
ECONOMY
OF CIS-COUNTRIES

On Indicators of Improved Standards of Living in Kazakhstan

E. I. Baikova^a and N. N. Vardiashvili^b

^aChelyabinsk State University, Kostanai Branch, Kostanai

^bKostanai A. Baitursynov State

e-mail: baikova_elena73@mail.ru

Received September 30, 2014

Abstract—The paper analyzes the dynamics in standards of living in Kazakhstan for a number of recent years compared with those in Russia and Canada. Using an approach proposed by the authors, calculations on finding the optimal standard of living are made on the case of Kostanai oblast of Kazakhstan.

DOI: 10.1134/S1075700715050032

Estimating the standards of living is a rather difficult process that depends on estimating the composition and level of needs in a society, as well as on the limited ability of the national economy to satisfy them. In international comparisons, standards of living can be characterized by a number of summated and special indicators, i.e., gross national income and the real incomes of households; average and minimum wages of workers and the level of pensions, along with their correlation with the subsistence level; the level of household consumption of basic material goods; the provision of housing; income and consumption inequality; life expectancy; level of education; etc.

In world practice, the value of the gross national income (GNI) is used as an integral indicator of the resource provision of the standard of living; it is calculated based on the parity of purchasing power of currencies (PPC). In 2013, in Kazakhstan, the PPC per person was 19441 USD; in Russia, it was 22617 USD; and, in Canada, it was 41887 USD. The comparison is made with Canada and Russia because these countries have climate conditions similar to Kazakhstan, which is a vast territory with a low population density.

An important generalizing indicator that is widely used in international comparisons of the standards of living across different countries and regions, is the value of the human development index (HDI) including, along with GNI per person (by PPC), the expected life expectancy at birth and educational attainment by the population in the country. The advantage of this index is the relative simplicity of calculations and the accessibility of the data.

The use of HDI makes it possible to estimate the socioeconomic level across different countries and in the world as a whole, as well as to cluster groups of countries according to high, average, and low standards of living [1]. In world practice, all countries are divided into four groups depending on the HDI value as follows: very high (0.9–1.0), high (0.8–0.9), aver-

age (0.5–0.8), and low (0–0.5) [2]. Based on the HDI of Kazakhstan, it can be included into the group of countries with average per capita level.

Kazakhstan's place in the world based on HDI, per capita GNI (by PPC), and the Gini index is given in Table 1. In 2013, GNI by per capita (by PPC) increased in Kazakhstan by 86%, while HDI increased insignificantly by 0.003 to 0.757. However, in the 2013 world ranking, Kazakhstan moved one step down to the 70th place.

The lower inequality in distribution of money incomes can be taken as positive, which is shown by a lower Gini index.

It is not always that economic prosperity matches the value of HDI. So, according to data for 2012 from 187 countries, 103 had a higher rating in terms of HDI than that in per capita GNI, indicating a high efficiency of efforts made by these countries in “conversion” of incomes into development of human potential. On the other hand, 78 countries had HDI rating below that in per capita GIP, i.e., these countries were less successful at using their economic potential to improve their population's wellbeing. The ranking of Kazakhstan by HDI and GNI differs insignificantly, i.e., it was the 68th in HDI and the 72nd in GNI in 2011, in 2012 69-the place by HDI and 77-the place by GNI (Table 1).

The figure presents HDI dynamics in 2000–2013.

Table 2 presents country ratings based on standard of living made by The Legatum Prosperity Index Table Rankings. These ratings include the following factors: wage (included into the “economy” indicator), quality of health services (“life span”), quality of education (“education”). With regard to this rating, in 2013, Kazakhstan is 47th for standard of living out of 142 countries and lags significantly in education and life span.

Thus, the above data on the relationship between HDI and per capita GNI show that the economic

Table 1. Comparison of HDI, per capita GNI and Gini index in Kazakhstan, Russia, and Canada

Indicator	Kazakhstan			Russia			Canada		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Rank in the world by HDI	68	69	70	66	55	57	6	11	8
HDI	0.745	0.754	0.757	0.755	0.788	0.778	0.908	0.911	0.902
Per capita GNI by PPC, dollar	10585	10451	19441	14561	14461	22617	35166	35369	41887
Gini index, %	30.9	29	27.6	42.3	42	42	32.6	32.6	32.6

Source: [3–5].

potential of Kazakhstan is presently used insufficiently toward improve the quality of the standard of life.

