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## POTENTIAL OF INSTITUTIONAL INVESTORS AND STOCK MARKET DEVELOPMENT AS AN ALTERNATIVE TO HOUSEHOLDS' SAVINGS ALLOCATION IN BANKS

**Abstract.** In the article, the main alternatives to allocation of savings of households outside the banking system of Ukraine have been investigated. The main emphasis is made on the institutional investors and the potential growth of their assets, subject to the overflow of household savings from the banking system, as well as contributions of the individuals' income. Evidence shows multiple assets growths of mutual funds, private pension funds, and life insurance companies.

The authors have formulated a list of factors that will contribute to such an overflow of funds. Among them are the following: the overall level of economic stability in the country, the level of individuals' income, their willingness to make long-term investments, dissemination of public information about the scope and methods of savings allocation.

Given the fact that a substantial portion of institutional investors' assets is traditionally invested in capital market instruments, the importance of further development of such financial intermediaries is emphasized in this paper. The authors have proposed a linear multiple regression model which shows a direct dependence of the Ukrainian stock market trading volume from changes in GDP and gross public debt, as well as an inverse dependence from changes in the consumer price index, gross savings, and deposit rates.

**Keywords:** bank; deposit; stock market; institutional investors; mutual funds; private pension funds; life insurance companies; GDP.

**JEL Classification:** C25, G10, G20

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### **ПОТЕНЦІАЛ РОЗВИТКУ ІНСТИТУЦІЙНИХ ІНВЕТОРІВ І ФОНДОВОГО РИНКУ ЯК АЛЬТЕРНАТИВА РОЗМІЩЕННЮ ГРОШОВИХ ЗАОЩАДЖЕНЬ НАСЕЛЕННЯ В БАНКІВСЬКИХ УСТАНОВАХ**

**Анотація.** У статті розглянуто основні альтернативи розміщення коштів населення поза банківською системою України. Показано потенційні обсяги зростання активів небанківських фінансових установ за рахунок коштів фізичних осіб. Акцентовано увагу на важливості розвитку фондового ринку для активізації роботи інституційних інвесторів. Авторами запропоновано лінійну модель множинної регресії, яка показує залежність обсягу торгів на фондовому ринку України від змін у ВВП, індексу споживчих цін, валових заощаджень, депозитних ставок, валового державного боргу.

**Ключові слова:** банк; депозит; фондовий ринок; інституційні інвестори; інвестиційні фонди; недержавні пенсійні фонди; страхові компанії, що здійснюють страхування життя; ВВП.

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### **ПОТЕНЦИАЛ РАЗВИТИЯ ИНСТИТУЦИОНАЛЬНЫХ ИНВЕТОРОВ И ФОНДОВОГО РЫНКА КАК АЛЬТЕРНАТИВА РАЗМЕЩЕНИЮ ДЕНЕЖНЫХ СБЕРЕЖЕНИЙ НАСЕЛЕНИЯ В БАНКОВСКИХ УЧРЕЖДЕНИЯХ**

**Аннотация.** В статье рассмотрены основные альтернативы размещения денежных средств населения вне банковской системы Украины. Показаны потенциальные объемы роста активов небанковских финансовых учреждений за счет

средств физических лиц. Акцентировано внимание на важности развития фондового рынка для активизации работы институциональных инвесторов. Авторами предложена линейная модель множественной регрессии, которая показывает зависимость объема торгов на фондовом рынке Украины от изменений ВВП, индекса потребительских цен, валовых сбережений, депозитных ставок, валового государственного долга.

**Ключевые слова:** банк; депозит; фондовый рынок; институциональные инвесторы; инвестиционные фонды; негосударственные пенсионные фонды; страховые компании, которые занимаются страхованием жизни; ВВП.

**Introduction.** Ukraine as a state requires a significant amount of financial resources, but much of it has to be attracted from foreign donors (IMF, EBRD, Eurobonds, Government bonds with the funds of non-residents, etc.). At the same time, the state has its own potential investor – the population, which instead regularly removes money from the financial system of Ukraine.

Due to the absence of a law on transfer pricing, big business declares either losses or minimal profits. All indications are that the government is an inefficient owner. In the financial system, only banks offer an alternative to funds depreciation, but recently they also have had some problems, because the system continues to stagnate against the background of increasing nonpayment of borrowers' debts. The situation is aggravated by significant outflow of funds from deposit accounts of individuals. Financial resources, derived from the banking system, although partially go to current consumption, in the mass are not included in the economic circulation.

The problems of some financial market players could be used by other financial institutions to raise funds for their own free circulation. Individuals should think about alternative areas of funds investment to cover the negative effects of inflation and devaluation of the national currency against foreign currencies (which was at list 100% in 2014).

