской помощи определенного качества. Она являет собой обеспечение определенного уровня качества медицинских услуг в рамках существующих ресурсов. Таким образом, собственно медицинские услуги являются объектом анализа, но в то же время все результирующие показатели автором дифференцируются на медицинские (показатели объёма услуг, количество пациентов, их социальные отличия и т.п.), экономические (затраты, расходы на оказание медицинской помощи, показатели использования средств) и социальные (смертность, рождаемость, удовлетворенность населения медицинским услугами), потому все-таки оценивается и медицинская эффективность. Данные нюансы анализа важны при выборе показателей эффективности и их взаимоувязки.

В аспекте доминирования того или иного вида эффективности здравоохранения можно выделить следующее: до последнего десятилетия главным видом являлась медицинская эффективность как безусловная целевая и операциональная сопоставимость «результат» — «затраты». Под медицинской эффективностью большинством авторов понимаются качество и уровень достижения положительного результата от конкретных медицинских вмешательств или проведенных профилактических, диагностических или лечебных мероприятий (например, Леонтьев, Махинова, 2010; Тараскина, Зурнаджьянц, 2012; Амираев, 2014; Вишняков и др., 2018)

На микроуровне медицинская эффективность проявляется в выздоровлении и улучшении состояния здоровья конкретного пациента, на мезо- и макроуровнях она характеризует удельный вес излеченных больных, снижение уровня заболеваемости и удельного веса летальных исходов к общему количеству обращений за медицинской помощью. Доминирование медицинской эффективности ведет за собой и социальную, и экономическую эффективность.

Социальная эффективность системы здравоохранения, по мнению многих исследователей, проявляется в позитивном изменении медико-демографических показателей — увеличении продолжительности жизни населения, рождаемости, естественного прироста, численности экономически активного населения; снижении уровня смертности, заболеваемости и инвалидности, а также повышении степени удовлетворенности потребностей общества в медицинских услугах и их доступности для населения (Шамшурина, 2005; Леонтьев, Махинова, 2010; Тараскина, Зурнаджьянц, 2012).

При определении же экономической эффективности здравоохранения можно выделить следующие характерные особенности авторских позиций. В частности, это оценка экономической эффективности использования ресурсов (финансовых, кадровых, инвестиционных и др.) в системе здравоохранения как получение максимума благ от имеющихся в распоряжении ресурсов (Леонтьев, Махинова, 2010; Маслова, 2013). Другая точка зрения основана на том, что экономическая эффективность здравоохранения определяется степенью его позитивного влияния на количественные и качественные параметры общественного производства (Тараскина, Зурнаджьянц, 2012; Швец, 2016) и, в частности, должна определяться величиной предотвращенного экономического ущерба (например, недопроизведенным ВВП), которого удалось избежать в результате здравоохранительных мероприятий (Маслова, 2016). Все эти специфические особенности в характеристике экономической эффективности заслуживают внимания в рамках настоящего исследования для адекватного поиска параметров и показателей эффективности для ее общей оценки.

В то же время в последнее десятилетие актуализируется задача обратного влияния социальной эффективности на медицинскую и экономическую. Это связано с институциональной модификацией в системе здравоохранения. Так, некоторые авторы объясняют это, прежде всего, тем, что ожидаемый социальный эффект должен соответствовать медицинскому и экономическому эффекту (Сурмач, Тищенко, 2009; Туренко, 2013). Однако в большинстве случаев рост спроса населения на медицинские услуги приводит к увеличению расходов на их предоставление, но не всегда — к увеличению ее эффективности. Таким образом, все работы по общей характеристике эффективности здравоохранения сводятся к единому выводу: необходима комплексная оценка всех сторон здравоохранительной практики для обоснования результирующих выводов и приращения общих эффектов.

При этом международные организации рекомендуют оценку эффективности определять степенью достижения намеченных целей. Так, несмотря на универсальность рассматриваемых аспектов, работа ВОЗ над показателями эффективности продолжается до сих пор. Считается, что недостаточно различать эффективность результативную (целесообразную) и экономическую (затратную), необходим еще и анализ обоснованности самих целей деятельности, т.е. эффективности целеполагания с точки зрения соответствия ее целей нормативным идеалам и ценностным нормам, принимаемым местным сообществом на определенном этапе его развития (потребностная эффективность).

Далее логически оправданным является анализ сегмента сравнительной оценки эффективности здравоохранения. Так, в частности, в работе И.М. Бурыкина, Г.Н. Алеевой акцентируется внимание на достижение целевой задачи современного здравоохранения — ожидаемой продолжительности жизни и ее качества (Хафизьянова и др., 2013). Данный подход оценивает эффективность здравоохранения в страновом аспекте и потому широко использует динамические показатели. Для практической оценки эффективности была выделена база данных (ожидаемая продолжительность жизни, ВВП, ВВП на душу населения) и анализ ее при помощи корреляционного и регрессивного подходов. Подобное исследование представляется перспективным, поскольку позволяет выявить различные связи с учетом корреляции данных. На этой основе были рассчитаны следующие коэффициенты: подушевые затраты на здравоохранение на год ОПЖ населения и подушевые затраты на здравоохранение в расчете на один год жизни после 60 лет. Анализ значений коэффициента и построение математической модели, отражающей затраты государства на год ожидаемой продолжительности жизни населения, показал, что зависимость не линейна и имеет экспоненциальный (гиперболический) характер. Для настоящего исследования анализ регрессивно-корреляционных связей представляется модельным примером для оценки состояния отечественной системы здравоохранения.

