Šyškov, Stanislav Je.

Article

Structural-functional deformations of the stock market in Ukraine : macro- and micro-measurements

Economy and forecasting

***Stanislav Shyshkov*[1]**

STRUCTURAL-FUNCTIONAL DEFORMATIONS OF THE STOCK MARKET IN UKRAINE: MACRO- AND MICRO-MEASUREMENTS

The article highlights the factors of the classification of issuers and their securities (forms of circulation and admission to trading, listing, publicity, type of offering, liquidity, objectivity of pricing) in the context of determining the reasons for the limited number of instruments in Ukraine's regulated market and signs of its unattractiveness for issuers and investors. The author defines peculiarities of the formation and structure of investment portfolios of financial institutions and other investors (in comparison with international indicators) and difficulties of the valuation and diversification of assets. It has been revealed that a sharp reduction in the number of issuers and financial intermediaries (through variable legislation, increased regulatory requirements and controversial enforcement) led to a reduction in liquidity and competition, an increase in transaction costs, and did not contribute to market development, its infrastructure, and the objectivity of pricing.

The emphasis is on the conventionalities of market benchmarks (stock indexes of shares, total capitalization) in Ukraine due to the limited financial instruments, lack of public companies, scanty liquidity, high volatility and artificiality of pricing. Indicated various signs of illiquidity of Ukraine's regulated stock market in comparison with world trading platforms (first of all, in relation to shares), as well as reasons of irregularity of the trades, mainly the purpose oriented conclusion of agreements, absence of active market and actual prices (in particular, due to unsatisfactory regulation of exchange pricing).

However, it is worth emphasizing the significant role of government bonds that differ from other securities in Ukraine in that they have increased liquidity, strong investor demand, more predictability and price adequacy, which is a sufficiently anticipated factor for an underdeveloped stock market.

The author highlights peculiarities and problems of pricing in the underdeveloped stock market, which considerably complicate the task of counteracting market abuse, in particular due to total illiquidity, the absence of contradiction in the implementation of international practice, and subjectivity of the existing regulatory criteria for the detection of manipulation.

K e y w o r d s : stock market, stock exchange, trading volume, securities, asset pricing, market manipulation, market abuse, public company, public offering, listing, squeeze-out

JEL G12, G14, G15, G18, K22

[1] **Shyshkov, Stanislav Yevheniiovych** – PhD in Economics, Director of PrJSC "Stock Exchange "Perspektiva" (30, Voskresenska str., Dnipro, 49000, Ukraine), s.shishkov@fbp.com.ua

The stock market, which is globally a key and driving component of the economy and financial system, is extremely unsatisfactory in Ukraine in mobilizing, allocating and channeling financial resources to stimulate economic growth and attract investment. Despite some positive examples of advancement on the path towards integration into global capital markets (in particular, the recent securing of foreign investors' access to Ukrainian government bonds through Clearstream's international depository and admission of US government bonds and Apple stocks to Ukrainian market), the Ukrainian stock market is characterized by significant distortions and remains underdeveloped and unattractive to internal and external investors.

With the exception of a rather active issuance and circulation of government securities, Ukraine's capital market, according to its participants, is in a depressed condition and is experiencing a period of another "restart". Moreover, in recent years, its quantitative indicators and external assessments that characterize development, competitiveness, liquidity and investment attractiveness have been further worsening. Among significant reasons are the inconsistency of legislative changes, fragmentation and contradiction in the implementation of the European legal framework, some chaotic regulation and lack of consideration of the objective factors of functioning of the immature national capital market, including the difficulties in pricing. Due to a number of factors (total illiquidity, lack of interest of issuers and investors in attracting and placing capital, irregularities in trading) in Ukraine there are no conditions and opportunities to form fair prices for the overwhelming number of financial instruments. Regulatory increase of requirements for pricing and admission to bidding so far only bring about irrelevant price benchmarks and a shortage of stock instruments. In such conditions, fight against market abuse is confronted with obvious difficulties, which are unlikely to be quickly resolved even after the relevant European requirements have been implemented instead of the existing (rather biased) criteria for detecting manipulation into national law. The reason is that such requirements stipulate the regulator's consideration and formalization of market practices and features specific to a particular market. In an underdeveloped and illiquid market, the isolation of manipulative practices is a non-trivial task, which should be considered in order to properly regulate the stock market, to create incentives for its development and for legal update. Problematic issues of the development of the national stock market are reflected in the researches of many domestic scientists, in particular, L. Alekseenko, V. Bazilevich, V. Gnyliak, V. Zagorsky, N. Ivashchuk, Y. Kovalenko, V. Korneyev, O. Korniychuk, O. Mozgovy, S. Onishko, V. Oskolsky, L. Primostok, O. Sohatsky, N. Sheludko, and I. Shkolnik. Important studies of the functioning of stock markets and their price mechanisms were undertaken by J. Ackerloff, B. Bernanke, S. Wein, K. Arrow, G. Markowitz, R. Merton, J. Stiglitz, Y. Fama, W. Sharp, and others; also worth noting are researchers on the issues of price manipulation and other market abuse, such as R. Aggarwal, F. Allen, D. Gayle, D. Porter, K. Felixon, R. Hansen, A. Chakraborty, R. Yarrow and others. However, the main focus of foreign researchers is still on the most advanced capital markets. Instead, insuffi-

ciently investigated remain the issues of development disparities, biased pricing, and mechanisms to counteract manipulation in the immature and illiquid stock markets.

In view of the above, the article seeks to identify the causes of and systematize structural and functional distortions on Ukraine's stock market and to clarify the consequences of the shortage of instruments, biased pricing and objective restrictions to anti-abuse activities on an immature market.

Issuers and instruments

As of early 2018, there were 10,000 issuers in Ukraine that have emitted more than 11,000 issues of securities and derivatives, which are currently in circulation: 8,000 stock issues of public and private joint stock companies (JSC), including CIF equities, 0.2 thousand issues of government bonds, 1.7 thousand issues of corporate bonds, 1.1 thousand issues of investment certificates, and 0.2 thousand series of fixed-term contracts and option certificates.

Those are quite impressive figures, especially with regard to stocks. According to the World Federation of Exchanges [1], at the beginning of 2018, there were 50 thousand issuers in the world[2], including 5.8 thousand in India (BSE India Ltd, National SE of India Ltd), 5.2 thousand in the United States (Nasdaq, NYSE), 3.6 thousand in Japan (Japan Exchange Group Inc.), 3.5 thousand in China (Shenzhen SE, Shanghai SE), 3.3 thousand in Canada (TMX Group), 3.1 thousand in Spain (BME SpanishExchanges), and an average of only 0.6 thousand issuers per venue. For comparison, there are 8,000 stock issues of shares in circulation Ukraine alone, i.e. *more than on the stock market of any country in the world*. However, while at first glance in Ukraine definitely has something to trade and to invest, but in fact, very few of these thousands of issues by Ukrainian issuers are admitted to trading, and even fewer are traded in reality. With other types of securities, the situation is similar: *market instruments do exist but the demand is meager, because most of the instruments are illiquid and unattractive.*

It should be borne in mind that issuers and their securities have different status due to such factors as:

• place of circulation (on an organized and regulated exchange market or on an unorganized OTC market);

• the form of admission to trading on a regulated market (listing admission for issuers that are listed on the stock exchange and meet the requirements of a particular listing/market level[3] or non-listing admission those meeting only the minimum requirements for admission to trading);

[2] Some of them are in circulation at several stock exchanges at the same time. As adjusted for duplication, WorldBank statistics show 43,000 share issuers, but the leaders are the same: 5,600 in India, 4,3 thousand in the US, 3,6 thousand in Japan, 3,5 thousand in China, 3.3 thousand in Canada, and 3.1 thousand in Spain.

[3] Until recently, there were two levels of listing in Ukraine, however, by the decision of the National Securities and Stock Market Commission of Ukraine (NSSMC) No. 546 of August 3, 2018, such division of listed securities was cancelled. There is also the practice of distinguishing specific requirements for individual markets (REPO, placement, auction). EU exchanges often distinguish between the Main Market, which has the highest requirements for admission to trading, and other ven-

• the degree of the issuer's publicity (in the context of the legal form: public or private companies; in the context of the availability of information about the issuer and its securities: maximum transparency, accessibility and detail of information or limited access and composition of information);

• degree of securities' liquidity (high liquidity of stock exchange trading: so-called bluechips shares included in the base of calculation of the stock index or minimal or no liquidity meaning episodicity of transactions outside the stock exchanges);

• securities offer form (public, private, limited), etc.

Thus, at one pole are publicly traded JSCs that make a public offer for raising capital, disclose information in detail, have been listed on the main stock exchange market, are characterized by high liquidity of circulation and investment attractiveness of securities, which are included in the base of calculation of stock indexes. At the other pole are private companies who offer their securities to a limited number of individuals, disclose the minimum amount of information and do not initiate the admission of securities to any trading venue. There is a wide range of intermediate statuses between these poles.

Unfortunately, in Ukraine the lion's share of issuers in this spectrum are much closer to non-public ones, and it is only possible to determine bluechips and public companies only on a very conditional basis.

Thousands of existing public JSCs are public by name only. No IPOs for 1991–2018 have been and are not planned in Ukraine (although there are enough cases of IPOs on Ukrainian assets at foreign exchanges). So no share issuer has ever made a public offering exactly in Ukraine and can be fully considered a public company[4].

As of early 2018, out of 11 thousand issues of securities in circulation and registered in the depository system, only 7.9% of issues were admitted to trading on the stock exchanges, contracts were concluded for 2.8%, and 2.4% were listed on the stock exchange, i.e. were included in the exchange register (Table 1). One reason is the listing requirements in Ukraine, which, even after some liberalization in late 2018, are sometimes tougher than those on some exchanges in Europe and the EU Directives [2, 3] (Table 2), although, during a long period listing was compulsory for many Ukrainian issuers[5].

ues (markets) set up to raise capital and circulate various types of securities (stocks, bonds, CII securities); for example, New Connect, Catalyst, Bond Spot venues operate on the Warsaw Stock Exchange.

[4] The first issue of securities in Ukraine in the form of a public offering took place only in April 2019 and included the bonds of JSC Tascombank. At the same time, the issuers of the shares that would make the public offering are still absent (despite the adoption of amendments to the legislation that gave this opportunity, as early as 16.11.2017). Not surprisingly, in May 2019 the list of public proposals to be kept by the regulator on its own website (according to the decision of the NSSMC No. 424 of 21.06.2018) was still missing.

[5] The first edition of the Law of Ukraine "On Joint Stock Companies" of September 17, 2008 No. 514-VI required thousands of open JSC not only to change the organizational and legal form for public one and the documentary form of existence of shares for the non-documentary one, but also to undergo the procedure of listing and to remain on the stock exchange register on at least one stock

Table 1

Calculation of the share of securities attracted to the stock market in 2017

Security type	Issue number, *units.*				*% of issues in circulation*		
	In circulation	**Admitted to trading** (Exchange list)	**Listing** (Exchange register)	**Contracts per year**	**Admitted to trading** (Exchange list)	**Listing** (Exchange register)	**Contracts per year**
Shares including CIF equities	8 001	409	8	116	5,1	0,1	1,4
Corporate bonds	1 686	119	12	75	7,1	0,7	4,4
Investment certificates	1 137	75	1	12	6,6	0,1	1,1
Government bonds	243	243	242	77	100,0	99,6	31,7
Option certificates	48	28	0	26	58,3	0,0	54,2
Total	11 115	874	263	306	7,9	2,4	2,8

Source: compiled by the author according to NSSMC [4], NDU [5], stock exchanges; excluded duplication of securities admitted to trading on multiple exchanges.

The worst is the situation with investment certificates: only 5-6% of issues are involved in trading on the stock exchanges, during the year contracts were concluded only on 1% of them, and only 0.1% are listed. Corporate bonds perform are a little more frequent in trading (contracts concluded on 4% of issues) and listing (0.7% of issues are listed).

exchange. However, a large proportion of JSC were unable to fulfill the listing requirements, and the change in the type of JSC (from public to private) was associated with significant difficulties (in particular, joint stock companies with more than 100 shareholders could not exist in the form of private JSC). Private JSC shares, on the contrary, could only be traded on the stock exchanges in the auction mode.

Law No. 2994-VI of 03/02/2011 liberalized the requirements for public JSC: it become sufficient to include the shares in the stock exchange list (as non-listing securities) rather than the stock exchange register (as listing securities); although, with the increased restrictions on admission to stock exchange trading, this requirement was a problem for some companies. At the same time, other market participants could be indirectly influenced by the issuers, since financial institutions (banks, CIIs, NPFs) could only invest in listing securities, and the introduced in 2012 special tax on the transactions on securities sale (analog of excise duty) only stipulated preferential rates for listing securities.

Law No. 289-VIII of April 7, 2015, made it somewhat easier to change the type of JSC to private (the restriction on the number of private JSC shareholders was abolished), but the requirement for the public JSC on compulsory listing and holding shares in the stock exchange register was resumed, and the listing requirements were significantly increased. Finally, the mandatory listing requirement for public JSC was liberalized only according to Law No. 2210-VIII of 16.11.2017, although the requirement for admission to exchange trades for public JSC remains valid.

It is worth reminding that as early as during the privatization the state initiated the creation of enterprises precisely in the form of open JSC, and many financial market participants can operate only in the form of JSC. Therefore, from the very beginning share issuers were faced with compulsory legal restrictions. Instead, in the EU, each issuer independently, without government intervention, decides on the type of JSC, the form of the offer (public/private), and the advisability of admission to exchange trades and the listing procedure.

Table 2

Comparison of listing requirements for stocks in Ukraine and Europe

Requirements	Ukraine		International examples for Main Market	Conclusions
	2016–2018	Since late 2018		
Free-float	1 listing level ≥25%, incl. held by 2 in sum ≤12,5%; 2 listing level ≥10% or 75 mln USD (2,5 mln euros)	≥10% or 75 mln USD (2,5 mln euro)	Art. 43 of Directive 2001/34/EU: ≥25% (or less, if the number of shares is sufficient to allow the market to function properly). Bulgaria: ≥25% (or ≥2.5 mln euros). Poland: ≥25%, 500,000 shares (or less if sufficient liquidity is provided). Slovenia: ≥25% (or ≥10% and 25 mln euros). Austria: ≥25% (or ≥10% and 50 minority interests). Greece: ≥25% and 300 minority shareholders (or ≥15% and 300 minority shareholders if sufficient liquidity is provided)	Overstated during 2016-2018 requirement for level 1 listing
Period of issuer's existence	1 listing level ≥ 5 years; 2 listing level ≥3 years	≥3 years	Poland, Slovenia, Austria, Greece: ≥3 years. Bulgaria: ≥5 years	Overstated during 2016-2018 requirement for level 1 listing
Issuer's own capital	1 listing level ≥ 1 billion USD (33 mln euros); 2 listing level ≥300 mln USD (10 mln euros)	≥300 mln USD (10 mln euro)	Art. 43 of Directive 2001/34/EU: capitalization / capital ≥ 1 mln euro (or less, if the stock market is fair). Poland, Austria: ≥ 1 million. Greece: ≥3 mln euros. Slovenia: ≥10 mln euros	10-fold overstated (33-fold in 2016-2018 for listing level 1) or optional (capitalization requirements are more common)
Issuer's net income	1 listing level ≥ 1 billion USD (33 mln euros); 2 listing level ≥300 mln USD (10 mln euros)	≥300 listing level (10 mln euro)	No requirements in Poland, Slovenia, Bulgaria, Austria, Greece	Optional requirement (profitability requirements are more common)
Market capitalization	1 listing level ≥ 1 billion USD (33 mln euro); 2 listing level ≥100 mln USD (2,5 mln euros) (3,3 mln euros)	≥100 listing level (3,3 mln euro)	Art. 43 of Directive 2001/34/EU: capitalization/capital ≥1 mln (or less, if there is a proper market). Poland: ≥1 mln euros. No requirements in Slovenia, Bulgaria, Austria, Greece	3-fold overstated or optional requirement (free-float requirements are more common)
Number of shareholders	1 listing level ≥ 500; 2 listing level ≥200	≥150	Poland: The amount should be sufficient to support liquidity. Austria: ≥50 minority shareholders. Greece: ≥300 minority shareholders	Overstated or optional requirement

Source: compiled by the author, according to NSSMC and stock exchanges.

