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Research paper



Construction Complex Development Influence on Region Social and Economic Security

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Abstract

Construction complex development influence on region social and economic security is studied, taking into account Ukrainian housing stock development main indicators peculiarities and general population housing provision in the regions. Region construction complex development influence on region social and economic security level has been investigated based on correlation-regression analysis. It is emphasized that regional inter-sectoral complexes, in particular, construction, are influence subject to many factors, threats and dangers for the socio-economic life of the region and need to function safely.

Region social and economic security assessing methodical principles, taking into account construction complex development criteria, have been proposed, and made it possible to form indicators system using the integral method and their threshold values, taking into account the complex hierarchical links with region social and economic development in particular and the state as a whole.

Keywords: *construction complex, social and economic security, threats.*

1. Introduction

Crisis, destabilization of the economy, low macroeconomic indicators and population living require an urgent solution to the strategic sectors and economic complexes development issue. At the same time, region development role based on material, financial, information resources effective usage to improve population living standards is intensifying. In the context of the above mentioned, it is important to identify the sectors of economy that are priorities, have a significant impact on region socio-economic development and, above all, need a constructive change. It definitely includes construction, which takes part in fixed assets creation in other economy sectors, as well as providing the population with one of the primary public goods like housing.

2. Main Body

Region construction complex development is a strategic task that promotes the effective fixed assets creation both productive and non-productive for national economy all branches functioning, the provision of domestic, population socio-cultural needs, new jobs large quantity creation and implementation. National economy other sectors products, which are consumed in the process of carrying out their main activity like construction. Due to construction complex development, the investment policy of the state is implemented, the national economic proportions, the scale and pace of individual branches development, scientific and technological progress, and investments efficiency in all sectors of the economy are determined.

Modern regional interdisciplinary complexes, in particular construction, are influenced by region social and economic life many factors, resulting in numerous issues that require resolution to create effective conditions for region construction complex development. Country and its regions development are possible only under safe functioning condition.

Region social and economic security system is organically included in the national security system. Conceptually, region social and economic security is developed taking into account the diversity of factors under which the causal links existing in the security system are understood and act as the driving forces, motivating the transformation of the reality possibility and maximizing the efforts to use internal reserves. It represents a set of internal and external conditions that contribute to the effective dynamic growth of the economy, its ability to meet the needs of a separate territory and the state as a whole, to ensure competitiveness in foreign markets, which is guaranteed to protect against threats and losses.

The system of regional socioeconomic security is a combination of property and economic interests, legal and ethical regulators, a set of economic and regulatory actors aimed at sustainable, effective, safe socio-economic development.

As already mentioned, in various regions of Ukraine, local self-government bodies established their living standards, which are influenced by statistical reporting data. This situation deprives many citizens of the possibility to exercise the right to receive housing from the state, since the existing standards of living space in some regions can give a person the right to turn to the queue, while in other regions the same person will not have such a right.

Effective research depends on investigated phenomenon nature and quantitative description possibilities of its development through the system of indicators. Indicators are selected according to the study purpose. Life quality indicators usage to establish targets for the region economically sound development and the country as a whole is consistent with the latest global initiatives.

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The relationship between population growth, investment activity and the growth of shipment of goods, works and services in the region can be estimated based on econometric modeling. As empirical data, key indicators of the financial-economic activity of the GRP, (GRP) per capita, investments, construction, income, expenses, and shipment of goods, works and services are used. Thus, it is possible to additionally estimate the growth of domestic investment and expenditure of the population as a certain increase in GRP result. Construction complex development analysis will determine territory resource potential effectiveness usage, investment support from the standpoint of balancing commodity exchange processes analysis and equivalence to ensure comprehensive socio-economic development.

The largest amount of housing was introduced in Kyiv (1733 m^2), Kiev (1825.0 thousand m^2), Odessa (720.5 thousand m^2), Lviv (958.9 thousand m^2), Ivano-Frankivsk (624, 5 thousand m^2), indicating the availability of solvent demand in these regions for new housing and the corresponding level of population income. The Donetsk and Lugansk regions showed the smallest indicators taking into account the fighting and the difficult economic and social situation. Kherson (74.9 thousand m^2), Kirovohrad (51.1 thousand $m^{2)}$ and Mykolaiv region (73.5 thousand m^2) that characterizes the limited capacity of the population to improve their living standards, social infrastructure is not at the proper level, other regions have this situation in accordance with the difficult economic conditions of management. Housing acceptance by regions in 2017 is shown in Fig. 1.

