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FINANCING OF CAPITAL INVESTMENTS IN ENSURING ECONOMIC SECURITY OF NON-FINANCIALS CORPORATIONS IN UKRAINE

Kateryna BAGATSKA
Kyiv National University of Trade and Economics
Ukraine, 02156, Kyiv, 19, Kyoto street
E-mail k.bagatska@knute.edu.ua
ORCID ID: 0000-0003-2184-2971

Yelena MATUSOVA
Kyiv National University of Trade and Economics
Ukraine, 02156, Kyiv, 19, Kyoto street
E-mail o.matusova@knute.edu.ua
ORCID ID: 0000-0001-7998-3289

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Abstract. *The purpose of the research is to define the place of capital investments financing sources in ensuring economic security of non-financial corporations in terms of transition the Ukrainian economy to the Industry 4.0. Dialectical cognition method, methods of complex analysis of economic phenomena, logical generalization, as well as financial analysis of business processes were used in the investigation. The concept of capital investments financing sources was analysed from the point of view of modern national and foreign scientists. The peculiarities of capital investments financing in current conditions of economic development of Ukraine are determined according to the sources of their formation and fields of economic activity of non-finacial corporations. The dominance of own sources in the capital structure were revealed. Such a structure indicates the financial capacity of enterprises to invest, on the other hand, the extremely low level of external financing, which does not increase over the years, indicates limited opportunities for renovations and accelerated growth for the Ukrainian non-financial sector. The place of depreciation fund in the capital investments financing was underlined due to possibilities of transition the Ukrainian economy to the Industry 4.0. The level of financing of innovations and its share in GDP of the country were analyzed and the correspondence of such kind of financing with possibilities of ensuring the economic security of the country and its digitalization was identified. As a results of the conducted research it was determined that the main sources of financing capital investment by non-financial corporations in Ukraine is equity and companies should pay attention to increasing external sources; the high level of tangible assets depreciation lead to spending all financing of capital investment into repair in order to keep the operational activity on the necessary level, that why companies do not have the opportunity to develop themselves through increasing financing of innovations; in such conditions there is no opportunity to support transformation of the country to the Industry 4.0 by non-financial corporations and level of economic security of the country could be considered as low.*

Keywords: *Capital investment, financing, non-financial corporation, depreciation, net profit, loan, economic security*

Introduction

The rapid development of new technologies and digitalization, both with the spread of production processes and business processes automatization are confidently changing the structure of the real (non-financial) sector of economy in a post-industrial society.

Overcoming the crisis in the Ukrainian economy, ensuring the transition of Ukrainian non-financial corporations to the era of a new technological system and creating an environment conducive to their growth in the context of globalization and the European vector of development, require permanent investment. We believe that first of all investments are necessary for production processes, namely the fixed assets of the real sector of the economy, which forms 93% of Ukraine's GDP. Since capital investment in the acquisition and renewal of the real sector fixed assets to ensure accelerated modernization is the only way to maintain the Ukrainian economy at a developed level, the study of the funding sources structure remains a topical issue of modern financial science.

Theoretical and practical aspects of the study of the typology, composition and structure of capital investments financing sources have received considerable attention of foreign scientists and Ukrainian researchers. The main works under the topic are focused on three theories of investment financing explaining its reasons: pecking order theory and capital structure theory.

According to Modigliani and Miller (1958), different sources of finance are perfect substitutes only in a perfect capital market, whereby the market value of a firm is given by its assets. But in developing economies such as Ukrainian capital market is not perfect and from the point of view of a firm, different financial sources are not perfect substitutes (Mikócziová, 2010). This can also be concluded from the pecking order theory by Myers and Majluf (1984) and Myers (1984), according to which firms follow a certain pecking order when they need to raise new capital for their investments. Pecking order theory addresses the order in which an organization seeks funding, starting with internal sources, then debt, and then equity (Aabi, 2014). The theory explains it by information asymmetry between managers and potential investors (Serrasqueiro, Nunes, & Armada, 2016).

At the same time capital structure theory is considered not applicable to Ukrainian economy. Capital structure theory proponents explained how firms finance investments using different sources of funds, such as short-term debts, long-term debts, common stock, and preferred equity (Daskalakis, Eriotis, Thanou, & Vasiliou, 2014). However, the financial market of Ukraine is not developed for using common stock and preferred equity financing of investment.

