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**PECULIARITIES OF THE UKRAINE’S FINANCIAL MARKET AND ITS IMPACT  
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**PECULIARIDADES DO MERCADO FINANCEIRO DA UCRÂNIA E SEU  
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**PECULIARIDADES DEL MERCADO FINANCIERO DE UCRANIA Y SU IMPACTO  
EN EL ENTORNO DE NEGOCIOS**

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Scientific Editor: José Edson Lara  
Organization Scientific Committee  
Double Blind Review by SEER/OJS  
Received on 03/04/2022  
Approved on 10/12/2022

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### Abstract

Solving the problems of economic stabilization and ensuring the sustainable development is directly related to the formation of active innovative activities, the development and implementation of innovative strategies both at the macroeconomic scope and at the level of individual economic entities. The study of financial and capital markets as an indicator of economic growth and investment activity revealed disproportions. portfolio investment, as well as the fall of the stock market of Ukraine compared with the capitalization of domestic stock exchanges with developed economies. To solve this problem, large incentives are needed, including appropriate tax incentives for banks and enterprises, the development of competitive innovative projects on the basis of which capital in the real sector will provide profitability compared to foreign exchange assets or capital placement abroad in conditions of long-term stabil

**Keywords:** financial market, business environment, innovative activities, portfolio, investment.

### Resumo

Resolver os problemas de estabilização econômica e assegurar o desenvolvimento sustentável está directamente relacionado com a formação de actividades inovadoras activas, o desenvolvimento e implementação de estratégias inovadoras tanto ao nível macroeconómico como ao nível das entidades económicas individuais. O estudo dos mercados financeiro e de capitais como indicador de crescimento econômico e atividade de investimento revelou desproporções. investimento de carteira, bem como a queda do mercado de ações da Ucrânia em comparação com a capitalização das bolsas de valores domésticas com economias desenvolvidas. Para resolver este problema, são necessários grandes incentivos, incluindo incentivos fiscais apropriados para bancos e empresas, o desenvolvimento de projetos inovadores competitivos, com base nos quais o capital do setor real proporcionará rentabilidade em relação aos ativos cambiais ou a colocação de capital no exterior em condições de Estabilidade de longa duração.

**Palavras-chave:** gestão, serviço, transformação digital, economia de co-consumo, big data.

### Resumen

Resolver los problemas de estabilización económica y garantizar el desarrollo sostenible está directamente relacionado con la formación de actividades innovadoras activas, el desarrollo y la implementación de estrategias innovadoras tanto a nivel macroeconómico como a nivel de entidades económicas individuales. El estudio de los mercados financieros y de capitales como indicador del crecimiento económico y de la actividad inversora reveló desproporciones. inversión de cartera, así como la caída del mercado de valores de Ucrania en comparación con la capitalización de las bolsas de valores nacionales con las economías desarrolladas. Para resolver este problema, se necesitan grandes incentivos, incluidos los incentivos fiscales apropiados para los bancos y las empresas, el desarrollo de proyectos innovadores competitivos sobre la base de los cuales el capital en el sector real proporcione rentabilidad en comparación con los activos en divisas o la colocación de capital en el exterior en condiciones de estabilidad a largo plazo.

**Palabras clave:** mercado financiero entorno empresarial actividades innovadoras inversión de cartera.

## 1. INTRODUCTION

The full-scale ongoing war in Ukraine poses a question of the nation's future rebuilding and development. Solving the problems of economic stabilization and ensuring the sustainable development is directly related to the formation of active innovative activities, the development and implementation of innovative strategies both at the macroeconomic scope and at the level of individual economic entities. Under modern conditions, success is achieved by countries that are able to develop the internal innovation and investment potential to ensure the modernization of the economy, which increases its flexibility in responding to changes in the conditions of global competition. The main task in achieving the long-term competitiveness of the country's economy is to ensure the qualitative properties of business entities, the ability to perform certain stages of the scientific and innovative cycle, but not the static industry specialization of individual enterprises. This implies that countries respond to increased competitive pressure not only through cross-industry associations, but also carry out qualitative modernization within enterprises - specialization in more scientific and technology-intensive production segments. Macroeconomic indicators for the years of functioning market economy in Ukraine indicate a crisis in the innovation sphere even before the war and consequent industry destruction. Thus, the funding of science has steadily decreased over the past 15 years and innovation activity was inevitably low, moreover ensured mainly by the economic actors themselves with almost to none governmental support. And interestingly enough, the exigency of financing the innovations is beholden by the fact that, according to statistics, every tenth innovation indeed pays off the remaining nine unprofitable technical projects.

Therefore, ensuring economic development and competitiveness through innovation should become the goal of national economic policy. Such a development should be based on the determined long-term priorities, that hence define the national economy's orientation towards the rational organization and optimal structure in given conditions. Which in turn will ensure the achievement of the highest possible rates of economic growth, at the same time,

bearing in mind the sustainability goals. In a strategic context, a significant increase in the competitiveness of Ukrainian enterprises is possible only in case of their innovative modernization and active participation in foreign economic activity based on technological competitive advantages, but not only on pricing ones as it is today (Ereshko & Yalovy, 2014). The state's investment climate, including one for financing innovations, remains unfavourable. And this unfavorability is rooted in Ukrainian economy long before the invasion. Pre-war macroeconomic indicators show that economic growth in Ukraine is unachievable in its true sense since the economic system was not actually evolving. Ukraine's economy was not ready for growth in the long term and it couldn't ensure its own sustainability. Therefore, in order to achieve that needed success in rebuilding Ukraine's economy, it is crucial to understand the nature and reasons behind its failure to evolve, as well as, behind this abovementioned unfavorability in investment climate, which adds up to the purpose of current study.

