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SOCIAL CAPITAL IN THE DEVELOPMENT OF NATIONAL ECONOMIC SYSTEMS

Introduction. *Social capital through public trust, solidarity and a sense of belonging can help increase the effectiveness of public participation in national economic development programs.*

Problem Statement. *The study of this issue becomes especially relevant due to the search for additional opportunities in the implementation of institutional transformations, development of investment, innovation and entrepreneurship.*

Purpose. *Study of social capital as an important factor in the development of the system of the national economy.*

Material and Methods. *Applied methods of comparative analysis, monographic, abstract-logical were used. The information base of the research is data of the World Bank, European Business Association, State Statistics Service of Ukraine, Institute of Sociology of the NAS of Ukraine.*

Results. *The essence of the concepts of “development”, “system”, “national economy”, and “social capital” has been defined. The structure of the national economy in institutional, socio-economic, spatial, sectoral, reproductive, technological and foreign economic aspects has been considered.*

The indicators of the state and development of the system of national economy and social capital have been offered and analyzed in the dynamics, the interrelation between them has been revealed. The presence of a connection between the level of trust in society and the development of social networks has been established. The influence of social capital on self-regulation of entrepreneurial activity has been revealed, proposals on its effective formation and use in the national economy have been introduced.

Conclusions. *Social capital is a driver of institutional change, a means of horizontal and vertical communication between the elements of the national economy. Its influence on the prosperity of the country has been proven, as well as its relationship with indicators of investment, innovation and entrepreneurship. The subjects of the national economy at the expense of social capital have additional competitive advantages due to the sharing of own resources and reduction of transaction costs.*

Keywords: Development, System National Economy, Social Capital, Indicators of State and Development, and Self-Regulation.

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The main goal of the development of the national economy is to improve the welfare of the country's population. Public trust, strengthening solidarity and a sense of belonging are the social capital that can increase the effectiveness of public participation in national economic development programs. This is precisely why the study of the place of social capital in institutional transformation, development of investment, innovation and entrepreneurship in the national economy becomes relevant.

To adequately analyze the place of social capital in the development of the national economy, it is necessary to determine the essence of development, the concepts of national economy and social capital.

The category of development has an ambiguous interpretation in the scientific community. Thus, the Great Explanatory Dictionary of the Modern Ukrainian Language defines development as “a process as a result of which there is a change in the quality of something, the transition from one qualitative state to another, higher” [1]. Raievneva O. suggests to consider development as “a unique process of transformation of an open system in space and time, characterized by a constant change in the goals of its existence through the formation of a new open system and its transfer to a new trajectory of development [2, 108]. In the philosophical sense, development is “a specific process of change, the result of which is the emergence of a qualitatively new, progressive process of ascent from lower to higher, from simple to complex” [3, 587]. Summarizing the existing definitions, we can say that development is a process of qualitative transformation of the system due to changes in its quantitative characteristics.

Among scientists there is no single approach to defining the essence of the concept of “national economy”. Thus, Havrylkobelieves that “the national economy of any country is a complex system, i.e. a set of qualitatively defined macroeconomic elements or subsystems, between which there is a natural permanent connection” [4, 187]. Hrantkovska O. (2010) states that “... in a broad

sense: the national economy is a complex multi-level economic system with country-specific features of productive forces, economic relations, institutions and mechanisms for regulating economic activity. ... In a narrow sense: the national economy is a system of interconnected spheres, sectors, industries and types of economic activity of the country” [5, 110]. Karintseva O., Kharchenko M. and Panchenko A. emphasize that the national economy is a dynamic category that is formed over a long period of time under the influence of many factors, both internal (in the future, form the features of the economy — national identities) and external ones (compliance of the economy with the world requirements of development and activity, general principles of functioning, models of leading economic systems)” [6, 104]. That is, most scholars agree that the national economy is a complex, dynamic, hierarchical system that develops under the influence of internal and external factors and aims to improve the quality of life.

Various aspects of the manifestation of social capital in the national economy have been studied by many scholars. Thus, Alaassar A., Mention A.-L. and Aas T. H. determined the influence of social interaction on the behaviour of regulators and innovators of the financial market on the basis on social capital [7]. Bolibar M. analyzed the role of different types of social capital in the process of integration of immigrants in the labour market of Catalonia [8]. The researcher identified the impact of social networks and human capital on the ethnostratification of the labour market.

De Waan M. and Wang D. studied social capital in terms of inequality in professional social networks [9]. Daskalopoulou I. and Karakitsiou A. proposed the theoretical basis for studying various mechanisms of social capital formation, which can be used by regions for their own development [10]. Pavlevich K. and Pavlevich A. studied regional social capital according to five criteria on the example of 16 provinces of Poland [11]. Rowan S. and Kwiatkowski K. evaluated the effectiveness of using indexes of social vulnerability

and social capital to predict the impact on the recovery rate in Florida and Puerto Rico after Hurricanes Irma and Maria in 2017 [12]. Shpikulyak O., Mazur G. considered the place of social capital in the development of rural areas from an institutional standpoint [13]. That is, scientific publications have considered some manifestations of the impact of social capital on the state and development of the national economy.

Despite the availability of publications, the issue of comprehensive assessment of social capital as an important factor in the development of the national economy, which determines the relevance and purpose of the study, remains unfinished.

Like any other system, depending on the purpose of the study and the chosen criterion of division, the national economy can be considered as a set of different elements (Table 1).

From **the institutional** point of view, the national economy can be considered as a set of institutional sectors of the economy (non-financial corporations, financial corporations, general government, households, non-profit institutions serving households). In **the socio-economic context**, it is considered as social groups of people united by a certain objective feature and common economic

interests. In terms of **the spatial criterion**, the elements of the national economy are administrative-territorial units (regions, districts, cities, urban-type settlements, rural settlements, councils, including united territorial communities); in terms of **the sectoral criterion**, this is a set of industries that unite production units that carry out mostly the same or similar types of economic activities.

In terms of **reproduction**, it is expedient to consider the national economy as a set of stages of the reproduction cycle (production, distribution, exchange, consumption), from the point of view of **the technological criterion**, it is considered as a set of equipment and technologies that determine technological chains of transformation of matter, energy and information into ready-to-consume product, from the standpoint of **the foreign economic criterion** it is necessary to consider the complex of international economic relations (export-import operations, inflow-outflow of foreign direct investment, etc.).

Given various aspects of the stratification of the national economy, its development is a consistent process of qualitative transformations of its elements due to changes in their quantitative characteristics. The purpose of these transforma-

Table 1. Elements of the National Economy System Depending on the Chosen Criterion of Division

Criteria for dividing the "national economy" system	Elements of the "national economy" system
Institutional	Set of institutional sectors of the economy (non-financial corporations, financial corporations, general government, households, non-profit institutions serving households)*
Socio-economic	Social groups of people united by a certain objective feature and common economic interests
Spatial	Administrative-territorial units (regions, districts, cities, urban-type settlements, rural settlements, councils, including united territorial communities)
Branch	A set of industries that unite production units that carry out mostly the same or similar types of economic activity**
Reproductive	Set of stages of the reproductive cycle (production, distribution, exchange, consumption)
Technological	A set of techniques and technologies that determine the technological chains of transformation of matter, energy and information into a ready-to-eat product
Foreign economic	Set of international economic relations (export-import operations, inflow-outflow of foreign direct investment, etc.)