Для того, чтобы выявить в сложившейся структуре здравоохранения параметры прикладной эффективности, необходим методический анализ. Ведь достижение позитивных результатов при оценке эффективности здравоохранения зависит от разнообразных методик. В условиях развивающихся экономик следует исследовать и оценивать следующие последовательные шаги для формирования комплексной базы построения динамических моделей: первое — выявить показатели эффективности здравоохранения; второе — исследовать методики эффективности здравоохранения с учетом зарубежного опыта и отечественной специфики.

К основным показателям эффективности, на основе которых можно выстроить и оригинальную методику оценки, и возможные проектные модели эффективности относятся предложенные, например, Шамшуриной Н.Г. (Шамшурина, 2005), показатели оценки трех видов эффективности. Так, экономическая эффективность рассчитывается как соотношение экономического эффекта и понесенных экономических затрат; медицинская как соотношение количества случаев достигнутых результатов и

общего количества оцениваемых случаев; социальная — как соотношение количества случаев удовлетворенности пациента медпомощью и общего количества оцениваемых случаев. Данные показатели рассматриваются в большинстве работ как первичные индикаторы эффективности. Но их значимость достаточно мала, так как автором в разрезе социальной и медицинской эффективности резюмируется соотношение положительного результата и абсолютного результата, что не коррелируется с традиционной характеристикой эффективности как соизмерения результата к затратам.

Для поиска системных показателей рядом авторов предлагается расчет интегрального коэффициента эффективности как произведение коэффициентов медицинской эффективности, социальной эффективности и коэффициента соотношения затрат. Причем, в зависимости от уровня оценки (микро- и макродиапазон), в структуру оцениваемых параметров могут входить частные, дифференцированные показатели, например, показатели динамики состояния пациентов; показатели динамики их здоровья при оценке здоровья определенных контингентов; удовлетворенность пациентов, врача, медицинского работника; создание гуманных условий больному в терминальной стадии заболевания; степень социальной (социально-экономической) адаптации пациента и пр. Данный интегральный показатель сложен при практическом расчете из-за неоднородности интеграционных показателей. Но он важен с точки зрения систематизации самих показателей. Критический анализ всех предлагаемых методик позволит найти результативный инструментарий для анализа прикладной модели эффективного здравоохранения и структурировать вариативные подходы в том или ином медицинском сегменте.

Помимо данного массива аналитических работ по эффективности здравоохранения, следует отметить и появление исследований по новым факторным особенностям системы здравоохранения, позволяющим оценить и дополнительные элементы влияния на параметры эффективности. В частности, это аналитика, посвященная применению тех или иных методик в региональном аспекте (в частности, Шишкин и др., 2007; Дуганов, Калашников, 2011). Результатом экстраполяции этих методик можно выделить специфику в уровнях здравоохранения, сопоставление стоимостных показателей в региональном аспекте, выделить доминанты. Для настоящего исследования значимость данных работ заключалась в выделении дополнительных возможных эффектов в отечественной среде.

Помимо этого, в стратегическом плане интересен и анализ современных инновационных факторов, воздействующих на результаты здравоохранения. Так, в контексте современных процессов цифровой трансформации происходит модернизация системы здравоохранения по основным направлениям, стимулирующим технологический прогресс — использование медицинских информационных систем (МИС), внедрение продуктов медицинского интернета вещей (IoMT), продвинутая аналитика больших данных (Big Data) и практическое применение экспертных медицинских систем. Данный аспект позволяет рассмотреть возможности развития отечественной системы здравоохранения с позиций интегральной оценки больших данных и перспективных возможностей МИС и медицинского интернета вещей для конкретизации прогнозных ориентиров программного здравоохранительного прогресса.

Таким образом, рассматривая различные подходы к эффективности здравоохранения, следует отметить, что большинство аспектов данной проблемы является теоретическим и методическим якорем к анализу отечественного здравоохранения. Из всего многообразия работ по каждому разрезу нами были выделены основные, на которых строится исследовательский ландшафт.

Обсуждение

Развитие сегмента здравоохранения выстраивается изначально на выборе доминант следующих идеологем: неоклассического подхода или экономики общественного сектора. Данный выбор приводит к формированию частной модели, тяготеющей к принципам неоклассики, моделям Бевериджа (модель социальной защиты) и Бисмарка (социально-страховая модель организации), оценивающих здравоохранение в параметрах сочетания неоклассической экономики и экономики общественного сектора. Данный выбор приводит к формированию якорных источников финансирования здравоохранения и множеству вариативных национальных систем. В условиях развивающихся экономик вопрос о финансовых источниках является в прикладном отношении самым главным: бюджетное финансирование всех сегментов здравоохранения практически невозможно, частное страхование не развито, как и вообще вся инфраструктура страхования. Потому необходим компаративистский анализ постепенных преобразований в институциональной системе здравоохранительной практики.

Несмотря на различный выбор концептуального основания и различных источников финансирования, в 10-х гг. XXI века в ЕС расходы на здравоохранение составляли как минимум 10 % от ВВП страны (Tompson et.al, 2010). Причем, в ряде стран наблюдается превышение данного уровня, в частности, в Нидерландах — 12 % от ВВП, Франции — 11,8 %, в Германии — 11,6 % от ВВП) (Chevreul et.al., 2012)

Это приводит к констатации прямой зависимости от развитости страны и финансирования здравоохранения в ней. Но следует иметь в виду, что открытые результаты той или иной национальной системы здравоохранения не всегда напрямую коррелируются с финансированием: огромную роль в этом аспекте играет кумулятивная природа эффективности. Ведь, в отличие от других сфер, многослойная структура здравоохранения оценивается различными видами эффективности и потому ее кумулятивный характер носит нелинейный характер.