**Brief Literature Review.** Institutional development of the financial sector was considered by many scholars. In particular, we should note the research of E. Davis (2001) [1], who revealed the role of institutional investors in the financial market. Domestic scholars Z. Vatamanyuk, T. Kushnir [2], S. Naumenkova, S. Mishchenko [3] paid much attention to these financial intermediaries, based on their specific activities in Ukrainian realities.

Individual attention should be paid to foreign researchers who have examined the relationship between the development of financial institutions and the stock market, namely to the works of M. Papaioannou (2013) [4], N. Naghavi (2014) [5], R. Ayadi (2013) [6] and others. The possibility of earning profits in Ukrainian stock market was justified by G. M. Carporale and others (2014) [7].

Despite considerable scientific interest in the problems of institutional development of financial sector, usually the subjects only indirectly deal with the dependence of these processes from the activity of households as major suppliers of financial resources. It is their decisions that affect the amounts of money which ultimately appear in financial intermediaries. Under modern conditions of financial instability in Ukraine, these solutions are particularly relevant and require a separate investigation.

**Purpose** of this paper is to study the potential of population deposits outside the banking system, considering the factors that hinder this process and the importance of the stock market development for the revitalization of institutional investors.

**Results.** Nowadays, banking system of Ukraine is struggling with a significant outflow of deposits. According to the National Bank of Ukraine, the main group of deposits for 1-2 years suffered the greatest losses (Figure).

Thus, the search for allocation alternatives of individual financial resources has become an increasingly important problem. Let us consider the options. They can be divided into those requiring active individuals' participation in cash management, and those in which management will be provided by a specialized financial institution. Bank deposits belong to the latter group.

We believe that it is possible to save and diversify the areas of financial resources investment by using stock market instruments. It is clear that operations in this market belong to risky activities, as there is a probability of errors relative to the direction of price changes of securities. But an individual can act both independently buying financial instruments through an authorized broker or online trading, and can transfer the funds to the management, investing in the securities of one of the institutions of collective investment. The latter offer for sale their own instruments whose value is linked to a certain portfolio of assets. This portfolio may include various types of securities (stocks, corporate and government bonds, bills, municipal bonds, savings certificates), precious metals, real estate, bank deposits and other assets.

Unfortunately, collective investment institutions (CII), as well as other institutional investors – insurance companies and private pension funds, are not so well developed and well-known to attract the attention of a large number of individuals. Sheer ignorance about alternative directions of investment funds is the most important reason of the limited citizens' participation in the institutional investors' assets. If only a small proportion of financial resources available to the households could be directed to the sphere of institutional investors, the overall effect of this would be enormous. This hypothesis can be confirmed by relevant statistical data.

If we reallocate the funds share of households located on the bank accounts in the form of term deposits, and compare it with the amount of CII assets (except venture capital, as the part of an individual in venture capital must not be less than the equivalent of 1500 minimum monthly wages) in different years, we can see that the potential for growth is significant (Table 1). Even 3% of the deposits completely cover the amount of CII assets in 2005-2008, and 5% – in 2009-2013.

If we take into account the fact that the average share of individuals in the CII assets (other than venture capital) does not exceed 25% (at the end of 2013), even 1% of term deposits increases this proportion in two times. It means that adequate measures which would increase the interest of individuals in collective investment institutions could significantly change the situation in this segment of financial market. About 60% of all CII assets (except venture capital) are placed in securities, so the stock market will get most of them.

Significant effect can be achieved if the subject to distribution is not the savings of population but the share of income from wages. In this case, the resource base increases several times. The savings are accumulated over a long period, while

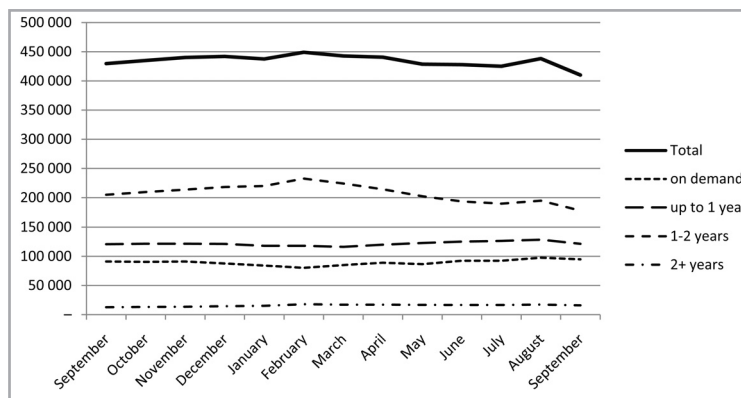


Figure: Dynamics of deposits from households in the monthly section (2013-2014), million UAH

Source: The National Bank of Ukraine [8]