For comparison, government bonds are always admitted to trading, very seldom traded outside stock exchanges, usually have listing status and are of much more interest to investors: about 32% issues were traded on the secondary market during the year, and regular effective placements on the primary market took place.

Fig. 1 illustrates the degree of the market participants' interest in certain types of securities. Stocks (72% of issues in circulation, 47% of exchange lists) potentially play the largest role in terms of market availability, but the demand for them is much lower (38% of issues on which contracts were actually concluded and only 2% of the volume of exchange trades). Conversely, government bonds account for only 2% of the available market instruments and 28% of exchange lists, but it is precisely these public debt instruments that account for the largest share of deals (25%) and the lion's share of exchange trading (92 %). It is noticeable that the listing status is still significant for investors (at least for institutional ones), since the structure of exchange trading in terms of instruments is quite close to the structure of the exchange register (official listing).

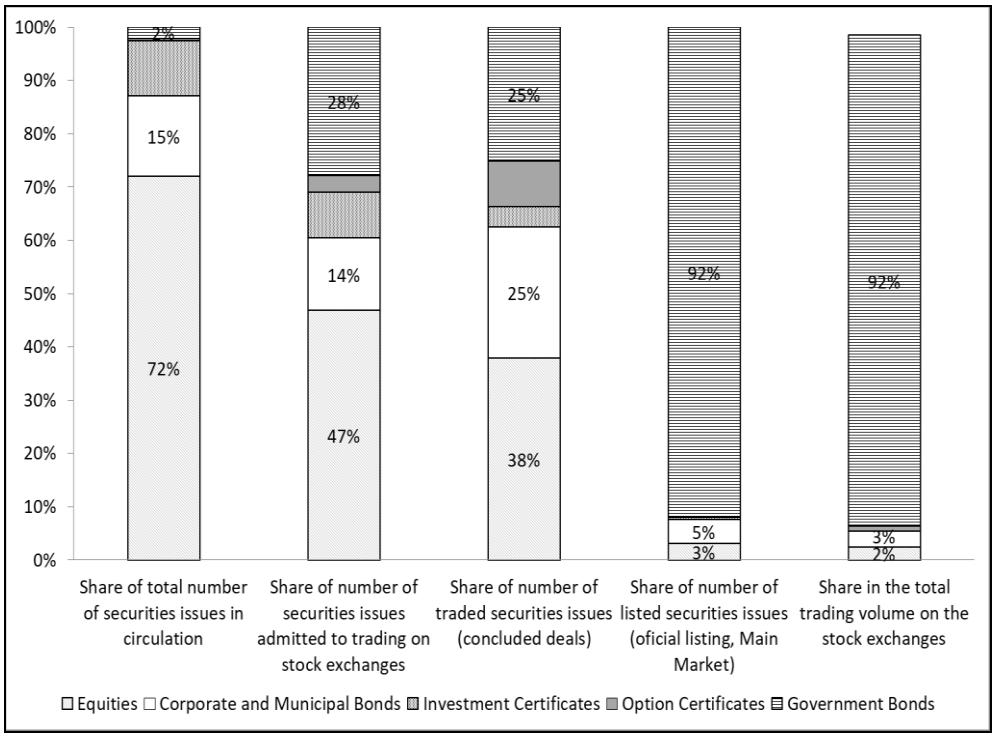

Fig. 1. Ukrainian Stock Market Instruments by type of securities in 2017

Source: calculated by the author based on data from NSSMC data [4], NDU [5], and stock exchanges.

Thus, despite the existence of *ten thousand of Ukrainian issuers, investors show real interest in securities of only one issuer (Ministry of Finances) - due to their reliability, predictability, listing status, regular placement of new issues, diversification (in terms of maturity and currency), the maximum amount of operative generally available information and, most importantly, maximum liquidity.*

Investors

The number of securities holders' accounts, according to the depository institutions for 2017, is 4.48 million [4, p. 73]. Some owners have multiple accounts, but in any case, they are about a few million persons, mostly physical persons. However, these owners should not be considered as those tens of millions[6] active investors who trade on the world's leading stock markets and act as drivers of their growth, including due to the spread of internet trading technologies [6]. *The overwhelming majority of Ukrainian securities holders are considered "dormant"* because they received securities (primarily shares) during privatization and still cannot get rid of them. In Ukraine, 10 thousand individual online traders are declared, but only 4% of them are active traders (those who conclude contracts at least once a month) [7, p. 2]. The actual number of *individual investors (physical persons)* (including Internet traders), who are clients of stock exchange members and in whose interests at least once a year stock exchange contracts are concluded, is about *3 thousand*[7].

Also, individuals participate in investment indirectly: according to Ukrainian Association of Investment Business (UAIB) and National Financial Services Commission, in early 2018 the number of physical persons - CII participants amounted to 256 thousand, and those who concluded pension contracts with NPFs, to 51 thousand [8, 9].

The value of securities owned by ordinary investors (individual residents) is very insignificant: 40.7 billion UAH (according to data from depository institutions as of 01.01.2018, at face value, 2% of total investments), including UAH 4.5 billion in government bonds (according to the NBU, as of 31.08.2018, 0.6% of total investments[8] by the amount of principal debt) [4, 10]. This is far less than the volume of deposits, financial flows of Ukrainian guest workers, not to mention the half-mythical tens billions of dollars that people allegedly keep "under the pillows"[9].

[6] According to a Gallop poll (2016), 52% of Americans over the age of 18 had securities assets; the total number of private investors in the period 1999–2016 ranges from 52 to 65 million people. In Japan, in 2016, the number of private investors in the stock market was estimated at 49 million people (39% of the population). Typically, the proportion of the country's population investing in securities (first of all, in stocks) correlates with the living standards (GDP per capita), development level and market size. As a result, in China this figure is 10%, in India - 2%, in the Russian Federation - 1%, and in Ukraine - about 0.01%.

[7] According to the NSSMC report for 2016, the number of unique investors – physical persons on the stock market was 2 thousand, on the derivatives market - 1.9 thousand, and on the markets of other securities - even less. Given the duplication (a significant proportion of average investors operate with several instruments at a time), the total number of average investors on the stock market does not exceed 3 thousand. The NSSMC's 2017 report does not already provide this information.

[8] As of 01.06.2019 – already more than twice as much (9.5 billion UAH, 1.2% of total investments in government bonds), which indicates people's significant demand for public debt instruments. See [10].

[9] Estimates at face value are fairly conditional, since the present value of the securities may be higher/lower than the face value. However, the fact that households' investment accounts for only 2% of depository assets is indicative enough to assess the degree of their interest in stock market instruments. This estimate of households' investment in stock market instruments (40.7 billion UAH, 1.5 billion USD) is only 1.4% of this country's GDP (3 trillion UAH in 2017), 12.4 times less than the amount of physical persons' deposits (0.5 trillion UAH), and 7.3 times less than the funds that come to Ukraine from Ukrainian guest workers (in 2018, according to the NBU, the figure was 10.9 billion USD).

In early2018, the volume of *non-residents'* investments in securities amounted to 161 billion UAH (according to data from depository institutions, at face value, by 148 billion UAH less than in previous year, or 8% of total investments). The share of transactions in the interests of non-residents in 2017 was less than 12% (the lowest value for at least 12 years during which NSSMC has been publishing this statistics; in 2006, the figure was 37%). The above developments are a clear sign of the outflow of non-resident capital from the stock market (Fig. 2).

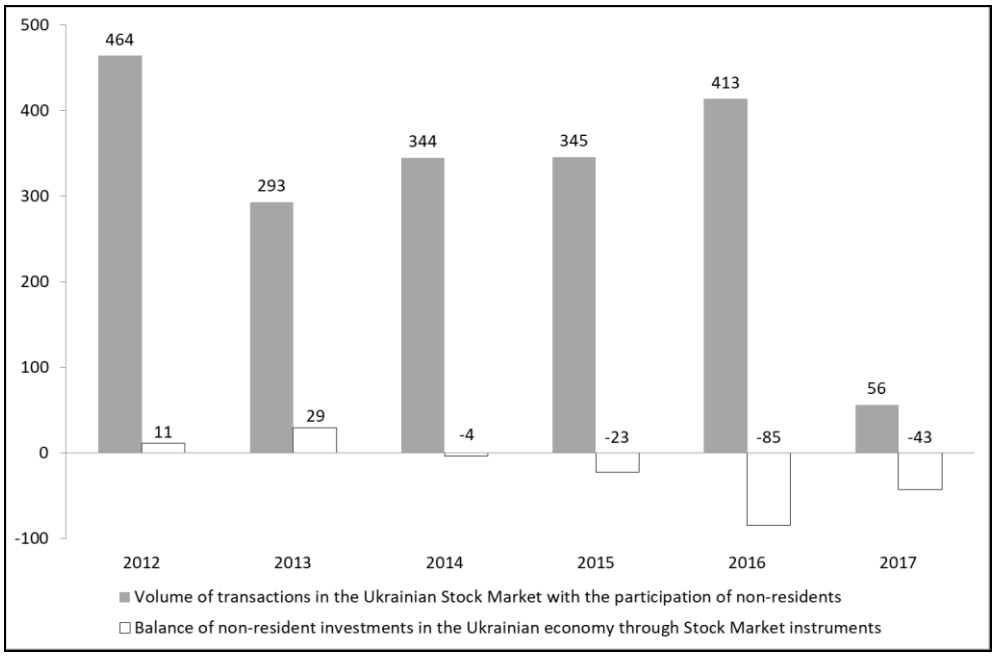

Fig. 2. Trading results on the Ukrainian Stock Market with the participation of non-residents in 2012–2017, *bln UAH*

Source: calculated by the author based on NSSMC data [4].

The data of NSSMC reports indicate a negative balance of non-resident investment through stock market instruments over the past four years (Figure 2, foreign capital outflows from Ukrainian stock market reached 155 billion UAH or 6 billion USD in 2014-2017) and reduced volumes of non-resident transactions (from 58 billion to 2 billion USD in 2012-2017).

Institutional investors that include co-investment institutions (CIIs), non-state pension funds (NPFs), insurers, and banks are not a big help either. *First, they don't have enough resources, since the assets accumulated by financial institutions (except for the banks)* are even together smaller than Ukraine's GDP, which relationship is in contrast to the world average (Fig. 3), while sovereign wealth funds are absent[10]. *Second, Ukrainian financial institutions invest, in the securities, only a small portion of their assets*.

[10] According to the Sovereign Wealth Fund Institute, the total assets under management of the largest sovereign wealth funds in the world in August 2018 amounted to over 8 trillion USD, that is, 10% of

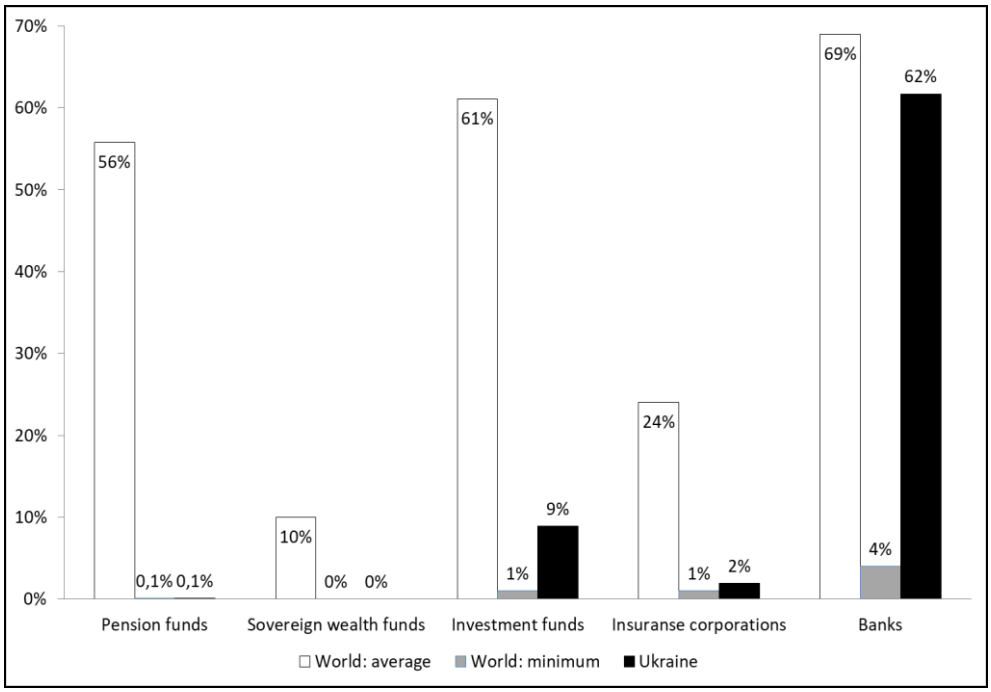

Fig. 3. Share of financial institutions' assets in GDP in Ukraine and the world in 2017

Source: calculated by the author based on data from NSSMC [4], National Financial Services Commission [9], IMF [11], Investment Company Institute [12], Willis Towers Watson [13], Sovereign Wealth Fund Institute [14], and NBU [15].

Total investments of financial institutions in securities in early 2018 amounted to 0.4 trillion UAH, which is equivalent to 19.4% of their assets (Table 3) and 14.1% of Ukraine's GDP.

Among Ukraine's financial institutions, the banks are the most significant group by asset volumes (1.84 trillion UAH, 85% of total assets of financial institutions, 62% of GDP[11]) and by investments in securities (362 billion UAH, 86.1% of total portfolio of financial institutions). Moreover, *banks are the only group of financial institutions whose investments in securities have increased over the last three years* (Table 3). The banks invest almost exclusively in government bonds (97.3% of the portfolio, 19.1% of assets[12]). The banks' total investments in stocks since 2014 decreased from 7 to 1 billion UAH (from 1.9% to 0.3% of the portfolio). For some banks, the inability to sell securities (first of all, shares) at prices comparable to balance sheet prices has become one of the reasons for withdrawing from the mar-

world GDP. These public investment funds are created primarily by oil and gas exporting countries. In some countries (Norway, Saudi Arabia, Singapore, Kuwait, Hong Kong, Qatar, Libya, Brunei), the amounts in sovereign funds already exceed annual national GDP.

[11] Compared to the world average - 69% (including in Hong Kong - over 250%, and in Afghanistan - 4%).

[12] Compared to the median indicator of the share of bonds in euro area banks' assets (17%, ECB data, [16]).

ket, and now it is the Deposit Guarantee Fund who is trying to sell these securities (without much success)[13].

Table 3

Securities in the portfolios of Ukraine's financial institutions as of 01.01.2018

Indicator	Assets and the securities value in portfolio, *billion UAH*						Share, %		
	Total assets	Government securities	Corporate and municipal bonds	Stocks	Others (promissory notes, derivatives)	Total portfolio	Securities in investors' assets	Invertor in total assets	Investor in total portfolio
2017									
NPFs	2,46	1,00	0,20	0,01	0,00	1,22	49,6	0,1	0,3
Total ICIs	264,63	0,55	8,07	21,62	12,59	42,84	16,2	12,2	10,2
Non-venture ICIs	8,52	0,44	0,32	1,50	0,11	2,36	27,7	0,4	0,6
Venture ICIs	256,12	0,11	7,76	20,12	12,49	40,48	15,8	11,8	9,6
Insurers	57,38	6,57	0,90	6,65	0,09	14,21	24,8	2,7	3,4
Banks	1 839,96	352,17	8,82	1,02	0,00	362,02	19,7	85,0	86,1
Total	2 164,43	360,30	18,00	29,31	12,68	420,29	19,4	100,0	100,0
2014									
NPFs	2,47	0,38	0,68	0,26	0,00	1,32	53,5	0,2	0,6
Total ICIs	207,97	0,33	8,38	34,53	16,21	59,46	28,6	13,0	25,3
Non-venture ICIs	10,49	0,24	0,41	4,80	0,35	5,81	55,3	0,7	2,5
Venture ICIs	197,47	0,09	7,97	29,73	15,86	53,65	27,2	12,4	22,8
Insurers	70,26	3,39	0,81	18,01	0,47	22,68	32,3	4,4	9,6
Banks	1 316,85	104,57	40,00	7,24	0,00	151,81	11,5	82,4	64,5
Total	1 597,55	108,67	49,87	60,04	16,68	235,27	14,7	100,0	100,0
Change in three years									
NPFs	-0,01	0,63	-0,48	-0,25	0,00	-0,10	-3,9	0,0	-0,3
Total ICIs	56,67	0,22	-0,31	-12,91	-3,62	-16,62	-12,4	-0,8	-15,1
Non-venture ICIs	-1,98	0,20	-0,10	-3,30	-0,25	-3,45	-27,6	-0,3	-1,9
Venture ICIs	58,64	0,02	-0,21	-9,60	-3,38	-13,17	-11,4	-0,5	-13,2
Insurers	-12,88	3,18	0,09	-11,36	-0,38	-8,46	-7,5	-1,7	-6,3
Banks	523,11	247,60	-31,18	-6,22	0,00	210,20	8,1	2,6	21,6
Total	566,89	251,63	-31,87	-30,73	-4,00	185,02	47	-	-

Source: compiled by the author according to NBU [15], NSSMC [4], and National Financial Services Commission [9, 18].