## 2. THEORETICAL FRAMEWORK

Research uses a set of general scientific and special research methods, among which the following should be distinguished: methods of analysis and synthesis, dialectical, systemic. The theoretical principles and practice of innovative investment activity, as well as the mechanism of the business entities' capital transformation into portfolio investments through the securities market, occupy a rather important place in the scientific research of a number of scientists over a large scope of years, namely: Markowitz (1991), Sharpe (1963), Knight (1944), Mittnik & Neumann (2001), Mishkin & Eakins (2006).

Investments in innovation are possible only at a significantly high level of economic development and are directly focused on achievements to ensure the development of science and technology, which provides an opportunity to lower the cost of fixed capital and reduce costs for individual elements of product production. This is a well-known model within the theory of an investment process, according to which, on the one hand, investments are a factor in the market's opposition to the producer, which constantly puts pressure on him, and on the other, the means that stimulate innovative activity. Moreover, innovations and investments always neutralize the effects of the laws on diminishing, applicable to any production factors,

as well as solve the ever-growing problem of limited financial, material and labour resources. Accumulation of money for the purpose of industrial investment is defined by the result of competitive advantages, that enable the introduction of a new technology to ensure the greatest future income (Yankovyi, et al., 2021).

The term "investment" derives from Latin "vestis" or clothes and "vestire" – to wear, put the clothes on or to cover the body with clothes, hence – "in vestire" (Collins Dictionary). In its modern sense, that is as "allocation of funds, placement of funds", a designation has been used by world economic science since 1613. And its widespread was in regards to the establishment of the first joint-stock company – the British East India Trading Company, founded according to the Charter of the Queen Elizabeth I and subsequent active development of credit and loan relations. The "new" meaning of the concept of "investment" defines the use of funds to obtain newly created value and the investor's "fair income" as a result of, on the one hand, the transfer of capital, which is associated with its diversion from the production process, delcredere risks, inflationary fluctuations and on the other hand – an additional opportunity for economic entities to use those borrowed resources and, hence, increase the resource base and to potentially create higher value added in the final outcome.

Being a crucial part of the extended reproduction system, investments play the most important role in the restoration and increase of production resources on an innovative basis, and therefore a key in ensuring the determined rates of economic growth (Lohosha et al., 2020). If social reproduction is broken down into coherent, consistent systems of production, distribution, exchange and consumption, then investments in innovation mainly relate to the first link - production, and they can be said to constitute the material basis of its development. On the other hand, if we are considering the innovations mediated by the manifestations of people's individual consciousness in the sphere of product distribution and product performance, then, in those cases, investments in innovation could be tangential to the sphere of exchange. Thus, manifesting in an innovative sales strategy, advertising, consumer targeting, brand's affiliation and reputation, customer experience, delivery, after-sales service, etc. It is also worth noting that, investments in innovation can be tangential to exchange in a "hidden", or figurative meaning: not directly creating additional value but, at the same time, contributing to the increase in sales. Hence, actually contributing to the increase in the total value added as

the result. Innovations of this type include company's implementation of the automated customer management systems (e.g., CRM), which not only track said customers' activity, but can also send "personalized" offers that influence consumers behaviours, creating additional value proposition.

According to the nature their participation in the innovation process, investments are divided into direct and indirect (portfolio) (Yankovyi et al., 2020). Direct investment involves investor's direct participation in the investment object selection and means the acquisition by said investor of a share in the authorized capital, often in the form of shares package, and may also be carried out with the aim of acquiring a full control over the object of investment (i.e., by acquiring, respectively, a controlling package of shares). In economic literature, direct investment is often associated with production investment. Portfolio (intermediate) investments are investments in various financial assets to receive income in the form of cash flow or increase of their stock. Portfolio investment represents the orderly influence of investors and securities issuers on the innovative mechanism for the purpose of obtaining profits and could be one of the most promising ways to finance innovations for enterprises of all economy sectors.

### 3. RESULTS

Owners of free pecuniary capital and financial instruments issuers are the main subjects of portfolio investment. Portfolio investments can be carried out by both private legal entities and the state (for example, in the process of forming reserve funds), as well as socio-political and religious communities, charitable and pension funds. Portfolio investment objects are various financial assets: securities, bank deposits, foreign currency, etc.

The economic nature of portfolio investment gives us the opportunity to determine the features of applying the stochastic (penetrating in sense) capital in economic innovation activity, as follows:

- portfolio investments are more mobile than production ones;
- portfolio investments, as a rule, are less long-term compared to production investments;
- mostly portfolio investments are related to standardized exchange financial instruments: securities, futures contracts, foreign currency;
- portfolio investments make up a significant part of global investment capital;



- portfolio investments promise lower risk and higher income due to diversification;
- portfolio investments are passive in nature, i.e., do not involve decision-making by the owner of loan capital and direct management of investment objects;
- portfolio investment provides the possibility to use a systematic investment approach in order to obtain greater benefits for the owner of the investment portfolio in the long term, as it stands out from the standard individual securities selection.