Investment financing is considered a crucial to enhance growth and productivity in economies (Pacheco, 2017). Nevertheless, due to the importance of investment to the ensuring the growth path of the economy and its economic security, researchers analyze the investment behaviour from a macroeconomic perspective (Poirson, 1998; Volos, 2014) and studies focused on the firm-level point of view are scarce. The present paper is not focused on the ensuring economic security through the investment derminants from a macroeconomic point of view but rather on the firm-level determinants.

During the Post-Soviet period ensuring economic security of Ukraine is also discussed widely by national scientists. Despite of the fact that there are plenty of scientific papers on economic security of innovative enterprises (Illyashenko, 2005; Labunska, 2015), on the relationship of investments and innovative development of Ukrainian economy (Paranchuk & Korbutyak, 2013), there is lack of researches on identifying connection of financial recourses, innovative development and economic security.

In addition to scientific approach Ukrainian government pays great attention to the innovative development and increasing Ukrainian innovative potential nowadays. The Cabinet of Ministers of Ukraine (2018) has adopted “The Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020” and is working under “The Strategy “Industry 4.0”. The key assumptions of the Strategy are as follows: it will help to increase competitiveness of the country; it will influence the innovative development and realize the growing innovative potential; it will lead to changes in infrastructure of the economy. Thus, government efforts are focused on increasing economic security of the country through innovative development.

In this connection the study of investment financing peculiarities of Ukrainian non-financial corporations, their relation to economic security of the country will allow to empirically test the pecking order theory of financing and the ability of the country to move to the Industry 4.0.

The purpose of the study is to define the place of capital investments financing sources in the context of the pecking order theory; to substantiate the significance of the long-term assets financing sources in ensuring economic security of non-financial corporations in terms of transition the Ukrainian economy to the Industry 4.0.

Materials and Methods. The methodological basis of our research is combination of theoretical studies with comparative statistical information that have been obtained from the Ukrainian Government Statistics website. Statistical data analysis was provided by descriptive methods, such as logical generalization. Dialectical cognition and retrospective method were used to analyze scientific publications.

The main body of the paper

The development of the Ukraine's economy real sector is significantly influenced by such important external factors as the industrial revolution and technological change, on the one hand, and Russia's aggression (annexation of part of the territory with enterprises, hostilities, destruction of industrial facilities and infrastructure, market closures and termination of cooperation, etc.).

As Sobkevych, Sevchenko and others (2017) noted, compared with global trends in economic development, manifested primarily in the rapid growth of technological innovation and the departure from the dominance of the industrial sector in favor of high-tech, the development of the Ukrainian economy real sector is still focused on low-tech production and export of raw materials, and the factors of ensuring its competitiveness are traditional factors, such as the availability of labor, natural resources, capital. Therefore, the real sector needs to stimulate advanced development on a new technical-technological and innovative basis, which seems possible by overcoming the dependence of a number of industries on Russian markets and changing the vector of economic policy to expand cooperation with the European Union, creation of new productions, maintenance of sustainable inclusive economic growth.

We agree with V. Zymovets and N. Sheludko (2017) statement that in the case of slowing down the modernization of the real sector economy Ukraine will not be able to raise the productivity level of the use of production factors, and hence, in the long run – it final transformation into raw materials the appendage of developed countries and the market for their high-tech goods.

Thus, the investment needs of the real sector are growing, and in the actual absence of the stock market and the collapse of the credit market in the last 4 years, the research of domestic investment potential is becoming increasingly important.

According to the State Statistics Service, Ukrainian non-financial corporations has been financing its capital investments for the last 10 years mainly from internal sources of financing (own funds of enterprises and organizations), as can be seen from Table. 1. And some sources of financing are represented on the fig.1

On the one hand, the dominance of own equity funds in the structure of funding sources indicates the financial capacity of enterprises to invest, on the other hand, the extremely low level of external financing, which does not increase over the years, indicates limited opportunities for expanded reproduction and accelerated growth of the real sector. These facts create some treats for our economic development.