Так, если проецировать понятие эффективности как соотношение результатов к затратам, то медицинская эффективность на микроуровне оценивается как отношение количества позитивных медицинских результатов на общее число оцениваемых случаев. Соответственно, социальная эффективность измеряется как отношение количества случаев удовлетворенности пациента медицинской помощью к общему число оцениваемых случаев. Тогда экономическая эффективность, рассчитанная по классической формуле, будет равна отношению общего экономического эффекта к суммарным затратам на медицинскую программу. Исходя из этого, можно сделать вывод, что на микроуровне определяющим является медицинская эффективность, формирующая организационную результативность лечебных мероприятий.

На макроэкономическом уровне также медицинская эффективность является движущей силой всей системы здравоохранения. Но ее параметры зависят от инновационного механизма медицины. Для оценки использования нового продукта в медицинской практике можно использовать модель Басса (Bass et al., 1994). Ее основными компонентами являются:

$$S\,(t) = [p + (q/m)\,N\,(t-1)]\,[m - N\,(t-1)], \qquad (1)$$

где $S\,(t)$ — число новых потребителей продукта, воспользовавшихся им в течение периода t; q — коэффициент имитации; p — коэффициент новизны; m — размер рынка; $N\,(t)$ — совокупное кумулятивное число потребителей в течение периода t; $N\,(t-1)$ — кумулятивное число потребителей, воспользовавшихся новым продуктом в течение предшествующего периода (t – 1) (Kim et.al., 2015).

На основе данной модели анализируются основные новации, в частности, траектория использования телемедицины (Kim et.al., 2015) и, соответственно, социальные и экономические последствия.

Современное строение систем здравоохранения базируется на выборе того или иного концепта медицинского блага. В этом ключе можно выделить три вида благ: частное, общественное и смешанное общественное. Часть медицинских услуг являются частными благами, так как обладают свойствами исключительности и соперничества, т.е потребление одним данной услуги исключает ее потребление другим (например, диагностические процедуры). В этом случае наблюдается типичное рыночное поведение: цена определяется спросом на данную услугу и является ориентиром для производителя с позиции покрытия издержек и объема поставок услуг на рынок. Однако здравоохранение не может быть ограничено его рыночным сегментом. Ведь часть услуг обладают свойствами неисключамости и несоперничества, т.е. они являются общественным благом (Пономаренко, 2007).

Для предоставления общественных благ — благ, не требующих дополнительных издержек при присоединении дополнительных потребителей — существует сегмент общественного здравоохранения. Исходя из современной классификации, многие медицинские блага не являются чисто частными, или чисто общественными, а находятся посередине и модифицируются вместе с состоянием рынка. Потому ряд смешанных общественных благ характеризуется переполнением, когда рост потребителей все-таки приводит к исчезновению несоперничества в потреблении (Якобсон, 2015).

Таким образом, акцентируя внимание на преимуществах медицинских услуг как блага, вырастают различные организационно-экономические механизмы здравоохранительной практики и, соответственно, различные ее типы.

Так, преимущественно смешанный тип выстроен в рамках «системы Бисмарка» (Борисов, Задворная, 2012; Рагозин и др., 2015; Садовничий и др., 2017). Ядром данной системы является обязательное медицинское страхование. Операционными институтами выступают страховые организации. В частности, это страховые фонды во Франции, больничные кассы в Германии (Cases, 2006). Поскольку не все потребности могут быть удовлетворены за счет обязательного медицинского страхо-

вания, то определенная часть финансирования остается за государственным бюджетом. В этом смысле данный тип здравоохранения по праву считается социально-страховым. Несомненными достоинствами данного подхода являются следующие.

Во-первых, одновременное функционирование рынка медицинских услуг и государственного регулирования социальных гарантий и, соответственно, обеспечение общественно необходимым уровнем медицинской помощи практически всех слоев населения страны.

Во-вторых, функция рынка медицинских услуг выражается в предоставлении сверх гарантированного объема услуг, обеспечения выбора и суверенитета потребителей. Это достигается за счет дополнительного медицинского страхования.

В-третьих, многофакторные источники финансирования придают данному типу гибкость и мобильность.

В то же время существует ряд рисков, на которые следует обратить пристальное внимание. Это:

– региональное и, зачастую, социальное неравенство в доступе к медицинским услугам;
– преобладание краткосрочного планирования;
– рост цены медицинских услуг в рамках рыночной конкуренции;
– противоречивое положение лиц, неохваченных медицинским страхованием;
– сжатие сегмента общественного здравоохранения, профилактической медицины;
– высокие административные расходы.

При условии доминирования концепта медицинской услуги как традиционного общественного блага был сформирован иной тип здравоохранительной практики — система Бевериджа — как модель социальной защиты, основанной на государственном регулировании и преимущественно бюджетном финансировании (Кучеренко и др., 2000; Davis et.al., 2015; Saltman et.al., 2015). Исходя из параметров оценки Всемирной организации здравоохранения, современные варианты данной модели существуют в Великобритании, Дании, Ирландии и др. Несомненными достоинствами данного подхода являются:

– высокий уровень социальной эффективности;
– всеобъемлющий характер социальной защиты и принципа социальной справедливости;
– абсолютное государственное обеспечение пенсионеров, инвалидов, низкооплачиваемых слоев населения.

Но именно высокие стандарты бюджетного финансирования сокращают рыночный потенциал медицинской практики. Это выражается в следующих рисках:

– сокращение материальных стимулов для медицинской эффективности на микроуровне;
– бюджетное финансирование требует государственного сдерживания расходов;
– высокий уровень зависимости от политических доминант в стране, не всегда расширяющих рост расходов на здравоохранение;
– ограничение масштабных инноваций в медицину, связанное с регламентированием государственных расходов;
– распространение очередей на лечение;
– определение государством приоритетов и полезности при развитии медицинских услуг.