[13] According to Deposit Guarantee Fund [17], "junk" securities worth 12.8 billion UAH (up to 70% of the total portfolio of insolvent banks' securities) are recorded on the balance sheet of liquidated banks.

The second largest securities portfolio belongs to mutual investment institutions, primarily to venture capital funds (their share in total CII assets reaches 97%). The value of CII assets is 265 billion UAH (16.2% of total assets of financial institutions, 8.9% of GDP), the volume of investments in securities is 42 billion UAH (10.2% of the total portfolio of financial institutions), and the share of securities in assets is the lowest of financial institutions (16.2%), which is not in line with global practice[14].

The value of *insurance companies' assets* is 57 billion UAH (2.7% of total assets of financial institutions, 2% of GDP[15]), the volume of investments in securities amounts to 14 billion UAH (3.4% of the total portfolio of financial institutions). Compared to 2014, the number of insurance companies decreased by 27% (from 407 in early 2014 to 294 in late 2017), their assets - by 12.9 billion UAH (-18%), and investment portfolio - by 8.5 billion UAH (-37%). Withdrawals from the market and reduction of insurance assets occurred not so much as a result of the crisis in the national economy in 2014-2015 (including the loss of funds on deposits in the banks that were liquidated), but due to *the unsatisfactory structure of assets, including investments in securities.*

The quality of insurers' assets has always been in doubt due to the high proportion of "junk" instruments. In 2014, the volume of insurers' investments in shares (18 billion UAH) was inferior only to investments of venture CIIs (UAH 29.7 billion). Due to increasing regulatory requirements for the structure of insurers' assets and termination of the circulation of a significant number of securities issues whose issuers were fictitious, insurers' investments in stocks decreased by 11.4 billion UAH (almost three times!), But the structure of insurance assets really became more balanced (Fig. 4).

NPFs have the largest share of securities in assets among Ukrainian financial institutions (49.6%); however, NPF assets are the smallest and only constitute 2.46 billion UAH (0.08% of GDP, globally - 56%[16]), although usually it is exactly the pension fund resources that serve as the main source of liquidity on the capital market. It is difficult for NPFs to ensure compliance with regulatory requirements for diversification of their assets that do not meet either Ukrainian realities or in-

[14] According to a report by the Investment Company Institute [12], the total net assets of 114,000 regulated open-end investment funds in the world in 2017 amounted to 49.3 trillion USD (61% of global GDP). The structure of the funds' assets in terms of their types according to the specialization in the world average is as follows: 44% - equity funds, 21% - bond funds, 12% - money market instruments, and 23% - mixed and others, including real estate funds.

[15] According to the World Bank and OESD [19], Luxembourg (342%), Taiwan (132%), France (121%), Denmark (115%), Ireland (100%). Great Britain (97%), Japan (90%), Netherlands (70%) have the highest ratio of insurance assets to GDP. The lowest rates (less than in Ukraine with its 2%) are registered in Albania, Belarus, Armenia, Ethiopia, Mongolia, and Tanzania.

[16] According to Willis Towers Watson [13], the largest indicators of the ratio of non-government pension assets to GDP are registered in the Netherlands (194%), Australia (138%), Switzerland (133%), the United States (131%) and the United Kingdom (121%). The lowest rates are found in developing countries, including Mexico (16%), Brazil (13%), the Russian Federation (6%), India (5%), and China (1%). Aggregate non-state pension assets of the 22 globally largest markets in 2017 reached 41.36 trillion USD (67% of the GDP of these 22 countries), and globally 45 trillion USD (56% of global GDP).

ternational experience[17], among other things, because of the limited quality of their market instruments.

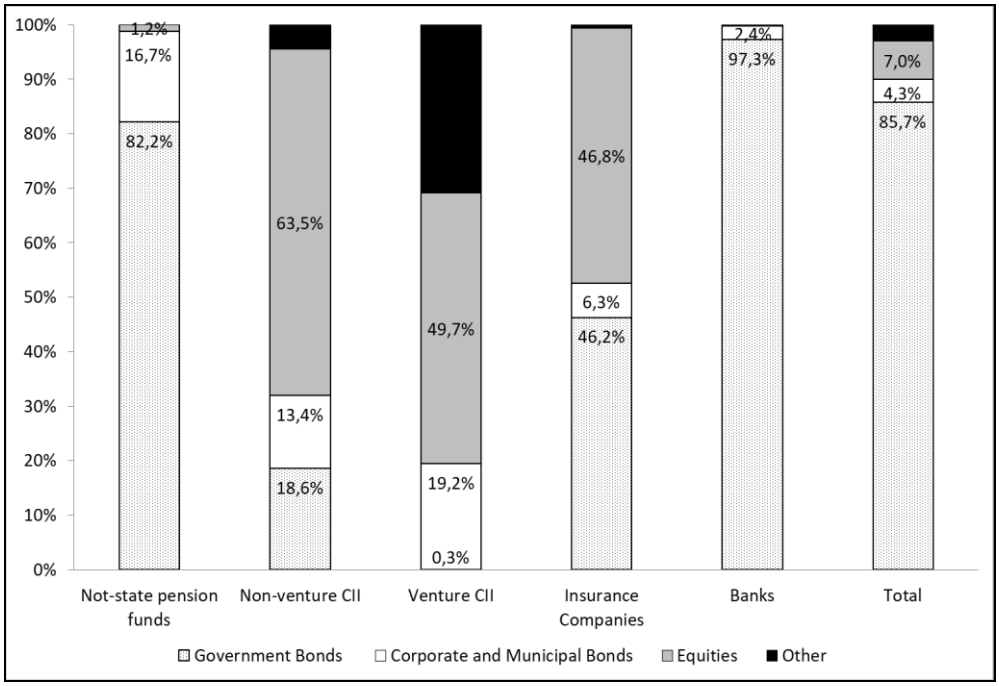

Fig. 4. Structure of investment portfolios of financial institutions in Ukraine as of 01.01.2018

Source: calculated by the author according to the NBU [15], NSSMC [4], National Financial Services Commission [9, 18]

This is true for all Ukrainian financial institutions. The market is unable to provide necessary quantity and volume of potential investment targets other than government securities. But is it possible to call the shortage of attractive and liquid non-governmental instruments a solely Ukrainian feature, is it the main problem of the market and does it casts doubt on its development, including through the implementation of the second pillar of pension reform?

[17] In particular, according to Art. 49 of the Law on Non-State Pension Provision, NPFs are not allowed to invest in public securities more than 50% of assets. At present, the share of government bonds in the assets of NPFs is on average 41%, and some NPFs are already close to breaking the requirements to the structure of assets: according to UAIB, the share of government bonds in corporate NPFs reaches 49%. In order not to violate the regulations, NPFs place funds in banks (the share of cash in assets on 01.01.2018 was 45%). In the context of the bank crash in recent years, this may prove to be a rather risky strategy and is unlikely to really protect NPF investors. In addition, the Ukrainian NPFs' investment directions in assets other than securities and funds, such as real estate (up to 10%), precious metals (up to 10%), other assets (up to 5%), is significantly restricted. For comparison, in the 7 largest markets in the world in terms of pension assets (USA, Australia, UK, Canada, Netherlands, Switzerland, and Japan, according to Willis Towers Watson [13]), the share of real estate and other assets other than stocks and bonds, for the period 1997 –2017 increased from 4 to 25%. The average structure is as follows: stocks - 46%, bonds - 27%, funds - 2%, other assets - 25% (of course, each country has its own peculiarities and approaches to asset diversification).

On the one hand, a certain distortion in the financial institutions' investments in debt instruments (primarily government ones) does not contribute to the development of other segments of the capital market, including the stock market. On the other hand, the diversification of assets by instruments in Ukrainian conditions often leads not to a reduction of risks but to their accumulation, which is proved by the consequences of the recent financial crises. *The current condition of the stock market resembles a vicious circle: the market is underdeveloped, because it is of no interest to the most significant investors, which is the reason why it remains underdeveloped.*

Besides, if we consider international experience not in average terms, but rather in terms of the development of individual markets, the assets of financial institutions in developing countries have a significantly higher share of government securities and a smaller share of stocks than do the mature markets of developed countries[18]. Also, one should consider not only the current situation, but also the evolution of the investment structure: for example, in Poland, the accumulation pillar of the pension system began to function in 1999, and even after four years (late 2003) 62% of NPF assets were invested in government bonds, and 32.4% - in stocks. After 11 years, the situation did not change significantly (66% - in government bonds, 33.6% - in stocks), but due to the constant growth of pension assets, the absolute volume of NPF investments in stocks became more significant, which contributed to the development of this segment. Currently, 85% of Polish NPF assets (up to 90% in some funds) are circulating shares on the Warsaw and other European exchanges, but this is already perceived as a rather risky factor[19]. In general, the implementation of the cumulative pillar of pension reform is not a panacea for society, economy and stock market, as it has certain limitations and risks, and should be treated with caution[20]. In such circumstances, the absence of an active stock segment of market at the time of launching an accumulation based pension reform can also be a positive fact [21-23]. After all, even in mature economies, in-

[18] According to the OECD [20], among the 36 OECD countries, the proportion of stocks in pension assets in 2017 was greater than the proportion of bonds in only seven of them (Australia, Poland, Finland, France, New Zealand, USA, and Switzerland). In five other countries, investments are more or less comparable - the proportion of stocks differs by no more than 5% (in Canada, Belgium, Lithuania, Denmark, and Sweden). Instead, in Slovakia, Slovenia and the Czech Republic, the proportion of stocks in pension assets is only 1-2% and that in bonds is 58-77%, which is to some extent due to legal requirements to guarantee profitability.

[19] In late 2017, Poland was the world leader in this indicator. But such a radical change in investment preferences was preceded by a crisis, the deprivation of funds that served the accumulation system, of the ability to invest in government bonds, as well as the transfer of assets invested in government bonds to the solidarity system and the redemption of government bonds in 2014. So Poland will probably leave the current mandatory accumulation system and plans to restart it [21].

[20] In 2008, the value of OECD pension funds' assets declined immediately by 3.4 trillion USD (by 19%). And if the more developed countries survived this shock, then the countries of Eastern Europe, where the cumulative system has appeared only recently, began to phase out the reform. In particular, Latvia, which launched the second pillar of pension insurance in 2001, reduced its rate from 8% to 2% in 2009; Lithuania, which launched the reform in 2004, started gradually reducing the rate from 5.5% to 1.5% in 2009; in Hungary in 2011, contributions to the cumulative system were completely transferred to solidarity system [22].

vestments in stocks periodically lead to significant losses of the financial institutions' assets[21].

Financial intermediaries and infrastructure

In parallel with the decrease in the number of issuers in Ukraine, one can observe a decrease in the number of other market participants, including financial intermediaries and institutional investors.

Thus, in 2013–2017 the number of joint-stock companies decreased from 25 to 15 thousand (Fig. 5). The greatest decline took place in the number of open and closed JSC that did not bring their activity in compliance with the Law on Joint-Stock Companies, which was adopted as early as in 2008. Also decreased the popularity of the public form of JSC (during recent three years, the number of public JSCs halved, which was this time caused by another wave of change in the JSC legislation. At the same time, the increase in the number pf private JSCs (one and a half times since the end of 2014) indicates that there is no interest in public capital raising and the inability to observe the legal provisions for public JSCs.

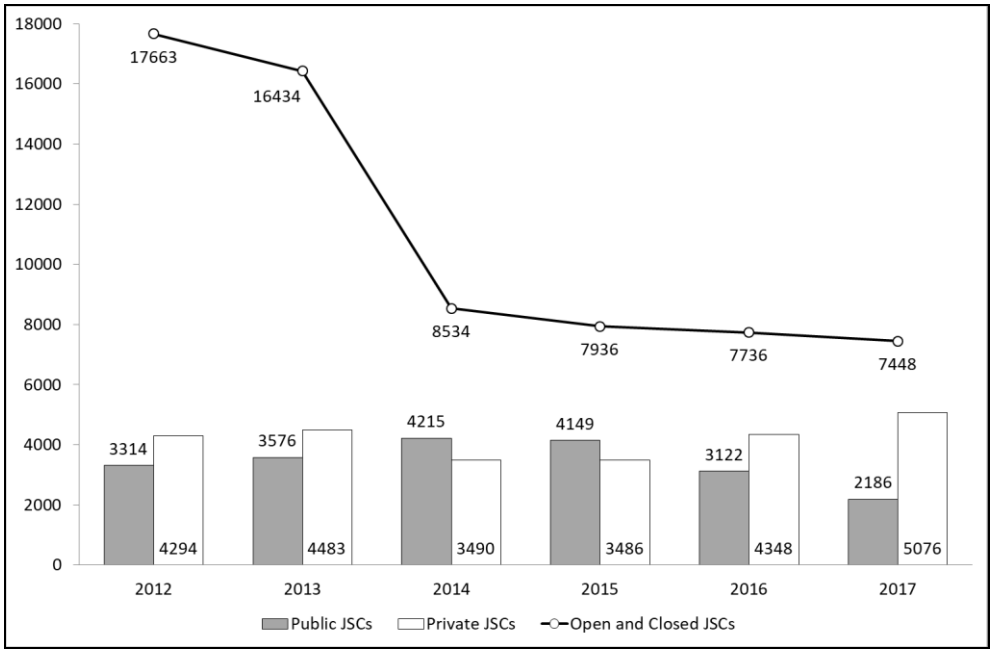

Fig. 5. Number of Joint-Stock Companies in Ukraine in 2012–2017

Source: calculated by the author based on data from the State Statistics Committee [25], and NSSMC [4]

During 2013–2017, the number of licensed securities traders decreased by 2.4 times, including banks - 2.1 times, and depository institutions - 1.8 times (Fig. 6). The reasons for this were the *limited and reduced client base* (issuers, in-

[21] In 2018, the world's largest sovereign fund (Norwegian State Pension Fund) recorded a net loss of 56.4 billion USD and a negative return at -6.1%. The annual loss of investment in stocks was -9.5% (although in 2017, the yield on such investment reached 19.4%) [24].

struments, investors), low profitability, increased administrative burden, financial difficulties due to the crisis in 2014-2015, including the withdrawal of half of the banks from the market.

Similar trends are typical for institutional investors: during 2013–2017, the number of NPFs decreased by 33%, the number of asset management companies and CIIs serviced by them - by 16%, and among them the largest (56%) decrease took place in the number of non-venture CIIs. Thus, *venture capital funds, whose asset structure is not diversified, and whose share of investments in securities is the smallest of financial institutions, have been the most stable institutional investors in Ukraine.*

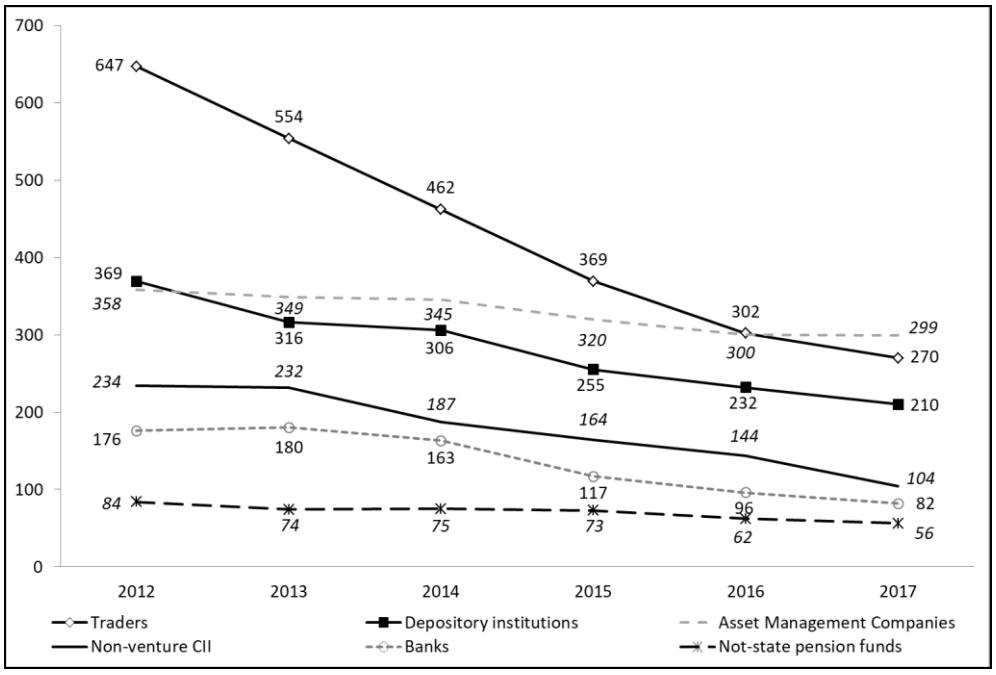

Fig. 6. Number of participants in the Ukrainian Stock Market in 2012–2017

Source: calculated by the author based on data from the NBU [26], and NSSMC [4].