Table 1. Dynamics of capital investments according to the sources of financing, mln. EUR
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

Item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Total	**16587**	**21215**	**25890**	**22920**	**13566**	**11006**	**12425**	**14678**	**17673**	**19258**
state budget funds	970,6	1566,6	1585,9	581,9	174,3	285,6	327,4	509,8	709,8	969,1
%	*5,9%*	*7,4%*	*6,1%*	*2,5%*	*1,3%*	*2,6%*	*2,6%*	*3,5%*	*4,0%*	*5,0%*
local budgets funds	544,1	698,4	833,0	640,5	376,6	588,6	947,9	1385,3	1566,6	1775,1
%	*3,3%*	*3,3%*	*3,2%*	*2,8%*	*2,8%*	*5,3%*	*7,6%*	*9,4%*	*8,9%*	*9,2%*
enterprise equity funds	10017,1	12765,9	15950,7	14996,0	9443,6	7342,7	8521,5	10065,5	12411,2	12478,3
%	***60,4%***	***60,2%***	***61,6%***	***65,4%***	***69,6%***	***66,7%***	***68,6%***	***68,6%***	***70,2%***	***64,8%***
bank loans and bonds	2173,0	3304,4	3867,8	3273,1	1383,3	856,0	958,1	986,2	1394,6	2113,1
%	*13,1%*	*15,6%*	*14,9%*	*14,3%*	*10,2%*	*7,8%*	*7,7%*	*6,7%*	*7,9%*	*11,0%*
foreign investments	353,5	454,3	477,5	402,5	358,9	337,8	347,5	206,9	55,9	146,6
%	*2,1%*	*2,1%*	*1,8%*	*1,8%*	*2,6%*	*3,1%*	*2,8%*	*1,4%*	*0,3%*	*0,8%*
investments in homebuilding programs	1793,0	1585,8	2198,1	2268,4	1403,9	1320,1	1058,0	1093,3	1077,9	1019,0
%	*10,8%*	*7,5%*	*8,5%*	*9,9%*	*10,3%*	*12,0%*	*8,5%*	*7,4%*	*6,1%*	*5,3%*
other sources	736,0	839,6	976,7	757,3	425,7	275,5	264,9	431,3	457,5	756,5
%	*4,4%*	*4,0%*	*3,8%*	*3,3%*	*3,1%*	*2,5%*	*2,1%*	*2,9%*	*2,6%*	*3,9%*

Thus, the negative trend is the reduction the share of loans as a source of financing capital investments. At the same time, due to the budget decentralization reform in Ukraine, since 2015, there has been a slight increase in the share of local budgets in the financing of fixed capital, which is certainly a positive trend. But the growth is very slight, not strong.

One of the conditions for successful economic development is the rapid renewal of fixed assets of non-financial corporations. A low share of the capital investment external financing for the emerging country economy may be justified if the fixed assets as a whole are not very worn out. However, the statistics reflect the opposite picture.

