A NECESSITY FOR FORMING THE INVESTMENT PORTFOLIO OF HOUSEHOLDS [1, 2]

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Abstract: In the article, micro- and macroeconomic prerequisites for the formation of the investment portfolio of households have investigated.

Microeconomic pre-conditions are conditioned by a circumstance that the forms of riches of households in the process of its life are different. If the financial and material form of riches must have a tendency to the increase, then a human form (ability to work) has a tendency to falling. Necessary course of action, when in spite of the gradual decline of ability to work, the level of financial form of riches of households will grow. Savings in the period of labor activity of households have been the source of such development only. As the influence on savings level is the level of interest rate and set of tools are presented at the financial market of the country.

Macroeconomic pre-conditions are conditioned by equalization that shows an important fact, that for an economy, on the whole, the savings of subjects of financial relations are always equal to the investments. Interest rate as an instrument of financial market counterbalances suggestion and demand of free resources "uniting" macroeconomic and microeconomic aspect of the necessity of investment portfolio of households. The needs to improve the financial literacy of households Ukraine have considered.

The study proves the relationship between the level of interest rates and incentives to saving of population. Namely, the higher the interest rate, the less incentive to save should be, and vice versa - a low-interest rate should stimulate the savings of domestic households. In this context, the need to raise the level of financial literacy of the population of Ukraine has considered.

Keywords: development, household, finance of households, the investment portfolio of households, welfare of households.

[1] This article is a continuation of an earlier research that was published in another language [1].
[2] The author's translation of articles. The editors of the Scientific Journal "Socio-Economic Problems and the State" are not responsible for the author's translation of articles.

1. Formulation of the problem.

An empirical experience shows that the welfare of households in Ukraine is worsening in the retirement and pre-retirement periods due to the fact that the main (single) form of income in the period of their labor activity is a wage, replaced by another - the main (single) from - the social pension payment.

Taking into account the current rules for the appointment of state pensions in the solidarity system, namely, the size of the future pension is defined as the share of wages; the financial situation of the vast majority of households in these periods is significantly deteriorating. In such conditions, the search for alternative sources of household income during the period of their work activity and the use of this income in pre-retirement or retirement periods is actual. A theory of household finances determines savings as a source of their additional income. However, statistics on a household income in Ukraine show that the share of savings in their structure does not exceed 8 % [2]. *The aim* of the article is to justify the necessity of forming an investment portfolio of a household from the point of view of interest in it, both by households (micro-level) and by the state (macro-level).

2. Analysis of recent research and publications.

The problem of household finances in general and the balance of financial resources of this subject, in particular, attracts the attention of many scholars. Among the Ukrainian researchers, it is worth mentioning T. Kizima, S. Yuriy, N. Yasinska, etc. Despite the considerable interest of economists, the question of balancing the financial resources of households in pre-retirement and retirement periods should be complete and comprehensive research. This is confirmed by the practice of forming their social pension payment at the expense of solidary insurance premiums (The Pension Fund of Ukraine) and the state budget funds (which covers the deficit of The Pension Fund of Ukraine). It testifies to the lack of proper theoretical substantiality of the financial base for households and makes it impossible to develop long-term finance policy in this area.

3. Task formulation.

The aim of the publication is to consider the necessity of forming an investment portfolio of households in Ukraine by making savings during the period of their labor activity. The necessity for this is due to the microeconomic (the ratio of different forms of household's wealth during their lives, the loss of the value of money in time, if they not used) and macroeconomic (savings of households become a source of investment for business entities, which in turn become a multiplier of long-term development of the country's economy) preconditions.

The investing-saving mechanism is considered by us as the main method of increasing the welfare of households in the retirement and pre-retirement periods.

4. Main material exposition.

The aggregate wealth of households acquire three main forms: material (real estate or movable property); financial (money, securities, currency, deposits, etc.); human riches, which are expressed in the person himself, his psychological and physical development, intellectual level, a degree of workability, etc. [3, p. 188].

The thesis that will allow developing the necessity for management of households finance from a microeconomic point of view is an awareness of the fact that during the life cycle of an individual, the proportion of these types of wealth is different. Therefore, at the age

of 20-25, a person (or a few people) creates his or her own household, usually having a high level of its human and low - financial and material wealth. In the course of active labor activity 25-30 years, there is a gradual increase in financial and material wealth and, in contrast to this process, the reduction of work capacity and human wealth. Having reached its peak in the age of 55-60, these forms of wealth can develop in different ways for the different households. So, if financial wealth is realized only in the form of wages, then we assume that in the pre-retirement or retirement age the household will find itself in a situation in which its human wealth will be equal to the financial one. Therefore, the way is desirable, in spite of the gradual reduction of human capacity; the level of financial wealth of a household will increase. The only source of such wealth can be the savings made by households during their work. As result, the level of financial wealth is influenced by factors other than capacity, namely the level of interest rates in the economy and a set of financial instruments for investments. Therefore, it is necessary to create a "surplus" of the financial wealth of the household over the human wealth so that its amount does not depend on the ability to work.

The next thesis that will allow developing the necessity for management of households finance is the realization that the money available at our disposal today is more valuable than the money in the future. This conclusion suggests that there should be an "interest" for the household to make savings, and this "interest" should be measured as a "pay" for the deferred future consumption of its income. In addition, "interest" has a financial dimension and the name "interest rate". In the context of the research aim, this household interest rate becomes a generalized income in the investment markets. Future value of invested money (*FV*) is measured using the following formula [4, p. 924]:

$$FV = PV*(1+r)^n,$$ (1)

Where, *PV* - Present value of money; *r* - Interest rate; *n* - Period of savings.