Approaches to determining the level of subsistence in the Republic of Kazakhstan. The achievement of a certain level of the economic development of a country predetermines the system of minimum social standards, for example, the legislative determination of the subsistence minimum and the set of socially important services supplied to citizens.

The calculation of the subsistence minimum is made based on the consumer basket, the approach to which is different in the world practice. In the Western tradition the subsistence minimum reflects the incomes providing a decent standard of life according to the established standards of consumption. The subsistence level in the Republic of Kazakhstan is an estimate of the cost consumer basket, including minimum sets of food, nonfood products, and services [6–7].

Consider the approaches to determining the size of subsistence level in the Republic of Kazakhstan. For definition of the cost of the consumer basket determining the subsistence minimum, a combined method is used: the minimum food basket is formed in accordance with the norms of consumption of food products, and the cost of the nonfood part (goods and services) is taken as a percent to expenditures on food calculated statistically. At present, part of the food basket is legislatively taken as 60% of the cost of the con-

sumer basket, while the share of nonfood goods and services is accordingly 40% [6].

In accordance with the recommendations of the Institute of Nutrition, the minimum food basket includes 43 products, for each of which the consumption norms are established for each demographic group, including children (up to 13 years of age, inclusive), teenagers (14–17 years of age), working population (men 18–62 years of age, women 18–57 years of age), and pensioners (men 63 years of age, women 58 years of age). The size and structure of the food basket is made taking into account dietary level (proteins, fats and carbohydrates) and determined by the number of calories (2172 Kcal) [6].

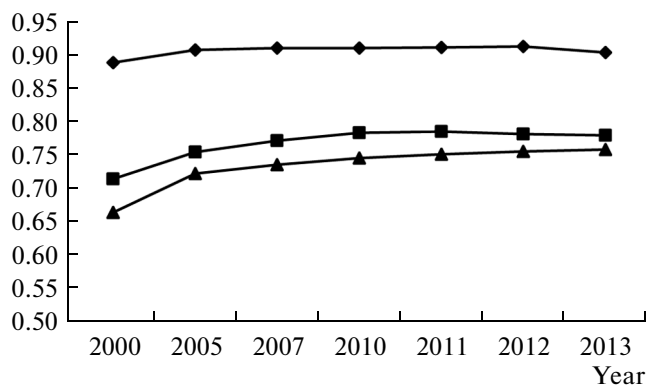
In fact, over the entire territory of the country, the same food basket and norms of consumption are used; the difference among the regions is expressed only in prices.

In Russia, the subsistence level is calculated in accordance with the “Rules for Calculation of the Subsistence Minimum in the Russian Federation” Statement of the Russian Federation Government, January 29, 2013 [8]. One of the considerable differences from Kazakhstan is that the food basket in Russia makes up half of the subsistence minimum. The content of the Russian food basket is also somewhat different, not only with respect to gender and age groups, but also in zones with different natural-climate conditions that influence the level of consumption.

At present, in both Russia and Kazakhstan, the subsistence minimum is calculated based on the quantity of goods and services that are indispensable to life, i.e., individual’s expenditures. However, in many countries, including the United States, the basis for calculations is people’s incomes, rather than expenditures. The main instrument for determination of the money income necessary to support the minimum adequate standard of living is usually the consumer budget for the minimum adequate livelihood with quantitative sets of goods and services in retail prices.

In world practice, the value of the subsistence minimum is used to determine the criterion of *poverty*.

The level of income that corresponds to the poverty line in the United States is determined by the threefold



HDI dynamics: Kazakhstan (—▲—), Russia (—■—), and Canada (—◆—).

Table 2. Comparison of ratings in standards of living across Kazakhstan, Russia and Canada

Ranking in items	Kazakhstan			Russia			Canada		
	2011	2012	2013	2011	2012	2013	2011	2012	2013
Standard of living	46	46	47	59	66	61	6	6	3
Economy	56	54	45	72	62	50	5	8	4
Education	42	43	41	34	27	26	10	3	3
Life longevity	53	60	60	42	48	44	15	15	11
Social capital	27	37	22	48	71	62	8	8	6

Source: [9–11].

cost of the minimum set of products based on the fact that the cost of foods makes about one-third of the consumer expenditures of a household [12]. In Kazakhstan, the poverty line is no more than 40% of the subsistence level, which fails to cover even people's basic food needs. In 2013, the size of the food basket for people in Kazakhstan was 10673 tenge, while the poverty line was 7115 tenge [13].