In addition to the specifics of portfolio investment application, we investigated and clarified the impact said instrument on the innovative activity of enterprises and, hence, we have identified some negative and / or questionable aspects of said process.

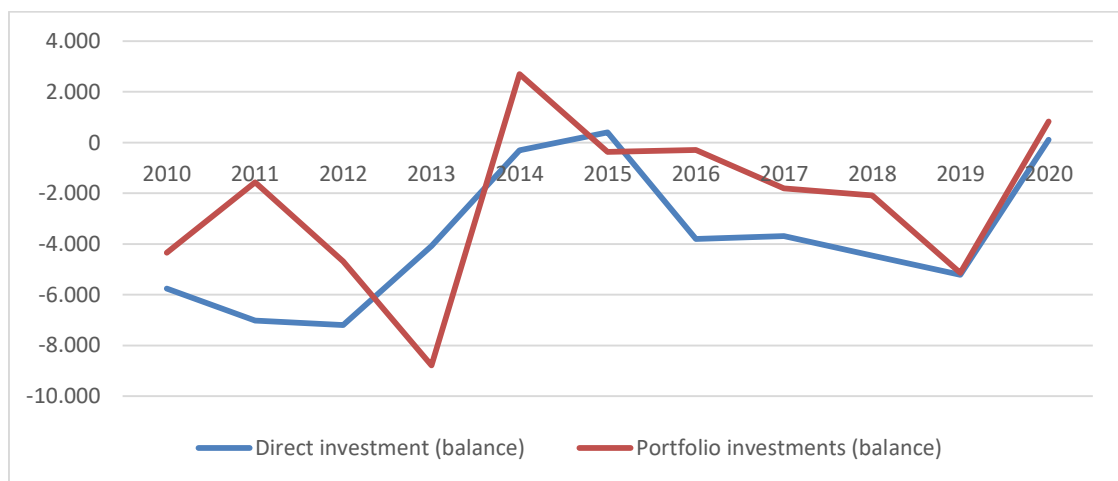
***Strong positions of Western investors and fragmented dependence on the Western stock market with low activity of national individual investors***

This indicates that a harmonious investment space has not yet been created in Ukraine. Thus, for the period 2008-2020, for certain types of investments, there is indeed a repatriation (a form of capital flight) of foreign capital from Ukraine. For example, during the global financial crisis, there was no inflow of portfolio investments into Ukraine, but on the contrary, foreign portfolio investors took their capital abroad. In two years USD 2.84 billion were repatriated through portfolio investments. In some years, even the temporary positive effect of the inflow of foreign capital on the balance of payments was neutralized by the export of capital from the Ukrainian economy.

During the period 2008-2012, the export of capital from Ukraine amounted to USD 66.7 billion, that is, more than 2/3 in relation to the volume of import of foreign capital. In 2009, the export of capital even exceeded its import, which determines the relative balance of capital transactions (minus USD 4.9 billion). In fact, the export of capital from Ukraine exceeds the volumes that are reflected in the section of capital operations of the balance of payments of Ukraine (these statistics do not take into account various forms of contraband export of capital). Capital export from the country is particularly active in the form of "other investments" (USD 40.5 billion for the period 2008-2012) (State Agency of Ukraine for Investments and Innovations). A significant part of the exported capital was transferred to offshore or countries that have features of offshore territories (Cyprus, Switzerland, Liechtenstein, the Netherlands, etc.). The main reasons for the unsatisfactory level of capital investments in Ukraine are, first

of all, the negative international image based on indicators such as: economic and political instability, bribery and corruption, a high level of economic shadowing, economic crime and its manifestation as "money laundering" through financial and banking system.

The 2014-2015 period was characterized by a simultaneous decrease in the inflow of foreign investments into Ukraine and the outflow of investments from Ukraine (a total of USD 1,257 million for the period) (NBU, 2022), which is explained by the logical reaction of investors to the deep economic crisis, as well as the events of the Revolution of Dignity and the subsequent occupation of part of the territories and the military conflict in the East. It is interesting that at the same time, the volume of direct investments decreased faster than portfolio investments, although portfolio investors are considered to react more quickly to changes and the appearance of threats (Zadoya, 2019). In 2020, the balance of portfolio investments is positive for the second time since 2010 (Fig. 1). In particular, in 2020, there is an inflow of capital into the private sector of the economy and an outflow from the state (Fig. 2) (NBU, 2021).