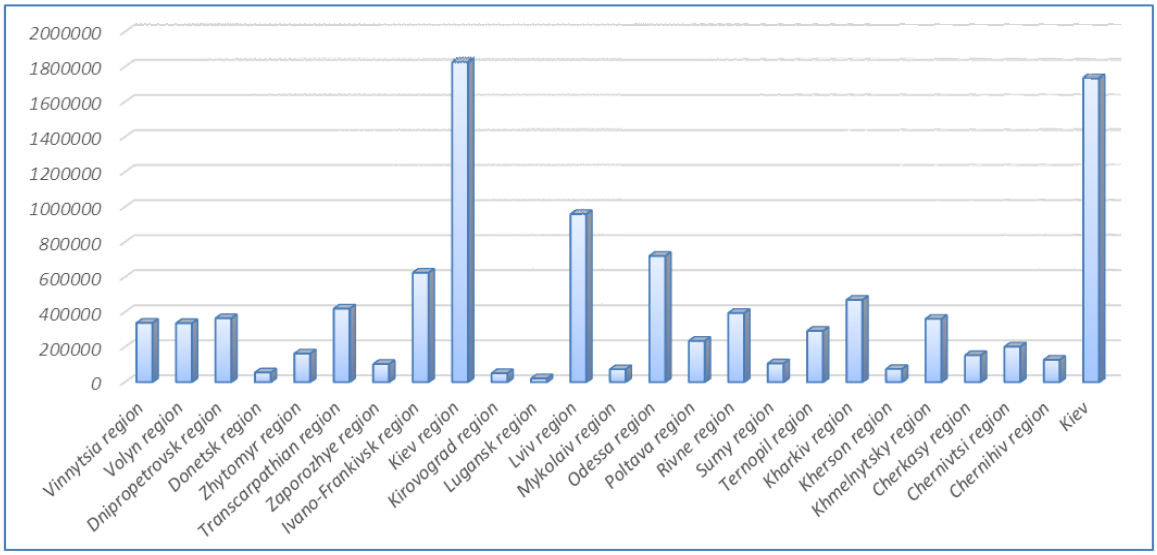


Fig. 1: Housing acceptance by regions in 2017

Declared European choice of Ukraine realization process forces paying special attention to solve the most important population social problems like housing provision.

Consider more accurate indicator of "population security of housing (on average, per person, m2 of total area)" (Table 1). According to the results of the analysis it can be noted that there is practically no differentiation in indicator level, in contrast to the previous ones. The vast majority of regions are approaching the average Ukrainian value, which is equal to 23.1 sq. m per person in 2016.

Table 1: Indicators characterizing the housing stock of Ukraine

Years	Total area, mln.m^2	Average per inhabitant, m^2	Apartments quantity, total, thousands	Quantity of families and single persons who were in the apartment account at the end of the year, thousands.	Quantity of families and single persons who received housing during the year, thousands.
1	2	3	4	5	6
2000	1015	20,7	18921	1765	32
2001	1026,13	21,0	18960	1624	29
2002	1031,7	21,3	19023	1533	25
2003	1035,7	21,6	19049	1460	25
2004	1040,04	21,8	19075	1414	23
2005	1046,44	22,0	191324	1323	20
2006	1049,24	22,2	19107[4]	1300	20
2007	1057,64	22,5	19183[4]	1252	17
2008	1066,6[4]	22,8	19255[4]	1216	17
2009	1072,2[4]	23,0	19288[4]	1174	11
2010	1079,5[4]	23,3	19322[4]	1139	11
2011	1086,0[4]	23,5	19327[4]	1084	7
2012	1094,2[4]	23,7	19370[4]	1022	7
2013	1096,6[4]	23,8	19368[4]	808	6
2014	966,1[4]	22,6	16785[4]	657	3
2015	973,8[4]	22,9	16886[4]	-	-
2016	977,9[4]	23,1	16912[4]	-	-

According to the data of Table 1 in Ukraine, the increase in the index of housing per one person from 20.7 m^2 in 2000 to 23.1 m^2 in 2016 is not significant in Ukraine. The largest indicator is observed in 2013, on average in Ukraine per capita accounted for 23,8 m^2 of total housing area, whereas in 2000 it was only 20.7 m^2. By studying the EU experience in terms of housing security, the average per capita in different EU member states varies in the range (66.3 m^2) in Luxembourg, (51.4 m^2) in Denmark (31.2m^2) in Hungary, the lowest indicator of security in Estonia (29.7m^2). It should be noted that living space growth positive dynamics in our country recent years to a large extent occurred at the expense of population decline.