Poor people are considered to be those who cannot afford to live according to the most common social standards. For example, in the United States, the line of relative poverty is defined at 40% of the median (middle) income; in Europe, it is defined as 50% and, in Nordic countries, it is defined as 60%.

The World Bank has established a so-called International Poverty Line that defines the inalienable right to satisfy human needs, such as education, health, information, etc. For regions of the Commonwealth of Independent States, including Kazakhstan, it is estimated to be 4.3 USD/person day compared to 14.4 USD in industrially advanced countries [14].

Results of calculating the proposed synthetic approach on the case of Kostanai oblast in the Republic of Kazakhstan. In order to improve the procedure of definition of the standard of living, it is necessary, in our view, to use a synthetic approach and find the optimal parameters of standard of living taking into account satisfaction of the people's needs for food and their real level of income.

The calculations include three interconnected stages:

—calculations of *optimal* consumer basket to determine the size of the subsistence minimum taking into account the satisfaction of an individual's *physiological* needs taking into account minimization of expenditures on them;

—the detection of factors that have the *greatest* effect on the population's standards of living;

—calculations of the optimal values of the identified factors.

The developed optimization model has provisions for the food basket that is recommended by the Kazakh Academy to provide per capita need for

energy at 2670 Kcal per day [15]. For comparison: according to the definition given by the UN Food and Agriculture Organization, men should consume food at a level of 2700 Kcal/day on average, and women should consume food at a level of 2500 Kcal/day [16].

Since, in our view, a considerable fault in the product basket made in CIS countries, including Kazakhstan, is the lower consumption of meat, dairy products, fish, vegetable oil, vegetables and fruit, in our definition of the structure of the food basket, we have oriented ourselves toward the structure of the food basket used in Canada.

As has been mentioned, the legislatively established consumer basket of Kazakhstan is at issue with the task of dynamic development of the country, because it keeps all the features of the survival model, in which a considerable part of expenditures (60%) are to food products (which is a feature of undeveloped countries) and is at issue with the actual structure of the households expenditures. So, in the model, when calculating the consumer basket, the actually established (in dynamics for 2008—2013) structure of expenditures on food and nonfood products and services is used, which is 43 : 57% proportion on average. The obtained results of the optimization calculations are given in Table 3.

As can be seen from the data of Table 3, the structure of the food basket obtained as a result of the optimization calculations allows one to satisfy the minimum needs and provides for more qualitatively balanced nourishment.

We will perform a qualitative analysis of the structure of the food basket of three countries, including an optimal analysis based on the Kostanai oblast (Table 4).

The highest specific weight in the Russian basket falls on milk and dairy products at 32.6%, while vegetables (including potatoes) are 25.9%, and baked goods are 16.9%. The basket recommended by the Kazakh Academy of Nutrition is similar, i.e., milk and dairy products are 35.5%, vegetables (including potatoes) are 28.9%, and baked goods are 16.9%. The Kostanai food basket is mostly the same. In the structure of the product basket of Canada, vegetables (including potatoes) hold the first place at 27.6%, followed by milk and dairy products at 25.4 and

Table 3. Composition of the food basket, Kostanai oblast

Group of products	Minimal consumption rate per year, kg	Actual consumption in 2013, kg	Optimal consumption, kg
Bakery (bread, pasta in terms of flour, cereal, flour)	108.1	119.9	108.1
Potatoes	95.0	50.9	95.0
Vegetables	90.0	76.2	95.1
Fruit	32.0	48.2	105.3
Meat products	41.7	67.9	57.4
Fish	8.4	12.8	8.4
Eggs	7.81	10.4	8.9
Dairy products	227.3	202.3	227.3
Vegetable oil	9.0	16.5	13.4
Sugar	18.0	37.7	18.0
Other (tea)	2.9	2.9	2.9
Potable water	—	—	365

Sources [8; 12].