Третий тип здравоохранительной практики вырастает из признания приоритета рыночных принципов медицины, расширения сегмента конкурентных форм получения медицинских услуг. Данный подход формирует преимущественно частную модель, наибольшее распространение она получила в США (Kimbol, 2007; Enthoven, 2015). Главными достоинствами этого подхода являются:

– децентрализованная природа функционирования модели;
– развитие системы страховой инфраструктуры;
– высокий уровень инновационных технологий в медицине;
– практическое отсутствие государственного регулирования.

Несмотря на максимальные рыночные выгоды (индивидуальное страхование, государственные программы страхования для уязвимых слоев населения, высокие расходы на медицину, особенно в аспекте инновационных решений и качества услуг — около 17 % от ВВП), существует ряд рисков, приводящих к снижению социальной эффективности здравоохранения. В частности, это:

– высокая стоимость медицинских услуг, что приводит к ранжированию потребителей;
– высокие страховые премии;

– сокращающийся объем помощи на дому и профилактики;

– сжатие контроля над качеством кинических процедур;

– региональные различия в оказании медицинской помощи.

Таким образом, даже самый общий абрис типов здравоохранения демонстрирует их собирательное строение. В той или иной степени в каждом типе и каждой национальной модели присутствует и рыночный сегмент, конкурирующий за формирование качественных и инновационных технологий, предоставление новых клинических процедур и динамично развивающихся протоколов лечения. В то же время существует сегмент общественного здравоохранения, предоставляющий всем равные услуги в рамках гарантированного объема помощи, вакцинации, санитарно-эпидемиологического надзора и т.д. (Борисов, Задворная, 2012; Рагозин и др., 2015; Садовничий и др., 2017).

Выводы

Несмотря на различную структуру организации и финансирования всех элементов здравоохранения, постоянно оценивается общая эффективность медицины в стране. Главной особенностью эффективности является ее кумулятивная природа, т.е. вся достижимая результативность носит суммарный накопительный характер. Это связано с трехэлементной структурой эффективности — медицинской, социальной и собственно экономической. Причем и на микроуровне, и на макроуровне доминирующей оценкой выступают параметры медицинской эффективности. Но измерительным результатом являются различные медицинские последствия. Так, на микроэкономическом уровне медицинская эффективность в индивидуальном измерении — это полное выздоровление или восстановление различных функций организма на базе используемых диагностически-клинических протоколов (собственно медицинских затрат). На уровне отдельного медицинского учреждения медицинская эффективность измеряется рядом специфических показателей, таких как удельный вес выздоровевших больных, сокращение перехода болезни в хроническую форму, сокращение заболеваний по специфическим группам.

Социальная же эффективность в микроэкономическом разрезе представляет собой степень достижения социального результата. В частности, в индивидуальном аспекте — это возвращение к активной трудовой и социальной жизни человека после болезни, степень его удовлетворенности медицинской помощью. На уровне отдельного медицинского учреждения социальную эффективность можно измерить снижением уровня показателей смертности и инвалидности.

Наиболее сложным с позиции выбора представляется экономическая эффективность. Ее измерение не является уникальным. Как всегда эффективность измеряется соотношением результатов к затратам, т.е., как в любом экономическом процессе, поиск эффективности связан с расчетом наиболее экономичного использования ресурсов. Именно в этом пункте и возникают прикладные проблемы выбора (Вялков и др., 2004). Ведь, зачастую, лечебные мероприятия могут быть неэффективны с экономической точки зрения, ресурсозатратны, но обеспечивают как медицинскую, так и социальную эффективность. Это связано с различными возрастными условиями оказания медицинской помощи, длительного лечения сложных болезней. Так, лечение хронических болезней у пожилых людей, интенсивная терапия и современные методы диагностики и реанимации приводят к положительным медицинским и социальным эффектам при нулевой экономической результативности. Именно потому выбор мероприятий, их последовательность, а также и расширение лекарственного рынка, приводящего к снижению цен на современные препараты, и лежат в основе прикладного расчета экономической результативности здравоохранения (Шамшурина, 2005).

Таким образом, экономическая эффективность не является ведущей в здравоохранении, но ее роль в общей кумулятивной эффективности весома, потому что она измеряет степень нужности, первоочередности тех или иных здравоохранительных мероприятий и программ, исходя из имеющихся финансовых ресурсов.

В целом, кумулятивная эффективность на микроэкономическом уровне проявляется в качественной модификации организационного механизма лечебных мероприятий и программ. Так, на медицинском уровне это означает выработку системных протоколов лечения, диагностических технологий, информатизацию всех шагов при оказании медицинской помощи (электронных порталов медицинских услуг, индивидуального электронного паспорта здоровья пациентов). В социальном плане — это рост индивидуальных профилактических мер, быстрота оказания услуг и рост удовлетворения здравоохранительными процедурами. Экономическая эффективность в данном аспекте выражается в измерении эффективности на каждом этапе медицинской помощи и определении цены отдельных

видов медицинских мероприятий. Общим кумулятивным результатом выступают сводные оценки снижения заболеваемости, смертности, инвалидизации, рост продолжительности жизни.

На уровне макроэкономики медицинская доминанта также преобладает в системе кумулятивной эффективности, но основным вектором развития в данном случае являются инновационная направленность медицинских мероприятий и, соответственно, инновационный характер медицинской эффективности.

Список литературы

Амираев Р.У. Эффективность медицинских услуг в медико-реабилитационных учреждениях / Р.У. Амираев // Вестн. Казах. нац. мед. ун-та. — 2014. — № 4. — С. 427–431.