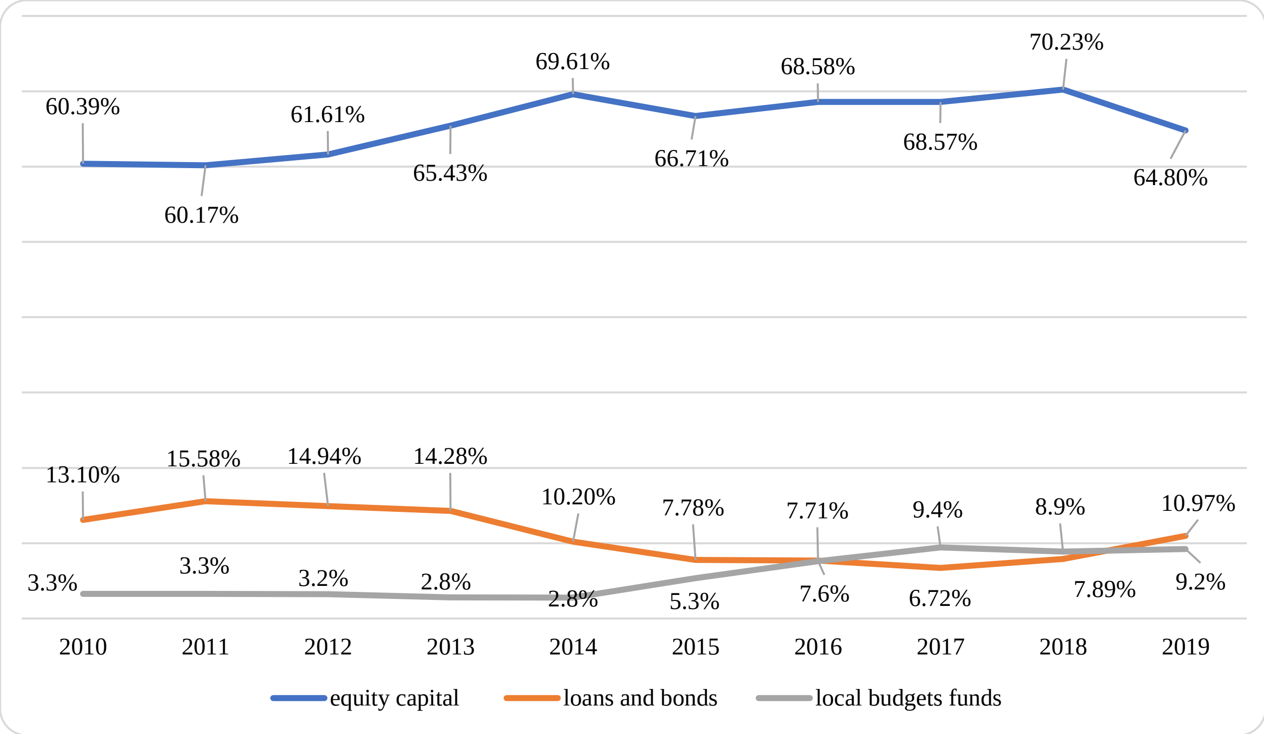

Figure 1. Dynamics of some capital investment financing sources, %
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

According to the State Statistics Service, the level of the fixed assets depreciation is 64,05% at the end of 2019, which is higher than the previous 4 years but less than 2014, when the depreciation of fixed assets was the maximum for the last 17 years and amounted to 83.5%.

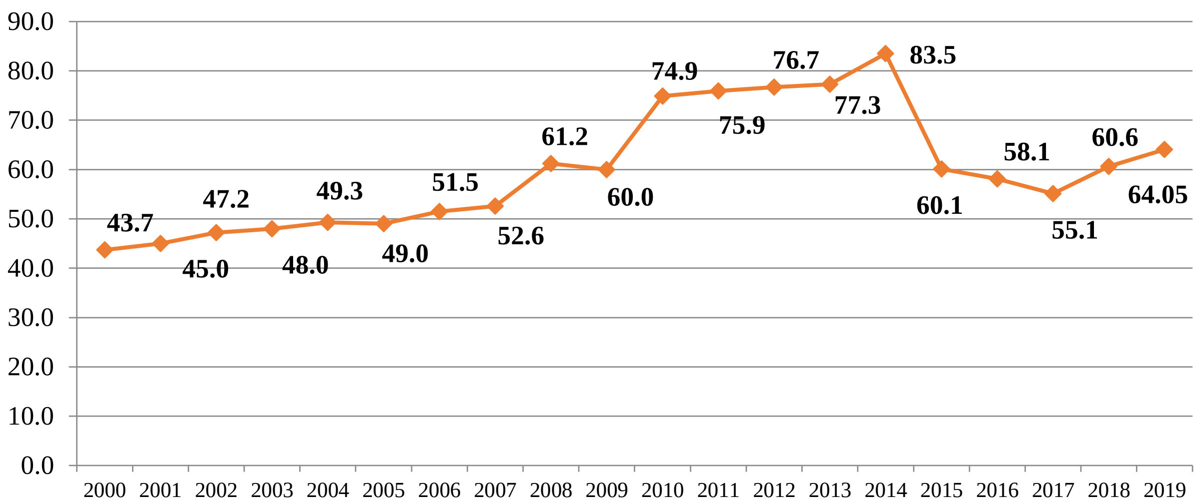

Figure 2. The level of the total fixed assets depreciation, %
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

Net profit and depreciation costs are the main internal sources of fixed assets renovation. So we analyzed the correspondence between the level of capital investments (their amount) and the amount of such internal sources of financing as net profit and depreciation (Figure 3).