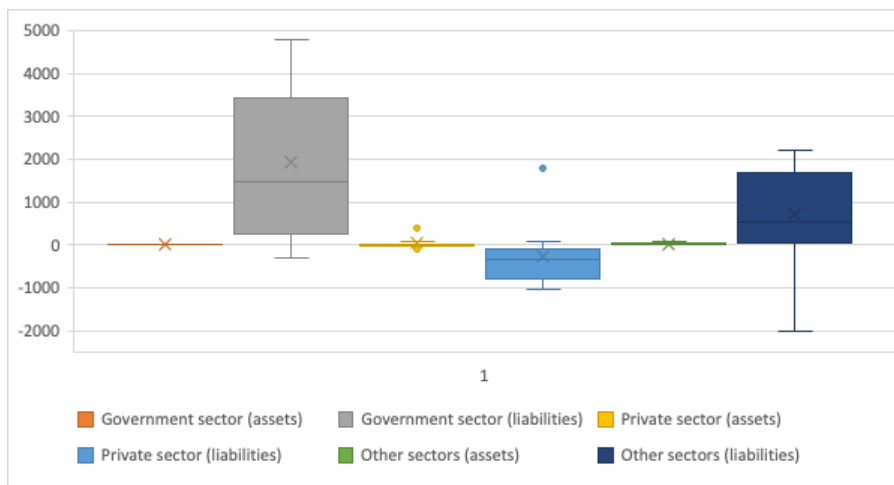
**Figure 1.** Direct and portfolio investments according to the data from the Balance of Payments 2010-2020 (balance), USD million (constructed by the authors based on data from (NBU, 2021))

### *Disproportion of portfolio investments.*

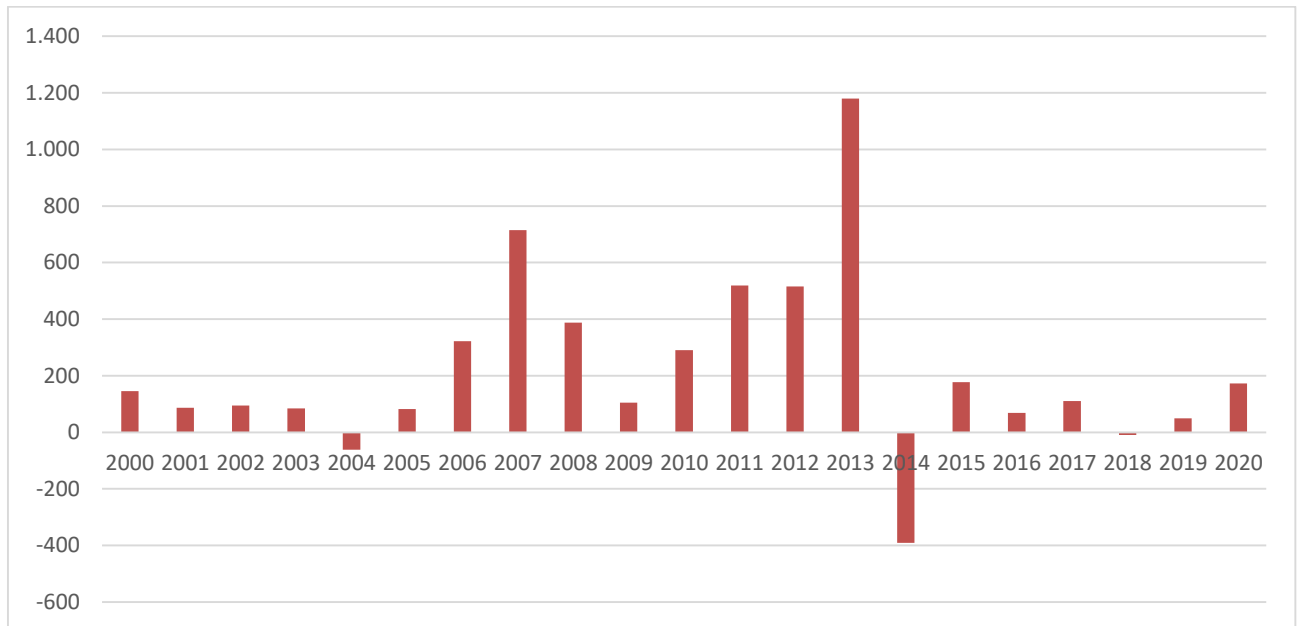
The largest specific weight of portfolio investments is attributed to shares of the largest companies and government securities. For this reason, the state financing of the deficit is taking place at the expense of state loan bonds. According to the reports of the State Committee of Statistics of Ukraine, the volume of accumulated direct and portfolio foreign investments in the

form of participation in the share capital of Ukrainian companies has been constantly increasing.

During 1995-2012, their volume increased 113 times. Accumulated investments at the end of 2013 in the amount of USD 50.3 billion made up 28.5% of GDP (GDP of Ukraine in 2012 in currency equivalent was equal to USD 176 billion). However, the positive trend was interrupted in 2014, and the balance of investments in equity capital has been constantly fluctuating since then (Fig. 3) (NBU, 2021).



