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REGIONAL DIFFERENTIATION IN HOUSING AND COMMUNAL SERVICES: IMPACT ON ECONOMIC SECURITY

The article considers the problems of increasing economic security and quality of life, which are the strategic priority of the world community. Authorial methodology for assessing regional differentiation in the housing and communal sector has been developed. It was tested on the example of 17 regions of Russia. The statistical data for 45 years were used. The proposed methodology was first applied to identify links between sectoral indicators, levels of economic security and the quality of life of the population. Comparison of indicators with threshold values allowed to conduct an economic security assessment, identify dangerous trends, identify regions with high, medium and low levels of security. The authors argue that in Russia, considering its size and uneven distribution of resources, the problem of sectoral and regional differentiation is most acute. The high volatility of the development of certain industries significantly affects the quality of life of the population in different regions of one country.

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Currently, one of the strategic national priorities of the world community, including Russia, is to improve the quality of life of the population. The change in the quality of life reflects the effectiveness of national economic security. The main threat to economic security is the

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unfavorable dynamics of economic development, which predetermines the relevance of scientific research assessing the impact of the development of individual sectors of the economy on the quality of life of the population. Development of modern instruments of economic security requires mandatory consideration of sectoral and regional developmental features, the degree of their differentiation according to various criteria and indicators, including the results of the assessment of the effectiveness of government bodies' activities.

Each state has a certain socio-economic differentiation. As for Russia, considering its huge area, uneven distribution of socio-economic, natural, technological, demographic resources, the problem of sectoral and regional differentiation is most acute, which makes it necessary to identify and reduce the backlog of regions as much as possible from the average Russian level.

Problems of regional differentiation in the sphere of housing and communal services are urgent as this important industry of national economy influences the quality of life of the population.

In the Russian industry of housing and communal services, more than 50 thousand economic subjects (the state and municipal entities, managing companies, the resource supplying organizations, non-commercial communities, etc.) oriented to forming of an effective and high-quality life support system of the population of the country function now. Throughout formation, forming a housing and communal services permanently, and everywhere test, the different types of threats connected with insufficient ensuring its development. It predetermines need of scientific research and the analysis of the factors influencing effective functioning of institutional and infrastructure mechanisms of a housing-and-municipal industry of economy, and development of the scientific and methodological tools directed to increase in the level of its economic safety.

Recent research and publication analysis

Modern scientific researchers pay a lot of attention to questions of research of organizational and economic mechanisms of improvement of quality of life of the population. In modern conditions, include not only the consumer benefits and working conditions and extent of development of the services industry in the content of category "quality of life". The level of development and quality of housing and communal services directly influence the welfare of the population, household, sanitary, and hygienic living conditions, purity of water and air basins, and labor productivity level and social and economic development of the territories (Valentey, Bakhtizin, Bukhvald & Kolchugina, 2014, p. 9-22). Therefore, the stable functioning of the sphere of housing and communal services influences the level and quality of life of the population.

Now housing and communal services have trouble. Difficulties arise because of weak technological level and a lack of capacities of the branch, deficiency of funds for development and the maintenance of a housing-and-municipal complex. Today housing and communal services are a threat of national security of the country as accident rate, the number of technogenic destructions with serious consequences increases, decreases

reliability and stability of work of life support systems of the population (emergency and shabby housing stock, wear of fixed assets of a housing-and-municipal complex). However, despite the close attention of the scientific community to ensuring an economic safety, there is a need of detailed consideration of indicators of an economic safety for the sphere of housing and communal services.

While speaking about territorial differentiation, it is worth mentioning the well-known theoretician of the “new economic geography” P. Krugman (Krugman, 2008), who believed that the cumulation of economic activity in regions that have a favorable geopolitical position, rich resource potential, developed infrastructure, and implement an active policy for the development of human capital with agglomeration effect is the main cause of economic inequality.

The level of Russian regional and sectoral differentiation by many researchers (Krivoshey 2005; Bruscalioni, Cellini and Saracino, 2015) is recognized as critical and is characterized by a much greater differentiation compared with the level of acceptable unevenness. Economic differentiation can be leveled by influencing the causes that lead to it. The methods of such leveling can be very different, for example, influencing the starting capacities of regions, the structure of the economy, the sectoral features of development, the availability of comfortable housing, the use of quality water, demographic indicators, etc. (Glazyrin, 2013).

The concept of economic security researchers consider from different points of view. Thus, the United Nations focuses on the international aspects of economic security, which are of particular importance for the development of relations between industrialized and developing countries. For example, United Nations General Assembly resolution 42/165, “International Economic Security” and the report of the Secretary-General of the United Nations “Concept of international economic security” (a/42/314 of 4 June 1987). In defining economic security, the authors consider the conditions specific to develop and developing countries, and the prevailing view is that its content reflects the state of the economy of the country that provides the ability to withstand adverse external economic impacts. For developing countries, along with external circumstances, the authors take into account the internal economic situation, for example, the disproportion of economic development.

Housing and communal services are a set of life-supporting industries in the region, the functioning of which directly affects the quality of life of the population and the level of economic security (Koroleva and Timofeeva, 2015).