The number of stock exchanges has halved in the recent years - from ten to five. Out of them, three are technologically feasible ones (Perspektiva, PFTS and Ukrainian Exchange) and even these are constantly faced with regulatory difficulties[22]. Maybe five or even three exchanges are really too much for a country with

[22] 2015 - temporary suspension of the circulation on stock exchanges for the own stocks of Perspektiva Stock Exchange, attempts to suspend the licenses of PFTS and Ukrainian Exchange due to the high share, in their capital, of residents of the aggressor country (Moscow Exchange); 2016 - warning to four exchanges of allegedly insufficient counteraction to manipulation; 2018 - termination of active trading on the Ukrainian Exchange through the application of personal sanctions to the Moscow Exchange and the prohibition of Ukrainian entities to use in their activities electronic trading systems (software "Plaza" and "Forts") produced by the Moscow Exchange (in accordance with the decision of the National Security and Defense Council) of May 2, 2018, approved by Presidential Decree No. 126/2018 of May 14, 2018).

an underdeveloped market, because there are examples where exchange operators simultaneously serve markets in multiple countries.

However, *usually the consolidation and globalization of the stock market contribute to increased liquidity*, attracting issuers and investors, increasing competition between them, and reducing the cost of attracting financial resources and transaction costs. In Ukraine, however, *despite the decline in the number of exchanges and other market participants, nothing like this has happened:*

• the volume of stock exchange trading in three years decreased by three times (from 619 billion UAH in 2014 to 206 billion UAH in 2017), while in dollar terms – seven times, and relative to GDP - 5.7 times,

• the number of market participants continues to decline,

• competition is decreasing (in the TOP 10 securities, traders in 2017 accounted for 34-56% of exchange trades in different categories of securities),

• investor tariffs are quite high due to repeated adjustments of tariffs by infrastructure entities (JSC "Settlement Center", depositories).

There are also difficulties with *the clearing and settlement infrastructure*. Experts from the international consulting firm OliverWyman have noted the high level of fragmentation of Ukraine's capital markets infrastructure. Clearing on securities transactions is carried out by the Settlement Center (more precisely, it is the only company licensed to conduct clearing activities in Ukraine; it performs cash clearing and settlements) and the National Bank (on government and municipal bonds), on derivatives, it is the stock exchanges (so far without any additional licensing). Actually, the central depository of securities is carried out by two institutions – National Depository of Ukraine (NDU) and National Bank of Ukraine (NBU) [27].

At the same time, Europe has examples of creating depositories and clearing houses (central counterparties) that serve investors in many countries simultaneously. Moreover, globally, the development of settlement and clearing infrastructure takes place in order to encourage liquidity in the regulated market, and simplify, cheapen and reduce the risks of settlement, including transboundary ones. But in Ukraine the interests of the stock exchanges and the infrastructure entities often differ, integration is limited, decisions about the strategy of infrastructure modernization are made without considering the opinions of the exchanges and market participants.[23]

It should be added that a purely restrictive approach (increased requirements, complete absence of examples of positive incentives[24], imbalances in administra-

[23] One of the reasons is lack of coincidence in corporate interest: the entities of the infrastructure (Settlement Center, NDU, and NBU) are 96-100% state-controlled and the exchanges are exclusively private owned. At the same time, there were many questions about the disproportionate attention of individual members of the NSSMC to the stock exchange, with whose holders they had obvious links prior to the appointment to public office.

[24] A typical example of disincentives and inconsistencies. The NSSMC initially introduces prudential conditions whereby the value of software costs (intangible assets residuals and capital investments in intangible assets) are excluded from regulatory capital, that is, any costs of setting up/acquiring/up-dating IT exchanges cause difficulties with meeting prudential standards. And then

tive intervention) clearly does not demonstrate constructive points. However, the regulator continues to assure everyone of the positive effects and thriving activity aimed at strengthening the stock market and encouraging liquidity[25]. Not surprisingly, *the lion's share of trading in non-government securities is off-exchange* (79% of corporate bond trades, 96% of stock trades, and 99% of CII securities in 2017).

So it is only logical that *assessments made by MSCI Inc. about Ukraine's stock market [29] (limited level of competition between brokers, significant trading costs, inadequate level of regulation, insufficient ability of the settlement system, a significant share of the OTC market) are perfectly justified.*

Besides, despite the increasing requirements (in particular, for compliance with prudential standards) for professional participants on the capital market, *there is still no increase in market reliability.* Actually, the introduction of prudential approaches was reduced to a gradual increase in the requirements for financial condition, and rather high (as for non-banking institutions[26] in the underdeveloped market) requirements for regulatory capital, liquidity and asset structure. Not surprisingly, from 2013 (the year when the prudential standards were introduced) to late 2017, the total number of professional participants halved. And even among those who remain, a significant share do not comply with prudential standards (in particular, in 2017, this applied to 12.5-22.92% of depository institutions)[27]. How-

the regulator's leader states [28] that "none of the exchanges is investing enough in the development of its IT".

[25] How exactly the NSSMC views the regulation and development of the stock market is evident from the regulator's annual report for 2017 (p. 93). The commission set itself the ambitious task of improving and modernizing stock exchanges, as well as stimulating the growth of liquidity in the national capital market, and was actively engaged in strengthening the stock market segment of the Ukrainian capital market and implementing uniform standards of the stock exchanges' activities. How exactly? The regulator resorted to such decisions as: 1) changes to the requirements for the business reputation of the candidate for the position of the stock exchange's head; 2) amendments to the NSSMC regulations on the activities of stock exchanges (on the use of seals); 3) amendments to the Regulation on the procedure of sale of JSC stock packages on the stock exchanges in the course of privatization; 4) changes to the Procedure of the stock market sale of securities to which penalty is are applied (with the extension of its effect to sales of not only public, but also to private executors). In practice, effective auctions with the participation of public and private contractors are as sporadic as privatization auctions, and the SPFU began auctioning at ProZorro system. Actually, in most cases it is a banal *consideration of technical changes in the legislation*. So *whether such measures can actually encourage liquidity is a rhetorical question.*

[26] For the banks engaged in professional activities on the stock market, the NSSMC did not set any prudential standards, as it is obvious that the requirements of the NBU are even more stringent. Although, overall, the approaches to prudential indicators for non-banking professionals are quite similar to those of the NBU.

[27] Actually, the reduction in the number of professional participants is so far the only result of the implementation of the Prudential Supervision Concept, approved by the NSSMC Decision No. 553 of April 12, 2012 (in the text, this goal was formulated more cautiously - however, the regulator is already expressing it quite clearly). At the same time, other basic indicators remain unfulfilled: the share of the market in the GDP structure over the period 2012–2017 considerably decreased, public confidence in the stock market did not increase, fundamentally new financial instruments and technologies were not implemented, administrative burden was not reduced, the number of operations in the stock market decreased (from 2.3 to 0.12 million exchange trades), the number of violations of market law requirements did not essentially decrease (given the reduction in the number of supervised entities, it seems to have even increased).

ever, the market has definitely not become more liquid and does not appear to be less risky, more sustainable or reliable. At least the NSSMC's enforcement statistics do not indicate any significant reduction in the number of cases initiated and sanctions imposed[28]. And, by the way, there is no information about any significant problems with the observance of prudential standards by securities traders in respect of whose cases of misdemeanor offenses would be initiated.

Perhaps the professional participants (those who have not left the market) have become more financially resilient, but it is not the fact that they are more conscientious now. It is worth noting that the share of licenses canceled or terminated due to law enforcement in total number of current professional licenses increased from 3.7% in 2012 to 6% in 2017 (Fig. 7). Therefore, such a goal of implementing prudential oversight as reducing the number of law infringements on the stock market has not been approached.

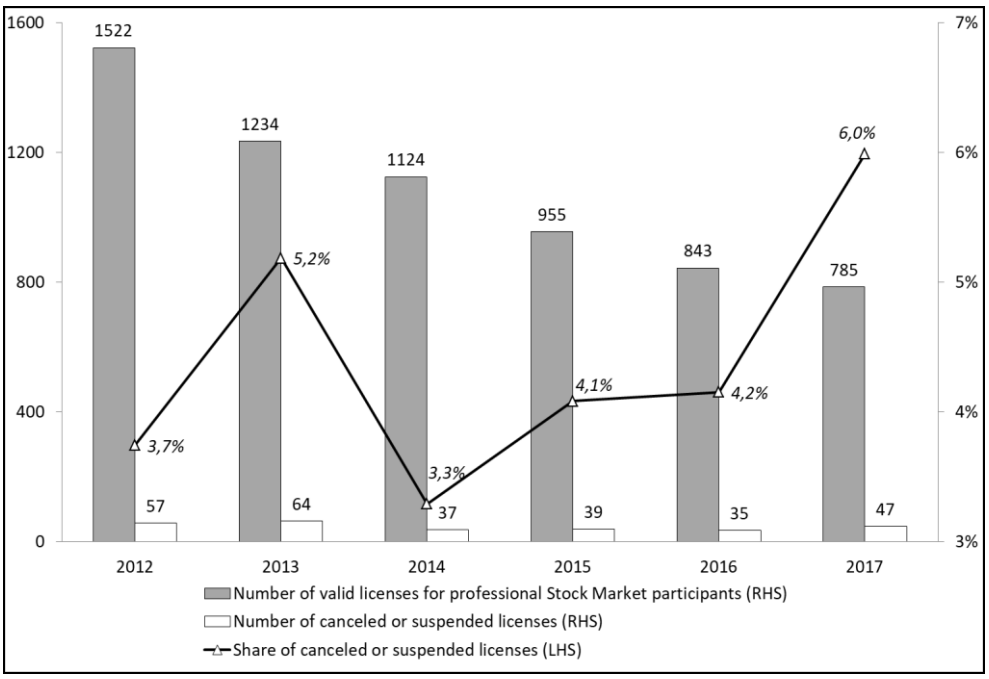

Fig. 7. Number and share of canceled or suspended licenses of professional Stock Market participants due to the consequences of enforcement in 2012–2017

Source: calculated by the author according to NSSMC data [4].

Questions arise regarding the *market's information infrastructure*. And the problem is not only the lack of accompanying English translations, which is so trou-

[28] According to the NSSMC annual reports, the number of criminal cases considered in 2017 reached 4512 (by 5% less than in 2015), 3241 financial sanctions were imposed (+13%), 1130 warnings were issued (-10%), 47 licenses were annulled or suspended (+34%), 134 cases of violation of the financial monitoring legislation were considered and 125 fines were imposed (four times more than in 2015). And this happened against the backdrop of the decline of the number of market participants!

bling for MSCI Inc. [29] The experience of withdrawing from the market and not selling their assets very well, the experience of doubtful valuation of shareholdings (in the course of privatization, squeeze-out, etc.) shows that independent property appraisers are actually not so independent, while auditors and rating agencies (including international ones) can be excessively loyal in assessing the financial position of banks (even systemic ones), issuers and other market participants. As a consequence, the NSSMC plans to increase the degree of regulation of this market segment as well. However in reality *the problem is not so much the lack of sufficient unbiasedness of the appraisers, auditors and rating agencies, but rather the complexity of asset valuation, excessive volatility and unpredictability of prices and other benchmarks* (which is quite natural in an underdeveloped market) and significant risks to the functioning of the national economy.

Market benchmarks: indexes and capitalization

1. Stock indexes

The most common information about a country's capital market is stock indexes that average the dynamics of the most liquid equities. The regulator states [4, p. 14], that an important indicator of the capital market is an index that gives opportunity to assess the overall situation on the securities market. In particular, in 2017 the index of the Ukrainian Exchange increased by 71.27%, which *showsits leadership relative to global growth rates*, and that of the PFTS - by 18.82%[29]. However, such results raise a number of questions:

• doesn't such a difference between stock indexes in the same country (52.45%!) seem strange, given the similarity of the index basket?

• should investors trust such indexes?

• is market liquidity sufficient to determine unbiased price benchmarks?

• are these indexes sufficiently representative?

• isn't the annual increase in the value of investment assets by 71.27% abnormal, given the dynamics of other local financial indicators and, although growing, but rather difficult macroeconomic and debt situation in this country?

•where is the investment boom in the country, which looks like a leader of the global index growth?

There are not so many countries in the world where multiple stock indexes are calculated simultaneously on different exchanges, but data from the World Federation of Exchanges [1] indicate that indexes of such countries are characterized by the following comparable dynamics: the annual difference varies from 1 to 16%[30], i.e. is at least three times less than the difference between the Ukrainian indexes (Table 4).

[29] In 2018, the indexes have already changed places: now the PFTS index has become the leader of the world growth with the indicator of 75.3%, and the UX index has grown by "modest" 24.9%. And the difference was also over 50%

[30] Significant difference values for US and Chinese exchanges (9-16%) can be explained by industry specificity (at Nasdaq and Shenzhen SE, mainly technology companies stocks are circulating), so in our case, India and Spain (difference 1-5%) are more relevant.

Table 4

Annual change in stock indexes in 2017-2018

Country	Exchange	Equities indexes	Annual change, %		Change, %	
			2017	2018	2017	2018
Ukraine	UX	UX	71,3	24,9	52,5	50,4
	PFTS	PFTS	18,8	75,3		
USA	Nasdaq– US	Nasdaq 100	31,5	-1,0	16,4	7,0
	NYSE	NYSE US 100	15,1	-8,0		
India	BSE India Limited	S&P BSE SENSEX	27,9	5,9	0,7	2,7
	National Stock Exchange of India Limited	S&P CNX Nifty	28,6	3,2		
China	Shanghai Stock Exchange	SSE 180 Index	19,7	-21,3	8,7	12,4
	Shenzhen Stock Exchange	SZSE 100 Index	28,4	-33,7		
Spain	BME Spanish Exchanges Barcelona	BCN Global - 100 Index	7,3	-17,4	1,4	4,8
	BME S.E. Valencia	IGBV Index	6,6,	-15,7		
	BME S.E. Bilbao	IndiceBolsa Bilbao 2000	5,9	-12,6		

Source: compiled by the author according to the World Federation of Exchanges [1].

It is also worth paying attention to the number of issuers, based on whose stocks dynamics the indexes of bluechips are calculated. Typically, these are at least a few dozen and more often 100 or more issuers, which ensures a representative sample that is designed to adequately assess the value of investment assets in a country. Moreover, there are also composite indexes, where the number of components in the index basket reaches hundreds.

Instead, there are no broad (composite) indexes in Ukraine, and the most popular stock indexes are calculated based on the dynamics of six (Ukrainian Exchange index) to seven (PFTS index) stocks, with five of them being duplicated in both indexes. *With such duplication, the considerable difference in the indexes' dynamics is even more surprising*[31].

[31] By the way, are the companies that are included in the index basket really public (those who have made a public offer), in particular, have they been listed on the stock exchanges? As of early 2019, none of the issuers in the UX index basket (Raiffeisen Bank Aval, Centrenergo, Donbassenergo, Turboatom, Ukrnafta, Motor Sich) were listed on the UX (or passed listing). On the PFTS the situation is similar: issuers in the PFTS index basket (the same Raiffeisen Bank Aval, Centrenergo, Donbassenergo, Turboatom, Ukrnafta, as well as the Kryukiv Wagon and Ukrtelecom) are not listed on the PFTS. Raiffeisen Bank Aval has already become a private JSC.