Tab. 1: The potential resource base of CII with reallocation of the share of term deposits of households, million UAH

Year	The amount of term deposits of households	CII assets of various types (except venture capital)			The share of term deposits				
		open	interval	closed	3%	5%	7%	10%	
2005	56 118	28	33	388	1684	2806	3928	5612	
2006	82 920	62	38	1274	2488	4146	5804	8292	
2007	127 115	572	295	3293	3813	6356	8898	12712	
2008	177 282	593	185	3786	5318	8864	12410	17728	
2009	156 833	241	256	6016	4705	7842	10978	15683	
2010	208 929	286	253	8352	6268	10446	14625	20893	
2011	239 470	231	186	9472	7184	11973	16763	23947	
2012	292 111	163	164	11365	8763	14606	20448	29211	
2013	354 231	104	127	9109	10627	17712	24796	35423	

Source: Own calculations based at [8, 9, 10]

the wages come with regular intervals, so this resource is even better (Table 2). The main directions of such funds are contributions to retirement accounts of individuals and insurance payments under contracts of life insurance.

Even 1% of such payments almost 4 times (and in some years even more) exceeds the assets of private pension fund (PPF), which is presented on an accrual basis. That is, annual increase is made in much smaller amounts. An additional aspect is that the independent participation of individuals is not more than 5% of the total contributions, and 95% of payments are carried out by legal entities – the employers. Moreover, half of all the assets of private pension system accounts for only one fund – a corporate PPF of the National Bank of Ukraine.

The structure of premiums of life insurers by revenue sources includes more than 15% of payments from legal entities, thus reducing the overall burden on households, and 1% of household income exceeds the amount of premiums of the above mentioned insurers more than 3 times.

Thus, even a slight increase of individuals' participation in the private pension system and the life insurance will lead to a significant inflow of funds directly to PPF and insurers and, through them, to the stock market, as more than half of all the assets of these institutional investors are placed in different types of securities.

Despite the significant potential for development and the fact that increasing of the amount of resource base of institutional investors has taken place at a significant rate, the sum of assets compared with the banking system remains far behind. We suppose that the reason for this situation is a complex of factors, including the following:

- relatively high and unpredictable inflation, which significantly reduces the real value of invested funds;
- instability of income on investment, possibility of loss (the average annual yield of CII for the last 5 years was negative three times), while the interest rates on bank deposits during periods of instability only increase, being more suitable alternative for the placement of available funds;
- lack of effective guarantees of money savings such as Individuals' Deposit Guarantee Fund for the banking system, which can be justified in the case of CII (taking into account their risky nature), but obviously not enough for the development of PPF and life insurance;
- unwillingness of the vast majority of population to make long-term investments because of high costs of current consumption, and absence of examples of long periods of sustained economic growth in the economic history of Ukraine;
- insufficient knowledge of the population concerning alternative areas and ways of free funds allocation;
- lack of liquidity in the stock market with a limited choice of financial instruments for investing raised funds and low trading volumes lead to significant fluctu-

ations in exchange rates of securities, creating an element of instability with a significant inflow of funds into the market;

– development and organization of the stock market do not create general principles for its attractiveness as a sphere of investment and capital raising.

Thus, Ukraine has quite a wide range of alternatives for the placement of available funds. They are not perfect and, from our point of view, their attractiveness depends on the overall macroeconomic stability. In addition, financial institutions which

do not belong to the banking system use the stock market instruments as areas involved in the placement of funds that is why the development of the stock market is a high priority when forming an alternative to bank deposits.

In order to assess the prospects for the stock market, it is necessary to carry out a modeling of the dependence of its development on various factors. For this purpose, we apply a linear multiple regression model. Naturally, it is impossible to consider absolutely all the parameters. Some indicators will have a significant effect, while others can appear localized or under certain or specific conditions. Therefore, the following requirements can be formulated to such indicators. On one hand, they must have the necessary breadth of influence. On the other hand, it should be noted that the stock market in terms of resources in circulation is an alternative to markets of non-fund financial instruments. Hence the attractiveness of these instruments will affect the stock market shortfall of the resources which are diverted by these alternative directions.

In this study, it would be appropriate to pay attention to the dependence of trading volume on the stock market (as an indicator of the stock market development) from such parameters as gross domestic product, consumer price index, gross savings, interest rate on deposits, and gross public debt (Table 3).

To make the regression equation, we use the function for data analysis MS Excel «Regression». Among the options of analysis, we have chosen the results reliability at the level of 95%, but to get rid of the constant  $a$ , we have made an equation for its zero level. Final estimations are presented in Table 4.