Analysis of the state of the housing and communal services industry in Russia leads to the conclusion that a number of threats to economic security accompany the functioning of this industry. The considered neglect of infrastructure in the sphere of housing and communal services has a negative impact on the quality of life of the population. The current situation requires increased attention from the public authorities.

Thus, the role and place of housing and communal services as a separate object in the system of economic security includes the following features and patterns that directly affect the level of economic security of housing and communal services:

- 1) The Sector of housing and communal services refers to the infrastructure complex of the country, region, and individual territory. The infrastructure complex unites the industries that produce a variety of services, provides high-quality functioning of various parts of the economy, and determines the quality of life of the population, which significantly affects the level of national and economic security.
- 2) Subjects of housing and communal complex (power, water, gas and heat supply) are characterized by external economic instability (in particular, uneven demand), as well as very high fixed costs. As a result, the marginal costs in them decrease with the growth of production and are lower than the average, which leads to loss of enterprises and organizations that supply housing and communal services. As subjects of housing and communal services are commercial and non-profit organizations, large (energy production, water utility, engineering and utilities) and small (for example, management organizations) enterprises and organizations. Unlike business structures, profit should not become the main goal and a key indicator of the effectiveness of enterprises and organizations of housing and communal services.
- 3) Functioning of housing and communal infrastructure has large-scale positive effects, i.e. such results of their activity which are realized not in profit of its enterprises, and in the increase of profit of the enterprises, economy of expenses and growth of welfare of the population. The sector of housing and communal services is characterized by a combination of production and non-production functions, which are associated with the production of material products and the provision of services.
- 4) Housing and communal services is an integral part of a larger and more complex system-the economy of the region. The components of the housing and communal complex have a number of quantitative and qualitative differences. The subjects of housing and communal services are organizationally divided by territorial and sectoral characteristics, often they have dual subordination. The activities of housing and communal services enterprises are characterized by the following specific features: the inability to compensate for the failure of the production program of housing and communal services without prejudice to consumers or its subsequent over-fulfillment, or the provision of other types of services, the variable mode of operation in accordance with the schedule of consumption of housing and communal services. Climatic specifics of regions lead to a difference in seasonality of the provided housing and communal services and, consequently, to objectively different cost of housing and communal services.
- 5) The activity of the subjects of housing and communal services is accompanied by an increased social effect. Regulation of the activities of the subjects of housing and communal services is a necessary part of the state social policy. The non-subsidized functioning of housing and communal services and the full payment of housing and communal services by the population at their real cost contribute to the transformation of the structure of the population's expenditures, lead to a decrease in the social welfare of households and their demand in the market of consumer goods and services. In the sectors of housing and communal services, there is a mass production of public services, which have a high social value, but such services cannot be sold as ordinary goods. The peculiarity of housing and communal services as a life-supporting sector of the state

economy is that it is necessary to ensure a minimum of housing and communal services, regardless of the solvency of the population. The special social significance of the functioning of the subjects of housing and communal services requires state regulation and public control (in particular, by consumers of housing and communal services).

The authors' analysis of the differentiation of the regions of Russia belonging to the Eastern part of Europe in the sphere of housing and communal services allowed to reveal the distinctive signs of threats to the economic security of the region arising in the field of housing and communal services, which are systematized in Table 1.

Table 1

Distinctive industry features of threats to the economic security of housing and communal services and their characteristics

Distinctive feature	Characteristic
Multiplicative effect of increasing threats	Housing and communal services is an important branch of the regional economy. Its activities have an impact on other components of the region's economy – social, financial, investment, production, etc.
Complex nature of threats	The economic security of housing and communal services is affected by various socio-economic factors (inflation, unemployment, etc.). The functioning of this industry is influenced by the contradiction between the interests of business and society, as the purpose of the functioning of enterprises of housing and communal services is to make a profit, which contributes to the increase in prices for housing and communal services, while the main effect of their activities is obvious social nature. Therefore, there is a need for state regulation of housing and communal services.
Socio-economic nature of threats	The entire population of the country is directly dependent on the provided housing and communal services, as the housing and communal services industry ensures the safety of life and contributes to the creation of comfortable living conditions.

These features determine the impact of the housing and utilities sector on the socio-economic development of the regions, the state of regional infrastructure and the quality of life of the population.

Taking these circumstances to consideration, the trend towards increased regional differentiation, as well from the point of view of the efficiency of the housing and communal services sector, is extremely unfavorable, creating a real threat to the national economy and the quality of life of the population. Robert Reich (Reich, 2012, 2015) writes in his works about the "slipping of the economy" towards the inevitable inequality of incomes and, as a consequence, the deterioration of the quality of life of the middle class in America. Similar trends are observed in Russia. Integral assessment of the level of development of housing and communal services in the constituent territories of the Russian Federation is a difficult and very urgent task, because it is almost impossible to provide the reflection of the real state of the industry with the help of some formalized methods. Nevertheless, some important characteristics can be identified, which can give an idea of the current situation in the communal sector of the region. These circumstances determine the need to develop a methodology for assessing regional differentiation based on the

analysis of the dynamics of sectoral indicators for the subsequent determination of their impact on the quality of life and the level of economic security.