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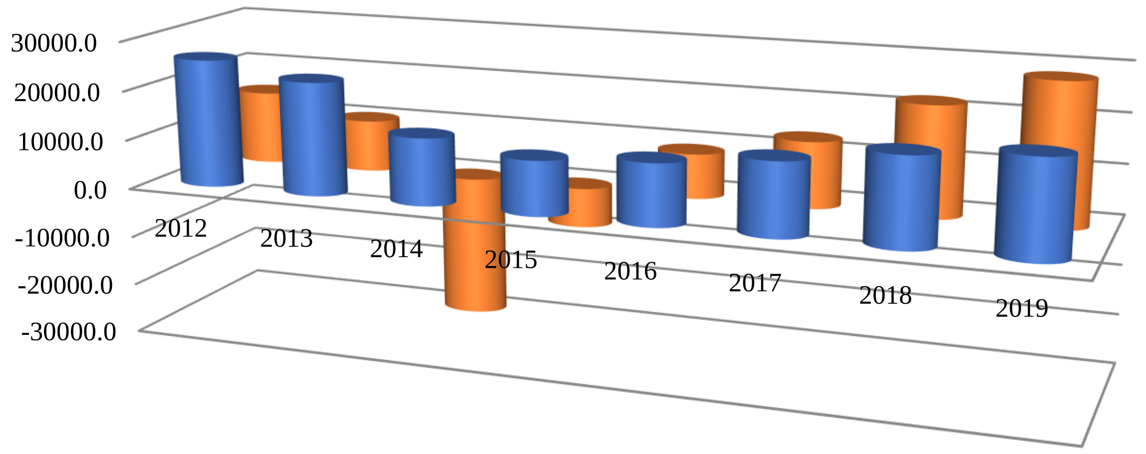
And this chart demonstrates the dominance of the internal sources amount under the amount of the capital investments, which mean that our domestic companies have the possibility to invest in renovation and modernization but they prefer to spend their gains or to take the profits to offshores. So in conditions of the limited external financing this trend is also defined as a treat to economic security.



	2012	2013	2014	2015	2016	2017	2018	2019
Total capital investments in non-financial corporations	25889.7	22919.6	13566.2	11006.3	12425.4	14678.2	17673.4	19257.7
Itnernal sources of financing	14824.8	10494.3	-28420.0	-7958.1	8993.9	13281.9	22136.9	28297.4

■ Total capital investments in non-financial corporations ■ Itnernal sources of financing

Figure 3. Correspondence of the capital investments and internal sources of their financing, mln EUR
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

Thus, described analytical data allow us to conclude that the state of capital investments financing of non-financial corporations in Ukraine can be considered as a threat to economic security. After all, given the high level of depreciation of property, which is the fixed capital of the real sector, the property renewal is mainly due to the internal sources of funding, which limits the possibilities of expanded reproduction. At the same time, even the existing internal sources have not been fully used since 2017. This means that company management prefers to derive profits and "erode" depreciation in current expenses.

Current investigation determines that there is a direct link between security, transition to the industry 4.0 and capital investment. The structure and ability to finance properly capital investment in Ukraine identifies the ability of security ensuring and ability of innovative transformation the economy of the country.

After the world financial crises of 2007–2009 the total volume of capital investment was increased steadily from 16 592 mln EUR in 2010 to 25891.2 mln EUR in 2012 (fig. 4).