Борисов К.Н. Реформы здравоохранения в Германии: плюсы и минусы / К.Н. Борисов, О.Л. Задворная // Международное здравоохранение. — Т. 3 (2). — 2012. — URL: http://rosmedportal.com/index.php? option=com_content&view=article&id=1687:20

Вишняков Н.И. Общественное здоровье и здравоохранение / Н.И. Вишняков, О.А. Гусев, Л.В. Кочорова, Е.Н. Пенюгина, С.Н. Пузин. — М.: МЕДпресс-информ, 2018. — 880 с.

Вялков А.И. Оценка эффективности деятельности медицинских организаций / А.И. Вялков. — М.: ГЭОТАР-МЕД, 2004. — 112 с.

Дуганов М.Д. Методологические подходы к оценке эффективности регионального здравоохранения / М.Д. Дуганов, К.Н. Калашников // Экономические и социальные перемены: факты, тенденции, прогноз. — 2011. — № 6 (18). — С. 93–105.

Кадыров Ф.Н. Экономические методы оценки эффективности деятельности медицинских учреждений / Ф.Н. Кадыров. — М.: ИД «Менеджер здравоохранения», 2011. — 496 с.

Кимбол А.М. Система здравоохранения США: сравнительное исследование / А.М. Кимбол // Управление в здравоохранении России и США: Опыт и проблемы. — Новосибирск: НГАЭиУ, 2007. — С. 50–64.

Клисов Ф.В. Классификация наиболее известных систем здравоохранения развитых стран / Ф.В. Клисов // Здравоохранение за рубежом. — 2010. — № 5. — С. 101, 102.

Кучеренко В.З. Наиболее известные системы здравоохранения развитых стран / В.З. Кучеренко, К.Д. Данишевский // Экономика здравоохранения. — 2000. — № 7. — С. 5–12.

Леонтьев И.Л. Особенности современной системы управления здравоохранения / И.Л. Леонтьев, Н.В. Махинова // Изв. Урал. гос. экон. ун-та. — 2010. — № 2. — С. 97–104.

Маслова О.П. Оценка эффективности медицинских услуг на основе ресурсного потенциала: моногр. / О.П. Маслова. — Самара: СамГТУ, 2013. — 142 с.

Орлова Е.М. Категория эффективности в системе здравоохранения / Е.М. Орлова, О.Н. Соколова // Фундаментальные исследования. — 2010. — № 4. — С. 70–75.

Пономаренко Е.В. Экономика и финансы общественного сектора / Е.В. Пономаренко, В.А. Исаев. — М.: ИНФРА-М, 2007. — С. 82–96.

Рагозин А. Сравнение национальных систем здравоохранения стран, использующих «страховую» и «бюджетную» модели финансирования / А. Рагозин, Н.А. Кравченко, В.Б. Розанов // Здравоохранение. — 2015. — № 12. — С. 30–39.

Решетников А.В. Экономика здравоохранения / А.В. Решетников, В.М. Алексеева, Е.Б. Галкин, С.А. Ефименко.— М.: ГЭОТАР-Медиа, 2010.

Садовничий В.А. От традиций к инновациям. Реформы здравоохранения в современном мире / В.А. Садовничий, Н.С. Григорьева, Т.В. Чубарова. — М.: Экономика, 2017. — 286 с.

Салтман Р.Б. Реформы системы здравоохранения в Европе. Анализ современных стратегий / Р.Б. Салтман, Дж. Фигейрас. — М.: ГЭОТАР-Медиа, 2016. — 432 с.

Сурмач М.Ю. Методология исследования и оценки социальной эффективности системы здравоохранения (на примере охраны репродуктивного здоровья молодежи) / М.Ю. Сурмач, Е.М. Тищенко // Журн. Гроднен. гос. мед. ун-та. — 2009. — № 1. — С. 102–106.

Тараскина А.В. Современные проблемы аналитического обоснования деятельности учреждения здравоохранения / А.В. Тараскина, Ю.А. Зурнаджьянц // Вопросы экономики. — 2012. — № 19 (109). — С. 6–16.

Туренко Т.А. Методические подходы к оценке результативности и эффективности в системе здравоохранения на основе данных официальной статистики / Т.А. Туренко // Изв. Иркут. гос. экон. акад. — 2013. — № 4. — С. 120–125.

Фигейрас Дж. Системы здравоохранения, здоровье и благосостояние: оценка аргументов в пользу инвестирования в системы здравоохранения: справоч. док. / Дж.Фигейрас и др. — Европ. мини. конф. ВОЗ по системам здравоохранения «Системы здравоохранения — здоровье — благосостояние». — Таллинн (Эстония), 25–27 июня 2008 г. — 75 с.

Thomson S. Финансирование здравоохранения в Европейском союзе. Проблемы и стратегические решения. Вып. 17 / S. Thomson, T. Foubister, E. Mossialos. — ВОЗ, 2010. — 241 с.