The research objective

The research objective consisted in definition of the influence of regional differentiation in the sphere of functioning of branch of housing and communal services on quality of life of the population in regions of Central Federal District of the Russian Federation based on the developed and approved indicators of economic security of housing and communal services.

Key research findings

Housing and communal services represent a set of life-supporting branches of economy of the region which functioning directly influences the quality of life of the population and the level of economic security. Taking into account these circumstances, the trend to the strengthening of differentiation of regions from the point of view of efficiency of housing and communal services and quality of life is extremely adverse, creating a real threat for the national economy [4, 6, etc.].

Integrated assessment of the level of development of housing and communal services in subjects of the Russian Federation is a difficult and very urgent task since the formalized methods do not reflect a real condition of housing and communal services.

Nevertheless, authors consider that it is possible to define some major characteristics allowing gaining an impression about the situation in housing and communal services which has developed in the region. Therefore, indicative assessment of regional differentiation in the sphere of housing and communal services is necessary for the subsequent definition of influence on quality of life and the level of economic security.

The indicator is an integral index that quantitatively determines the qualitative characteristics of the economic process. Among the various numerous indicators that assess the state of housing and communal services and the specifics of sectoral economic security threats (Sorgutov and Glazyrin 2013), we have identified groups of indicators that are characterized by the following features: the possibility of quantitative assessment of indicators; high volatility and sensitivity to socio-economic and political processes; interaction and mutual influence.

It is possible to assess the regional differentiation basing on four groups of integral indicators of economic security in the housing and communal sector: industrial-technological, financial-economic, institutional and social, which have been studied in detail in the scientific works of the authors.

To determine the threshold values of indicators of economic security of housing and communal services and to identify on this basis the main threats, the authors used multivariate statistical methods. Having conducted a functional and institutional analysis of housing and communal services in 17 subjects of the Central Federal district of the Russian

Federation, belonging to the Eastern part of Europe, the authors identified four integral indicators of economic security of housing and communal services: production and technological, financial, economic, institutional and social. After statistical analysis, the authors determined the threshold values of indicators of economic security of housing and communal services.

Thus, the study showed that the largest number of thresholds have indicators such as debt on housing loans (94.1% of the total number of regions), household spending on housing and communal services, including telecommunications and the Internet (94.1%), the number of unprofitable enterprises of housing and communal services (82.3%), the number of families who have improved housing conditions (76.4%), fully worn-out fixed assets of housing and communal enterprises (76.4%), violations in the management of housing and communal services (70.5%).%, investment in housing (35.3%). At the same time, the threshold values of these indicators indicate the presence of real threats to the economic security of housing and communal services and a decrease in the quality of life of the population.

This article presents the results of the assessment of two main production and technological indicators – an improvement of housing stock and the degree of depreciation of main funds of housing and communal services organizations.

An indicator of housing stock improvement reflects the number of housing units equipped with running water, sewerage, heating, bathroom (shower), gas, hot water, electric stoves. With the increase of construction activity, the improvement of the housing stock should increase, but as a result of the retrospective analysis, these indicators show multi-vector trends related to political and socio-economic transformations in Russia (see Table 2).

Table 2
Housing stock improvement in Russia for 1970-2015 (as a percentage of total housing stock)

Conveniences	1970	1980	1985	1995	2000	2005	2010	2013	2014	2015
Running water	78.9	89.8	91.8	71.0	73.0	76.0	78.0	80.0	77.0	75.9
Sewerage	75.8	87.8	89.7	66.0	69.0	71.0	74.0	75.0	73.0	72.2
Central heating	73.6	86.5	88.9	68.0	73.0	80.0	83.0	84.0	82.0	82.0
Gas	64.6	79.7	78.4	69.0	70.0	70.0	69.0	68.0	65.0	65.0
Hot water	33.8	57.1	71.2	55.0	59.0	63.0	65.0	66.0	64.0	74.0
Bathroom	60.7	79.9	83.2	61.0	64.0	65.0	67.0	68.0	65.0	66.0
Average index	64.6	80.1	83.9	65.0	68.0	70.8	72.7	73.5	71.0	72.5

While the research and calculation process the authors used the official statistics data (Rosstat, 2017).