* in accordance with the Statistical Classifier of Ukraine [10]. ** in accordance with the National Classification of Ukraine [11].
Source: based on authors' research.

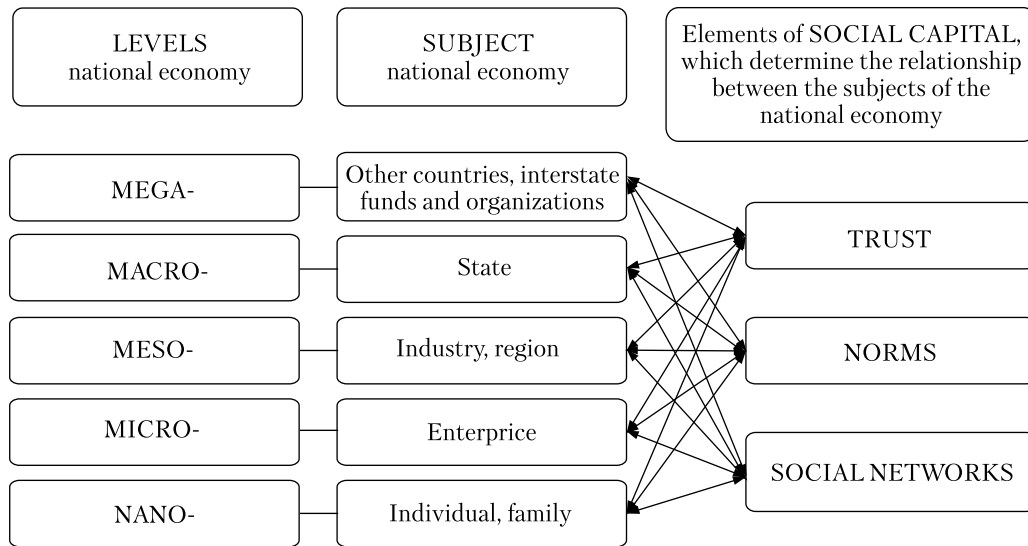


Fig. 1. The relationship of national economies at different levels through the elements of social capital
Source: compiled by the authors.

tions is to improve the quality of life of the country's population.

We believe that to determine the role of social capital in the development of the national economy should follow the systematic and process approaches. This means that the national economy should be considered as a system (a set of interconnected elements), and its development should be regarded as a process (a set of successive targeted actions).

We believe that from the stand point of the system approach, it is advisable to consider the elements of social capital as a means of horizontal and vertical connection between the elements of the national economy (Fig. 1).

At the **nanolevel**, the subject of the national economy is an individual and / or a family. It is at this level that the final consumption of tangible and intangible values takes place, the reproduction of labour and the creation of human capital takes place. Due to the trust in accordance with the existing norms of society, social networks are created that connect family members, friends, neighbours, companies and employees of various industries, residents of regions (territorial communities), and citizens of the country (nation). At

the **microlevel**, the subject of the national economy is an enterprise where raw materials are extracted or produced, technologies are developed, production resources are consumed, and a social product (tangible and intangible values) is created. The development of social capital of the enterprise helps to increase the efficiency of its activities due to the reduction of transaction costs due to the links between the subjects of the national economy. At the regional or industry level (**mesolevel**) of the national economy is the distribution of productive forces and components of gross national product. The social capital of the mesolevel is formed due to the common interests of individuals, employees of enterprises, industries, residents of the regions, which directly affects the stability of the entire socio-economic system of the country. The subject of the national economy at the **macrolevel** is the state that carries out the development of production through its own state institutions, creating conditions for ensuring the rights of citizens to entrepreneurial activity, protection of various forms of ownership, disposal of state property and more. The social capital of the country, through interpersonal, intergroup and relations, harmonizes the politi-

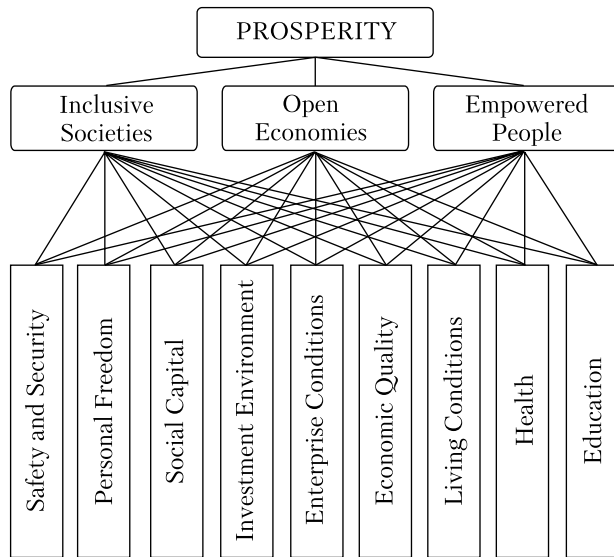


Fig. 2. A model of hierarchy to determine the significance of the factors of prosperity of the country
 Source: developed using [17].

cal, social, economic interests of citizens, influences the achievement of stability in society and promotes its democratic and socio-economic development. The subjects of the **megalevel** of the national economy are represented by other countries, interstate funds and organizations with which international cooperation is carried out. Megalevel social capital “affects the efficiency of international economic relations: increasing confidence in multinational corporations, major investment banks, funds and other global institutions, reduces transaction risks and, consequently, reduces transaction costs” [16, 192].

From the **institutional** point of view, the micro- and mesolevel social capital that connects sectors and subsectors creates business networks, there-

by reducing transaction costs. In the **socio-economic** context of the national economy, the social capital of the nano-, micro- and mesolevels unites people for mutual benefit and assistance. From the **spatial** point of view in the national economy, the social capital of the mesolevel unites the subjects of territorial communities in order to obtain mutual benefit and assistance, increases the efficiency of the use of public resources. From the **sectoral** point of view, social capital at the micro and mesolevels promotes the creation of business networks, reduces transaction costs of the national economy. In the **reproductive** context of the national economy, the social capital of micro and mesolevels promotes the creation of business networks, the development of vertical and horizontal integration, reduces transaction costs. From a **technological** point of view on the national economy, the social capital of micro and mesolevels promotes the creation of business networks, the development of vertical and horizontal integration, reduces transaction costs. From a **foreign economic** perspective, the social capital of the megalevel connects the subjects of international economic relations, reduces the transaction costs of the national economy as a whole.

The method of hierarchy analysis was used to determine the place of social capital in the national economy. In Fig. 2 a 3-level hierarchical model of the national economy is constructed.

At the 1st level there is an integrated assessment of the state of the national economy (*Prosperity*), at the 2nd level there are enlarged characteristics of the national economy (*Inclusive Societies*, *Open Economies*, *Empowered People*), at the 3rd level there are their partial characteristics.