Table 4. Structure of food product baskets in Kazakhstan, Russia, and Canada, %

Group of products	Structure of consumption				
	minimum, recommended by Kazakh Academy of Nutrition	actual, Kostanai oblast, 2013	Optimal	minimum	
				Russia	Canada
Bakery (bread, pasta in terms of flour, cereal, flour)	16.9	18.6	14.6	16.9	13.2
Potatoes	14.8	7.9	12.8	11.2	12.7
Vegetables	14.1	11.8	12.8	14.7	14.9
Fruit	5.0	7.5	14.2	7.7	16.5
Meat products	6.5	10.5	7.8	7.5	10.0
Fish	1.3	2.0	1.1	2.6	0.8
Eggs	1.2	1.6	1.2	1.5	1.4
Dairy products	35.5	31.3	30.7	32.7	25.3
Vegetable oil	1.4	2.6	1.8	1.6	2.1
Sugar	2.8	5.8	2.4	3.0	2.1
Other (tea)	0.5	0.5	0.4	0.6	1.0
Total	100	100	100	100	100

fruit at 16.5%, while baked goods hold the fourth place at 13.2%. Furthermore, the specific proportion of vegetables, fruit, dairy products, and vegetable oil is high, i.e., 59%, and the share of meat products is considerable.

The food basket obtained in the result of optimization calculations provides increased specific weight of such groups of products as fruit, meat products, vegetable oils by 9.2 pp, 1.3 pp, and decrease to a half of the specific weight in the structure of consumption of bread and bakery and potatoes by 2.3 and 2 pp, respectively.

The structure of the optimal food basket is put maximally close to the structure of the food basket in Canada. Thus, with regard to its structure, the optimal food basket is more oriented to provision of healthy rational nutrition.

Results of the calculations of the food basket. The cost of the optimal food basket is 14833.7 tenge per month, which exceeds the 2013 actual cost of the food basket in Kostanai oblast 1.5 times and the cost of the average Kazakhstan food basket by 39% (Table 5).

As can be seen from Table 5, the cost of the minimum consumer basket is increasing every year, but

Table 5. Monthly cost and structure of consumer basket, Kostanai oblast, and Kazakhstan*

Indicator	Cost of consumer basket					Average monthly income used on consumption, per capita, tenge
	food		non-food		total	
	tenge	%	tenge	%	tenge	
Optimal	14834	43	19 663	57	34497	—
Actual by Kostanai oblast						
2012	9318	60	6212	40	15530	31 759
2013	9869	60	6580	40	16449	34 784
by Kazakhstan						
2012	10 089	60	6726	40	16815	51 594
2013	10673	60	7116	40	17789	56 520

* The size of the food and nonfood parts of the consumer basket by Kostanai oblast and Kazakhstan is calculated based on the established legislative ratios.

Source: [13, 17, 18].

considerably less than what is optimal. The basic reason for this is the low income of average- and low-paid groups of people, which should be at least doubled. This problem is very important because, in 2012, 57.6% of the population of Kostanai oblast had below average income.

Analysis of important factors that determine a population's standard of living. At the second stage, based on the correlation-regression analysis, the factors that have the greatest effect on the standard of living for the population of Kostanai oblast has been detected. For this, the statistical data for 9 years, i.e., 2004–2013, have been used. The most meaningful factors that determine the population's standard of living were incomes used on consumption, cost of food and non-food baskets, index of life longevity, level of education, per capita gross regional product, share of population with incomes below the cost of the food basket and subsistence minimum, and HDI.

As a summary indicator that characterizes the standard living of the population as a whole, HDI was chosen. At the third stage, a model that defines the optimal values of these factors accepted as variables was and the index of human potential development was taken as the utility function.

Taking into account the correlations between the meaningful indicators of the standard of living, the following groups of constraints has been formed:

—based on the part of incomes used on consumption;

—based on the cost of food and nonfood baskets;

—based on the gross regional product, level of education and life longevity;

—based on the share of the population with incomes below the subsistence level and below the cost of the food basket.

At this stage, the cost of the consumer basket has been determined based on the optimal values of food and non-food parts of the consumer basket calculated at the first stage and the actual incomes spent on consumption by the people of Kostanai oblast in 2013 [17].

In the formation of constraints in the calculation of the optimal values of the indices of the education level, gross regional product, and life longevity have been accounted both as average statistical values for 9 years and the relationship between these indices and income used on consumption.

The actual and optimal values of the standard of living factors are given in Table 6.

The calculations have shown that, at the present stage of economic growth, the maximum possible value of HDI of Kostanai oblast is 0.85, which corresponds to an above average standard of living, while the index of life expectancy can be 0.72, the index of education can be 0.9, and the index of gross regional product can be 0.93. Furthermore, the monthly cost of the food basket will be 0.178 million tenge, the cost of the nonfood part of the consumer basket 0.197 million tenge per month. Thus, the cost of the consumer basket or the cost of living of the people of Kostanai oblast should be 0.375 million tenge per month, which is above the cost of living established by Law on Republican Budget for the 2013–2015 living minimum for 2014 (19966 tenge) by nearly 1.9 times.