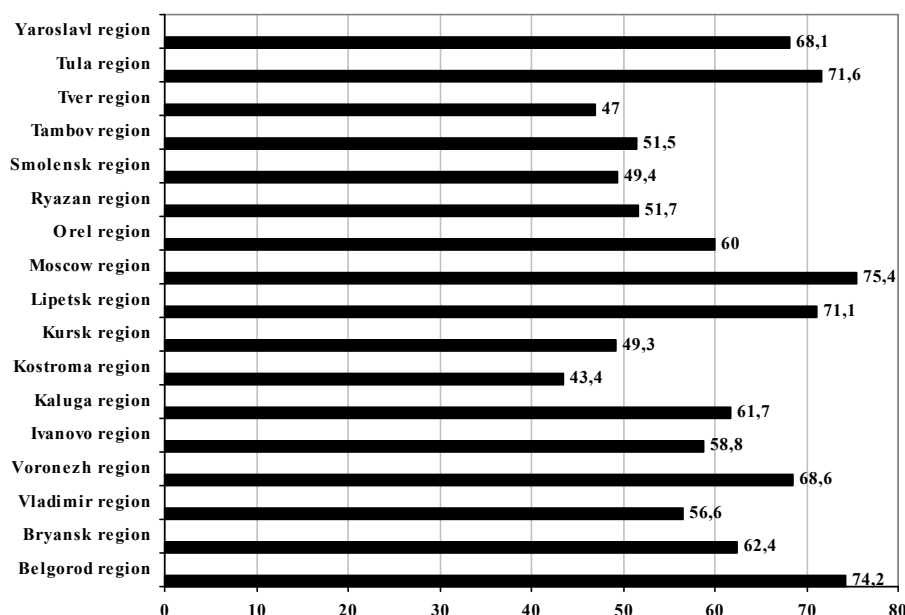
The positive dynamics of the indicator of the housing stock improvement was observed from 1970 to 1985 – averaging 19.3%, from 1995 to 2013 – averaging 8.5%. However, the pace of growth in housing improvement decreased by a factor of three. In 1985, the country's housing stock was maximally improved and provided with running water by

91.8%, sewerage by 89.7%, central heating by 88.9%, bathrooms and showers by 83.2%, gasification reached 78.4%. In 2015, the indicators of housing improvement deteriorated and reached the level of 2010. The revealed dynamics over the past 45 years demonstrates the existence of a deep social and economic crisis caused, primarily, by the radical economic reforms in Russia in the early 1990s.

However, in world studies (Global Health Observatory, 2016) the household energy consumption index is used, which shows the proportion of the population, using solid fuels, i.e. not having central heating. The use of solid fuels in households replaces the indoor air pollution index. The use of solid fuels such as firewood, charcoal and crops is associated with a decline in the quality of life of the population and the increasing mortality among the population. The greatest risk – over 90% – falls on the countries of Africa, North Korea. The most favorable situation is observed in Europe, Russia, USA, Canada, Australia, Japan. In China, India, Indonesia, about half of the population is exposed to risks, as they use solid fuels and do not have central heating.

To identify regional differentiation basing on the reported data of the fund for the reform of housing and communal services (Foundation for Assistance to the Housing 2016) an assessment of the improvement of the housing stock for 2015 was made by the example of 17 subjects of the Central Federal District of the Russian Federation. The city of federal significance Moscow was excluded from the study because of its significant differences from other subjects (Figure 1). The presented indicators were calculated by the authors.

Figure 1
Housing stock improvement in the regions of the Central Federal District of the Russian Federation in 2015 (as a percentage of the total area of the housing stock)

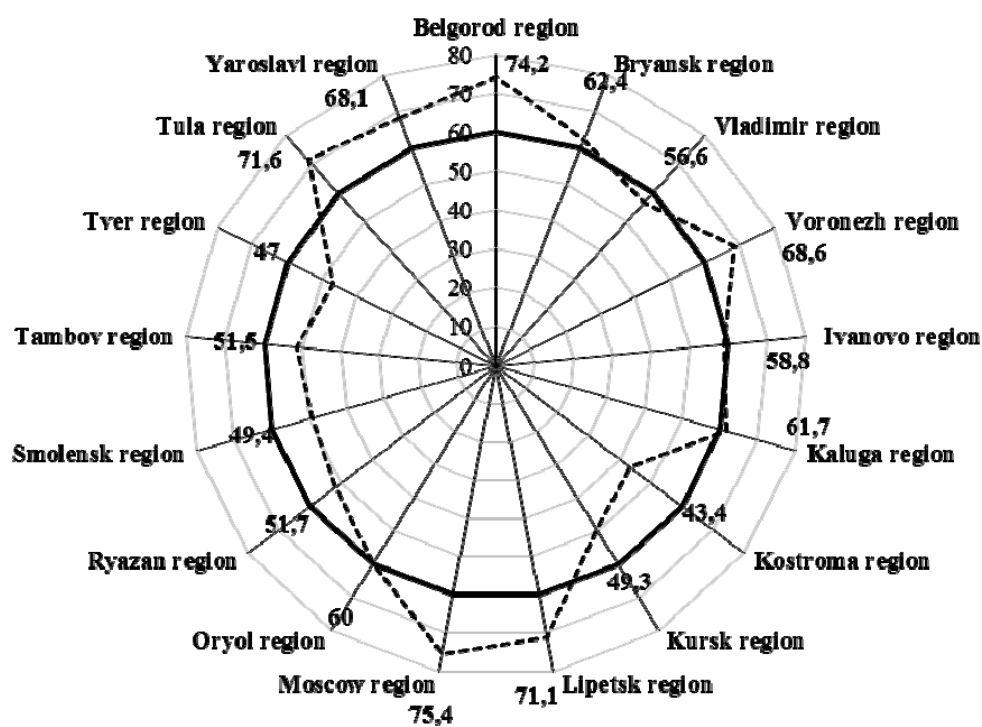


The analysis allows to draw a conclusion about the sectoral inequality in the regions for the improvement of the housing stock, which is characterized by the largest amount of comfortable housing in 2015 in Moscow (75.4%), Belgorod (74.2%) and Lipetsk regions (71.1%). The minimal indicators of housing comfort are observed in Kostroma (43.4%), Tver (47%), Smolensk (49.4%) and Kursk (49.3%) regions, which indicates serious threats to the economic security of the housing and communal services in these regions in terms of reducing the quality of life of the population.