Table 2. Matrix of Pairwise Comparisons and Priority Vectors for Elements of the 2nd Level of the Hierarchy

	Inclusive Societies	Open Economies	Empowered People	Local priority vector W_i
Inclusive Societies	1	1/3	1/7	0.0758
Open Economies	3	1	1/7	0.1578
Empowered People	7	7	1	0.7662
$\lambda_{max} = 3.1356$; CI = 0.0678; CR = 0.1169				

To obtain reliable results, a group of 7 experts (leading specialists of enterprises, entrepreneurs, heads of state institutions), which assessed the priority of one criterion over others was formed.

Table 2 shows the matrix of pairwise comparisons and weights for the elements of the 2nd level of the hierarchy, Tables 3–5 demonstrate matrixes of pairwise comparisons and local weights of elements of the 3rd level, and Table 6 illustrates

the result of the analysis of hierarchies on the integrated assessment of the impact of factors on the prosperity of the country. According to statistical characteristics, all matrixes of pairwise comparisons are consistent.

According to the local priority vectors for the elements of the 2nd level of the hierarchy (aggregated characteristics of the national economy), the experts preferred “Empowered People” as the

Table 3. Matrix of Pairwise Comparisons and Priority Vectors Elements of the 3rd Level of the Hierarchy in Relation to *Inclusive Societies*

	Safety and Security	Personal Freedom	Social Capital	Investment Environment	Enterprise Conditions	Economic Quality	Living Conditions	Health	Education	Local priority vector W_i
Safety and Security	1	1	1/3	3	3	3	1/3	3	5	0.1155
Personal Freedom	1	1	1/5	3	3	3	3	5	5	0.1475
Social Capital	3	5	1	7	7	7	7	7	7	0.3744
Investment Environment	1/3	1/3	1/7	1	1	1/3	1/5	1/5	1/3	0.0261
Enterprise Conditions	1/3	1/3	1/7	1	1	3	1/5	5	5	0.0645
Economic Quality	1/3	1/3	1/7	3	1/3	1	1/5	5	7	0.0548
Living Conditions	7	1/3	1/7	5	5	5	1	5	7	0.181
Health	1/3	1/5	1/7	5	1/5	1/5	1/5	1	1/3	0.0279
Education	1/5	1/5	1/7	3	1/5	1/7	1/7	3	1	0.0295

$\lambda_{\max} = 11.0929$; CI = 0.2616; CR = 0.1804

Table 4. Matrix of Pairwise Comparisons and Priority Vectors Elements of the 3rd Level of the Hierarchy in Relation to *Open Economies*

	Safety and Security	Personal Freedom	Social Capital	Investment Environment	Enterprise Conditions	Economic Quality	Living Conditions	Health	Education	Local priority vector W_i
Safety and Security	1	3	1/7	1/5	1/5	1/7	1/3	1/3	1/7	0.024
Personal Freedom	1/3	1	1/7	1/7	1/7	1/7	1/5	1/7	1/7	0.015
Social Capital	7	7	1	3	1/3	1/5	3	5	5	0.1544
Investment Environment	5	7	1/3	1	1	1/3	5	5	5	0.1475
Enterprise Conditions	5	7	3	1	1	1	5	5	5	0.2127
Economic Quality	7	7	5	3	1	1	5	7	7	0.2845
Living Conditions	3	5	1/3	1/5	1/5	1/5	1	1/3	1/5	0.0383
Health	3	7	1/5	1/5	1/5	1/7	3	1	1/5	0.0463
Education	7	7	1/5	1/5	1/5	1/7	5	5	1	0.077

$\lambda_{\max} = 10.7034$; CI = 0.2129; CR = 0.1468

Table 5. Matrix of Pairwise Comparisons and Priority Vectors Elements of the 3rd Level of the Hierarchy in Relation to *Empowered People*

	Safety and Security	Personal Freedom	Social Capital	Investment Environment	Enterprise Conditions	Economic Quality	Living Conditions	Health	Education	Local priority vector W_i
Safety and Security	1	5	3	5	5	3	1	1	5	0.2033
Personal Freedom	1/5	1	1/3	1/3	1/3	1/3	1/5	1/5	3	0.0315
Social Capital	1/3	3	1	3	1/3	1/3	1/5	1/7	5	0.0555
Investment Environment	1/5	3	1/3	1	1	1/5	1/5	1/7	5	0.0438
Enterprise Conditions	1/5	3	3	1	1	1/5	5	1/7	5	0.0801
Economic Quality	1/3	3	3	5	5	1	5	1/7	5	0.1449
Living Conditions	1	5	5	5	1/5	1/5	1	1/5	5	0.0931
Health	1	5	7	7	7	7	5	1	7	0.3283
Education	1/5	1/3	1/5	1/5	1/5	1/5	1/5	1/7	1	0.0189

$\lambda_{\max} = 11.1698$; CI = 0.2712; CR = 0.187

main factor of prosperity of the country (local priority vector 0.7662).

According to calculations, *Social Capital* has the greatest influence on “Inclusive Societies” (local priority vector 0.3744).

The greatest influence on *Open Economies* is exerted by *Economic Quality* (local priority vector 0.2845) and *Enterprise Conditions* (local vector of priorities 0.2127). *Social capital* is in the third place in terms of the level of effect on *Open Economies* (local priority vector 0.1544).

Table 6. The Results of the Analysis of Hierarchies in Terms of the Integrated Assessment of the Effect of Factors on the Prosperity of the Country

Alternative	Global vector of priorities of each alternative W'
Safety and Security	0.1683
Personal Freedom	0.0377
Social Capital	0.0998
Investment Environment	0.0589
Enterprise Conditions	0.0998
Economic Quality	0.1605
Living Conditions	0.0891
Health	0.261
Education	0.0289

Empowered People is most affected by *Health* (local priority vector 0.3283) and *Safety and Security* (local priority vector 0.2033).

According to the global priority vector, the greatest impact on the country’s prosperity is exerted by *Health* (global priority vector 0.261), *Safety and Security* (global priority vector 0.1683), and *Economic Quality* (global priority vector 0.1605). According to the same expert assessments, *Social Capital* and *Enterprise Conditions* (global priority vectors 0.0998) are significantly ahead of *Investment Environment* (global priority vector 0.0589), *Personal Freedom* (global priority vector 0.0377), and *Education* (global priority vector 0.0289).

We believe that the application of the method of analysis of hierarchies allows comparing the influence of prosperity factors in different regions of the country, determining the priority areas of their funding and so on.