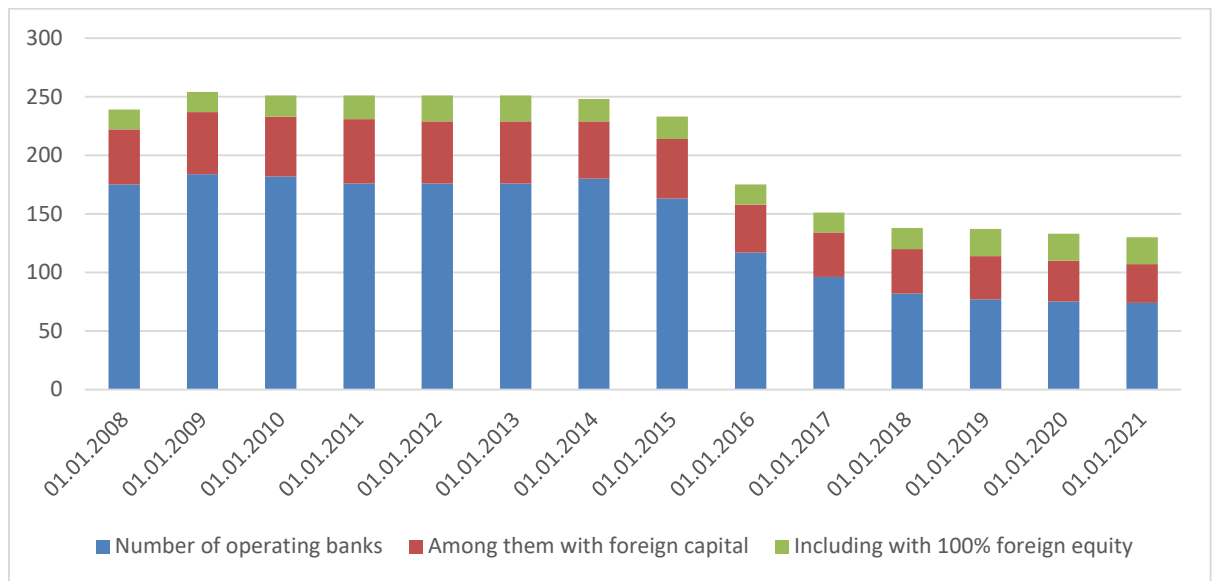
**Figure 2.** Portfolio investments by sector 2010-2020 (asset/liability), USD million (constructed by the authors based on data from (NBU, 2021))



**Figure 3.** Foreign investments in equity capital 2000-2020 (balance), USD million (constructed by the authors based on data from (NBU, 2021))

However, today foreign investors build up a significant part of their equity capital by reinvesting the income they received from previous capital investments in the Ukrainian economy. Such foreign investments do not improve Ukraine's balance of payments.

The main direction of foreign investments is the financial sector of Ukraine, which accounts for 1/3 of all investments (33.1%). At the same time, industry accounts for 30.9% of foreign investments, agriculture - 1.6%, construction - 6.1%, transport and communications - 3.8%, trade and car repair - 10.5%. According to the National Bank of Ukraine, the specific weight of foreign capital in the authorized capital of commercial banks increased from 19.5% in 2008 to 41.9% in 2020, and this happened against the background of the trend of reducing the total number of banks. At the beginning of 2021, 74 banks were operating in Ukraine, among them 33 banks with foreign capital, and 23 of them with 100% foreign capital (Fig. 4) (National Bank of Ukraine, 2022).



**Figure 4.** Ukrainian banking system (constructed by the authors based on data from (National Bank of Ukraine, 2022))

At the beginning of 2008, Ukraine’s national debt equalled to 12.3% of GDP. According to the Ministry of Finance of Ukraine, as of May 1, 2021, total public debt was equal to UAH 2,534,283.9 million, including domestic debt of UAH 1,041,815.3 million and external debt of UAH 1,492,468.6 million. Moreover, 58.7% of the total state (state and guaranteed) debt of Ukraine is external (Ministry of Finance, 2022). At the beginning of 2008, the level of all foreign debt of Ukraine was equal to 56.7% of GDP, and by the middle of 2021, the gross foreign debt increased to 78.6% of GDP at the end of the first quarter, at the same time it decreased from the beginning of the year from 81.3% GDP. As for the debt structure, at the end of the 1st quarter of 2021: external debt of the public sector - USD 53.6 billion and 34.2% of GDP accordingly, private sector - USD 69.5 billion and 44.4% of GDP. The external debt of the central bank at the end of the first quarter of 2021 amounted to USD 6.4 billion (4.1% of GDP); the volume of external liabilities of other depository institutions of Ukraine decreased from the beginning of the year to USD 3.3 billion or 2.1% of GDP (NBU, 2021).

Debt for issued securities on the foreign market is 23.6% of the external public debt, and the yield on government bonds today remains quite high. Interest rates on new issues of ten-year bonds of Ukraine, denominated in US dollars, today range from 6.8 to 7.53%, in particular, 55.4% of UAH billion were involved. as a result of placement of 12-year Eurobonds

denominated US dollars in at 7.25% per annum. Although, at the beginning of 2020, Ukraine conducted pricing of Eurobonds in the amount of UAH 33.9 billion with a final maturity in January 2030, denominated in euros at the lowest rate in the history of our country - 4.38% (NBU, 2021; Ministry of Finance of Ukraine, 2021). At the same time, the general trend of external debt and its structure indicate that in Ukraine, a significant part of the budget in the future will need to be spent on servicing debts that already exist today.