The threshold value of the indicator of housing stock improvement basing on the study is identified by the authors as 60% of the total number of housing, the reduction of which requires urgent state and public intervention to equalize the quality of life of the population and ensure economic security in the industry and the region. For descriptive reasons the condition of improvement of housing in regions following the results of 2015 in relation to the threshold value is presented in Figure 2.

Figure 2

Improvement of housing stock in regions of the CFD of the Russian Federation in relation to the threshold value (percentage of the total area of housing stock), authors' construction



For a more objective and accurate definition of the level of economic security of the housing and utilities sector, it is essential to analyze the dynamics of this indicator, that is, the characteristics of the process of forming a trend (or smoothing out) the differences between regions in the housing and communal sector. The quality of life of the population directly depends on the housing stock improvement (water supply, sewerage, central heating, gas, electric stoves, bath/shower, central heating), and therefore the level of economic security of the state and society rises. Table 3 shows the indicators of housing improvement in the regions of Russia in 2009-2015 (Murie, 2007, p. 49-66).

Table 3

Housing stock improvement in 2009-2015 (as a percentage of the total area of the housing stock)

Subject	2009	2010	2011	2012	2013	2014	2015
Belgorod region	65.1	66.7	66.2	66.6	69.8	72.4	74.2
Bryansk region	57.1	57.6	58.2	59.7	62.9	61.4	62.4
Vladimir region	65.1	65.2	64.8	65.8	65.0	58.3	56.6
Voronezh region	61.0	61.7	62.5	63.2	64.3	67.1	68.6
Ivanovo region	59.6	59.9	60.1	60.2	60.6	59.4	58.8
Kaluga region	60.1	60.3	60.3	60.6	60.7	53.7	61.7
Kostroma region	54.7	55.1	56.3	55.8	57.0	45.5	43.4
Kursk region	56.2	56.7	57.3	57.8	58.2	50.7	49.3
Lipetsk region	69.3	70.0	69.7	70.1	72.5	70.9	71.1
Moscow region	68.2	68.4	68.0	68.1	68.6	74.0	75.4
Oryol region	63.6	63.8	63.7	63.9	65.7	60.8	60.0
Ryazan region	61.3	62.1	62.3	62.2	63.8	53.6	51.7
Smolensk region	56.2	56.5	57.4	57.6	59.1	50.8	49.4
Tambov region	59.6	60.1	61.5	61.8	63.2	53.1	51.5
Tver region	52.8	53.4	54.2	54.4	54.2	48.2	47.0
Tula region	62.6	66.2	69.3	69.3	69.3	69.8	71.6
Yaroslavl region	61.2	69.7	69.8	69.8	70.0	67.6	68.1

The study of this indicator shows its positive dynamics in 2009-2015 in Tula, Belgorod, Voronezh, Yaroslavl, Moscow and Bryansk regions. Negative dynamics of housing improvement is observed in Kostroma, Ryazan and Vladimir regions.

Thus, despite the active measures taken by the state to reform and modernize the housing and communal services, the indicator of the housing stock improvement shows significant differences in the sectoral development of the housing and communal services, which affects the quality of life of the population and the level of economic security in the regions. The level of economic security of the regions according to the indicator of the housing stock improvement was calculated by the authors and is presented in Table 4.

Table 4

The level of regional economic security according to the indicator of the housing stock improvement

Region	The amount growth of well-maintained housing stock (as a percentage of 2009)
<i>High level</i>	
Tula region	+14.3
Belgorod region	+14.0
Voronezh region	+12.4
Yaroslavl region	+11.2
Moscow region	+10.5
Bryansk region	+9.3
<i>Satisfactory level</i>	
Lipetsk region	+2.6
Kaluga region	+2.6
<i>Low level</i>	
Ivanovo region	-1.3
Oryol region	-5.6
Tver region	-11.0
Smolensk region	-12.0
Kursk region	-12.2
Vladimir region	-13.0
Tambov region	-13.6
Ryazan region	-15.6
Kostroma region	-20.6

A high level of economic security with positive dynamics was demonstrated by 35% of the subjects. Satisfactory level of economic security of housing and communal services for the housing stock improvement was identified in Lipetsk and Kaluga regions. These regions constitute the so-called "middle" of the rating. At the same time, a low and dangerous level was detected in 53% of subjects. Thus, in Kostroma region, the reduction in the share of well-equipped housing in comparison with 2009 was 20.6%, in Ryazan region – 15.6%.