To determine the place of social capital in the national economy, the rank of Ukraine in the International Prosperity Index and its sub-indexes have been considered. In 2020, in terms of the International Prosperity Index, Ukraine ranked 92nd among 167 countries. Among the sub-indexes, the highest rank (38) has been reported in terms of education, while in terms of social capi-

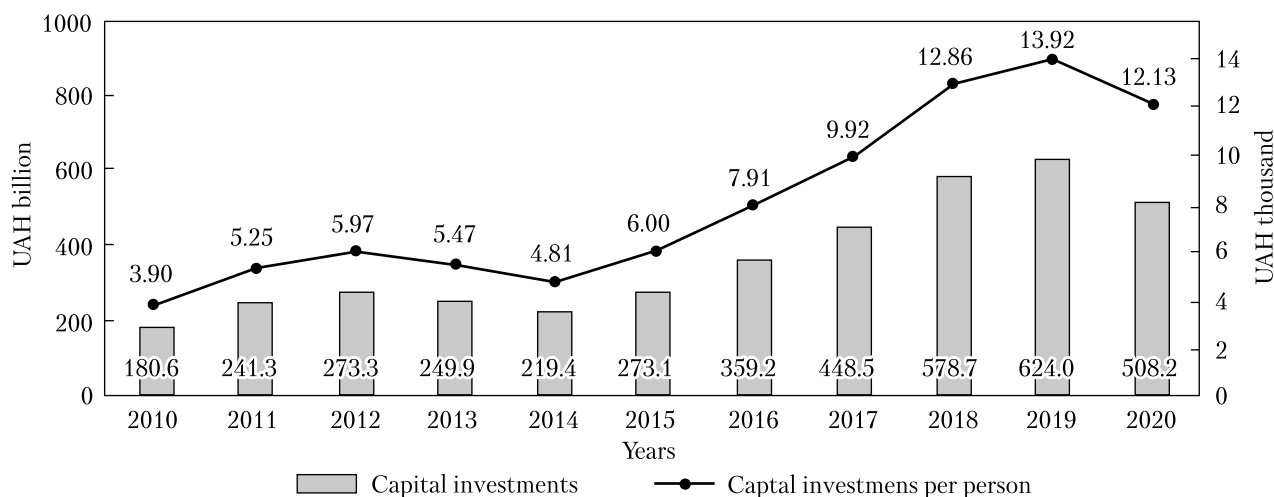


Fig. 3. Dynamics of capital investments in Ukraine, total (UAH billion) and per capita (UAH thousand)
 Source: calculated according to the State Statistics Service of Ukraine.

tal Ukraine has had the worst position (147) [17]. In 2020, as compared with 2009, Ukraine rose by 6 points in *Social Capital* sub-index. If in 2009, the best positions were observed in interpersonal trust (82), whereas in terms of personal and family relations Ukraine ranked only 97th in the world, in 2020 the situation changed significantly. The position of Ukraine in personal and family relations improved by 25 points (72), while that in interpersonal trust, on the contrary, dropped by 39 points (121). The worst situation has been reported for 2009 and 2020, for institutional trust – 166th and 162nd among 167 countries, respectively.

We believe that this state of the country's social capital has a significant impact on the development of certain aspects and the national economy as a whole. An indicator of the development of the national economy is the dynamics of capital investment in general and per capita (Fig. 3).

In 2010–2020, the amount of capital investment in the national economy of Ukraine from UAH 180.6 billion, it increased almost 2.8 times and was equal to UAH 508.2 billion, the average annual growth rate was 10.9%. At the same time, capital investments per capita from UAH 3.9 thousand in 2010 increased to UAH 12.13 thou-

sand in 2020, or 3.1 times, the average annual growth rate was 12.0%.

However, the dynamics of indicators in USD is less optimistic (Fig. 4).

Capital investment in Ukraine for the period of 2010–2020 from USD 22.7 billion in 2010 decreased to USD 18.0 billion in 2020, or 20.7%, the average annual rate of reduction was 2.3%. The largest amount of capital investment during this period was in 2012 that was equal to USD 34.2 billion, the lowest in 2015 that was equal to USD 11.4 billion.

Per capita capital investment in USD from USD 489.96 in 2010 decreased to USD 429.18, or 12.4%, the average annual rate of reduction was 1.3%.

The country's investment attractiveness is characterized by the size of the net inflow of foreign direct investment into the national economy (Fig. 5).

In 2010–2019, its size was USD 6.5 billion decreased to USD 3.0 billion, i.e. there was a reduction of an average of 8% per year. At the same time, during this period, the largest inflow was observed in 2012 that was equal to 8.2 billion, the smallest was observed in 2014, that was equal to USD 0.8 billion.

According to the estimates of the European Business Association (EBA), the index of invest-

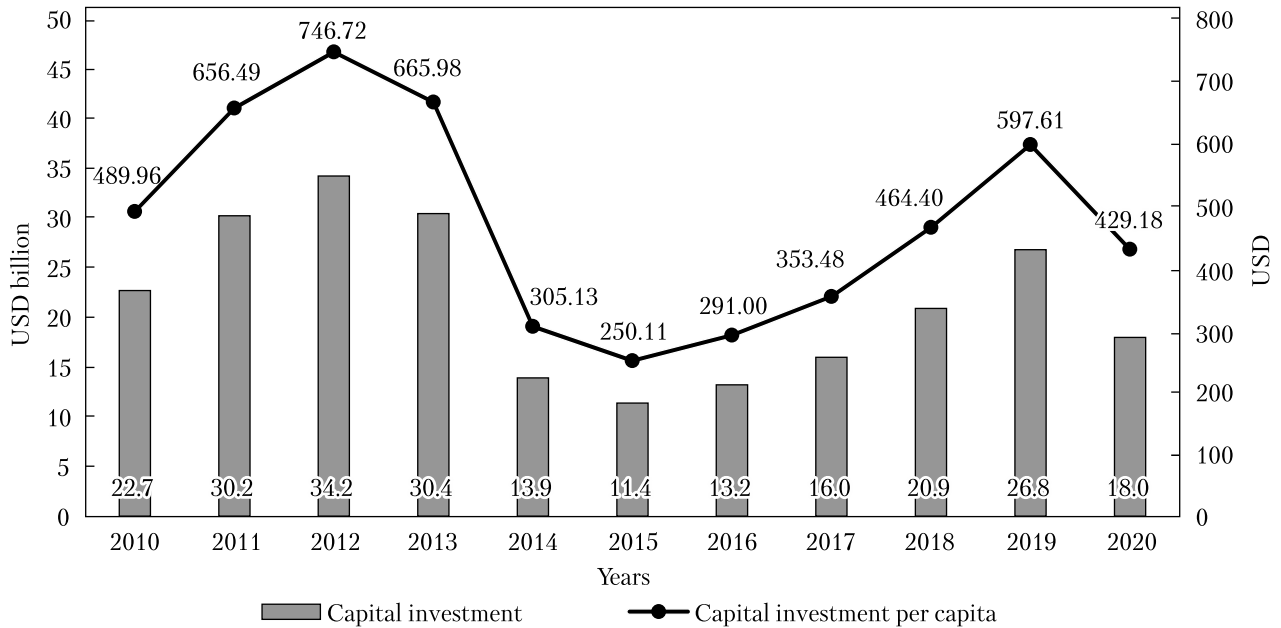


Fig. 4. Dynamics of capital investments in Ukraine, total (USD billion) and per capita (USD)
 Source: calculated according to the State Statistics Service of Ukraine.