Хафизьянова Р.Х. Сравнительная оценка эффективности систем здравоохранения различных стран / Р.Х. Хафизьянова, И.М. Бурыкин, Г.Н. Алеева // Вестн. СПб. ун-та. — 2013. — Сер. 11. — Вып. 2. — С. 214–221.
Шамшурина Н.Г. Показатели социально-экономической эффективности в здравоохранении / Н.Г. Шамшурина. М.: МЦФЭР, 2005.
Швец Ю.Ю. Теоретические и методологические подходы к определению эффективности медицинской услуги / Ю.Ю. Швец // Вестн. ВГУИТ. — 2016. — № 4. — С. 308–313. doi:10.20914/2310–1202–2016–4-308–313.
Шишкин С.В. Методика оценки эффективности функционирования территориальных систем здравоохранения в Российской Федерации / С.В. Шишкин, С.П. Ермаков, Е.П. Какорина // Научные труды НИСП. — 2007. — http://www.socpol.ru/research_projects/pdf/proj26_report_rus.pdf
Якобсон Л.И. Экономика общественного сектора: учеб. для вузов / Л.И. Якобсон. — М.: Изд-во «Юрайт», 2015. — С. 13–38.
Becker M.H. The health belief model and personal health behavior. — Slack, 1974. — Т. 2. — № . 4.
Cases C. French health system reform: recent implementation and future challenges // Eurohealth. — 2006. — Vol. 12. — № 3. — P. 10–11.
Chevreul K., Bahrami S., Mladovsky P. Health Systems in Transition. // Health System Review, 2012.
Culyer A.J., Newhouse J.P. (ed). Handbook of Health Economics. Amsterdam: Elsevier, 2000.
Davis K., Schoen C., Stremikis K. Mirror, mirror on the wall. How the performance of the US health care system compares internationally — URL: https://www.commonwealthfund.org/sites/default/files/documents/___media iles_publications_fund_report_2014_jun_1755_davis_mirror_mirror_2014.pdf
Enthoven A.C. The history and principles of managed competition // Health affairs. — 2015. — Т. 12. — № 1. — P. 24–48.
Grossman M. On the concept of health capital and the demand for health // The Journal of Political Economy. — 1972. — С. 223–255.
Kim J., Alanazi H., Daim T. Prospects for Telemedicine Adoption: Prognostic Modeling as Exemplified by Rural Areas of USA // *Foresight and STI Governance*. — 2015. — Vol. 9. — № 4. — P. 32–41. DOI: 10.17323/1995–459x.2015.4.32.41
Peacock, S., Chan, C., Mangolini, M., Johansen, D. 1, Techniques for Measuring Efficiency in Health Services // Productivity Commission Staff Working Paper, 2001. — July.

Б.Т. Смайлов, Р.К. Андарова, Е.А. Вечкинзова

Денсаулық сақтау жүйесі тиімділігінің кумулятивтік сипаты және оны ұйымдастырудың қолданбалы модельдері

Аңдатпа

Мақсаты: Денсаулық сақтау жүйесінің тиімділігін талдауда қазіргі тәсілдерге шолу және теориялық конструкцияларды егжей-тегжейлі талдау негізінде денсаулық сақтау жүйесін ұйымдастырудың қолданбалы модельдерінің типологиясын, олардың ұйымдастырушылық механизмінің доминанттарын және микро-, макродеңгейлердегі кумулятивтік тиімділігінің параметрлерін бөліп көрсете отырып, құрылымдау.

Әдісі: Жұмыста жүйелік, құрылымдық және салыстырмалы талдау әдістерінің арсеналы қолданылды.

Қорытынды: Медициналық, әлеуметтік және экономикалық тиімділігінің интегралдық көрсеткіші ретінде денсаулық сақтау жүйесінің кумулятивтік тиімділігі бойынша зерттеулердің негізгі спектріне шолу жүргізілді; жеке, қоғамдық, аралас қоғамдық игілік ретінде медициналық қызметтердің құрылымы негізделді; қазіргі заманғы денсаулық сақтау саласының типологиясы олардың ұйымдастырушылық механизмінің доминанттарын және микро-, макродеңгейлердегі кумулятивтік тиімділік ерекшелігін бөліп көрсете отырып, қолданбалы модельдер негізіндегі теориялық конструкцияларды нақтылау негізінде зерттелді.

Тұжырымдама: Денсаулық сақтау жүйесін ұйымдастырудың барлық қолданбалы үлгілерінің мақсатты міндеті оңтайлы нәтижелілікті іздеу болып табылады. Модельдердің салыстырмалы негізі — микродеңгейде де, макроөлшеуде де тиімділіктің кумулятивтік сипатта (медициналық, әлеуметтік, экономикалық). Микроэкономикалық медициналық тиімділік емдеу шараларының ұйымдастырушылық тиімділігін; әлеуметтік тиімділік — медициналық қызметтерге қол жетімділік дәрежесін; денсаулық сақтаудың экономикалық тиімділігі — ресурстарды бөлуді тудырады. Макродеңгейде — медициналық инновациялық нәтижеге әкеледі. Әлеуметтік тиімділік әлеуметтік пайдалылықты барынша арттыруда; экономикалық тиімділік — өмір сүру сапасы мен адами капиталдың өсуінде көрінеді.

Кілт сөздер: денсаулық сақтау жүйесі, денсаулық сақтау жүйесінің тиімділігі, медициналық тиімділік, әлеуметтік тиімділік, экономикалық тиімділік, медициналық қызмет аралас қоғамдық игілік ретінде, денсаулық сақтау модельдері.

B.T. Smailov, R.K. Andarova, Ye.A. Vechkinzova

Cumulative nature of the health system's performance and applied models of its organization

Abstract:

Objective: To structure the typology of applied healthcare system organization models and identify the dominants of their organizational mechanism and the parameters of their cumulative effectiveness at both micro and macro levels based on the review of existing approaches and the elaboration of theoretical constructs for analyzing the healthcare system's performance.

Methods: We used a wide range of system, structural, and comparative analysis methods.

Results: We have reviewed the main range of studies on the cumulative performance of the health system as an integral indicator of its medical, social, and economic efficiency; justified the structure of medical services as a private, public, mixed public good; studied the typology of a modern health sector based on detailing the theoretical constructs underlying the applied models with the emphasis on the dominant organizational mechanism and the specifics of cumulative performance at both micro and macro levels.