Indicators analysis characterizing the housing stock of Ukraine for 2000 - 2016 found that, despite fluctuations over the past ten

years, there is a significant regional differentiation and differences between provision of housing in rural and urban areas. In particular, one urban citizen accounts for only 22.1 m^2 of housing stock, while in rural areas - 27.5 sq. m. Housing supply in Ukraine relative growth over the past 8 years is about 0.9 m^2 per person [15]. In accordance with the CMU Resolution "On the establishment of state social standards in the field of housing and communal services" of August 6, 2014, No. 409, the normative indicator of the provision of a total area of housing is 21 m^2 per person [16]. In the London City Administration (City Hall) Housing Space Standards, a minimum living space of 22 m^2 is determined [17]. In many developed European countries the figure is 38 m^2 per person [15]. It is extremely important to understand the meaning of the indicator, "average security of the total housing stock," as statistics contain information on the quantity of people living in conditions where the provision of security is lower than the sanitary norms, 13.8 m^2. Indicators significance is explained by the predominant influence of non-economic factors on housing provision. Partly, the demand for new housing is covered at the expense of the population's income received outside the region, especially at the level of regions of a particular region.

In general, it can be noted that regional policy on smoothing of interregional differences and especially the quality of population life is ineffective. Investigated processes occurred, rather, under the general influence of the development of market relations, crisis phenomena, accompanied by deepening, and partly as a result of local government policies.

To study construction complex development influence on the level of social and economic security of the region, build the linear regression equation and determine the determination coefficients R^2. The equation of pair linear regression has the form $\bar{y} = ax + b$ where $\bar{y}$ - effective indicator average value (budgetary security assessment); x is a factor affecting a and b - regression coefficients. If a> 0, then with increasing factor x the fiscal security increases, and if a <0, then with increasing factor x - decreases. To verify the adequacy of the equation, determine the determination coefficient according to the formula (1)

$$R^2 = 1 - \frac{\sum (y_i - ax_i - b)^2}{\sum (y_i - \bar{y})^2} \quad (1)$$

Where y_i is region social and economic security level in the i year y, x_i is factor estimation in the i year; $\bar{y}$ is the average region social and economic security level in a few years. The closer R^2 to 1, the stronger the connection between x and y is.

Fischer's criterion was used to verify the adequacy. In this case, its actual value is calculated according to the formula

$$F = \frac{R^2}{1 - R^2}(n - 2) \quad (2)$$

Where R^2 is determination factor; n is initial data quantity. If the value exceeds the critical value in absolute value, then the equation is adequate. Determine the trend component that describes region social and economic security level influence on the region construction complex development by building pair linear regression equation, which describes considered time series main growing trend (Fig. 2).

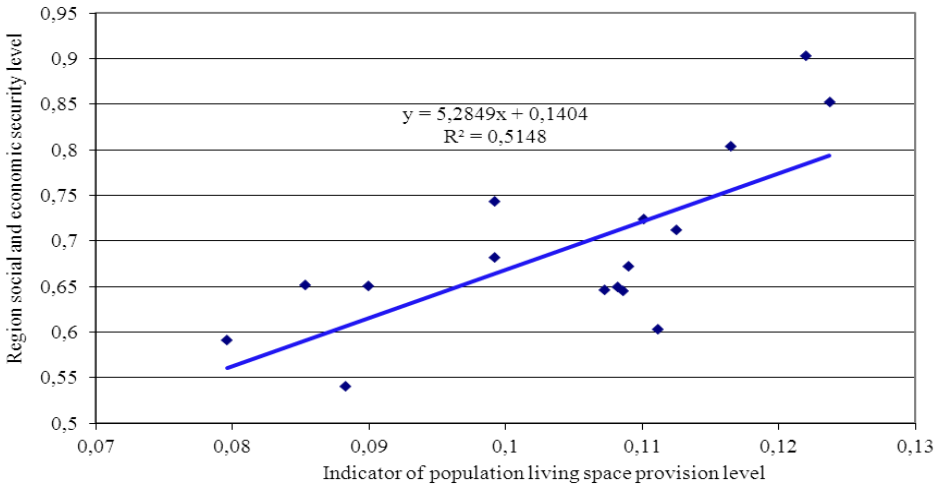


Fig. 2: Social and economic security actual dependence on population living space provision level

Region economic security social component significant strengthening and housing provision corresponding level by the population was revealed. The social component is particular important today because human resource is the most promising under modern Ukrainian transformational economy conditions forming the intellectual potential, and being the subject and the main object of management at all levels. Providing social and economic security of the region is one of the important directions of regional policy, that is, the formation, support and development of the level of material and spiritual comfort of society members through its economy development solving problems. It is also necessary to have single living standards, equal access to quality educational and medical services, modern comfortable housing, and equal employment conditions as the main source of income for the population. As a result the following is expected the social equilibrium in the society due to an increase in the living standards of the population, primarily due to higher wages, timely payment of wages and statutory social benefits, strengthening the target direction of material support, reducing unemployment; creation of conditions for overcoming poverty and excessive demarcation in society; Preservation and strengthening of the country's demographic and labor potential; overcoming crisis demographic processes; creation of an effective system of social protection of people, protection and restoration of their physical and spiritual health [13].