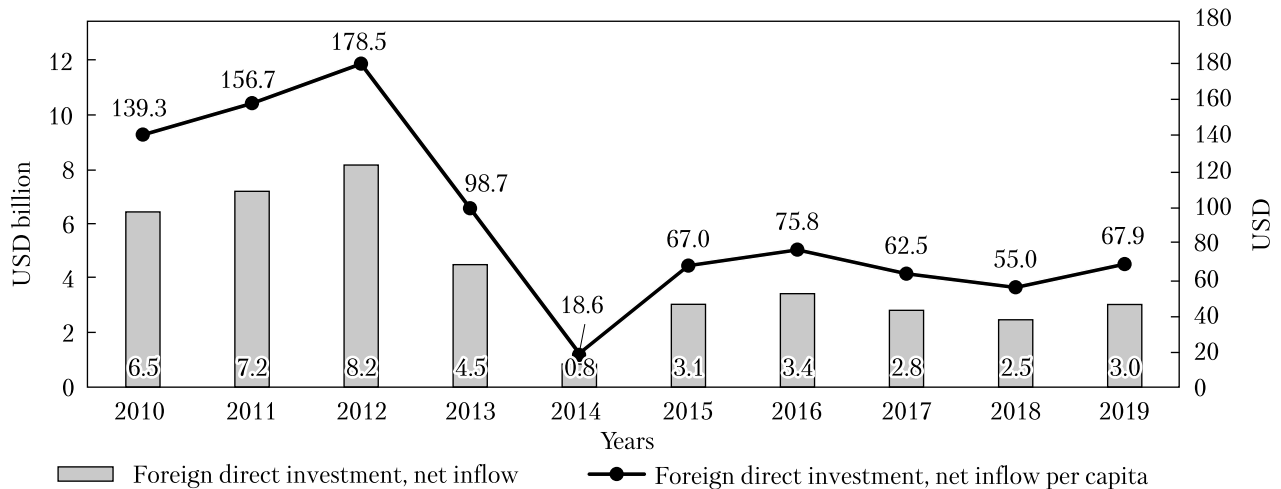


Fig. 5. Dynamics of net inflow of foreign direct investment in Ukraine, total (USD billion) and per capita (USD)
 Source: based on [18].

ment attractiveness of Ukraine in 2010–2020 only three times reached the neutral zone (from 3 to 4 points) in 2010 (3.2 points), in 2017 and 2018 (3.09 points respectively). In other years, the index did not leave the negative zone.

Based on the comparison of the values of net inflow of foreign direct investment and the index

of investment attractiveness of Ukraine according to EBA estimates (Fig. 6), we can conclude that the relationship between them is weak (correlation coefficient 0.44), inversely proportional, i.e. with increasing the index per unit net inflow of foreign direct investment to Ukraine decreases by an average of USD 2.6 billion.

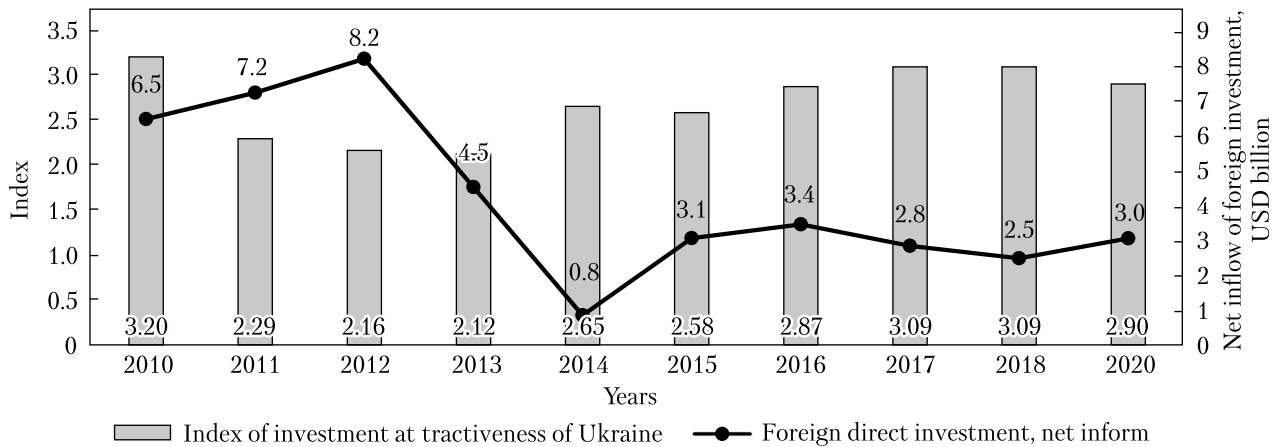


Fig. 6. Comparison of the values of net inflow of foreign direct investment (USD billion) and the index of investment at tractiveness of Ukraine according to the European Business Association (points)
 Source: compiled based on data [18, 19].

We believe that such a mismatch can be determined by social capital – the presence or absence of investor confidence, despite the objective factors of investment attractiveness.

The development of the national economy is characterized by innovation. According to the International Index of Global Competitiveness, in 2018–2019, Ukraine ranked 85th among 141 countries, being above Northern Macedonia, Argentina, and Sri Lanka (82nd–84th, respectively). As compared with 2009–2010, Ukraine worsened its position by 3 points. At the same time, in terms of innovation, in 2018–2019, Ukraine ranked 60th (versus 62, in 2009–2010). The best position of Ukraine in terms of the Index of Global Competitiveness has been reported for skills that is an important factor in innovation. In 2018–2019, the rank was 44th that was better than in 2009–2010, by 2 positions.

The share of the industrial enterprises of Ukraine, which implemented innovations, in the total number of enterprises increased from 11.5% to only 13.8%, in 2010–2019, which was extremely small. At the same time, the share of the sold innovative products in its total amount for industrial enterprises during this period from 3.8% decreased almost three times and was equal to 1.3%, in 2019.

During a survey conducted among managers and specialists of agricultural enterprises in Zaporizhzhia region, 50% of respondents cited the lack of necessary information, new ideas as a factor hindering the introduction of innovations [21, 121]. 72.1% of respondents named scientific institutions, 70.2% mentioned mass media, 58.7% named conferences, seminars, 55.8% noted exhibitions as reliable sources of information about innovations (if it is possible to choose more than one source) [21, 124].

Unfortunately, the state of science in Ukraine can be called a crisis. Despite the fact that in 2010–2019 expenditures on research and development increased by 112.8% (on average annually by 8.8%) and were equal to UAH 17.3 billion in 2019, their share in GDP from 0.75% in 2010, on the contrary, decreased to 0.43%, in 2019. The Lisbon Strategy of the European Union recommended the amount of funding for science from all sources up to 3 percent of GDP [22]. Significant underfunding of research and development has affected the number of employees involved. During 2010–2019, their number decreased 2.3 times and amounted to 79.3 thousand people. Nevertheless, the Ukrainian society still has a relatively high level of trust in national scientists, which is confirmed by the results of national an-