The degree of depreciation of fixed assets of housing and communal services organizations is another indicator, the results of which are presented below. With the passage of time and in the absence of renovation processes, depreciation of fixed assets increases, which indicates a deepening crisis in the housing and communal services sector. Thus, from 2005 to 2015, depreciation of fixed assets of enterprises of housing and communal services increased by an average factor of 1.4 (see Table 5).

Table 5

Degree of depreciation of fixed assets for 2005-2015 (as a percentage of the total number of fixed assets)

Type of economic activity	2005	2010	2011	2012	2013	2014	2015
Management of housing stock operation	29.3	45.7	46.3	39.7	47.1	53.0	59.6
Gas production and redistribution	39.1	41.3	25.1	37.1	43.2	44.3	45.4
Production, transmission and redistribution of thermal energy	41.3	44.8	36.2	38.8	41.5	41.5	41.5
Collection, purification and distribution of water	54.7	49.2	56.7	49.1	58.3	59.1	60.0
Management of uninhabited fund operation	27.5	27.8	37.1	32.0	39.6	43.3	47.3
Sewage and waste disposal	33.4	46.1	35.5	48.6	40.8	42.5	44.6
Personal services provision	34.7	42.8	35.5	48.6	43.4	46.6	50.0

The analysis of official statistical data (Rosstat 2017) for 2005-2015, systematized in Table 4, showed the largest depreciation of fixed assets in enterprises for collection, purification and distribution of water (60.0%), as well as in enterprises that manage the exploitation of housing stock. The least deterioration of fixed assets falls on the organization for production, transfer and redistribution of thermal energy (41.5%) and enterprises for disposal of wastewater and garbage (44.6%). There is no official data on the degree of depreciation of fixed assets of enterprises in the inspected industry in 2014-2015, therefore, using the method of exponential smoothing, we predict that, on average, the degree of depreciation of established enterprise funds in 2015 compared to 2005 has increased by 12.7%

A high share of completely worn out fixed assets of the housing and communal sector constitutes a serious threat to economic security. About 50% of communal equipment in Russia was manufactured 20 years ago. Over the past 10 years, the number of violations and accidents in the work of communal facilities has grown 5 times. About 50% of facilities and utilities require replacement; at least 15% are in an emergency condition. Losses in thermal facilities and networks reach 40%, water pipes – up to 20%, electricity – up to 15% (Rosstat, 2017).

Unsafe water supply and inadequate sanitation increase the risk of diseases and worsen the quality of life of the population. The health of the population depends on the effectiveness of water purification. According to international studies, in 2013, 97% of the population in Russia use quality water sources and 70% of the population use high-quality sanitation facilities (World Health Organization, 2013), which does not correspond to the indicators obtained on the results of our research. The received results testify to a high degree of depreciation of fixed assets at enterprises for collection, purification and distribution of water, which does not allow to provide the population with high-quality water.

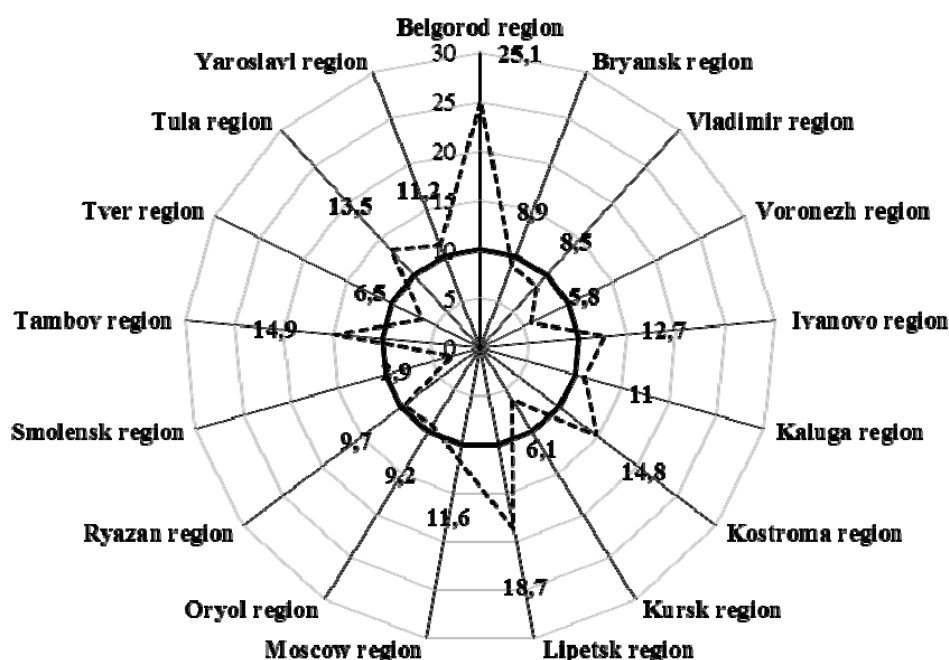
On average, the number of worn-out fixed assets of enterprises in the industry in 2015 constituted 11.2%. Researchers determine the threshold value of the indicator of total depreciation of fixed assets as 10% of the total number of fixed assets of enterprises of the housing and communal services. If the threshold value increases by more than 10%, then

urgent state and public intervention is required to protect the population from extreme man-caused and natural disasters.