It is not clear how to evaluate the market in a situation of long opposite index movement (one increased, the other one decreased). The importance of the issue is absolutely practical, since when dealing with manipulation cases, a comparative analysis of the price dynamics of specific stocks can be made based on the indicators of the market situation, in particular, on stock indexes. But which indexes should be compared?

Obviously, even with the Ukrainian Exchange, which holds the maximum number of equity deals in Ukraine, stock trading indicators are several orders of magnitude lower than similar indicators in liquid and neighboring markets and is only comparable to extremely small countries (e.g. Cyprus and Malta). So, *should one perceive as benchmarks the indexes calculated in such a low liquidity environment?*

Moreover, *the index of the Ukrainian Exchange continued to be calculated even with a complete lack of liquidity* (for example, in June 2018, no contract was concluded during eight days out of 20, and on other days contracts were concluded just occasionally). However, the index was not only calculated, but even increased![32]

As to the market's attractiveness for foreign investment, it should be borne in mind that *Ukrainian stock indexes reflect the unprofitability of investments in Ukrainian stocks for non-residents for more or less long periods*, as the rate of devaluation is higher than the indexes' dynamics of[33].

2. Aggregate capitalization of the stock market

This indicator reflects both the size, the market's capacity of for investment, and the degree of market and economic development. According to World Bank estimates (2013), there is a high correlation between the ratio of listed companies' capitalization to GDP and the standard of living in the country; on average, every 10% of the approaching of the capitalization level towards GDP in developed countries increases GDP per capita by about 2,500 euros. [27, p. 6].

[32] Globally, such actions may well qualify as manipulation. In fact, it is about forming misleading price targets for investors of Ukraine and around the world (let us remind that the Ukrainian indexes have been global leaders for two years in a row and reflect a return on investments in investment assets at the level of 71-75% per year!) in conditions of meager liquidity (when there is a significant risk of not selling securities at all or selling at times cheaper than the purchase price). How is this different from the already mentioned signs of manipulation in EU scientific literature and legislation? For example, such as: fraud based on manipulation of information, information (including financial) management of the company/ officials; an operation or activity that is not designed to promote the formation of prices for an asset as a result of the interaction of supply and demand, but is formed with a view to distorting (price parameters) in the market; disseminating by any means misleading information/news/rumors (it is assumed that the disseminator of such information is aware of its inaccuracy and receives the advantages/benefits/profits from its dissemination). In addition, a description of such actions is present in Art. 10^1 of the Law of Ukraine "On State Regulation of the Securities Market in Ukraine".

[33] PFTS index increased from 100 to 530 (5.3 times) from the beginning of calculation (01.10.1996) to 31.08.2018, but in dollar terms it corresponds to a decrease from 53.5 to 18.6 (-65% in 20 years), -3.1% per year). From the beginning of calculation (26.03.2009) to 31.08.2018 the UX index increased from 500 to 1630 (2.3 times), but in dollar terms it corresponds to a decrease from 64.9 to 57.6 (-11% for 9, 5 years, -1.1% per year).

On the other hand, an excessive level of the ratio of market capitalization to GDP may indicate high prices and the probability of a crisis. In particular, according to the World Bank [30], in 2007, the capitalization of listed companies on the world stock exchanges reached 114% of global GDP, and after the considerable decline in 2008 it virtually halved to 56% of GDP[34]. By the way, after another 10 years this figure again was 112% of global GDP, which is one of the factors in the forecast on the prerequisites of a new global financial crisis.

During 2010–2016, the NSSMC, in each report, cited the values of cumulative capitalization of the listed companies in Ukraine and their ratios to GDP, rightly stating that these were important indicators of the level of stock market development. But in 2017, the practice of publishing these indicators in the NSSMC report ceased, which is not surprising, given their dynamics - a two-year decline (from 2014 to 2016) of the absolute value of capitalization by 23 times - from 458 to 20 UAH billion, with the ratio to GDP reduced 36-fold (from 29.2 to 0.8%) (Fig. 8).

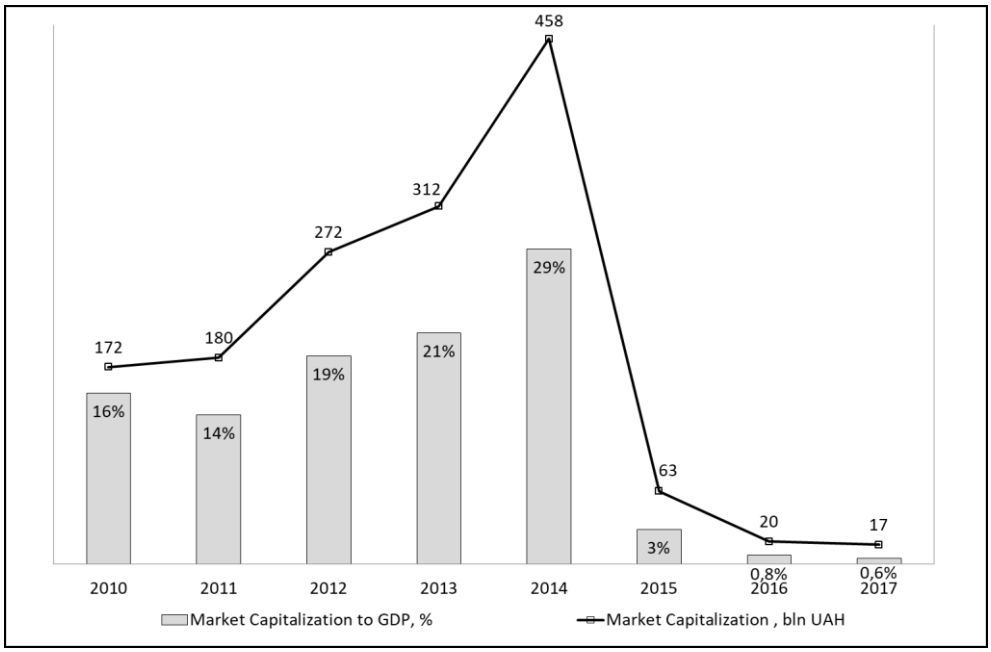

Fig. 8. Market Capitalization of listed shares (official listing, Main Market) in Ukraine in 2010–2017

Source: calculated by the author according to NSSMC data [4]; 2017 capitalization - according to stock exchanges.

[34] Similar trends were also characteristic for the capitalization of the Ukrainian market (at that time Standard &Poors was determined when calculating its own stock indices, including Ukrainian issuers). In 2007, market capitalization reached a record high (111.8 billion USD, 79% of Ukraine's GDP), but already in 2008, capitalization collapsed 5 times (to 23.2 billion USD), and the ratio to GDP - 6 times (from 79 to 13%). At the same time, the decrease in the level of capitalization to GDP in Ukraine was three times greater than the world average decrease (twice), which testifies both the severity of crisis phenomena in Ukraine's economy and the high stock prices before the crisis.

However, there is a clear explanation for such a trend. Before 2009–2010, the market was focused on the capitalization data of the issuers of PFTS stocks - not all, but only the most liquid securities, so-called bluechips, which were included in the calculation base of Ukrainian and international stock indexes. Periodically, questions arose concerning capitalization of the bluechips, but mostly only after sharp price declines (because the periods of growth satisfied everyone and were easy to "justify" with the extremely optimistic forecasts of the companies' financial performance). Subsequently, competition between the exchanges increased, the shares were actively included in the stock lists of several exchanges at the same time, so the question arose which prices to use as basic ones. Then the SSMSC obliged all exchanges to publish capitalization figures, and this indicator began to rise sharply: in 2014, out of ten capitalization leaders, eight issuers of equities were the most suitable for the definition of "junk" (their capitalization was tens of billions of hryvnias, while they remained practically idle as businesses). Following the cessation of circulation of a significant number of stock issues of such issuers (on grounds of fictitiousness) in 2015-2016 a sharp decrease in capitalization took place on the market. In addition, in 2015, the regulator sharply raised the requirements for holding shares in the stock exchange registry, which by an order of magnitude reduced the number of listed companies and, consequently, their total capitalization. Finally, the NSSMC introduced a prohibitive procedure for the rate of capitalization (with certain approached used to determine the features of fictitiousness, others to assess the compliance with the listing conditions, and still others to regulate the purchase of equities), including the price targets for its calculation. In the absence of such benchmarks in the form of actual official exchange rates and closing prices (for reasons, see below), calculation of the capitalization index for the majority of share issuers virtually ceased. Thus it is not surprising that the regulator ceased to publish this data, since *the aggregate market capitalization is calculated on the basis of 7 listing shares for the whole country and is equivalent to 0.6% of GDP (200 times worse than the world average of 112%).*

The skeptical perception of the statistics of the Ukrainian market is evidenced by the extremely outdated information in the World Bank database [30] (for all the time of independence, the capitalization ratio of Ukraine's listed shares to this country's GDP is only available for 2010-2011).

The only source of information remains the World Federation of Exchanges [1], which publishes data from the Ukrainian Exchange during 2014–2017, although the indicator of capitalization of listed shares actually shows capitalization data on all 96 share issuers on the exchange list, not just listed ones. This capitalization estimate 5.2 billion (USD, 146 billion UAH in 2017) exceeds the NSSMC estimates (Fig. 8) by 8.6 times.

The only source of information remains the World Federation of Exchanges [1], which published data from the Ukrainian Exchange during 2014–2017, although the capitalization of listed shares is presented based on the data on all 96 equity issuers in the exchange list, not only listed ones. This estimate of capitalization

(5.2 billion, USD, 146 billion UAH in 2017[35]) exceeds NSSMC estimates (Fig. 8) by 8.6 times.

It can be concluded that such an important indicator of the Ukrainian stock market, as its capitalization, has even previously raised doubts about the bias and hyper volatility of stock prices, even in bluechips, and now has virtually lost its value due to the diversity of approaches to determining, absent or outdated statistics available to investors, and the administratively limited number of listed companies.

Signs of market illiquidity. Peculiar features of the circulation of stocks and bonds

1. Low trading volumes

Globally, total trading in stocks at trading venues (117 trillion USD in 2017) is 1.46 times greater than global GDP (80 trillion USD). Globalization and the prevalence of securities on foreign exchanges should be taken into account, but usually the high value of the "stock trading volume – GDP" ratio indicates the liquidity, high development and importance of the financial market for the economy. For example, at Hong Kong Exchanges and Clearing, stock trading amount is 6 times the national GDP, in the United Kingdom (LSE Group, BATS Chi-X Europe) - 4.7 times, in the United States (Nasdaq US, NYSE, BATS Global Markets) - 3.2 times, in Switzerland - 1.6 times, in China (Shenzhen SE, Shanghai SE) and in Taiwan (Taiwan SE) - 1.4 times higher.

In smaller and/or less developed markets, this ratio is much lower: for example, in Turkey (BorsaIstanbul) - 0.47, Brazil (BM & FBOVESPA SA) - 0.32, Russia (Moscow Exchange) - 0.19, Poland (Warsaw SE) - 0.14. For Ukraine, this figure is 0.0017, which is *860 times less than the world average*. Ukraine's share in the global trading of shares in the regulated market was a scant 0.00016%. In Europe, in terms of stock trading, Ukrainian stock exchanges are in last places, outperforming only the markets of Cyprus, Malta, and Belarus.

The situation with bonds is much better: Ukraine's share in the global bond trading on the regulated market is 0.0315% (almost 200 times higher than that for shares), the ratio of exchange trade in bonds to GDP is 0.0656 (39 times greater than that for shares, which only 4.5 times lower than the global average of 0.2922). In terms of bond trading, Ukrainian exchanges rank 9th to 11th in Europe, which is the region with the largest volume of exchange traded bonds in the world[36].

[35] In 2018, according to WFE, the figure further reduced 4.4 billion USD. If we go back to the stock indexes, there is a question of the validity of the UX stock index increase by 25% for 2018 against the background of the 16% fall of the total capitalization of companies.

[36] According to the results of the trades in 2017, among the 25 European exchanges with active bonds trading, Perspektiva took 11th place (4.7 billion USD), PFTS - 13th place (2.3 billion USD), The Ukrainian Exchange ranked 17th (0.3 billion USD), with the cumulative value of 7.36 billion USD that is comparable to Euronext, which ranks 10th in Europe. Ukrainian stock exchanges occupy somewhat higher position in the segment of government bonds trading: among 22 European stock exchanges with active trading in government debt instruments, Perspektiva Stock Exchange ranked 9th (4.7 billion USD), PFTS - 10th place (2.2 billion USD), Ukrainian Exchange - 16th place (0.29 billion USD); cumulatively - 7.2 billion USD [31]

2. Low velocity

Globally, the ratio of trading volume in equities to their total capitalization is on average 1.37. Among the leaders are the US (Nasdaq) - 3.3, China (Shenzhen) - 2.5, and Turkey - 1.74 (Table 5). Ukraine's index (0.03)[37] is almost 40 times smaller than the world average and comparable to the markets of Malta, Kazakhstan, Croatia, Namibia, Barbados, and Bermuda.

Bond velocity in Ukraine is much higher. Despite the fact that the total value of debt instruments significantly outweighs the stock market capitalization[38], government bond velocity is 0.25 (much more than the velocity of stock market).

3. Non-performance of capital raising functions

According to the results of 2017, the NSSMC reported that the volume of share issue reached a maximum of 325 billion UAH, and the volume of issues of all securities registered by the NSSMC - 354 billion UAH. [4]

However, 92% of the share issue (297 billion UAH) was provided by banks (primarily state-owned ones, including the nationalized Privatbank) and public-sector companies (including Ukrzaliznytsia) within the processes of capitalization and corporatization (certainly, at the expense of the state budget). *There is virtually no real capital raising through bonds in Ukraine. It is cheaper and faster for issuers to raise funds on foreign markets – via bonds, loans, direct investments etc.*

Moreover, *capital raising through bonds is practically exclusively off the stock exchanges, no IPO has been held in Ukraine during the years of independence*. For comparison, according to the World Federation of Exchanges [1], 926 billion USD was raised on stock exchanges in 2017[39]. The United States, including via first-time IPOs - 205 billion USD, and via listed companies and additional capital raising (SPOs) - 721 billion USD.

In Ukraine, the share of the primary market (placement) is 2-3% of the total volume of exchange trades. Funds are raised almost exclusively through corporate bonds (the placement of government bonds is carried out outside the stock exchanges, using the NBU's software, which is the agent of the Ministry of Finance acting as issuer). The share of funds-raising trades in the total volume of corporate bond trades in Ukraine exceeds 60%. Globally, the ratio of capital raising to trade volume for bonds is also significantly higher than that index for stocks[40].

[37] The real value is smaller, as a significant proportion (61%) of stock trades in 2017 were formed by occasional privatization contracts (primarily at PFTS). Excluding them, the stock circulation at the Ukrainian Exchange (the stock market liquidity center), according to the World Federation of Exchanges, in 2017 was only 0.01.

[38] According to the NBU, the value of government bonds alone (in terms of the amount of the principal debt) at the beginning of 2018 amounted to 750 billion UAH, while the capitalization of the stock market was 146 billion UAH (at the Ukrainian Exchange, where the largest share contracts were recorded in 2017).

[39]The equivalent of 1% of world stock trading, but on some exchanges this ratio is much higher (for example, in Warsaw SE in 2017, the total volume of transactions is $ 72 billion, and $ 25.5 billion was raised attracted (35%).

[40] In 2017 4.3 trillion USD was raised in regulated bond market (almost five times more than capital raising on the stock market). This is equivalent to 18% of global bond trading.