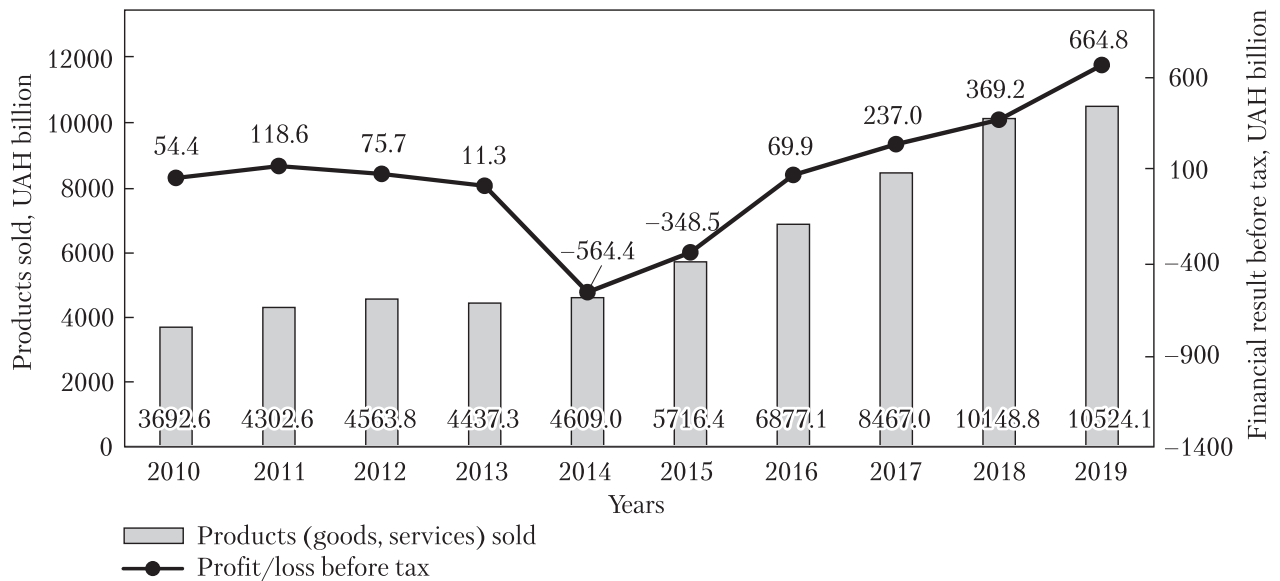


Fig. 7. Dynamics of sales and financial result before tax of business entities of Ukraine, UAH billion
 Source: compiled according to the State Statistics Service of Ukraine.

nual monitoring surveys. In 2018, its average score was 3.1 points (with a maximum score of 5 points) after trust in family and relatives (4.5 points), compatriots (3.4 points) and neighbors (3.3 points) [23, 451].

We believe that social capital is designed to facilitate the search for and dissemination of information necessary to enhance innovation. At the same time, more active use of mass media, holding conferences, seminars, exhibitions will also contribute to the formation and effective use of social capital.

Between 2010 and 2019, the total number of business entities in Ukraine decreased by 11.1% (or an average of 1.3% per year) and amounted to 1.9 million units. Of these, individual entrepreneurs decreased by 13.5% (on average by 1.6% per year), upto 1.6 million units, in 2019. The number of employees in business entities as a whole decreased by 18.0% (on average by 2.2% per year) and amounted to 9 million people. The number of employees of individual entrepreneurs decreased by 7.3% (on average by 0.8%), down to 2.6 million people, in 2019.

Figure 7 shows the dynamics of the main cost indicators that characterize the state of entrepreneurial activities.

In 2010–2019, the sold products of economic entities increased by 2.85 times (on average for the year by 12.3%) and amounted to UAH 10.5 trillion, in 2019. At the same time, individual entrepreneurs increased the products sold 3.8 times (on average by 16.1% per year), upto UAH 0.88 trillion, in 2019. Financial result before tax for this period had significant fluctuations, but in 2019, as compared with 2010, increased 12.2 times and amounted to UAH 664.8 billion. In 2019, the number of enterprises that made a profit in the total number of enterprises increased from 59% in 2010 to 74%, or by 15 percentage points.

If we consider the sales and financial result before tax in USD, the picture becomes somewhat different (Fig. 8).

In 2019, as compared with 2010, the sales in USD decreased by 19.7% for all business entities and increased by 8.1% for individual entrepreneurs. The financial result before tax increased 3.2 times.

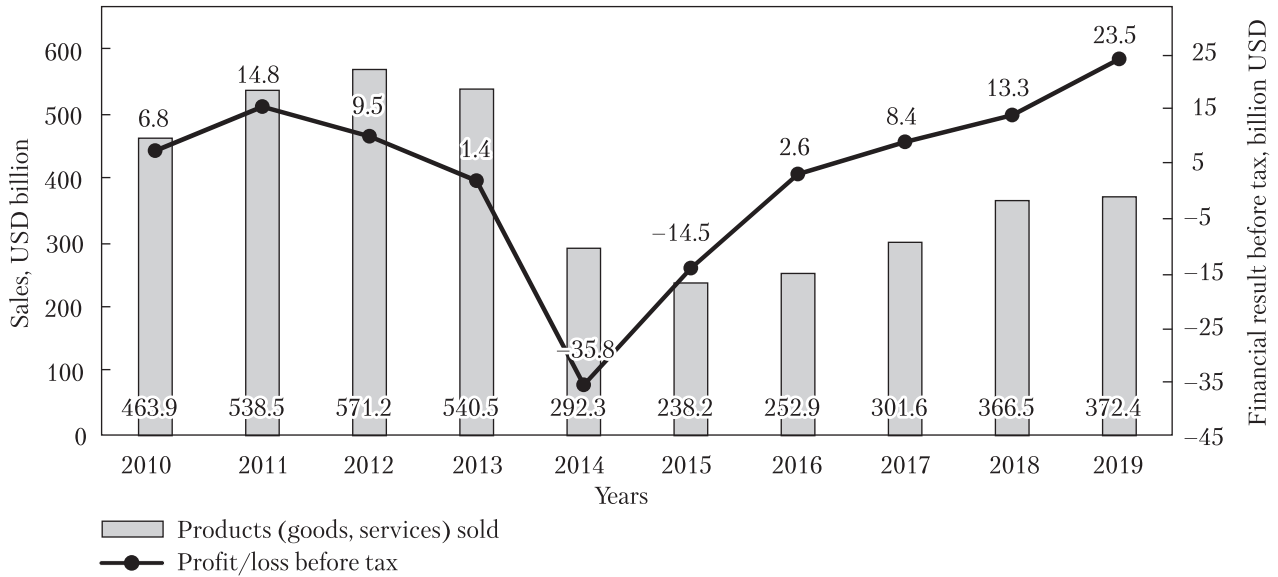


Fig. 8. Dynamics of sales and financial result before tax of business entities of Ukraine, USD billion
 Source: compiled according to the State Statistics Service of Ukraine.

The dependence of business indicators on the assessment of social capital was revealed (Table 7).

Thus, with the deterioration of Ukraine’s place in the prosperity rating [17] according to social capital by one position, the sales in USD decreased by almost UAH 1.5 billion, the number of employees in business entities lowered by 13.7 thousand people. Correlation coefficients indicate a weak and medium relationship between performance and factor characteristics (correlation coefficients 0.4422 and 0.5186, respectively). The coefficient of determination indicates show the percentage of the variation of the resultant trait depends on the variation of the factor trait. It is es-

timated that the change in sales in USD depends on social capital by 20%, the number of employees in business entities, respectively, by almost 27%. Other percentages are the influence of factors that are not included in the model. Such factors may be factors that are taken into account in determining the international rating of ease of doing business, which is determined by the World Bank (Doing Business) [24].