Of course, due to the increased value of the subsistence minimum, the share of the population with incomes below the cost of the food basket and subsistence minimum will increase to 0.7 and 9.7%, respectively.

Conclusions. At first sight, when comparing Kazakhstan with other CIS countries, people seem to live relatively well; the subsistence minimum is slightly above 113 USD, following 193 USD in Russia and 174 USD in Ukraine [19], but the quantity of goods and services that it is possible to have for the subsistence minimum

Table 6. Actual and optimal values of the standard of living factors, Kostanai oblast, population

Indicator	Actual value 2013	Optimal value
Incomes per capita used on consumption, thousand tenge		
per year	4.174	–
per month	34.8	0.375
Cost of food basket, million tenge		
per year	1.184	2.140
per month	0.099	0.178
Cost of nonfood basket, million tenge		
per year	0.79	2.36
per month	0.066	0.197
Cost of consumer basket, million tenge		
per year	1.974	4.5
per month	0.164	0.375
Monthly average subsistence minimum, million tenge	0.164	0.375
Life longevity index	0.72	0.072
Education index	0.88	0.009
Index of gross regional product	0.075	0.093
Human development index	0.078	0.085
Share of population with incomes below the cost of the food basket, %	0.2	0.007
Share of population with incomes below the subsistence minimum, %	2.6	9.7

in different countries of the post-Soviet space is highly different. As was mentioned, in CIS countries, the basis for calculations is the subsistence minimum, a food basket is taken that makes 50–60% of the subsistence minimum and, in the countries far abroad, it is nonfood products and paid services. For example, the food basket of the United States consists of 16 products, but the consumer basket includes 300 titles, including clothes, footwear, rent of housing, pay for vehicular communication and Internet, tobacco, and alcohol items. In Canada, the nonfood basket includes expenditures to lease housing with three to four rooms, transport expenditures, purchases of telephone, furniture, etc. (in total 48 items [20–21]).

The media continually shows information indicating that the consumer basket in Kazakhstan will be revised [22]. It is planned to make changes in the structure of the consumer basket; by 2015, the food part will decrease to make 55%, while the nonfood part will be 45%. The Kazakh Academy of Nutrition proposes increase in the assortment of vegetables and fruit to compensate for the shortage in the ratio of vitamins and minerals, and the list of products will be increased from 43 to 50 items [23].

However, even with these changes, the problem will persist. The total cost of minimum consumer basket should be made valid; the size of a number of basic social benefits will depend on its level.

Compared to the international poverty line established by the World Bank for CIS countries at

4.3 USD/person per day, the size of the subsistence minimum for the people of Kostanai oblast was 3.6 USD in 2013 (by Kazakhstan 3.9 USD), the indicator of the subsistence minimum calculated by our procedure with account taken of the dollar rate it makes 6.8 USD/person a day.

It follows from this that the rate of living for the people of Kostanai oblast is low despite the fact that Kazakhstan, by the classification of the World Bank, is a country with a high level of income and, with regard to HDI, it is a country with an average standard of living.

M. Aitzhanov, an expert academician of the Kazakh-mission supply said, in presenting in the Parliament a draft of the new consumer basket, that if the current food basket, including 43 expending items, costs 0.01 million tenge, then the cost of the new one will be more than 0.159 million tenge. This means that the minimum subsistence level will be close to 0.026 million tenge [24]. From dynamics of HDI, GNI and our calculations, it follows that Kazakhstan, in particular Kostanai oblast, has a sufficient enough potential to increase the food and the overall consumer basket. This requires more efficient exploitation of existing capacity through shift of priorities to improving the standards of living of the population.

In order for the minimum social standard we considered to correspond to the subsistence minimum, it is necessary to meet not only the population's physiological needs in nutrition, but also satisfy a certain level of social and cultural needs and to increase the

list of expenditures on education and health care. The economic growth has to be accompanied by the gradual appreciable improvement of the life quality standards.

The proposed approach to defining the maximally possible subsistence minimum defined in accordance with the integral indicator of the standard of living; i.e., based on the currently available opportunities, HDI should be applied to other oblasts of Kazakhstan and to the country as a whole.