Table 5

Trading Indicators for 2017 World Venues

Indicator	Equities							Bonds				
	Trade volume, *billion USD*	**EOB share,** *%*	**Contracts,** *mln*	**Issuers**	**Contracts per issuer,** *ths./year*	**Capitali-zation,** *billion USD*	**Velocity**	**Trade volume** *billion USD*	**EOB share,** *%*	**Contracts,** *ths.*	**Issues**	**Contracts per issue,** *ths./year*
Ukraine	0.19	7%	0.10	409	0.2	5.20	0.03	7.36	1%	11.01	381	0.03
World	116 973.4	71%	21 465,6	50 205	427	85 304.7	1.37	23 334.5	16%	50 505.0	188 908	0.27
Nasdaq US	33 407.07	34%	3 198.05	2 949	1 084	10 039.34	3.33	-	-	-	-	-
NYSE	16 140.05	90%	1 446.77	2 286	633	22 081.37	0.73	-	-	-	-	-
BATS Global Markets	12 301.54	100%	2 171.58	-	-	-	-	-	-	-	-	-
Shenzhen SE	9 164.43	99%	3 066.60	2 089	1 468	3 621.64	2.53	65.63	34%	3 397.01	2 962	1.15
Shanghai SE	7 594.24	100%	2 401.79	1 396	1 720	5 089.63	1.49	355.39	98%	5 813.36	6 017	0.97
BATS Chi-X Europe	7 540.20	32%	636.61	-	-	-	-	-	-	-	-	-
Japan Exchange Group Inc.	6 621.36	88%	821.21	3 604	228	6 222.83	1.06	0.37	95%	-	361	-
LSE Group	4 866.60	48%	364.01	2 498	146	4 455.41	1.09	9 195.95	3%	4 335.00	13 676	0.32
Euronext	2 875.12	68%	235.11	1 255	187	4 393.00	0.65	7.74	99%	374.43	5 659	0.07
Hong Kong Exchanges and Clearing	2 077.75	94%	250.02	2 118	118	4 350.51	0.48	7.76	99%	38.80	1 047	0.04
Korea Exchange	1 953.30	98%	1 958.97	2 134	918	1 771.80	1.10	2 144.20	100%	8 753.3	13 119	0.67
Deutsche Boerse AG	1 568.46	94%	141.04	499	283	2 262.22	0.69	4.60	-	146.41	29 749	0.01
SIX Swiss Exchange	1 050.63	90%	48.77	263	185	1 686.50	0.62	157.77	12%	374.85	1 473	0.25
Nasdaq Nordic Exchanges	898.05	89%	137.56	984	140	1 533.50	0.59	1 704.37	1%	99.55	7 558	0.01

Continued Table 5

Indicator	Equities							Bonds				
	Trade volume, *billion USD*	**EOB share,** *%*	**Contracts,** *mln*	**Issuers**	**Contracts per issuer,** *ths./year*	**Capitali-zation,** *billion USD*	**Velocity**	**Trade volume** *billion USD*	**EOB share,** *%*	**Contracts,** *ths.*	**Issues**	**Contracts per issue,** *ths./year*
BME Spanish Exchanges	733.69	96%	50.83	3 136	16	888.84	0.83	4 803.63	3%	368.30	2 662	0.14
Borsa Istanbul	395.44	99%	150.99	376	402	227.51	1.74	165.52	58%	386.70	754	0.51
Moscow Exchange	296.61	49%	112.35	234	480	623.42	0.48	189.28	40%	1 665.23	1 436	1.16
Warsaw SE	71.96	89%	20.91	890	23	201.39	0.36	0.75	86%	81.14	609	0.13
Wiener Borse	37.91	88%	6.77	536	13	150.65	0.25	0.13	100%	5.63	3 548	0.002
Athens SE	14.93	88%	4.33	200	22	50.61	0.30	0.19	87%	6.94	55	2.85
Budapest SE	10.79	92%	0.002	41	0.04	31.55	0.34	0.002	79%	0.13	78	0.09
Bucharest SE	2.65	100%	0.001	87	0.01	23.62	0.11	0.07	100%	0.80	96	0.001
Kazakhstan SE	0.81	99%	0.0001	103	0.001	45.56	0.02	9.72	100%	2.49	75	0.01
Zagreb SE	0.54	74%	0.19	155	1	22.76	0.02	0.07	85%	0.39	504	0.01
Cyprus SE	0.17	38%	0.07	74	0.4	2.82	0.04	0.01	56%	0.23	26	0.02
Malta SE	0.10	100%	0.01	23	0.4	5.17	0.02	0.55	100%	20.57	48	0.01

Source: calculated according to data of NSSMC [4] stock exchanges, World Federation of Exchanges [1]; EOB (Electronic Order Book Transactions) – anonymous trading; capitalization for Ukraine - according to statistics of the World Federation of Exchanges; number of issuers for Ukraine - including non-listing securities, without duplication; highlighted the most liquid stock markets (annual trading volume over 1 trillion USD) and neighboring markets with Ukraine.

This situation again confirms the conditionality of the national stock market. One should admit that there are simply no non-state public companies in Ukraine, because in fact it is not the public company that has changed its legal form several times through constant regulatory experiments, but the one that actually raises capital on the national stock market on competitive and transparent terms. . However, such examples are absent in Ukraine and do not appear to be planned. Attempts to build and regulate the market as a public one, if there are no public companies on it and interest is totally absent in the issuers to obtain such status, are difficult to recognize as adequate.

4. Insufficient number of contracts

The total number of stock exchange contracts in 2017 amounted to 21.5 trillion. Among the leaders are the US - 6.8 trillion, China - 5.5 trillion, and South Korea - up to 2 trillion (Table 5). In Ukraine, the amount is 100 thousand per year, and 400 daily.

In Ukraine, per one stock issuer, 0.2 thousand contracts are concluded yearly, that is less than one contract a day. On global average, this figure is 427 thousand contracts per year[41] (1.7 thousand transactions daily), 1750 times more than in Ukraine.

With bonds, typically much less contracts are concluded than with stocks[42], but the average value of the bond market contracts is considerably higher than that of stock contracts[43]. Per one bond issue, the annual number of contracts in Ukraine (0.03 thousand) is only *nine times lower than the global average* (0.27 thousand) and, in particular, exceeds Deutsche Boerse AG and Nasdaq Nordic Exchanges.

The above comparisons indicate that *Ukraine's bond market*, although less liquid than the global average, is *quite competitive in comparison with other stock markets*, including in Europe, *and by several orders of magnitude more liquid than the domestic stock market. This explains the high share of debt instruments in the stock exchange structure in Ukraine and in the assets of financial institutions*.

Also, the depressed state of the stock market may be explained by the specific role of the most affluent persons in the national economy and financial system [32], as well as the lack of adequate and current stock price benchmarks (discussed below).

Irregular trading, lack of an active market, real prices and unbiased pricing on the Ukrainian stock market

Usually, the stock market performs a wide range of important economic functions:

• determines the fair price;

[41] The leaders are the same: China - 1569, USA - 886, South Korea - 918 thousand contracts/year.
[42] The world average is 425 times, Ukraine's figure is only 9 times.
[43] Concerning stocks: 5,500 USD in the world, 1.9 thousand USD in Ukraine (Including on the Ukrainian Exchange - 0.8 thousand USD, on the PFTS - 24 thousand US, due to large-scale privatization contracts). Concerning bonds: in the world – 462 thousand USD, US, in Ukraine – 668 thousand USD.

• disseminates information on market prices for financial instruments, trading volumes, capitalization, ratings of securities and bidders, and indexes;

• encourages liquidity and concentrates supply and demand by attracting a wide range of buyers and sellers;

• creates proper conditions for conclusion and execution of contracts on the most acceptable terms in the context of price, volume, terms of payment;

• creates risk management systems, including provides guarantees for contract settlement,

• reduces the cost of transactions through the unification and automation of procedures for contract conclusion, execution and processing;

• promotes the issuers' capital-raising on the most acceptable terms;

• regulates and controls pricing, brokers' access to trading, admission of financial instruments to trading, listing conditions, disputes between participants, and fights abuse[44].

Defining fair price should be attributed to the main functions of the stock exchange, all the more so as the international law, including in taxation and accounting, considers exactly the stock market as the main source of information about the unbiased market price of financial instruments in the assets of economic entities. It should be understood that, as a result of stock exchange trading and the quotation procedure, it is not a single stock price that is determined and made public, but a whole range of price benchmarks. And it is precisely from this spectrum that the necessary price benchmark is chosen in accordance with the peculiarities of each country's legislation and the requirements of financial market regulators for different categories of investors.

For example, in Ukraine, according to the NSSMC requirements, stock exchanges should publish benchmarks for each security issue, such as: official exchange rate, opening price, closing price, current price, best bid and ask orders, as well as yield (for debt instruments) and dates of the last calculation of official exchange rate and closing prices (given the low liquidity, the dates may be quite old and hence the prices may be not very relevant), the number of securities under the best orders and contracts, and the volume of trades. In addition, exchanges can publish the prices of recent transactions, the prices of best orders submitted in different trading modes, the prices less accumulated coupon income, the percentage of the nominal value of bonds and so on.

[44] Unlike exchanges, other trading venues have virtually no regulatory and control functions to set detailed rules for admission to trading of financial instruments, to monitor and control prices and the limits of their fluctuations, safeguards for enforceable transactions, counteracting abuse and applying sanctions. In addition, financial instruments whose quality is not controlled can be traded off-exchange. As a consequence, the buyer (due to lack of awareness or inappropriate purpose) may (has an opportunity to) purchase securities of issuers that have fictitious features (so-called "junk" issuers) at prices that may not meet the financial performance of such issuers. At the same time, the issuers of securities admitted to trading on the stock exchange are subject to close control for compliance with the conditions of admission to the exchange trading and listing, including. compliance with the laws and regulations of the NSSMC regarding the regularity of financial and other information disclosure, proper corporate governance standards, financial condition and protection of investor rights.

The function of objective determining the fair value of assets on a stock exchange is performed in Ukraine in a rather conditional way, because *to adequately define a price, there should be a constant or at least more or less regular supply and demand in the form of bidding and the conclusion of exchange contracts. And the mere fact of admission of securities to exchange trades does not itself guarantee liquidity and availability of price benchmarks at all.*

Usually, regulated markets have financial instruments that are of interest to investors, are more or less regularly traded and, accordingly, have relevant prices. Instead, *in Ukraine, securities may be listed for years, despite the complete absence of supply and demand*.

This is due to a number of factors, including contradictory legal regulation of JSC (for a certain period they were obliged to ensure the inclusion of their shares in the stock exchange list or even in the stock exchange register, i.e. to be listed), repeated requirements for banks and institutional investors to purchase exclusively listed securities or purchase securities exclusively at the stock exchange, and, at the same time, the lack of minimum liquidity requirements for securities in the exchange list, etc. As a consequence, securities could be admitted to trading on the issuer's initiative (for compliance with legal requirements) or securities trader (for a single transaction) and remain on the stock exchange list without any trading activity during a considerable period (often - several years in a row).

In recent years, the number of such "passive" issues of securities in the stock market circulation has somewhat decreased due to the reduction in the number of exchanges, issuers and potential investors, the abolition of the legal requirement for admission to the stock exchange trading for the shares of JSCs that have not made a public offering, and as a result of the suspension of trading in securities that had evidence of fictitiousness and a large number of misdemeanor offenses (as will be shown below, against the backdrop of the lack of sufficient justification and the absence of adequate regulatory and methodological provision).

However, the problem remains painful: *a large number of financial instruments in the exchange lists are traded extremely irregularly, so there are no relevant prices.*

The NSSMC's 2016 report shows that the regularity of trading in most financial instruments on the Ukrainian stock exchanges is extremely low: only two issues (0.1% of all issues admitted to trading, Table 6) were traded on the stock market daily, i.e. their trade regularity was 100% of total trading days (249). At the same time, 14% of securities and derivatives issues admitted to stock exchange trading were traded for only 1-9% of trading days, and 80.8% of issues - less than 1% of trading days (0-2 days per year), while *a significant proportion did not trade during the whole year in any trading day.*

In 2017, according to data from the leading stock exchanges (Perspektiva, PFTS, UX), the number of the issues of securities on which contracts were concluded at least once a year ranged from 136 to 151, which is on average 29% of the number of securities issues in exchange lists (from 373 at UX to 636 at PFTS).

That is, for 71% of the securities issued during the year, no contracts were concluded, so the relevance of the stock price benchmarks behind them (official exchange rate, closing price) is doubtful.

Table 6

Regularity of trading on the stock exchanges of Ukraine by financial instruments during 2016

Regularity of stock exchange trading, %	Securities	Corporate bonds	Government bonds	Investment certificates	Optional certificates	Derivatives	Total	Share, %
100	2	0	0	0	0	0	2	0,1
90–99	7	0	0	2	0	0	9	0,5
80–89	0	0	1	0	0	0	1	0,1
70–79	1	0	1	0	0	0	2	0,1
60–69	4	0	1	0	0	0	5	0,3
50–59	3	0	3	0	0	0	6	0,3
40–49	4	0	3	1	0	0	8	0,4
30–39	10	0	4	1	2	0	17	0,9
20–29	8	0	2	0	0	0	10	0,5
10–19	18	1	11	3	3	1	37	2,0
1–9	91	83	27	23	25	9	258	14,0
0	838	111	224	95	1	220	1489	80,8
Total	986	195	277	125	31	230	1844	100,0

Source: compiled by the author based on data from NSSMC [4].

This data is confirmed by the analysis of the relevance of pricing on regularly functioning exchange markets. As of 27.06.2018, at the PFTS, out of 589 securities issues in the stock exchange list, contracts were concluded for only 18%, for 5% the official exchange rate was calculated (during previous two months – for 4%), and closing price was calculated for 9% (during previous two months – for only 6%). Similar values are observed at the Perspektiva Exchange: out of 464 securities issues on the exchange list, for only 26% contracts were concluded, for 1% official exchange rate was calculated, and for 7% - closing price was calculated (Table 7).

Therefore, *for the lion's share of securities in Ukraine, despite their admission to exchange trades, there is virtually no active market*, which, in accordance with national and international accounting/reporting standards, makes it possible to determine fair value.

An active market, according to IFRS 13, is defined as a market in which transactions for assets or liabilities occur *at a sufficient frequency and volume* to provide pricing information *on a continuous basis*. A similar definition is provided by the

NBU in the Instruction on the Accounting of Transactions with Financial Instruments in Banks of Ukraine, and the Resolution of the Board of the NBU of 26.10.2015 No. 732 provides strict criteria for such a market. In particular, for *30 calendar days* debt securities, *daily* bilateral quotations with spreads up to 0.5% are required, execution of 10-30 contracts within 5-15 days, and daily trading volume of 1-5 million UAH. For public JSC shares for the same period, calculation of official exchange rate for 10 days is required, as well as the compliance with other listing conditions. That is, the NBU considers active such a market where orders are submitted daily, and where compliance with other liquidity requirements is monitored for an adequate period (30 calendar days).

Table 7

The relevance of pricing on Ukraine's exchanges as of 06/27/2018

Securities type	Admitted to trading	Contracts for 6 months	Calculated official exchange rate		Calculated closing price		
			Less than 2 months	Over 2 months	Less than 2 months	2–6 months	6–12 months
PFTS							
Government bonds	253	67	15	4	26	1	0
Corporate bonds	63	20	0	0	3	1	1
Stocks	244	18	7	5	8	4	9
Investment certificates	29	1	0	0	1	0	0
Total	589	106	22	9	38	6	10
Share of issues, %	100	18	4	1	6	1	2
Perspektiva Exchange							
Government bonds	237	82	1	3	6	3	16
Corporate bonds	105	16	0	0	0	0	0
Stocks	69	6	0	0	4	0	4
Investment certificates	31	1	0	0	0	0	1
Optional certificates	22	14	0	0	0	0	0
Total	464	119	0	3	10	3	21
Share of issues, %	100%	26%	0%	1%	2%	1%	4%

Source: compiled by the author based on the following exchange market data: The results of trade at the PFTS . URL: http://pfts.ua/trade-info/trade-results; The results of trade at the Perspektiva Exchange. URL: http://fbp.com.ua/Trade/CommonRate.aspx

Unlike the NBU, *for the NSSMC, the problem of insufficient relevance of stock exchange pricing was not immediately understood*. Thus, by the decision of the NSSMC of 28.07.2016 No. 808, changed were made in the Rules (conditions) for Carrying out Securities Trading Activities: brokerage, dealer activity, underwriting, and securities management, in particular, in the definition of so-called "suspicious" contracts. The signs of such securities contracts on the stock exchange or over-the-counter market included the difference between the contract price and the prices

formed on the stock exchanges: for the listed and index securities, the benchmark became the last calculated official exchange rate (difference ≥30%), and for the non-listing securities – last calculated closing price (difference ≥50%). Further, the NSSMC decision No. 460 of June 22, 2017 amended the difference between the contract prices and the official exchange rate for listed and index securities from 30 to 20%. However, the more significant problem was not the relative importance of the difference between the prices of contracts concluded by securities traders in their own interests or in the interests of their clients, but *the total irrelevance of official exchange rates and closing prices*. Only in accordance with the decision of the NSSMC No. 142 of 15.03.2018 (more than one and a half years after the initial decision) did the criteria for the applicability of price guidelines in the context of the time of their formation finally emerge in the definition of "suspicious" contracts.