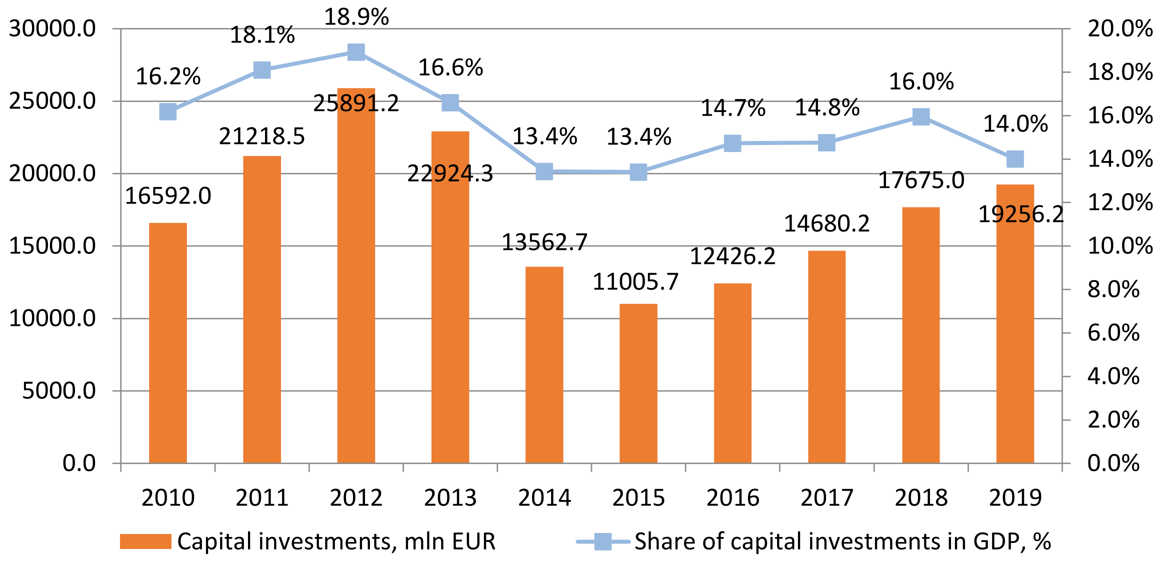


Figure 4. Capital investments and its share in GDP of non-financial corporations in Ukraine
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

The military conflict and economic instability in the country reduced the ability of enterprises to finance its development in 2014–2015 but starting from 2016 enterprises recover their ability to finance capital investment. Analyzing depreciation of fixed assets and its level dynamics we could expect that enterprises should pay great attention to financing fixed assets. And till 2012 the share of capital investment in GDP increased with total amount of capital investment. The share of capital investment in GDP has the same trend as the total amount of capital investment in 2010–2018. However, in 2019 it rapidly decreased and in the period of 2014–2019 is not higher than 16%. Such kind of level of capital investment is not enough for the industrial development as well as for the ensuring economic security and it is used for repairing the existing fixed assets without stable capacity to change them into new one.

Correspondence of financing tangible assets and financing innovations in total volume of capital investment also identifies low capability of non-financial corporations to move Ukraine to the Industry 4.0 (fig. 5). Industry 4.0 is the stage in the digital transformation of enterprises accompanied by the accelerated introduction of technologies and corporations have to increases innovations financing in order to achieve the expected results of moving to it. According to the official statistics financing of innovations by non-financial corporations has approximately the same trend as the total volume of capital investment. However, the total volume of financing of innovations is much lower than the total volume of financing of tangible assets. The difference between financial support of tangible assets and innovations varies from more than 10 to more than 30 times in 2010–2019 and in 2019 the volume of financing of tangible assets is 25 times more than financing of innovations. Such trends of financing of innovations explain the inability of non-financial corporations to become leaders in digital transformations in Ukraine.

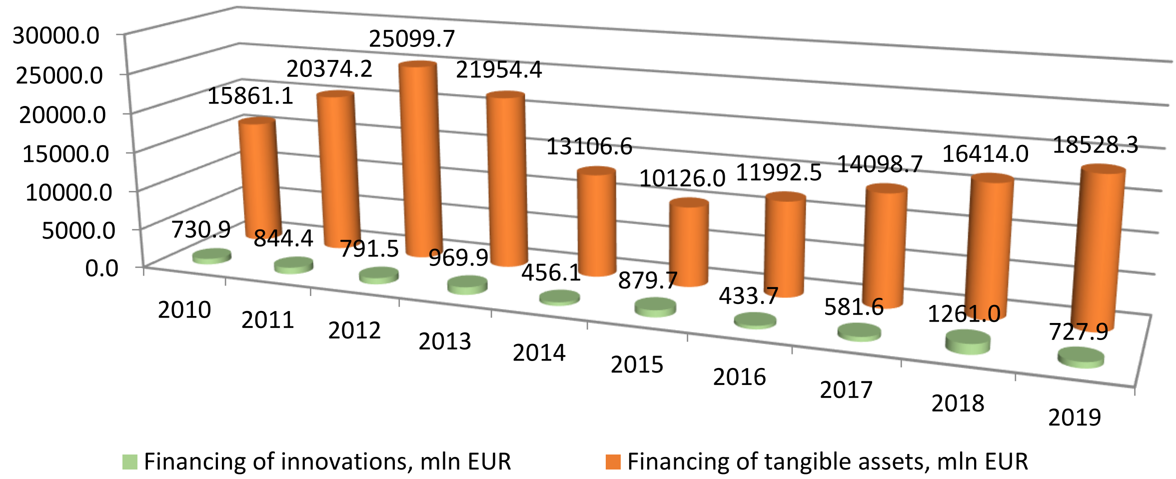


Figure 5. Financing of tangible assets and innovations of non-financial corporations in Ukraine
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

The same conclusion refers to the ability of non-financial corporations to support increasing economic security of the country through introduction innovations (fig. 6).