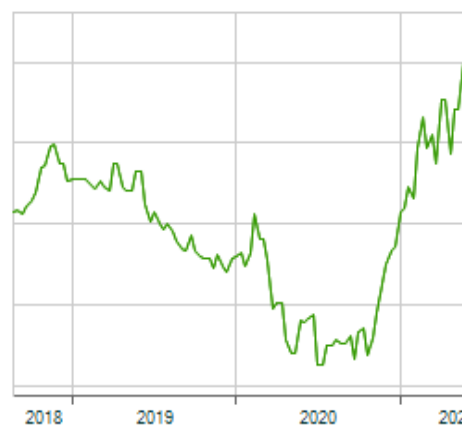
The most important sign of economic growth and investment activity in countries with a developed market economy is the state of the stock market, since the latter, first of all, is the most transparent and simplest tool for attracting investment in the real sector of the economy. In addition, the development of the stock market will lead to the efficiency of corporate management, as well as the transparency of economic relations of the entire set of economic entities related to it. The development of the stock market is one of the key tasks of the National Economic Strategy 2030, which is mediated by the requirements to increase the investment attractiveness of our country, since "an environment attractive for foreign investments and competitive on the international market was not created in Ukraine (Kvach, Piatka, Koval, 2020). In 2019, foreign investments were three times lower than in neighbouring Poland and five times lower than private remittances to Ukraine. Despite the fact that Ukraine as a whole is attractive for foreign investors, over the past almost 30 years, the state has accumulated much less investment than other countries, especially considering the size of the state's economy". Among the "red lines" or unacceptable directions of movement, the document includes, in particular: monopolization of competitive markets; unscrupulous use of economic incentives and "a critical level of debt burden (the ratio of public debt and state-guaranteed debt to GDP is more than 80 percent)" (Cabinet of Ministers of Ukraine, 2020; NSSMC, 2021).

In Ukraine, the securities market began its formation in 1991, and today the National Commission for Securities and the Stock Market includes four in the register (the license of the oldest domestic stock exchange, founded in October 1991, PJSC "Ukrainian Stock Exchange", cancelled by the regulator in April 2021) enterprises providing trading: PJSC "Perspektyva Stock Exchange"; PJSC "PFTS Stock Exchange"; PJSC "Ukrainian Interbank Currency Exchange" and PJSC "Ukrainian Exchange" [(NSSMC, 2021). At the same time, "Ukrainian securities market and capital market are at the initial stage of development. The level of

Ukrainian companies' capitalization on the stock market is about 3 percent" [297]. Since 2015, there has been a reduction in the number of stock exchanges and a general gravitation of the market towards a polycentric model and consolidation of three stock exchanges, which account for 99% of all transactions: PJSC "Perspektyva Stock Exchange"; PJSC "PFTS Stock Exchange" (Fig. 5) and PJSC "Ukrainian Exchange" (Fig. 6).



**Figure 5.** Dynamics of the PFTS index 2000-2021 (source (FIMA, 2021))



**Figure 6.** Dynamics of the UX index 2018-2021 (source (UX, 2021))

In general, the sector of non-bank financing is characterized by a low level of development, which applies not only to the stock market, but also to the insurance market, which is explained by the negative features of the domestic economy that have been repeatedly cited in the study, in particular: a low level of transparency, competition, protection of rights and private property, security (in particular economic), underdeveloped infrastructure (in particular market), lack of internal liquidity and financial awareness of domestic investors, features of social and pension insurance, etc..

Among the main positive changes that were characteristic of the stock market in recent years and formed a reliable basis for further strengthening, as well as contributed to the restoration of its investment function - an increase in the volume of trades against the background of cleaning the market from "junk securities". Thus, for the period 2015-2018, the National Securities and Stock Market Commission stopped the circulation of fictitious securities, the volume of transactions with which amounted to UAH 1 trillion (FIMA, 2021). The volume of transactions with securities in 2020 exceeded UAH 600 billion, while the

volume of trades on the exchange market amounted to UAH 335.4 billion. In 2014-15, the growth rate of the stock market was ahead of GDP, at the same time, since 2017, the picture of the economic situation has become clearer, taking into account the fact that NBU certificates of deposit have been removed from the calculation of the volume of trades (Fig. 7).



Note: since 2017, National Bank of Ukraine's certificates of deposit aren't being taken into account

**Figure 7.** Dynamics of stock market volumes and GDP of Ukraine 2014-2020 (built by the authors based on data from (NSSMC, 2021))

In general, over the past two years, the emphasis of stock market participants has shifted to stock market trading - the volume of trading on the stock market has been growing steadily since 2018, and during January-May 2021, compared to the data of the same period in 2020, the volume of stock exchange contracts with securities increased by 27.5% (NSSMC, 2021). The depressed situation of the stock market in Ukraine is evidenced by the trend of decreasing capitalization of listed companies: in 2014, the indicator was 21.71% of GDP, in 2020 it was 0.04% of GDP (FIMA, 2021).

The decrease in the level of companies' capitalization is primarily related to the decrease in the number of securities of issuers that have gone through the listing procedure (Table 1).

**Table 1**

Volume of issued shares of stock in Ukraine 2017-2021

Period	The volume of share issue, UAH million				
	2017	2018	2019	2020	2021
<b>January</b>	2 293,03	290,75	471,30	145,91	<b>124,96</b>
<b>February</b>	6 651,51	211,64	210,00	59,00	<b>2 252,71</b>