What is the criterion of relevance that the stock market regulator invented? A week? A month? No, such a narrow range of time can not properly grasp our constantly reformed market. The NSSMC requires comparison of contract prices with the latest official exchange rates or closing prices, calculated over 12 months. All year long! Well, at least the traditions of the Soviet five-year periods were not resumed!

Thus, from the NCSSMC's point of view, the prices formed on the stock exchange a year ago are quite relevant, and it is necessary to compare the prices of current transactions with them. Such an approach is unlikely to be sufficiently substantiated given that for a year, for example, the main stock index in Ukraine may change by 71-75%. And this, as noted above, is positively perceived by the NSSMC.

Thus, the main criterion for the relevance of securities prices in the NSSMC's field of competence is in most cases a year - unlike other regulators (Table 8).

Moreover, *even with such NSSMC's minimum requirements for price relevance, the overwhelming number of securities on the stock exchange circulation in Ukraine do not have adequate price benchmarks, as stock official exchange rates and closing prices for 90-95% of securities issues were calculated more than a year ago or are not calculated at all.*

Also, as will be shown below, a significant problem is the lack, in the Stock Exchange Regulations, of *criteria for the relevance of closing prices to determine situations of price volatility*, that is, the deviation of the current price from the previous value of closing price. Given the above mentioned irregularity of the trade in majority of securities, the closing price may be last calculated based on stock exchange trading that took place many months ago. At the same time, in the situation of price volatility, the exchanges have to make important decisions: on the feasibility/necessity of stopping the exchange trading, on carrying out checks and obtaining explanations from trade participants, reporting to the NSSMC, and promulgation of the information on price volatility. And all that without the regulator's criteria of the relevance of previous closing prices, with which the current prices should be compared.

Table 8

Comparison of the criteria of the relevance of securities prices in the regulatory acts of selected regulators

Target property	Regulated feature	Period	Regulator, document
Fair value of securities	Presence of active market: in debt securities (including government ones) – availability of daily bilateral quoting prices, execution of purchase-sale contracts; for public JSCs – calculation official exchange rate	30 calendar days	NBU. Procedure for valuation, at the fair value, of securities owned or accepted by the NBU as collateral (paragraph 9-10, section II)
Market price of issued securities	Average official exchange rate	3 months	Law of Ukraine "On Joint-StockCompanies" (Article 8)
Purchase/sale price of equities	The highest price for acquiring stock ownership	12 months	Law of Ukraine "On Joint-StockCompanies" (Article 65, 65^1, 65^2)
"Suspicious" contracts	Deviation of the contract price from the official exchange rate or closing price	12 months	NSSMC, Rules (Conditions) for Securities Trading Activity: Brokerage, Dealership, Underwriting, Securities Management (Section II)
Signs of fictitiousness.	Control of the issuer's regular annual reporting	A year	NSSMC, Regulation on the Operation of Stock Exchanges (Item 8, Section III)
Price instability	Deviation of current price from previous closing price	No	NCSSMC, Regulation on the Operation of Stock Exchanges (Item 13, Section III)

Source: Compiled by the author in accordance with the laws and regulations of the NBU and the NSSMC.

Pricing on the undeveloped stock market: features and problems

Features of the formation of stock exchange prices. Anonymous and non-anonymous orders

It is important to emphasize that *the rare cases of calculation of stock official exchange rate and closing price are a consequence of both general market illiquidity and ill-considered regulation.* The main stock price benchmarks in Ukraine (official exchange rate and closing price) are formed solely in the contracting mode based on anonymous orders (EOB, for trading on Order-Driven Market, executed through the Electronic Order Book, Electronic Order Book Transactions). Therefore, *it is not uncommon for securities to be traded fairly regularly, but the official exchange rate and closing price are not calculated because the deals are made on the non-anonymous orders*(Off-EOB, for trading on Quote-Driven Market, execut-

ed away from the Electronic Order Book, i.e. Off – Electronic Order Book Transactions, Negotiated Deals).

In particular, the Procedure for Determining the Official Exchange Rate of the Securities, approved by the NSSMC's Decision No. 933 of 03.07.2015, requires the traders to comply with a number of heterogeneous and specific parameters, such as certain settlement conditions, use of anonymous orders, support of orders within 15% of the spread for the amount of no less than 20–200 thousand UAH depending on securities type and during at least 50% of the trading session time.

The closing price calculation is regulated by the Regulation on the Functioning of the Stock Exchanges (approved by the NSSMC Resolution No 1688 of 22.11.2012), which also requires the *presence of anonymous orders and provides for the possibility of suspension of trading for an hour or until the end of trading day* in case of significant decrease or increase compared to previous closing price, as well as appropriate inspections and solicitation of traders by the exchange market and/or the NSSMC. *And since closing prices may have formed a few months ago and the actual market price during that period could change objectively, such situations are not uncommon and do not make life easier for either exchange markets or investors.*

Besides, it is exactly the facts of the calculation of official exchange rate and dynamic of closing price that the NSSMC considers as grounds for deciding on *the presence of the signs of manipulation.*

As a result, *market participants* do not see the point in such difficulties and *are more likely to trade in conditions that exclude the calculation of official exchange rate and/or closing price, that is, they conclude contracts on non-anonymous terms.*

Thus, *even with the regular demand and supply of securities, the most significant stock market price benchmarks (official exchange rate and closing price) remain irrelevant for a long time exactly because investors are not interested in changing them, as this can lead to legal risks.*

However, market participants use other price benchmarks published by the stock exchanges as quotation results, including *benchmarks formed under non-anonymous conditions* (better prices for non-anonymous purchase/sale orders, weighted average or recent contract prices, and corresponding yields). All the more so as *the accounting policies of most investors, including institutional and professional market participants (as well as NSSMC regulations), do not sufficiently specify which results of the stock exchange quotations (formed in non-anonymous or anonymous conditions) should be applied* to estimate the fair value of securities in the assets.

Moreover, for the underlying instrument of the national stock market (government bonds), the most appropriate source of fair value information for a long time has not been the stock quotes but the price and profitability indicators *calculated and published* on a daily basis *by the NBU* using the Nelson-Sigel parametric model in accordance with the Resolution of the Board of the NBU № 732 of

26.10.2015. In the process, the base curves of the no-coupon yield and *the fair value of the government bonds are calculated by the NBU based on not only the anonymous stock contracts, but also the non-anonymous ones and even OTC contracts.*

Unfortunately, this approach is only possible for such a sufficiently standardized and reliable instrument as government bonds: their value is quite predictable (because of clearly set maturity terms and terms of profit payment), and their liquidity is relatively high (due to the possibility of being used as collateral for credit operations - REPO, including from the NBU); Due to the large number of instruments in circulation, even in the absence of relevant prices for a particular bond issue, the benchmarks of other issues with similar parameters can be applied.

For other types of securities (primarily for shares with an indefinite maturity and value depending on a large number of hard-to-predict external and internal factors) *determining the fair value is a significant challenge*. It is not for nothing that Art. 8 of the Law on Joint Stock Companies defines the market value of shares as *an alternative to the official exchange rate, offers a value determined in accordance with the legislation on property valuation*, property rights and professional valuation activities. However, *there are many questions about the quality of the work of property appraisers*, if you recall the history of Ukrainian privatization and the relevant experience of selling securities from the assets of liquidated banks.

For some traders, the conclusion of exchange contracts in the non-anonymous mode is even less risky, since it simplifies the internal approval procedures and minimizes compliance risks. In the case of acceptance of an anonymous order, an exchange member may conclude a contract with a counterparty (his client) that does not meet the compliance requirements of the exchange member himself or his client's.

In some cases, this can lead to the termination (cancellation) of a stock exchange contract. Certainly, there are no such risks when exchanging non-anonymous orders with regular and foreseeable counterparties. To some extent, the situation can be simplified in the event of a two-contract agreement being terminated, where the technical buyer and seller is the JSC "Settlement Center" as the central counterparty. However, in practice, it is easy to separate the original buyer and seller, and the risks of concluding a contract with a non-compliant counterparty remain urgent.

Obviously, the way of concluding a contract agreement on the basis of (anonymous) orders is more competitive and potentially facilitates the determination of more relevant prices, since traders can not know who exactly submits the anonymous orders, so they choose not the pre-determined counterparty, but the bid with the best parameters (first of all, the price, regardless of who bids).

However, in the world practice, the trading mode using exclusively anonymous orders (Order-DrivenMarket, ElectronicOrderBookTransactions, EOB) is not the only possible exchange technology. Exchanges create different trading

regimes[45] to give investors a full range of trading opportunities, including submitting targeted bids on the quotation markets (non-anonymous markets, Quote-Driven Market, Off-Electronic Order Book Transactions, Off-EOB, Negotiated deals), one-way auctions, REPO markets and so on.

In particular, an important parameter of the order may be not so much the security's price as its volume (the quantity of securities interesting to the trade participant may be offered at a price, which is far from being minimum), calculation terms (price and profitability may strongly depend on the date of obligations fulfillment, in particular, due to the interest and currency risks, as well as on instrument payments), counterparty's predictability (in terms of compliance and in conditions where no effective system of guarantees for obligations fulfillment is created, especially under deferred contracts).

As a consequence, even the globally largest exchanges a significant proportion of off-EOB Transactions. For example, in 2017 on the Nasdaq, outside the Order-Driven Market, a 22.1 trillion USD volume of stock contracts was formed (66% of total), at the BATS Chi-X Europe – 5.1 trillion USD (68%), at the LSE Group – 2.5 trillion USD (52%), and at the Euronext – 0,9 trillion USD (32%). Overall at the member exchanges of the World Federation of Exchanges the value of such contracts amounted to 34 trillion USD (29% of the total volume of 117 trillion USD, Table 5).

On the market of debt instruments, the volume of the off-EOB contracts was 19.7 trillion USD (84% of the total trading volume of 23.3 USD), hence non-anonymous contracts prevail.

Probably the important point is not so much the format of orders on whose basis the contracts are concluded on the regulated market, but the liquidity and convenience of trading for investors, and the objectivity of price benchmarks. Given the dominance of the bond market in Ukraine, the international experience of concentrating bond trading in the mode of non-anonymous contracts and the unconstructive regulation of pricing procedures on Ukrainian stock exchanges, it is not surprising that the bulk of transactions and the most relevant price benchmarks are formed in the non-anonymous conditions.

Recently (by the NSSMC Decision No. 92 of 02/16/2018), the Regulations on the Functioning of the Stock Exchanges were amended, which make it obligatory for the stock exchanges *to control the deviation from the closing price of not only anonymous but also non-anonymous orders*. Given the fact that a significant proportion of closing prices are irrelevant and the lack of adequate incentives for investors to trade inEOB regime to update closing prices, this step may be another factor in regulatory demotivation of market participants and in creating incentives for the investors to migrate to the OTC market.

[45] The absence in Ukraine of a clear and relevant international approach to the classification of trade technologies, including regulatory ones, creates the preconditions for the profanation of concepts. In particular, globally, the technology or order market solely provides anonymous orders and guarantees for settlement of transactions due to pre-provisioning of assets. At the same time, there are examples in Ukraine's stock exchange market where contracts are concluded based on non-anonymous orders, with delayed execution and without reserving the assets.

Operational and infrastructure problems of stock trading

Modern stock trading is a rather complicated process, which is not limited to placing an order in a stock exchange trading terminal.

For the world's leading stock markets, serving thousands of brokers and millions of their clients, as well as processing tens of millions of orders a day for tens of thousands of instruments, has only become possible through automation at all links of transaction initiation and execution. Of course, when, at the globally most liquid and technological exchanges, investor's order is executed for mere microseconds, it requires from the exchange the creation of a reliable and productive trading platform. However, bidding and contracting on the exchange are part of a much wider range of procedures that are performed not only by the exchange, but also by a large number of financial market entities that require a lot of time and operational workload.

In Ukraine, the following market participants are involved in the initiation and execution of a standard transaction: securities traders (providing brokerage services to investor clients); stock exchanges (securing contracts based on bids submitted by securities traders, controlling limits and joint commitments, initiating and monitoring the transaction settlement); the depositary (in Ukraine, there are two: for different types of securities) and depository institutions (carrying out settlements in securities); and the JSC "Settlement Center" (a specialized bank that performs cash settlements on transactions concluded on the principle of "delivery against payment").

If you consider this process from the point of view of a securities trader, such as a bank, then submitting orders for exchange trading is part of a set of measures for managing your portfolio, executing customer orders, managing liquidity, within which it is necessary to constantly analyze the following:

• market conditions (current and projected instrument prices, liquidity, yield on alternative investment areas, dynamics of rates, indices, interest rates, etc.),

• the condition of the investment portfolio (comparison of the securities' book value with the market prices, assessment of the diversification by structure, prices, liquidity, maturity, and decision making on purchase, sale, and replacement of the instruments in the portfolio),

• financial consequences of the sale of securities from the portfolio (investment activity is risky, so it is not possible to guarantee profit from each sale),

• liquidity (sufficient financial resources to conclude contracts on the sale and purchase of securities, given the existence of obligations under previously concluded securities contracts and other financial transactions, including lending, and attracting deposits),

• compliance with regulatory (licensing and prudential) standards,

• fulfillment of clients' orders for purchase and sale of securities,

• the trading situation (the presence, on one or the other stock exchange or outside the stock exchanges, of supply and demand for specific securities on whose purchase/sale the decision has been taken).

After the final adoption and approval of decisions on the possibility of buying and selling specific securities on the stock exchange, the availability of assets for the conclusion of a transaction or a series of transactions is ensured: the required amount of funds is reserved in the JSC "Settlement Center" and securities in the depository system (for each settlement at the specific exchange).

On the basis of information from JSC "Settlement Center" about the reserved assets, the stock exchange forms and displays, in the securities trader's terminal, the limits within which the exchange contracts can be concluded.

An exchange member applies for trading on the exchange. In case of interest from other traders (counter-order on similar terms) and compliance of the orders with the exchange's requirements, a contract is concluded, which is subject to execution of the current day or another date in accordance with the submitted bids.

Settlements are provided through automated exchange of regulatory information between the stock exchange, JSC "Settlement Center", the relevant depository and depository institutions serving the seller and buyer.

Thus, bidding and order execution are the result of careful analysis and investment decisions, rather complicated procedures of standardized information exchange and control with the participation of numerous participants of market infrastructure.

Stock exchange control procedures

In view of the growing requirements of the NSSMC regulations (primarily on the functioning of stock exchanges and financial monitoring), the stock exchanges must carefully control all securities traders (exchange members and the issuers of securities admitted to trading). All information about their credentials, their changes, and regulatory compliance requires daily updating. Otherwise, a securities trader with a suspended license may participate in the trading or a contract will be concluded with financial instruments whose circulation on the specific stock market is suspended. But even if this does not happen, the regulator may find the data inaccurate (irrelevant), since the details of the admission to trading of the exchange members and securities are a constituent part of the reporting (administrative data) and are to be made publicly available on the stock exchange website, while the accounting of the concluded agreements is to be carried out on *a daily basis*.

Already *at the stage of logging in to the terminal*, the electronic trading system of the exchange performs a multi-parameter checking and can deny access to trading for those exchange members whose securities trader's licenses are suspended, temporary administration is introduced, credentials or other important identification data are not timely changed, power of attorney of the authorized representative or the certificate on the right of professional activity in the securities market has become void, the validity of the electronic signature certificate has expired, terminated servicing on the part of clearing and settlement units, or not formulated or terminated access to particular segments of stock trading.

At the stage of submission of each order, the exchange's electronic trading system also performs checks on many parameters and can automatically reject the or-

der in case of: insufficient the reserved assets (funds or securities), inconsistency of the order's price with numerous restrictions (these can be spreads, limits of marginal deviations, starting price limit, or price step), inconsistency of the order's volume with the established auction lot, incompleteness of the order's requisite composition, attempts to conclude a contract between two different securities traders in the interests of the same client and more.

Moreover, the stock exchange *in situations of price volatility*, which are defined in Clause 13 of Section I of the Regulation on the Functioning of the Stock Exchanges, may (in some cases - must) suspend for an hour or completely stop this day's trading in an individual security or similar securities (or issuers of similar and related sectors).

All circumstances are also checked: whether excessive price fluctuations have occurred for *objective reasons* (such as corporate events, payments of earnings or face value of securities, insufficient relevance of the closing price, change in the official exchange rate for securities denominated in foreign currency), or *whether there are signs of manipulation on the stock exchange*.

At the same time, *signs of manipulation can also be identified in situations where prices do not change significantly and situations of price volatility do not arise*.