Conclusions: All applied models of the health system organization seek to find optimal performance. Comparative basis of the said models is the cumulative nature of their performance (medical, social, and economic) both at micro level and in macro dimension. Microeconomic medical efficiency generates organizational effectiveness of medical measures; social performance generates the degree of accessibility to medical services; and economic efficiency of healthcare generates resource productivity. At the macro level medical efficiency leads to innovation performance, social performance is manifested in the maximization of social utility, economic efficiency in the quality of life and human capital growth.

Keywords: healthcare system, healthcare system performance, medical efficiency, social performance, economic efficiency, medical service as a mixed public good, healthcare models.

References

Amiraev, R.U. (2014). Effektivnost meditsinskikh uslug v mediko-reabilitatsionnykh uchrezhdeniyakh [Effectiveness of medical services in medical rehabilitation institutions]. *Vestnik Kazakhskogo natsional'nogo meditsinskogo universiteta — Bulletin of the Kazakh National Medical University*, 4, 427–431 [in Russian].

Borisov, K.N., & Zadvornaya, O.L. (2012). Reformy zdravookhraneniya v Germanii: plyusy i minusy [Healthcare reforms in Germany: Pros and cons]. Mezhdunarodnoe zdravookhranenie — International Healthcare, 3 (2) Retrieved from http://rosmedportal.com/index.php? op-tion=com_content&view=article&id=1687:20 [in Russian].

Vishnyakov, N.I., Gusev, O.A., Kochorova, L.V., Penyugina, E.N., & Puzin, S.N., (2018). *Obshchestvennoe zdorov'e i zdravookhranenie [Public health and health care]*. Moscow: MEDpress-inform [in Russian].

Vyalkov, A.I. (2004). *Otsenka effektivnosti deyatel'nosti meditsinskikh organizatsii [Evaluation of the effectiveness of medical organizations]*. Moscow: GEOTAR-MED [in Russian].

Duganov, M.D., & Kalashnikov, K.N. (2011). Metodologicheskie podkhody k otsenke effektivnosti regional'nogo zdravookhraneniya [Methodological approaches to assessing the effectiveness of regional health care]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz — Economic and social changes: facts, trends, forecast*, 6 (18), 93–105 [in Russian].

Kadyrov, F.N. (2011). *Ekonomicheskie metody otsenki effektivnosti deyatel'nosti meditsinskikh uchrezhdenii [Economic methods of evaluating the effectiveness of medical institutions]*. Moscow: ID "Menedzher zdravookhraneniya" [in Russian].

Kimbol, A.M. (2007). Sistema zdravookhraneniya SShA: sravnitel'noe issledovanie [The US healthcare system: a comparative study]. *Upravlenie v zdravookhranenii Rossii i SShA: Opyt i problemy — Management in healthcare in Russia and the USA: Experience and Problems.* Novosibirsk: NGAEiU, 50–64 [in Russian].

Klisov, F.V. (2010). Klassifikatsiya naibolee izvestnykh sistem zdravookhraneniya razvitykh stran [Classification naibolee izvestnykh sistem zdravookhraneniya razvitykh stran]. *Zdravookhranenie za rubezhom — Zdravookhranenie za rubezhom,* 5, 101–102 [in Russian].

Kucherenko V.I., & Danishevskii, K.D. (2000). Naibolee izvestnye sistemy zdravookhraneniya razvitykh stran [The most well — known health systems in developed countries]. *Ekonomika zdravookhraneniya — Health economics,* 7, 5–12 [in Russian].

Leont'ev, I.L., & Makhinova, N.V. (2010). Osobennosti sovremennoi sistemy upravleniya zdravookhraneniem // [Features of the modern healthcare management system]. *Izvestiya Ural'skogo gosudarstvennogo ekonomicheskogo universiteta — Proceedings of the Ural State University of Economics,* 2, 97–104 [in Russian].

Maslova, O.P. (2013). *Otsenka effektivnosti meditsinskikh uslug na osnove resursnogo potentsiala. [Evaluation of the effectiveness of medical services based on the resource potential]*. Samara: SamGTU, 142 [in Russian].

Orlova, E.M., & Sokolova, O.N. (2010). Kategoriya effektivnosti v sisteme zdravookhraneniya [Category of efficiency in the healthcare system]. *Fundamentalnye issledovaniya — Fundamental Research*, 4, 70–75 [in Russian].

Ponomarenko E.V., Isaev V. A. (2007). *Ekonomika i finansy obshchestvennogo sektora [Public sector Economics and Finance]*. Moscow: INFRA-M [in Russian].

Ragozin, A., Kravchenko, N. A., & Rozanov, V.B. (2015). Sravnenie natsional'nykh sistem zdravookhraneniya stran, ispol'zuyushchikh «strakhovuyu» i «byudzhetnuyu» modeli finansirovaniya [Comparison of national health systems of countries using «insurance» and «budget» financing models]. *Zdravookhranenie — Healthcare*,12, 30–39 [in Russian].

Reshetnikov, A.V., Alekseeva, V.M., Galkin, E.B., & Efimenko, S.A. (2010). Ekonomika zdravookhraneniya [Health economics]. Moscow: GEOTAR-Media [in Russian].

Sadovnichii, V.A., Grigor'eva, N.S., & Chubarova, T.V. (2017). Ot traditsii k innovatsiyam. Reformy zdravookhraneniya v sovremennom mire [From tradition to innovation. Healthcare reforms in the modern world]. Moscow: Ekonomika [in Russian].

Saltman, R.B., & Figeiras, Dzh. (2016). *Reformy sistemy zdravookhraneniya v Evrope. Analiz sovremennykh strategii [Health system reforms in Europe. Analysis of modern strategies]*. Moscow: GEOTAR-Media [in Russian].