In 2010–2019, in the international ranking of ease of doing business, Ukraine rose from 142nd place to 71st, so the annual change in position in the ranking averaged 10 points. In 2010, Ukraine ranked 142nd in the ease of doing business, being

Table 7. Dependence of Cost Indicators of Entrepreneurial Activity on the Assessment of Social Capital

Dependent variable, effective sign (y)	Independent variable, factor feature (x)	Regression equation	Correlation coefficients (R); determination (D)
Products sold in dollar equivalent, USD billion	Social capital*	$y = -1.4788x + 503.64$	D = 0.1955 R = 0.4422
Number of employees in business entities, persons		$y = -13734x + 1E + 07$	D = 0.2689 R = 0.5186

* Social capital according to the corresponding rating of the country in [17].
 Source: own calculations.

ahead of Honduras (141st in the ranking), Gambia (140th), the West Bank and the Gaza Strip (139th). In 2019, Ukraine ranked 71st between the Kyrgyz Republic (70th) and Greece (72nd).

To find ways to improve the conditions for doing business, it is advisable to consider the country's rankings on the indicators of the rating of ease of doing business. Thus, in 2010, the most problematic aspects in Ukraine were *the Conditions for Obtaining a Construction Permit* and *payment of taxes*, as the country ranked 181st by these criteria among 183 countries. In 2019, the country's rank for building permits rose to 30th place, for taxes it increased to 54th place. However, the most problematic aspects were the *conditions for settling insolvency* (145th place) and *connection to the power supply system* (135th). To improve the business climate, the Cabinet of Ministers of Ukraine adopted an action plan [25], which includes:

- ◆ the simplification of business conditions in agriculture, construction, oil and gas, subsoil use and electricity, in the fields of information technology and telecommunications, transport and logistics;
- ◆ the simplification of administrative procedures in the field of land relations, as well as regulation of economic activity;
- ◆ the improvement of procedures of state supervision (control) over the regulation of economic activity, as well as technical regulation of economic activity;
- ◆ the simplification of procedures for customs and tax regulation of economic activity and reporting; and
- ◆ the empowerment of businesses to participate in the provision of public services.

To increase Ukraine's position in the ranking of ease of doing business, the Cabinet of Ministers of Ukraine has adopted the action plan [26] that sets tasks, identifies measures, as well as responsibilities and deadlines for their implementation. According to the results of the first half of 2021, 14 items of the Action Plan were implemented, or 54% [27].

We believe that the influence of social capital on the state of entrepreneurial activity is manifested in the development of self-regulation – independent (without state intervention) regulation of relations between economic (entrepreneurial) or professional activities to protect their own and public interests [28, 71].

From the standpoint of institutionalism, self-regulation can be represented by its institutions: **institutions-functions** (rules, norms, standards, control over their observance and punishment for non-compliance); **institutions-rules** (Codes and Laws of Ukraine, Resolutions and Orders of the Cabinet of Ministers of Ukraine (CMU), Orders of ministries and departments, strategies, concepts, programs, etc.); and **institutions-organizational units** (self-regulatory organizations, associations, public associations, etc.).

Currently, only 24 self-regulatory organizations are officially recognized in Ukraine, operating in six areas: eight organizations function in appraisal activities, including land appraisal, two ones operate in land management, five organizations function in arbitration management, four ones operate in architectural management activities, five organizations carry out professional activities in the securities market [29].

In the implementation of an inclusive and open process of optimization of regulatory relations, a special role is played by social capital – a set of income-generating links and socio-economic relations that arise in a particular social network based on existing norms and trust [30, 61]. At the same time, the availability of social capital in society is the reason, the consequence of which is the ability to carry out the processes of self-regulation of an entrepreneurial activity. At the same time, effective self-regulation contributes to the growth of trust in society, the expansion and cohesion of social networks, the improvement of existing and the development of new norms – that is, the formation and use of social capital.

We propose to consider the development of the national economy as a consistent process of qualitative transformations of its elements, which oc-

cur due to changes in quantitative characteristics (indicators) in order to improve the quality of life of the population.

To achieve the main goal of existence and development of the national economy, it is necessary to use social capital as a driver of institutional transformation and a means of horizontal and vertical connection between the elements of the national economy.

According to experts, social capital has a significant impact on the country's prosperity, but

according to this criterion, it ranks only 147th among 167 countries of the world. Research has proven its connection with indicators of investment, innovation and entrepreneurship.

We believe that the subjects of the national economy at the expense of social capital have additional competitive advantages due to the joint use of own resources and reduction of transaction costs. Prospects for further research are to identify the areas of institutional changes that would contribute to the formation and effective use of social capital.

REFERENCES

1. Busel, V. (2005). *A large explanatory dictionary of the modern Ukrainian language*. Irpin: VTF "Perun" [in Ukrainian].
2. Raievnjeva, O. (2006). *Enterprise development management: methodology, mechanisms, models*. Kharkiv: VD "Inzhtek" [in Ukrainian].
3. Shynkaruk, V. (1986). *Philosophical dictionary* (2nd ed.). Kyiv: Holov. red. URE [in Ukrainian].
4. Gavrillko, P. Gavrillko, P. (2012). National economy: theoretical aspects of structure optimization. *Scientific Bulletin of NLTU of Ukraine*, 22.4, 187–196 [in Ukrainian].
5. Grontkovska, O. (2010). National economy as a scientific category and object of theoretical and economic analysis. *Bulletin of Kamyanets-Podilsky National University named after Ivan Ogienko. Economic sciences*, 3, 106–111 [in Ukrainian].
6. Karintseva, O., Kharchenko, M., Panchenko, A. (2017). Theoretical approaches to defining the concept of "structure of the national economy". *Bulletin of SSU. Economics Series*, 3, 103–111 [in Ukrainian].
7. Alaassar, A., Mention, A.-L., Aas, T. H. (2020). Exploring how social interactions influence regulators and innovators: The case of regulatory sandboxes. *Technological Forecasting and Social Change*, 160, 120257. URL: <https://www.sciencedirect.com/science/article/pii/S0040162520310830> (Last accessed: 15.12.2021).
8. Bolibar, M. (2020). Social capital, human capital and ethnic occupational niches: an analysis of ethnic and gender inequalities in the Spanish labour market. *Palgrave Commun*, 6, 22. <https://doi.org/10.1057/s41599-020-0397-4>.
9. De Vaan, M., Wang, D. (2020). Micro-structural foundations of network inequality: Evidence from a field experiment in professional networking. *Social Networks*, 63, 213–230. URL: <https://www.sciencedirect.com/science/article/pii/S0378873320300460> (Last accessed: 15.12.2021).
10. Daskalopoulou, I., Karakitsiou, A. (2020). Regional social capital and economic growth: Exploratory evidence from testing the virtuous spiral vs. vicious cycle model for Greece. *Sustainability*, 12, 6037. URL: <https://www.mdpi.com/2071-1050/12/15/6037> (Last accessed: 15.12.2021).
11. Pawlewicz, K., Pawlewicz, A. (2020). Interregional diversity of social capital in the context of sustainable development-A case study of Polish voivodeships. *Sustainability*, 12, 5583. URL: https://www.mdpi.com/2071-1050/12/14/5583?type=check_update&version=2 (Last accessed: 15.12.2021).
12. Rowan, S., Kwiatkowski, K. (2020). Assessing the Relationship between Social Vulnerability, Social Capital, and Housing Resilience. *Sustainability, MDPI, Open Access Journal*, 12(18), 1–21. URL: <https://www.mdpi.com/2071-1050/12/18/7718> (Last accessed: 21.11.2021).
13. Shpykulyak, O., Mazur, G. (2014). Institutional principles of social capital formation in the mechanism of rural development. *Economics of agro-industrial complex*, 8, 63–68 [in Ukrainian].
14. State Statistics Service of Ukraine. (2014). Classification of institutional sectors of the Ukrainian economy. Statistical Classifier of Ukraine. (Order No. 378, December 03). URL: <https://zakon.rada.gov.ua/rada/show/v0378832-14#Text> (Last accessed: 10.01.2022) [in Ukrainian].
15. Derzhspozhyvstandart of Ukraine. (2010). Classification of types of economic activity DK 009: 2010. National Classifier of Ukraine. (Order No. 457, October 11). URL: <https://zakon.rada.gov.ua/rada/show/vb457609-10#Text> [in Ukrainian]. (Last accessed: 10.01.2022).
16. Hrytsaienko, H., Hrytsaienko, M. (2018). Social investment in social capital. *Business Inform*, 1, 188–194 [in Ukrainian].