The stock exchange (like other participants of Ukraine's stock market) is in a situation of legal uncertainty regarding the criteria of manipulation, lack of adequate methodological support and, as a consequence, contradictory enforcement of the NSSMC's and legal proceedings. In such circumstances, formalizing and algorithmizing the automatic detection (with the use of electronic trading system) of transactions that may indicate manipulation is, in practice, a utopian task.

Conclusions

Analysis of the nature of the emergence and manifestations of structural and functional distortions on Ukraine's stock market gives reason to conclude about:

1) the lack of interest of issuers in raising capital and setting relevant price for the securities issued by them:

• for the whole period of the existence of Ukraine's domestic stock market, no case of raising capital through a public offering of securities is known;

• state policy on the regulation of JSC has distorted the market essence of public companies;

2) objective reasons for the continuing underdevelopment and unattractiveness of the national capital market:

• the oligarchic nature of a semi-commodity specialization economy, in fact, preserves the current condition of the market with its key shortcomings (illiquidity, limited instruments, and inability to produce relevant prices);

• instruments with high investment characteristics are virtually absent on the market (the only exception is government bonds, which dominate the national market in terms of volume of exchange trades and share in the assets of the most significant financial institutions);

3) inadequate regulatory practices:

• the system of regulation of Ukraine's stock market does not correspond to its real condition, the regulation is essentially imitated; concepts are replaced and used pro forma, in particular, in the absence of public issues, despite European practice, regulation is actually solely performed regarding the non-public companies (issuers who have made a private offer);

• the primary purpose of the regulator is to increase its own powers and funding, which it tries to justify by the active initiation of market abuse (manipulation) cases;

4) illiquidity, lack of relevant and reliable price benchmarks:

• due to low liquidity, most securities admitted to stock exchange trading do not actually have an active market, there are no contracts on them for a considerable period of time, and the stock price benchmarks are either absent or out of date;

• the specificity of pricing regulation on Ukrainian stock exchanges does not properly consider the low liquidity and pricing features (in particular, on deferred repurchase contracts, REPOs, and with securities denominated in foreign currency) and discourages traders from concluding contracts both in the most competitive conditions (anonymous mode) and with other trading technologies;

• the underlying stock market segment (equities market) produces unreliable prices and benchmarks (indexes, capitalization, multipliers). At the same time, for government bonds, there are benchmarks that simplify the estimation of the fair value;

• in the absence of relevant and reliable stock market benchmarks and the regulator's biased criteria of manipulation, defining separate abuse cases against the background of total market illiquidity seems rather dubious.

The above set of facts leads to the conclusion that the long-standing national experiment on creating a stock market through privatization and legislative compulsion of companies to exist in the organizational form of JSC and to ensure publicity (despite the fact that the issuers did not see any sense in this), ended, as expected, unsuccessfully. The prolonged distortion of relevant market practices too resulted in a profane in the form of a genuine Ukrainian interpretation of the squeeze-out procedure.

Due to a number of objective (socio-economic) and subjective (distorted regulation) reasons, Ukraine's stock market lacks proper conditions and opportunities to form fair prices for the overwhelming number of financial instruments (except for government bonds). That is, any stock prices, including those for securities used to calculate stock exchange indices, are artificial from their origin, and so-called "real" prices are simply absent on the market. This is exactly the reason for the tremendous annual growth of Ukrainian stock indices.

From a formal point of view, we can assume that any pricing on the Ukrainian stock market is a manipulation. But this would be a misuse of concept, since the economic nature of manipulation is to artificially distort the relevant prices. However, relevant prices can only be formed under conditions of several orders of mag-

nitude higher liquidity, competitiveness, adequate regulation and only with the instruments of public companies interested in the existence of such relevant prices. At the same time, the existing exchange and settlement infrastructure is technologically fully capable of sustaining liquidity growth (in terms of the number and volume of transactions, the number of financial instruments, traders and their clients) by several orders of magnitude, that is, up to the levels that correspond to a market, which would be able to determine the fair prices of financial instruments much more effectively and counteract abuse.

References

1. World Federation of Exchanges. Reports. Retrieved from https://www.world-exchanges.org
2. Changing the legislation on ICI: slow down (2016, June 15). *Stock World*. Retrieved from https://www.stockworld.com.ua/ru/news/izmienieniie-zakonodatielstva-ob-isi-spieshit-miedlienno [in Russian].
3. Korol, Viacheslav. (2017, July 25). Listing in Ukrainian: beat yours so that people are afraid. *Ekonomichna pravda – Economic truth*. Retrieved from https:// www.epravda.com.ua/columns/2017/07/25/627444/ [in Ukrainian].
4. Annual report of the National Commission on Securities and Stock Market for 2017. Retrieved from https://www.nssmc.gov.ua/documents/rtchniy-zvt-nktspfr-za-2017-rk/ [in Ukrainian].
5. Annual report of the National Depository of Ukraine for 2017. Retrieved from https://csd.ua/images/stories/pdf/CSD_report2017.pdf [in Ukrainian].
6. Involvement of the population in the investment process (2017, April 24). *BCS Express*. Retrieved from https://bcs-express.ru/novosti-i-analitika/vovlechennost-naseleniia-mira-v-investitsionnyi-protsess [in Russian].
7. UX Review (2017). No. 27. Retrieved from http://fs.ux.ua/f/2325/27-ux-review-done.pdf [in Russian].
8. Analytical review of the asset management market for 2017. Ukrainian Association of Investment Business. Retrieved from http://www.uaib.com.ua/analituaib/ publ_ici_quart/266015.html [in Ukrainian].
9. Results of the development of the system of non-state pension provision as of December 31, 2017. National Commission, which carries out state regulation in the field of financial services markets. Retrieved from https://www.nfp.gov.ua/files/ 17_Dep_Repetska/NPF_IV_kv%202017.pdf [in Ukrainian].
10. Bonded domestic government loans in circulation, for the sum of principal debt. National Bank of Ukraine. Retrieved from https://bank.gov.ua/files/T-bills_ debt.xls [in Ukrainian].
11. World Economic Outlook Database. Retrieved from https://www.imf.org/ external/pubs/ft/weo/2018/01/weodata/weoselgr.aspx
12. Investment Company Fact Book. A Review of Trends and Activities in the Investment Company Industry (2018, May). Investment Company Institute. Retrieved from https://www.ici.org/pdf/2018_factbook.pdf

13. Global pension assets study (2018, February). Willis Towers Watson, Thinking Ahead Institute. Retrieved from https://www.willistowerswatson.com/-/media/WTW/Images/Press/2018/01/Global-Pension-Asset-Study-2018-Japan.pdf
14. Sovereign Wealth Fund Renkings (2018, August). Sovereign Wealth Fund Institute. Retrieved from https://www.swfinstitute.org/sovereign-wealth-fund-rankings/
15. Securities in the portfolio of deposit-taking corporations. National Bank of Ukraine. Retrieved from https://bank.gov.ua/files/3.4-Securities_assets.xls [in Ukrainian].
16. Report on financial structures (2017, October). European Central Bank. Retrieved from https://www.ecb.europa.eu/pub/pdf/other/reportonfinancialstructures201710.en.pdf
17. Information note (2018, May16). Guarantee Fund for Individuals Deposits. Retrieved from http://www.fg.gov.ua/about/prezentatsiji-fondu/37420-70protsenttsinnykh-paperiv-shcho-oblikovuiutsia-na-balansi-neplatospromozhnykh-bankiv-smittievi-i-vykorystovuvalys-dlia-vyvedennia-likvidnykh-aktyviv [in Ukrainian].
18. Results of the activity of insurance companies for 2017. National Commission, which carries out state regulation in the field of financial services markets. Retrieved from https://www.nfp.gov.ua/files/OgliadRinkiv/SK/2017_rik/sk_%202017.pdf [in Ukrainian].
19. OECD (2017). Institutional Investors Statistics. doi: https://doi.org/10.1787/instinv-2017-2-en
20. OECD (2018). Pension Markets in Focus. Retrieved from http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2018.pdf
21. Tkach, Oleksandr (2017, September 22). Retirement lessons for Ukraine. Polish experience. *Dzerkalo tyzhnia. Ukraina – Mirror of the week. Ukraine.* Retrieved from https://dt.ua/macrolevel/pensiyni-uroki-dlya-ukrayini-polskiy-dosvid-254926_.html [in Ukrainian].
22. Ovcharenko, Hryhorij 2018, October 30). The absence of a stock market in Ukraine is a 'plus' for pension reform. Ministry of Finance of Ukraine. Retrieved from https://minfin.com.ua/ua/2018/10/30/35392383/ [in Ukrainian].
23. Honcharov, Oleksandr (2019, March 18). Old rules in the economy do not work, no new ones. And one could learn in Poland. *112.ua*. Retrieved from https://ua.112.ua/mnenie/stari-pravyla-v-ekonomitsi-ne-pratsiuiut-novykh-poky-nemaie-amozhna-bulo-b-povchytysia-u-polshchi-484354.html [in Ukrainian].
24. Government Pension Fund Global (2019, February). Norges bank. Retrieved from https://www.nbim.no/contentassets/02bfbbef416f4014b043e74b8405fa97/annual-report-2018-government-pension-fund-global.pdf
25. Number of legal entities by organizational forms. State Statistics Service of Ukraine. Retrieved from http://www.ukrstat.gov.ua/edrpoy/ukr/EDRPU_2018/ks_opfg/ks_opfg_0118.htm [in Ukrainian].
26. Indicators of the banking system. National Bank of Ukraine. Retrieved from https://bank.gov.ua/control/uk/publish/article?art_id=34661442 [in Ukrainian].

27. Wyman, Oliver. (2015, September). Regional Central Counterparty: a solution for Central and Easter Europe. European Bank for Reconstruction and Development. Retrieved from https://www.ebrd.com/documents/comms-and-bis/regional-central-counterparty.pdf
28. Khromaiev, Tymur (2018, December 26). Many cry 'treason' and 'shame' on Facebook, but they can not prove their own right. *Financial Club*. Retrieved from https://finclub.net/ua/analytics/tymur-khromaiev-bahato-khto-krychyt-zrada-i-hanba-u-feisbutsi-ale-dovodyty-vlasnu-pravotu-ne-vmiiut.html [in Ukrainian].
29. MSCI Global Market Accessibility Review (2018, June). Retrieved from https://www.msci.com/documents/1296102/1330218/MSCI_Global_Market_Accessibility_Review_June_2018_%28FINAL%29.pdf/04dd3b70-487a-8395-912c-89a202b5b4fa
30. Market capitalization of listed domestic companies (current US$). Stock market capitalization to GDP. World Bank, Development Research Group. Retrieved from https://data.worldbank.org/indicator/CM.MKT.LCAP.CD, https://databank.worldbank.org/reports.aspx?source=1250&series=GFDD.DM.01
31. The volumes of bonds trading in Ukraine are comparable to European ones (2018, February 06). *FinPost*. Retrieved from https://finpost.com.ua/news/6975 [in Ukrainian].
32. Shyshkov, S.Ye. (2019). Oligarchism as a factor in the institutional deformation of the stock market in Ukraine. *Ukr. Socìum – Ukrainian society*, 2(69), 84-96. doi: https://doi.org/10.15407/socium2019.02.084 [in Ukrainian].

Received 15.05.19

Шишков, Станіслав Євгенійович
канд. екон. наук
директор ПрАТ "Фондова біржа "Перспектива""
вул. Воскресенська, 30, Дніпро, 49000
s.shishkov@fbp.com.ua

СТРУКТУРНО-ФУНКЦІОНАЛЬНІ ДЕФОРМАЦІЇ ФОНДОВОГО РИНКУ В УКРАЇНІ: МАКРО- І МІКРОВИМІРИ

Висвітлено фактори класифікації емітентів та їх цінних паперів (форми обігу та допуску до торгів, лістингу, публічності, виду пропозиції, ліквідності, об'єктивності ціноутворення) в контексті визначення причин обмеженості інструментарію на регульованому ринку України та ознак його непривабливості для емітентів та інвесторів. Визначено особливості формування та структури інвестиційних портфелів фінансових інститутів та інших інвесторів (порівняно з міжнародними чинниками) та складнощі оцінки й диверсифікації активів. Виявлено, що різке скорочення кола емітентів та фінансових посередників (через мінливе законодавство, підвищення регуляторних вимог та

суперечливе правозастосування) призвело до скорочення ліквідності, зменшення конкуренції, зростання трансакційних витрат та не сприяло розвитку ринку, його інфраструктури, об'єктивності ціноутворення. Акцентовано увагу на умовності ринкових бенчмарків (біржових індексів акцій, сукупної капіталізації) в Україні через обмеженість фінансового інструментарію, відсутність публічних компаній, мізерну ліквідність, високу волатильність та штучність цінових орієнтирів. Визначено ознаки неліквідності регульованого фондового ринку України порівняно зі світовими торговельними майданчиками (насамперед щодо акцій), а також причини нерегулярності торгів, переважно адресний характер укладення угод, відсутність активного ринку та дійсних цін (зокрема через незадовільне регулювання біржового ціноутворення). Проте варто підкреслити значну роль державних облігацій, які відрізняються від інших цінних паперів в Україні підвищеною ліквідністю, значним попитом інвесторів, більшою прогнозованістю та адекватністю цін, що є достатньо очікуваним чинником для нерозвиненого фондового ринку. З'ясовано особливості та проблеми ціноутворення на нерозвиненому фондовому ринку, що значно ускладнюють завдання протидії зловживанням ринку, зокрема через тотальну неліквідність, відсутність чи суперечливість у імплементації міжнародної практики, суб'єктивність існуючих регуляторних критеріїв щодо виявлення маніпулювання.

Ключові слова: *фондовий ринок, фондова біржа, обсяг торгів, цінні папери, ціноутворення, маніпулювання, зловживання ринком, публічна компанія, публічна пропозиція, лістинг, squeeze-out*

Шишков, Станислав Евгеньевич
канд. экон. наук
директор ЧАО ""Фондовая биржа "Перспектива""
ул. Воскресенская, 30, Днепр, 49000
s.shishkov@fbp.com.ua

СТРУКТУРНО-ФУНКЦИОНАЛЬНЫЕ ДЕФОРМАЦИИ ФОНДОВОГО РЫНКА В УКРАИНЕ: МАКРО- И МИКРОИЗМЕРЕНИЕ

Выявлены факторы классификации эмитентов и их ценных бумаг (формы обращения и допуска к торгам, листинга, публичности, вида предложения, ликвидности, объективности ценообразования) в контексте определения причин ограниченности инструментария на регулируемом рынке Украины и признаков его непривлекательности для эмитентов и инвесторов. Определены особенности формирования и структуры инвестиционных портфелей финансовых институтов и других инвесторов (в сравнении с международными факторами) и сложности оценки и диверсификации активов. Выявлено, что резкое

сокращение круга эмитентов и финансовых посредников (из-за меняющегося законодательства, повышения нормативных требований и противоречивого правоприменения) привело к сокращению ликвидности, уменьшению конкуренции, росту трансакционных издержек, но не способствовало развитию рынка, его инфраструктуры, объективности ценообразования. Акцентировано внимание на условности рыночных бенчмарков (биржевых индексов акций, совокупной капитализации) в Украине из-за ограниченности финансового инструментария, отсутствия публичных компаний, мизерной ликвидности, высокой волатильности и искусственности ценовых ориентиров. Определены признаки неликвидности регулируемого фондового рынка Украины в сравнении с мировыми торговыми площадками (прежде всего, по акциям), а также причины нерегулярности торгов, преимущественно адресный характер заключения сделок, отсутствие активного рынка и реальных цен (в частности, из-за неудовлетворительного регулирования биржевого ценообразования). Однако следует подчеркнуть значительную роль государственных облигаций, которые отличаются от других ценных бумаг в Украине повышенной ликвидностью, значительным спросом инвесторов, большей прогнозируемостью и адекватностью цен, что является достаточно ожидаемым фактором для неразвитого фондового рынка. Выявлены особенности и проблемы ценообразования на неразвитом фондовом рынке, которые значительно усложняют задачу противодействия злоупотреблениям рынка, в частности из-за тотальной неликвидности, отсутствия или противоречивости в имплементации международной практики, субъективности существующих регуляторных критериев относительно выявления манипулирования.

Ключевые слова: *фондовый рынок, фондовая биржа, объем торгов, ценные бумаги, ценообразование, манипулирование, злоупотребление рынком, публичная компания, публичное предложение, листинг, squeeze-out*