For descriptive reasons the condition of wear-out of fixed assets of subjects of housing and communal services in regions following the results of 2015 in relation to the threshold value is presented in Figure 3.

Figure 3

Wear-out of fixed assets of the enterprises of housing and communal services in regions of the CFD of the Russian Federation in relation to the threshold value (percentage of the total area of housing stock), authors' construction



For a more objective and accurate determination of the level of economic security of the housing and communal services, it is essential to analyze the dynamics of this indicator, characteristics of the process of forming a trend (or smoothing) the differences between regions in a given sector. The degree of renewal of fixed assets at enterprises of the housing and communal services raises the quality of life of the population, and, consequently, the level of economic security. Table 6 presents the generalized indicators of the share of worn-out fixed assets of organizations and enterprises for the production and distribution of electricity, gas and water in the regions in the regions studied for 2009-2015. The indicators were calculated by the authors.

Table 6

The share of depreciation of fixed assets for 2009-2015 (as a percentage of the total number of fixed assets)

Region	2009	2010	2011	2012	2013	2014	2015
Belgorod region	6.5	8.3	11.1	15.5	16.1	20.1	25.1
Bryansk region	13.9	11.1	7.4	10.0	10.4	9.6	8.9
Vladimir region	16.3	10.1	9.7	11.7	10.6	9.5	8.5
Voronezh region	9.0	8.6	7.8	6.4	6.8	6.3	5.8
Ivanovo region	17.2	15.8	16.2	14.3	15.6	14.1	12.7
Kaluga region	26.5	28.2	22.1	19.2	14.9	12.8	11.0
Kostroma region	7.7	7.0	9.9	10.5	12.0	13.3	14.8
Kursk region	7.3	6.7	7.3	7.0	6.5	6.3	6.1
Lipetsk region	7.9	8.7	11.0	13.2	14.1	16.2	18.7
Moscow region	13.8	11.8	12.8	12.5	12.4	12.0	11.6
Oryol region	18.2	14.9	15.7	11.0	11.6	10.3	9.2
Ryazan region	15.4	13.4	12.9	10.5	11.4	10.5	9.7
Smolensk region	7.1	8.4	7.7	7.4	7.4	4.7	2.9
Tambov region	5.9	4.9	5.2	11.4	11.0	12.8	14.9
Tver region	7.2	7.2	8.6	5.7	6.8	6.6	6.5
Tula region	14.4	14.4	16.5	14.6	13.9	13.7	13.5
Yaroslavl region	6.7	6.5	8.7	9.8	9.5	10.3	11.2

According to the study, from 2009 to 2015 the share of completely worn out fixed assets of enterprises increased by an average of 5% (of the total number of fixed assets). The number of worn-out fixed assets of enterprises for the analyzed period decreased in 12 regions out of seventeen. Leaders in reducing the number of completely worn out fixed assets of enterprises, their disposal, renovation and modernization are Smolensk region (-59.1%), Kaluga (-58.5%), Orel (-49.4%), Vladimir (47.8%), Ryazan (-37%), Bryansk (-36%), Voronezh (-35.5%) and Ivanovo (-26.1%) regions. Belgorod region shows negative dynamics of increase in worn-out fixed assets of enterprises.

Basing on the study, the levels of economic security of the regions were determined by the indicator of depreciation of fixed assets of enterprises of the housing and communal services sector. The ranking of regions by the number of worn-out fixed assets of enterprises is presented in Table 7. The indicators were calculated by the authors.

A high level of economic security according to the indicator of depreciation of fixed assets of enterprises in the sector with positive dynamics was demonstrated by 47% of the subjects. The "midpoints" of the rating are regions with a satisfactory level of economic security: Kursk (-16.4%), Moscow (-16%), Tver (-9.7%) and Tula (-6.2%) regions. On average, in the listed regions the share of completely worn out fixed assets of housing and communal services enterprises decreased by 12.8% compared to 2009.

Table 7

Levels of economic security of regions according to the share of depreciation of fixed assets

Region	Dynamics of depreciation of fixed assets of enterprises of housing and communal services (as a percentage of 2009)
<i>High level</i>	
Smolensk region	-59.1
Kaluga region	-58.5
Oryol region	-49.4
Vladimir region	-47.8
Ryazan region	-37.0
Bryansk region	-36.0
Voronezh region	-35.5
Ivanovo region	-26.1
<i>Satisfactory level</i>	
Kursk region	-16.4
Moscow region	-16.0
Tver region	-9.7
Tula region	-6.2
<i>Low level</i>	
Yaroslavl region	+67.1
Kostroma region	+92.2
Lipetsk region	+136.7
Belgorod region	+286.1

Conclusions

The sector of housing and communal services is a multi-component, combining a variety of subjects and objects, requiring a thorough scientifically sound institutional regulation. One of the important factors of ensuring the economic security of housing and communal services, in our view, is the identification of sectoral features of institutional regulation of housing and communal services.