17. The Legatum Prosperity Index (2020). Official web-site. URL: <https://www.prosperity.com/rankings> (Last accessed: 05.01.2022).
18. The World bank (2020). World Development Indicators. URL: <http://databank.worldbank.org/> (Last accessed: 05.01.2022).
19. European Business Association (2020). Index of investment attractiveness of Ukraine. URL: https://eba.com.ua/wp-content/uploads/2020/07/EBA-InvestIndex_1H-2020_UKR.pdf (Last accessed: 05.01.2022).
20. World Economic Forum (2020). Official web-site. URL: <https://www.weforum.org/reports/how-to-end-a-decade-of-lost-productivity-growth> (Last accessed: 05.01.2022).
21. Shpykuliak, O., Hrytsaienko, M. (2016). *Development of innovative activity in the agricultural sector: management and efficiency*. Kherson: OLDI-PLYuS [in Ukrainian].
22. Verkhovna Rada of Ukraine (2015). About scientific and scientific and technical activity (Act No. 848-VIII, November 26). URL: <https://zakon.rada.gov.ua/laws/show/848-19#Text> [in Ukrainian]. (Last accessed: 10.01.2022).
23. Parashchevin, M. (2018). Results of national annual monitoring surveys 1994–2018. *Ukrainian society: monitoring of social change*, 6, 415–426 [in Ukrainian].
24. The World bank (2020). Doing business. URL: <http://www.doingbusiness.org> (Last accessed: 05.01.2022).
25. Cabinet of Ministers of Ukraine (2019). Action plan to deregulate economic activity and improve the business climate (Order No. 1413-p, December 04). URL: <https://zakon.rada.gov.ua/laws/show/1413-2019-%D1%80#Text> (Last accessed: 10.01.2022). [in Ukrainian].
26. Cabinet of Ministers of Ukraine (2019). Action Plan to Raise Ukraine's Position in the World Bank's Doing Business (Order No. 1413-p, December 04). URL: <https://zakon.rada.gov.ua/laws/show/1413-2019-%D1%80#Text> (Last accessed: 05.01.2022). [in Ukrainian].
27. Ministry of Economic Development, Trade and Agriculture of Ukraine (2020). Information on the implementation of the Action Plan to increase Ukraine's position in the World Bank's "Doing Business" rating, approved by the order of the Cabinet of Ministers of Ukraine dated 04.12.2019 № 1413 as of 31.07.2020. URL: <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=05376d6c-3772-4027-ac6f-73e33e2905a8&title=DoingBusiness2019> (Last accessed: 05.01.2022) [in Ukrainian].
28. Hrytsaienko, M. (2019). Social capital in the mechanism of self-regulation of entrepreneurial activity in agriculture. *Economics of agro-industrial complex*, 8, 70–78 [in Ukrainian].
29. Cabinet of Ministers of Ukraine (2018). On approval of the Concept of reforming the institution of self-regulation in Ukraine (Order No. 308-p., May 10). URL: <https://zakon.rada.gov.ua/laws/show/308-2018-%D1%80> (Last accessed: 05.01.2022) [in Ukrainian].
30. Hrytsaienko, M. (2018). The essence of social capital and its features in the agricultural sector. *Economics of agro-industrial complex*, 1, 60–65 [in Ukrainian].

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СОЦІАЛЬНИЙ КАПІТАЛ У РОЗВИТКУ СИСТЕМИ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ

Вступ. Соціальний капітал через громадську довіру, посилення солідарності та відчуття приналежності може сприяти підвищенню ефективності участі населення у програмах розвитку національної економіки.

Проблематика. Дослідження означеного питання набуває особливої актуальності внаслідок пошуку додаткових можливостей в реалізації інституційних перетворень, розвитку інвестиційної, інноваційної та підприємницької діяльності.

Мета. Дослідження соціального капіталу як важливого чинника розвитку системи національної економіки.

Матеріали й методи. Застосовано методи порівняльного аналізу, монографічний, абстрактно-логічний. Інформаційною базою дослідження є дані Світового банку, Європейської Бізнес Асоціації, Державної служби статистики України, Інституту соціології НАН України.

Результати. Визначено сутність понять «розвиток», «система», «національна економіка» та «соціальний капітал». Розглянуто структуру національної економіки в інституційному, соціально-економічному, просторовому, галузевому, відтворювальному, технологічному та зовнішньоекономічному розрізах. Запропоновано та проаналізовано в динаміці індикатори стану та розвитку системи національної економіки та соціального капіталу, виявлено взаємозв'язок між ними. Встановлено наявність зв'язку між рівнем довіри в суспільстві та розвитком соціальних мереж. Виявлено вплив соціального капіталу на саморегулювання підприємницької діяльності, внесено пропозиції щодо його ефективного формування та використання в національній економіці.

Висновки. Соціальний капітал виступає драйвером інституційних перетворень, засобом горизонтального й вертикального зв'язку між елементами національної економіки. Доведено його вплив на процвітання країни, а також зв'язок з індикаторами інвестиційної, інноваційної та підприємницької діяльності. Суб'єкти національної економіки за рахунок соціального капіталу мають додаткові конкурентні переваги через спільне використання власних ресурсів і зниження трансакційних витрат.

Ключові слова: розвиток, система, національна економіка, соціальний капітал, індикатори стану та розвитку, саморегулювання.