Surmach, M.Yu., & Tishchenko, E.M. (2009). Metodologiya issledovaniya i otsenki sotsial'noi effektivnosti sistemy zdravookhraneniya (na primere okhrany reproduktivnogo zdo-rov'ya molodezhi) [Methodology of research and evaluation of the social efficiency of the health system (on the example of the protection of reproductive health of young people)]. *Zhurnal Grodnenskogo gosudarstvennogo meditsinskogo universitet — Journal of the Grodno State Medical University,*1, 102–106 [in Russian].

Taraskina, A.V., & Zurnadzh'yants, Yu.A. (2012). Sovremennye problemy analiticheskogo obosnovaniya deyatel'nosti uchrezhdeniya zdravookhraneniya [Modern problems of analytical substantiation of the activity of a healthcare institution]. *Voprosy ekonomiki — Economic issues,*19 (109), 6–16 [in Russian].

Turenko, T.A. (2013). Metodicheskie podkhody k otsenke rezul'tativnosti i effektivnosti v sisteme zdravookhraneniya na osnove dannykh ofitsial'noi statistiki [Methodological approaches to assessing the effectiveness and efficiency in the health care system based on official statistics data]. *Izvestiya Irkutskoi gosudarstvennoi ekonomicheskoi akademii- Proceedings of the Irkutsk State Economic Academy,*4, 120–125 [in Russian].

Figeiras, Dzh. et/ al. (2008). *Sistemy zdravookhraneniya, zdorov'e i blagosostoyanie: otsenka argumentov v pol'zu investirovaniya v sistemy zdravookhraneniya: spravochnyi dokument. — Evropeiskaya ministerskaya konferentsiya VOZ po sistemam zdravookhraneniya: «Sistemy zdravookhraneniya — zdorov'e — blagosostoyanie» [Health systems, health and well-being: assessing the case for investing in health systems: a reference document. — WHO European Ministerial Conference on Health Systems « Health Systems-Health-Well-being»]*. Tallinn (Estoniya) [in Russian].

Thomson, S., Foubister, T., & Mossialos, E. (2010). *Finansirovanie zdravookhraneniya v Evropeiskom soyuze. Problemy i strategicheskie resheniya [Health financing in the European Union. Challenges and strategic solutions]*. Vyp. 17. — VOZ [in Russian].

Khafiz'yanova, R.Kh., Burykin, I.M., & Aleeva, G.N. (2013). Sravnitel'naya otsenka effektivnosti sistem zdravookhraneniya razlichnykh stran [Comparative assessment of the effectiveness of health systems in different countries Bulletin of the Saint Petersburg University] *Vestnik Sankt-Peterburgskogo universiteta — Bulletin of the Saint Petersburg University,*11(2), 214–221 [in Russian].

Shamshurina, N.G. (2005). *Pokazateli sotsial'no-ekonomicheskoi effektivnosti v zdravookhranenii: normativnyi dokument s kommentanyami [Indicators of socio-economic efficiency in healthcare: regulatory document with comments]*. V.I. Starodubova (Ed.). Moscow: MTsFER [in Russian].

Shvets, Yu.Yu. (2016). Teoreticheskie i metodologicheskie podkhody k opre- deleniyu effektivnosti meditsinskoi uslugi [Theoretical and methodological approaches to determining the division of the effectiveness of medical services]. *Vestnik VGUIT — Proceedings VSUET, 4, 308*–313. doi:10.20914/2310–1202–2016–4-308–313 [in Russian].

Shishkin, S.V., Ermakov, S.P., & Kakorina, E.P. (2007). Metodika otsenki effektivnosti funktsionirovaniya territorial'nykh sistem zdravookhraneniya v Rossiiskoi Federatsii [Methodology for assessing the effectiveness of the functioning of territorial health systems in the Russian Federation]. *Nauchnye trudy NISP — Scientific works of IISP*. http://www.socpol.ru/research_projects/pdf/proj26_report_rus.pdf [in Russian].

Yakobson, L.I. (2015). *Ekonomika obshchestvennogo sektora [Public sector economics]*. Moscow: Izdatelstvo «Yurait» [in Russian].

Becker, M.H. (1974). The Health belief model and personal health behavior. C. B., Slack

Cases, C. (2006). French health system reform: recent implementation and future challenges. *Eurohealth, 12*, 10–11.

Chevreul, K., Bahrami, S. & Mladovsky, P. (2012). Health Systems in Transition. Health System Review.

Culyer, A.J. & Newhouse, J.P. (ed) (2000). Handbook of Health Economics. Amsterdam: Elsevier,

Davis, K., Schoen, C. & Stremikis, K. (2014). *Mirror, mirror on the wall. How the performance of the US health care system compares internationally* https://www.commonwealthfund.org/sites/default/files/documents/___media iles_publications_fund_report_2014_jun_1755_davis_mirror_mirror_2014.pdf

Enthoven, A.C. (2015). The history and principles of managed competition. *Health affairs, T.12, 1,* 24–48.

Grossman, M. (1972). On the concept of health capital and the demand for health. *The Journal of Political Economy, Vol. 80, 2,* 223–255.

Kim, J., Alanazi, H. & Daim, T. (2015). Prospects for Telemedicine Adoption: Prognostic Modeling as Exemplified by Rural Areas of USA. *Foresight and STI* Governance, vol. 9, 4, 32–41. Doi: 10.17323/1995–459x.2015.4.32.41

Peacock, S., Chan, C., Mangolini, M. & Johansen, D. (2001). Techniques for Measuring Efficiency in Health Ser-vices. *Productivity Commission Staff Working Paper, July.*