The security system should be aimed at all social groups, at ensuring the constitutional rights and freedoms of the person as a consumer of housing and communal services, the owner of the premises, a decent level and quality of life of the population, taking into account the equal satisfaction of the General interests of the individual, society and the state. When ensuring and maintaining a high standard of living in Russia, it is necessary to take into account the problems of functioning of housing and communal services, caused by a complex of destructive factors and threats. Allocation of housing and communal aspect in the system of economic security allows clarifying and expanding the definition of "economic security of housing and communal services" in combination with such fundamental concepts as national security, economic security.

One of the most pressing problems preventing the effective development of the regional housing and communal sector is the deterioration of facilities and the need for their

modernization, technological re-equipment in the very near future with the involvement of private investment. A low level of safety according to this indicator was found in 24% of subjects. Outsiders in terms of the dynamics of the number of completely worn-out fixed assets of enterprises are Yaroslavl (+67.1%), Kostroma (+92.2%), Lipetsk (+136.6%), Belgorod (+286.1%) regions, which may entail serious industrial, technological and environmental disasters, and negative social consequences as well.

The conducted research of the main production and technological indicators made it possible to reveal threats and identify sectoral features of economic security condition according to indicators of housing stock improvement and the depreciation degree of fixed assets of enterprises in the regions of the Central Federal District of the Russian Federation. These indicators are determined by the significant impact of the housing and communal services on the quality of life of the population, the socio-economic development of the regions, the state of the regional infrastructure and life safety. The comparison of indicators with threshold values allowed the authors to conduct a comprehensive assessment of the state of economic security and identify dangerous trends in the industry. Foreign researchers make similar conclusions about high risks in the housing and communal sphere and the need of formulating a housing policy, which takes into account the demographic, ecological, technological situation in a particular region (Ocepek 2009, Murie 2007, Bloom 2008). The revealed difference between the dynamics of the studied indicators in the regions proves the existence of economic inequality in the housing and communal services sector. Regions with high, medium and low economic security were identified. It was concluded that regional differentiation and high volatility in the development of certain industries was manifested under the influence of historical, political and socio-economic processes, which significantly affected the quality of life of the population in different regions of one country.

A feature of the functioning of housing and communal services is that this industry is regulated by a set of control subjects, such as the Federal government (the government of the Russian Federation, the Ministry of construction and housing and communal services, etc.), regional bodies of state power, and bodies of local self-government. Given the fact that the housing and utilities sector includes housing, utilities, construction, fuel and energy block, tariff policy, it is obvious that a number of destructive factors characterize the management of housing and communal services. The study of control actions of public authorities allows determining the composition of institutional changes, including a set of economic and legal methods of management and contributing to the detection of threats to economic security of housing and communal services.

In our opinion, the institutional regulation of housing and communal services in the region should meet the conditions of effective development of the regional economy; ensure coordination and coordination of the interests of the region, economic entities of housing and communal services and consumers of housing and communal services, to neutralize internal contradictions between all elements of the industry. The basis of institutional regulation of housing and communal services of the Russian Federation is the constitutional principle of differentiation of functions of Federal, regional and municipal levels of functioning of housing and communal services.

The analysis allowed us to identify the following sectoral features of institutional regulation of housing and communal services:

Lack of coordination and interconnection in the formation of the principles of the division of subjects of jurisdiction, powers and responsibilities in the housing and communal services between the levels of public administration (Federal, regional and local),

Lack of a legislative fixed set of tools for the development and implementation of comprehensive coordinated actions of Federal, regional and municipal authorities in the regulatory, tariff activities, pricing,

Lack of effective mechanisms and tools for the formation and development of the investment base of housing and communal services,

Lack of an adequate system of institutional indicators of economic security of housing and communal services.

The target orientation of the formation of economic security of housing and communal services provides for the resolution of contradictions arising between the subjects of housing and communal services and their protection from external and internal threats. Targeted and conscientious relations between the subjects of housing and communal complex should be aimed at ensuring constitutional rights and freedoms, protection of national interests and national values, implementation of the strategic goals of the Russian Federation, a decent standard of living.

The economic security of housing and communal services is included in the scheme: security – national security – economic security – economic security in certain sectors – economic security of housing and communal services-economic security of public utilities, economic security of housing.

The role of housing and communal services in ensuring economic security is largely due to the peculiarities and laws of the functioning of this industry. Housing and communal services as the largest socially significant and life-supporting sector of the economy has certain patterns of functioning. Housing and communal complex is a complex dynamic system of sub-sectors of life support of the population, which determines its place in the economic security of the state.

The obtained scientific results were applied to identify links between sectoral indicators of economic security, their threshold values and the quality of life of the population in various regions. Monitoring and identification of positive (negative) dynamics of sectoral indicators of economic security make it possible to use the obtained data for strategic forecasting of spatial changes in the social and economic development of the country and optimizing the activities of the subjects of the housing and communal services sector.

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