Region social and economic security is future oriented. The development of territories in the multidisciplinary and spatial aspect implies the progress of all socioeconomic processes in close association with natural and environmental phenomena. The primary tasks of socio-economic policy can be considered those that ensure European living standards in the region.

3. Conclusions

The necessity of region social and economic security development implementing policy is proved. Such a policy involves the creation of a socially-oriented economy in a region that is harmoniously developing and has immunity to the impact of internal and external threats to social and economic security. It is substantiated by

conceptual approaches to raising the level of socioeconomic security in the region, program approaches and appropriate methodological support for the management process aimed at increasing the effectiveness of measures to ensure region socio-economic and security development. Practical implementation is impossible without management in executive bodies' effective organization, constructive partnership interaction with the nature and ecology environment phenomena and proper institutional and legislative provision.

References

[1] The World Economic Forum? (2015). *The Global Competitiveness Report*. Retrieved from http://www.weforum.org/reports.

[2] European Commission (2015). *Europe 2020: European Union's ten-year growth strategy*. Retrieved from http://ec.europa.eu/europe2020/index_en.htm

[3] The World Bank (2017). *Indicators*. [online] Available at: <http://www.worldbank.org/ [Accessed 19 December 2017].

[4] State Statistics Service of Ukraine (2017). *Statistic information.* [online] Available at: <http://www.ukrstat.gov.ua/. [Accessed 21 December 2017].

[5] Weisstanner D. (2016). The budget benefits of repeated cooperation: coalitions and debt dynamics in 36 democracies. *The journal of public policy*. [online] Available at: <http://jpublicpolicy.com/> [Accessed 21 October 2017].doi.org/10.1017/S0143814X16000040.

[6] Babets I.G. (2013). Methodological approaches to safety assessment of budget Ukraine. *Scientific Journal NLTU Ukraine*, 23, pp. 87-93.

[7] Kozachenko G.V. (2016). The estimetological aspect in economic safetyology. *Problems of the economy.* 1. pp. 167-173.

[8] Sukhorukov A. & Ostapchuk D. (2014). *Synergetic mechanism of the state economic security system formation. Economic Annals-XXI*, 1-2(1), 19-22.

[9] Ministry of Economic Development and Trade of Ukraine (2017) *Economic situation and forecasts.*[online] Available at: <http://www.me.gov.ua/>[Accessed 25 December 2017].

[10] Onyshchenko S.V. (2017). Budget security of Ukraine: the essence, threats and ways of providing. Kyiv: *Znannya Ukrayiny*,.pp. 39-93.

[11] On the internal and external situation of Ukraine in the national security (2017). Analytical report to an extraordinary President of Ukraine to the *Verkhovna Rada of Ukraine. Kyiv: National Institute for Strategic Studies*. [Accessed 21 October 2017].

[12] Onyschenko S. (2016). Theoretical concepts on the formation of the state budget security. *Economy and the Region*, 5 (60), pp. 85-91.

[13] Sukhorukov A. & Ostapchuk D. (2014). Synergetic mechanism of the state economic security system formation. *Economic Annals-XXI*, 1-2(1), pp. 19-22.

[14] Varnaliy Z., Onishchenko S., Masliy A. (2016). Preventing threats as a precondition to increase the level of Economic Security of the State. *Scientific Journal «ScienceRise»*, 7/1(24), pp.41-46. doi: 10.15587/2313-8416.2016.74409

[15] Melnychuk A., Kokovskyy L., Maryniak B. (2014). Ecological and economic security of the housing stock in Ukraine. Economic Annals-XXI, 9-10(2), 64-67.

[16] The Cabinet of Ministers of Ukraine (2014, 6 August). On the establishment of state social standards in the field of housing and communal services (Working Paper No. 409). Retrieved from http://zakon2.rada.gov.ua/laws/show/409-2014-п

[17] HATC (2006). *Housing Space Standards*: *A report by HATC Limited for the Greater London Authority*. Retrieved from http://www.london.gov.uk/ sites/default/files/archives/uploads-space-standards.pdf