REFERENCES

1. Ye. A. Kos'mina, "On the problem of reconstruction of the indicators of human development," *Kreat. Ek.*, No. 9 (33), 2009.
2. M. A. Ponomareva, "Definition of priorities of region's sustainability based on the human development index," *Sovr. Issl. Sots. Problem*, No. 3, 2011.
3. Human Development Report 2011. Sustainability and Equity: A Better Future for All. Date Views 29.07.2014. URL:// <http://hdr.undp.org/en/content/human-development-report-2011>
4. URL:http://hdr.undp.org/en/media/HDR_2013_summary_RU.pdf (date 25.04.2014).
5. Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience. Date Views 29.07.2014// URL://<http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf>
6. The Joint Order of the Ministry of Labor and Social Security of the Republic of Kazakhstan of December 2005, No. 307/1p and the RK Agency in Statistics of December 5, 2005, No. 194 "On Approval of Rules for Calculation of the Value of Living Minimum".
7. The Law of the Republic of Kazakhstan of November 16, 1999, No. 474 "On the Subsistence Minimum", *Kazakhstanskaya Pravda*, November 19, 1999, No. 270.
8. Statement of the Russian Federation Government of January 29, 2013, No. 56 "On Approval of the Rules for Calculation of the per Capita Subsistence Minimum and for Main Socio-Demographic groups of Population in Totality of the Russian Federation Population", *Russian Federation Legislation*, No. 5, 2013.
9. Table of standard of living in the world countries, 2011 URL: <http://gotoroad.ru/best/indexlife/2011>
10. Table of standard of living in the world countries, 2012 URL: <http://gotoroad.ru/best/indexlife/2012>
11. 2013. The legatum prosperity indexTM. Date Views 29.07.2014: URL:http://media.prosperity.com/2013/pdf/publications/PI2013Brochure_WEB.pdf
12. Living in Near Poverty in the United States: 1966–2012. Current Population Reports. By Charles Hokayem and Misty L. Heggeness. Issued May 2014. URL: <http://www.census.gov/library/publications/2014/demo/p60-248.html>.
13. Preliminary Data for 2013. Stat. Book of the RK Agency in Statistics, Astana, 2014.
14. World Bank (2005M): Millennium Development Goals: Progress and Prospects for Europe and Central Asia. Washington, D.C.
15. Improved Methods for Definition of the Subsistence Minimum for a Part of Food Basket with Account for Needs of Women and Children, Alma Aty, 2012.
16. Human Energy Requirements. Report of Joint FAO/WHO/UNU Expert Consultation. Rome, 17–24 October 2001, Food and Nutrition Technical Report Series, FAO. Rome, 2004.
17. Expenditures and Income of Households in Kostanai Oblast. Stat. Book of the Department of Statistics of Kostanai oblast of the Agency of Republic of Kazakhstan in Statistics, Kostanai, 2013
18. Standard of living of Kostanai Population, 2008–2012. Stat. Book of the Department of Statistics of Kostanai Oblast Agency, of the Republic of Kazakhstan in Statistics. Kostanai, 2013.
19. "What Comes to the New Food Basket?" *Vechern gazeta* 333 (747), August 15, 2012.
20. Michaud, Sylvie, Cathy Cotton, and Kevin Bishop (2004) "Exploration of methodological issues in the development of the market basket measure of low income for Human Resources Development Canada", *Statistics Canada*. <http://www.statcan.gc.ca/pub-eng.pdf>
21. "Methods for poverty threshold determination: an experience of four countries," Group of Technical Support on Problems of Decent Labor: an Experience of Four Countries" Group of Technical Support on Problems of Decent Labor and ILO for Eastern European and Central Asian Countries, ILO, 2012.
22. Composition of the consumer basket in Kazakhstan in 2013. URL:<http://zonakz.net/articles/55056>
23. Consumer basket can be changed.: URL:<http://kapital.kz/economic/26782/potrebitelskaya-korzina-mozhet-byt-peresmotrena.html>
24. M. Levykina, What is included in the consumer basket: <http://rus.azattyq.org/content/disputed-content-of-consumer-basket-in-kazakhstan/24906405.html>

Baikova, Elena Ivanovna, senior lecturer
Vardiashvili, Nikolai Nikolaevich,
 Cand. Sci. (Econ.), assistant professor
Translated by D. I. Shtirmer