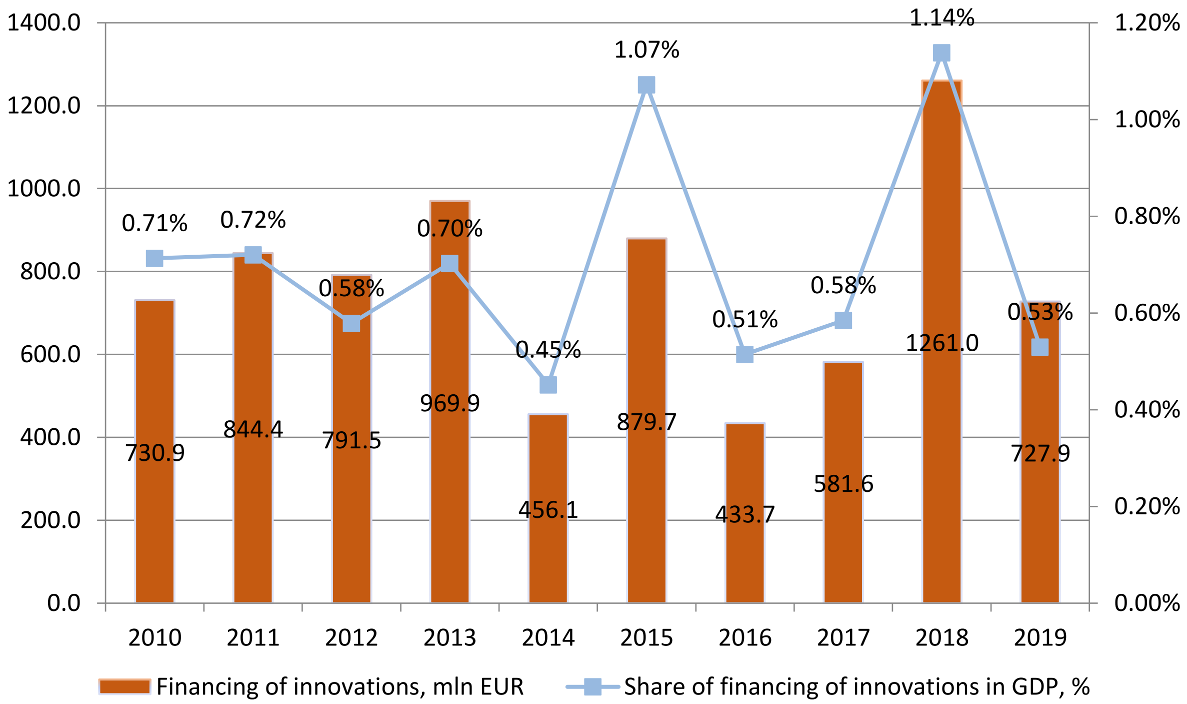


Figure 6. Financing of innovations and its share in GDP of non-financial corporations in Ukraine
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

The share of financing of innovations in GDP is extremely low: during 2010–2019 it is not higher than 1% and was 1.14% in 2018 only. For the country with huge industrial potential and rapid growth of IT field this level of financing of innovations in GDP cannot be considered as significant factor of digital transformation. It is certainly not enough for building Industry 4.0, moreover, it will lead to dependence of the country from innovative development of world leading countries in Internet of Things, Artificial Intelligence and other modern technologies. As a result the country's level of economic security will totally decrease.

In order to analyze the impact of financing of innovations on the processes of Ukrainian development it was made a comparison between share of enterprises with losses in Ukraine and share of financing of innovations in GDP (fig. 7).

In general innovations are considered the factor for positive changes in the economy of the country. They usually help to improve the industrial performance, to increase labor productivity and profitability of operational activity, to advance working conditions and to lead society to the progressive development. Thus, non-financial corporations should increase financing of innovations to achieve such effects.