<b>March</b>	10 303,78	20,00	21,85	618,22	<b>1 883,98</b>
<b>April</b>	7 136,69	107,64	54,29	132,88	<b>146,96</b>
<b>May</b>	1 076,33	3 163,19	1 003,52	2 249,15	<b>4 357,27</b>
<b>June</b>	16 204,89	8 521,26	1 315,56	58,24	-
<b>July</b>	23 592,56	1 076,92	1 899,83	6 724,66	-
<b>August</b>	1 706,13	120,92	37 791,63	794,26	-
<b>September</b>	230 316,59	360,13	1 290,60	12 750,12	-
<b>October</b>	74,03	3 143,94	18 437,95	708,52	-
<b>November</b>	3 449,27	476,28	200,31	4 757,29	-
<b>December</b>	22 153,30	4 771,30	842,54	3 984,55	-
<b>In total</b>	<b>324 844,24</b>	<b>22 263,97</b>	<b>63 539,38</b>	<b>32 982,80</b>	<b>8 765,88</b>

Source: *constructed by the authors based on (NSSMC, 2021).*

Another prominent sign of the development of the economy and the activity of innovation and investment activity is the capitalization and liquidity of the stock market, which should be understood as the value of all securities that circulate on it based on market valuation. And a vivid illustration of Ukrainian stock market decline is that the capitalization indicators of domestic stock exchanges are at least a thousand times smaller than the leaders of the rating (table 2).

The underdevelopment of the domestic stock market is quite transparently illustrated by the fact that Ukrainian businesses chose foreign trading platforms for IPOs, at the same time, since 2013, there has been no public activity at all, which can be partially explained by the ban on the sale of more than 25% of the authorized capital of enterprises abroad and the lack of new companies that could choose this way of attracting investments from abroad. In general, domestic companies prefer the London and Warsaw Stock Exchanges for IPOs, and a relatively large part of foreign investments due to the sale of securities on foreign exchanges goes to enterprises related to agriculture, real estate, as well as metallurgy and the mining and oil refining industry.

**Table 2**

Ranking of stock exchanges of the World (top-10 largest) and Ukraine by capitalization as of June 2021

Exchange	Nation	Capitalization, USD trillion	Index
NYSE (New York Stock Exchange)	USA	25,30	Dow Jones Industrial Average, NYSE Composite, NYSE ARCA Tech 100 Index
NASDAQ (National Association of Securities Dealers Automated Quotation)	USA	22,11	NASDAQ Composite, NASDAQ-100
SSE (Shanghai Stock Exchange)	China	7,62	SSE Composite
HKEX (Hong Kong Exchanges)	Hong Kong, China	6,81	Hang Seng Index
JPX (Japan Exchange Group)	Japan	6,69	Nikkei 225 Stock Average, TOPIX
Euronext NV	EU	6,45	Euronext 100, OBX Total Return Index, AEX, BEL 20, CAC 40, ISEQ 20, PSI 20,
SZSE (Shenzhen Stock Exchange)	China	5,76	SZSE Component Index
LSEG (London Stock Exchange Group)	United Kingdom, Italy	3,71	FTSE Group, FTSE 100 Index, FTSE 250 Index etc.
...	...	...	...
UX (Ukrainian Exchange)	Ukraine	0,0049	UX
PFTS Stock Exchange	Ukraine	0,000068	PFTS index

Source: built by the author based on data (UX, 2021; Statista Research Department, 2021; PFTS Stock Exchange, 2021).

At the end of the second quarter of 2021, shares worth UAH 8.77 billion were included in the stock exchange lists of the domestic stock market, which is 63% more compared to the same period in 2020, according to the National Securities and Stock Market Commission for the current period a total of 23 share issues were recorded. On the bond market for the period January-May 2021, 58 corporate bond issues were registered in the amount of UAH 4.46

billion. and USD 6 million (bonds in foreign currency), which is UAH 9.9 billion less compared to the same period of the previous year. The issue of investment certificates of mutual investment funds for the period amounted to UAH 1.05 billion, shares of corporate investment funds – UAH 17.98 billion. According to the results of trading on the organized market, the volume of exchange contracts with securities for January-May 2021 is UAH 167.12 billion. (by 27.5% more than in the same period of 2020), the largest volume of stock exchange trades for financial instruments was recorded with OVDP - UAH 164.61 billion, that is, 98.5% of the total volume of stock market transactions (NSSMC, 2021; InVenture, 2022).

A detailed study of the trends of the stock market showed that the parameters of the development of the Ukrainian securities market do not correspond to similar global ones. Among the main problems of the Ukraine's stock market development can be attributed, in particular, the following:

- undercapitalization of the stock market;
- insufficiently developed market of corporate bonds;
- inconsistency of stock trading with global trends. The level of capitalization in Ukraine

cannot be considered as an indicator for the degree of the stock market development, since in the current conditions this indicator is practically not related to the effective function of the real sector of the economy, and the low activity of issuers and investors on the stock market is evidence of this.

#### 4. CONCLUSION

The study of financial and capital markets as an indicator of economic growth and investment activity revealed the following trends: 1) the main direction of foreign investments is the financial sector of Ukraine; 2) disproportion of portfolio investments; 3) a significant part of equity capital is built up by foreign investors with the help of income reinvestment; 4) the sector of non-bank financing is characterized by a low level of development, which applies not only to the stock market, but also to the insurance market; 5) decline of the stock market in Ukraine illustrates the comparison of capitalization indicators of domestic stock exchanges with developed economies - at least 1 to 1000; 6) the level of capitalization in Ukraine cannot be considered as an indicator of the degree of development of the stock market, since in the current

conditions this indicator is practically not related to the effective function of the real sector of the economy.