As it can be seen from Table 4, the GDP growth and the share of gross domestic debt in GDP have a positive effect on the trading volume on the stock market of Ukraine, and increase in the consumer price index, gross savings and interest rates on deposits have a negative impact on it. The low values of standard errors for all the independent variables made it possible to obtain the values of t-statistics that exceed the critical level for a given number of degrees of freedom. It is confirmed by obtaining p-values that do not exceed the level of 0.05. It should be added that the value of  $R^2$  is 0.975, and F-statistics – 79.567, which again demonstrates the reliability of the results.

Tab. 2: The potential resource base of PPF and life insurers, with reallocation of the share of households' wages income, million UAH

Year	The amount of wages of households	The amount of PPF assets	Gross premiums for life insurance	The share of household wages				
				1%	2%	3%	4%	5%
2005	160621	46	321	1606	3212	4819	6425	8031
2006	205120	137	451	2051	4102	6154	8205	10256
2007	278968	281	784	2790	5579	8369	11159	13948
2008	366387	612	1096	3664	7328	10992	14655	18319
2009	365300	858	827	3653	7306	10959	14612	18265
2010	449553	1144	907	4496	8991	13487	17982	22478
2011	529133	1387	1346	5291	10583	15874	21165	26457
2012	593213	1660	1810	5932	11864	17796	23729	29661
2013	633737	2090	2477	6337	12675	19012	25349	31687

Source: Own calculations [9, 10, 11, 12]

Tab. 3: The original data for making a linear multiple regression model for the trading volume on the stock market of Ukraine

Year	Trading volume on the stock market, billion UAH	GDP, billion USD	Consumer price index, %	Gross savings, % of GDP	The interest rate on deposits, %	Gross public debt, % of GDP
	$y$	$x_1$	$x_2$	$x_3$	$x_4$	$x_5$
1998	10.46	41.88	10.58	18.39	22.25	48.1
1999	16.79	31.58	22.68	22.45	20.70	61.0
2000	39.22	31.26	28.20	24.36	13.72	45.3
2001	68.48	38.01	11.96	25.47	10.99	36.5
2002	108.61	42.39	0.76	27.63	7.93	33.5
2003	202.96	50.13	5.18	27.74	6.98	29.0
2004	321.30	64.88	9.05	31.39	7.80	24.7
2005	403.77	86.14	13.57	25.58	8.57	17.7
2006	492.78	107.75	9.06	23.26	7.57	14.8
2007	754.31	142.72	12.84	22.13	8.12	12.3
2008	883.42	179.99	25.23	20.83	9.95	20.0
2009	1067.26	117.23	15.89	15.57	13.76	34.8
2010	1537.79	136.42	9.38	17.45	10.56	39.9
2011	2147.54	163.42	7.96	14.43	7.90	36.3
2012	2530.87	176.31	0.56	9.27	12.96	36.6

Source: [10, 11, 13]

Tab. 4: Final statistics of the linear multiple regression model results for the trading volume on the stock market of Ukraine

Independent variables	Coefficients	The standard error	t-statistics	p-value
$x_1$	11.95	0.7665	15.5954	0.0000
$x_2$	-19.92	7.4514	-2.6730	0.0234
$x_3$	-27.29	5.4758	-4.9846	0.0005
$x_4$	-54.02	19.4590	-2.7760	0.0196
$x_5$	31.39	6.4735	4.8488	0.0007

Source: Own research

Thus, on the basis of the calculations and taking into account their compliance with generally accepted criteria of significance, we can make the final regression equation which relates the change in the trading volume on the stock market with selected factors: GDP, consumer price index, gross savings, interest rates for deposits, and gross public debt:

$$y = 11.95 x_1 - 19.92 x_2 - 27.29 x_3 - 54.02 x_4 + 31.39 x_5$$

As we can see, GDP and gross public debt have positive influence on the trading volume on the stock market, while consumer price index, gross savings, and interest rates for deposits – all have negative influence.

**Conclusions.** Summing up the results of the study, it can be argued that Ukraine has the potential of increasing role of institutional investors (mutual funds, private pension funds, life insurance companies, etc.) as alternative savings institutions. The success of their activity will depend on the overall economic stability of the country, raising of individual income, spread of information on the trends and ways of money investment among the population and their willingness to make long-term investments. Another key to success, in our opinion, is an active development of the stock market, which forms the supply of financial instruments for investment.

Institutional investors still place the raised funds in stock market instruments. But the amount of assets at the disposal of these financial intermediaries is not sufficient to achieve qualitative changes in the development of the stock market. For this reason it is important to reallocate household funds in favor of such financial institutions. The degree of development of Ukrainian stock market, as it has been shown in the paper, is determined by the dynamics of selected economic indicators, among which the most important are GDP, consumer

price index, gross savings, deposit interest rates, and gross public debt.

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