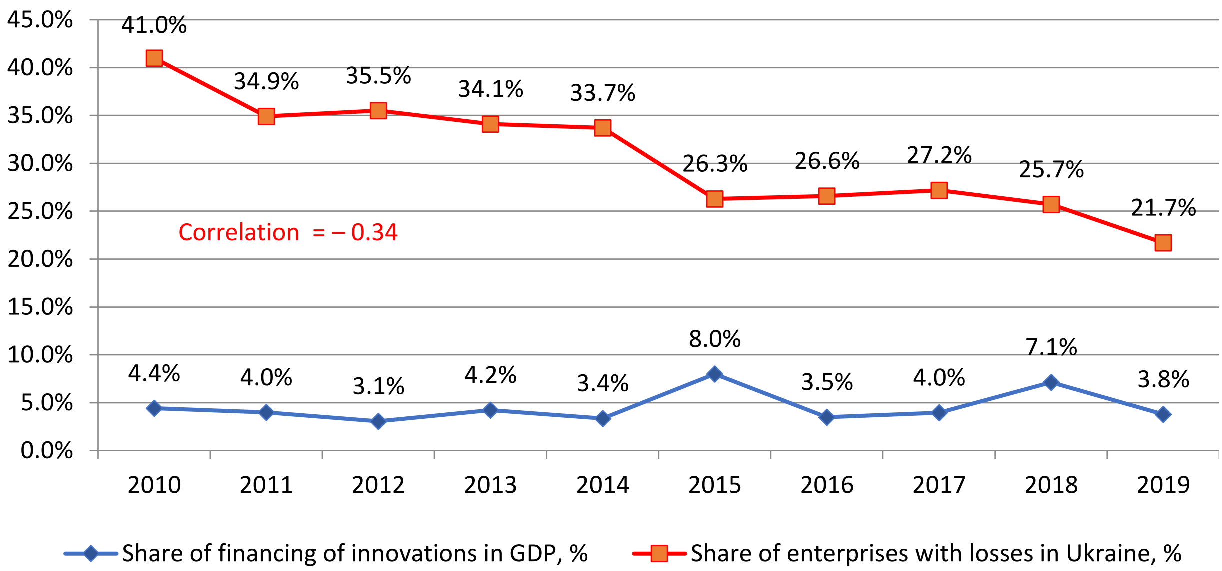


Figure 7. Shares of financing of innovations and enterprises with losses in Ukraine
Source: Ukrainian State Statistic Service: www. ukrstat.gov.ua

According to the data of the State Statistic Service of Ukraine there is a stable trend of decreasing the share of enterprises with losses in total number of enterprises in 2010–2019 from 41% to 21.7% respectively. At the same time there is no stable increasing trend of the share of financing of innovations in GDP at the same period. Thus, financing of innovations is not the main factor which leads to positive changes in the Ukrainian economy and there is no significant influence of it to the share of enterprises with losses. This is also proved by the correlation ratio calculated for identification the relation between the share of enterprises with losses and the share of financing of innovations in GDP. Its level is –0.34. It indicates that there is the direct link between increasing of financing of innovations and decreasing of share of enterprises with losses. At the same time the correlation ratio is low and proves the previous conclusion that there is no significant influence of innovations to positive changes in non-financial corporations' performance. Nowadays the economic security of Ukraine and non-financial corporations' development are not supported by the results of innovative progress.

Conclusions

Capital investments play important role in the company's performance. Due to them corporations can increase their productivity, competitiveness on the market, level of economic security of a country and welfare of the society. According to the official statistical data financing of capital investment in Ukraine has certain peculiarities: the greatest share in financing belongs to internal resources (equity) and there is limited opportunity to use other resources, so companies operate in conditions of permanent shortage of investment resources; net profit with depreciation amount exceed the capital investment total amount and companies can increase their investment potential but in case of unstable economic situation due to COVID pandemic and national economic issues they prefer to save some free money for ensuring their own economic security; there is the low influence of financing of capital investment on transition the economy of Ukraine to the Industry 4.0 and corresponding low influence the ensuring economic security of the country. Considering the correlation ratio of the share of innovations financing in GDP and the share of enterprises with losses in the total number of enterprises, taking into account governmental efforts to promote and support transition to the Industry 4.0 we suggest to establish collaborative relations between non-financial corporations and governmental institutions, between non-financial corporations and financial intermediations in order to find out the ways of increasing companies' opportunity to use more external sources of financing and to finance innovations.

Thus, according to aim of the study, we can conclude that financing of capital investments of Ukrainian non-financial corporations corresponds to the context of the pecking order theory. However, the predominance of domestic sources in financing development significantly slows down and even prevents the intensive development and transformation of the real sector into a post-industrial economy. Therefore, in order to increase the share of external investment financing, it is necessary to intensify efforts at the state level.

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