It should also be borne in mind that the restructuring of the securities market will not automatically contribute to the reorientation of bank capital to the real sector of the economy. To solve this problem, large incentives are needed, which would include appropriate tax breaks for banks and enterprises. In this case, the development of competitive innovative projects is more important. First, capital in the real sector must provide profitability in comparison with foreign currency assets or placement of capital abroad in conditions of long-term stability. And, secondly, the underdevelopment of the futures stock market and, as a result, the reduction of the ability to manage risks, does not allow real pricing of the shares of leading Ukrainian issuers using hedging mechanisms.

### **Conflicts of interest statement**

We, the authors of this article, responsibly declare that we have no actual or potential conflict of interest with any third party that may arise from the publication of this article. This statement relates to the conduct of the research, the collection and processing of data, the writing and preparation of the article, and the decision to publish the manuscript.

### **REFERENCES**

- Collins. (n.d.). English translation of "Investire": Collins Italian-English dictionary. Retrieved October 6, 2022, from <https://www.collinsdictionary.com/dictionary/italian-english/investire>
- Ereshko, Yu. O., & Yalovy, G. K. (2014). Stochastic investments of financing innovations at industrial enterprises. *Economic Bulletin of the National Technical University of Ukraine, Kyiv Polytechnic Institute*, (11), 512-521.
- FIMA. (2021). Finance and investment management association. Retrieved October 6, 2022, from <https://fima.org.ua/wp-content/uploads/2020/12/dodatok-1.pdf>
- InVenture. (2022). An overview of the initial public offering of shares and the prospects of Ukrainian companies entering the IPO. InVenture. Retrieved October 6, 2022, from <https://inventure.com.ua/analytics/articles/oglyad-rinku-pervinnogo-publichnogo-rozmishennya-akcij-ta-perspektivi-vihodu-ukrayinskih-kompanij-na-ipo>
- Knight, F. H. (1944). Diminishing returns from investment. *Journal of political economy*, 52(1), 26-47

- Kvach, Y., Piatka, N., & Koval, V. (2020). Management of sustainable entrepreneurship adaptation to tax changes in environmental investment. *Baltic Journal of Economic Studies*, 6(5), 96-105. <https://doi.org/10.30525/2256-0742/2020-6-5-96-105>
- Lohosha, R.; Mykhalchyshyna, L.; Prylutskyi, A.; Kubai, O. (2020). Institutionalization of the Agrarian Market in Ukraine and European Economic Community: Genesis, Evaluation and Analysis. *Independent Journal of Management; Production*, 11, 727. <https://doi.org/10.14807/ijmp.v11i8.1232>
- Markowitz, H. M. (1991). Foundations of portfolio theory. *The journal of finance*, 46(2), 469-477
- Ministry of Finance of Ukraine. (2021). Ukraine announced the pricing of new ten-year Eurobonds denominated in euros. Retrieved October 6, 2022, from <https://mof.gov.ua/>
- Mishkin, F. S., & Eakins, S. G. (2006). *Financial markets and institutions*. Pearson Education India
- Mittnik, S., & Neumann, T. (2001). Dynamic effects of public investment: Vector autoregressive evidence from six industrialized countries. *Empirical Economics*, 26(2), 429-446
- NBU (2021). Dynamics of the balance of payments of Ukraine (according to KPB6). Retrieved October 6, 2022, from [https://bank.gov.ua/files/ES/BOP\\_m.xlsx](https://bank.gov.ua/files/ES/BOP_m.xlsx)
- NBU (2022, September 28). Indexes. FDI in Ukraine. Direct foreign investment in Ukraine. Retrieved October 6, 2022, from <https://index.minfin.com.ua/ua/economy/fdi/>
- NSSMC. (2021). Insights – NSSMC: National securities and stock market commission. Retrieved October 6, 2022, from <https://www.nssmc.gov.ua/en/news/insights/>
- PFTS Stock Exchange. (2021). Retrieved October 6, 2022, from <https://pfts.ua/>
- Sharpe, W. F. (1963). A simplified model for portfolio analysis. *Management science*, 9(2), 277-293
- State Agency of Ukraine for Investments and Innovations. (n.d.). Statistical information Retrieved October 6, 2021, from <http://www.in.gov.ua>
- Statista Research Department, (2021). Largest stock exchange operators by market Cap 2021. Statista. Retrieved October 6, 2022, from <https://www.statista.com/statistics/270126/largest-stock-exchange-operators-by-market-capitalization-of-listed-companies/>
- UX. (2021). Ukrainian stock exchange UX. Українська біржа. Retrieved October 6, 2022, from <http://www.ux.ua/>
- Yankovyi O., Koval V., Trokhymets O., Karpenko M., Matskevich Y. (2020). Economic assessment of investment on the basis of production functions. *Turismo: Estudos & Práticas*, 2.
- Yankovyi, V., Koval, V., Dudka, T. & Bykhovchenko, V. (2021). Statistical assessment of project economic priority in company's investment management. *Revista Gestion de las Personas y Tecnologia*, 42, 98-119. <https://doi.org/10.35588/gpt.v15i42.5284>
- Zadoya, A. O. (2019). Portfolio investments in Ukraine: chances or threats? Retrieved October 6, 2022, from <https://acadrev.duan.edu.ua/images/PDF/2019/2/9.pdf>