For example, if the interest rate, for example, is 10 %, the present value is 1000 UAH in 1 year it will equal 1100 UAH, in 2 years – 1210 UAH etc.

The concept of present value can be used in various situations, including to assess the attractiveness of households for certain uses of their savings. Accordingly (1), the household decision will depend on *the level of the interest rate.*

$$PV = FV/(1+r)^n,$$ (2)

An equality (2) let us make a logical conclusion. The present value of investing money is the bigger is the smaller the denominator of the equation. Accordingly, the denominator is the smaller the lower the interest rates in the economy of the country. Additionally, the concept of present value helps to explain the logical conclusion that investment in the economy, and hence the need for household savings, is reduced with interest rate growth and increases with interest rate cuts.

Thus, it can be determined that the management of household finances are activities of its members in terms of regulating its incoming and outcoming cash flows in order to achieve the objectives of the household (in the context of our article, the objectives at the appropriate level of income in the pre-retirement period) [5, p. 28].

The thesis that will allow developing the necessity for management of households finance from a macroeconomic point of view is conditioned by the following thesis. Understanding of the events taking place in the financial system of the country is important for understanding the development of the economy as a whole. The main structures of the financial system - stock and bond markets, banks and open-end funds play the role of the regulator of cash flows of savings and investments, which in turn are the main factors of long-

term growth of GDP and living standards of the population. Therefore, understanding of the mechanism of functioning of financial markets is extremely important for making a decision on how to use the funds of an investment portfolio of a household.

Gross Domestic Product (GDP) is equal to the cost of manufactured goods and services, or the sum of expenses for consumption of goods and services in the economy of the country over a certain period of time (in quarters, one year). GDP (Y) is determined by four main components: consumption (C), investments (I), government spending (G), net exports (NX).

$$Y = C + I + G + NX \text{,} \tag{3}$$

This equation means that each hryvnia on the left side is reflected in one of the four components in its right-hand side.

We simplify the analysis by assuming that the economy is closed, that is, it does not interact with other economies. In particular, it is not involved in a trade in goods and services with other countries and does not engage in international borrowing or lending operations. Since a closed economy does not participate in international trade, net exports are zero. In such conditions, our initial equation will take the following form.

$$Y = C + I + G \text{,} \tag{4}$$

Thus, in a closed economy, GDP is equal to consumption, investment and government spending. To demonstrate the role of financial markets in the country's economic system, we will subtract C and G both the right and left sides of the equation. We get the following expression:

$$Y - C - G = I \text{,} \tag{5}$$

The left side of equality $Y - C - G$ is the income of the economy, net of consumption and government spending. This value is called national savings, or simple savings, and is designated as S. Replacing ($Y - C - G$) on S, we obtain:

$$S = I \text{,} \tag{6}$$

From which it follows that savings of households are equal to investment in economics.

The equation (6) reflects the important fact that, for the economy as a whole, the savings of subjects of financial relationships must be equal to investment ones. An investment yield as an instrument of the financial market "unites" the macro and micro-economic aspect of the household's investment portfolio. *The level of investment yield (rate),* regulating the supply and demand on the credit market, determines the behavior of households who make savings and subjects of financial relationships who need loans for investment. The financial market structures represented in the formula by the sign of equality are those regulators of cash flows of savings and investments, which become the main factors (along with credit resources) of long-term growth of GDP and living standards of the population (forming the supply of credit resources) and incomes of economic subjects (forming the demand for credit resources). Such a development of the economy is also desirable for the state as a system of creating the subject of financial relations in society, since after the growth of incomes of other participants in social production (firms and households) payments to the budget and incomes of the society will increase.

Accordingly (2) and (6), *the level of interest rates* in the country's economy is an instrument that can combine the interests of all subjects of the financial system of the country. Therefore, the investment in the economy, and hence the need for household savings, is

reduced with interest rate growth and increases with interest rate cuts. In order to increase the amount of savings of households to the economy, a monetary policy for cheap money should be made by the central bank.

The investment portfolio for households is formed as a set of financial market instruments to implement their own objectives during the period of their work activity. This is alternative sources of household incomes that it use in pre-retirement or retirement periods.

The management of the investment portfolio households in terms of low-interest rates and inflation can be divided into five stages [6, p. 3]:

1) Formation of the investment objectives for households;
2) Formation of the investment policy for households;
3) Selection the strategy of investment portfolio households;
4) Selection the assets for investment portfolio households;
5) Measurement and evaluation the investment for households.

Five stages set out above form a cyclic process in which the assessment of effectiveness may lead to adjustment of objectives, policy, strategy, and assets of the portfolio.

As we see, in the second phase of management of portfolio household is the formation of the main ways of investment policy to achieve the selected aims. This phase begins with the decision to place assets. In other words, household as an investor must decide how to allocate its existing savings between the major asset classes. The risk assets are assets, which future returns to them are uncertain. The major classes of risk assets usually include stocks, real estate, and foreign currency. The risk-free assets are assets, which future returns to them are certain. The major classes of risk-free assets usually include bank deposits, bonds. Household, as usual, has to do choosing between risk assets.

The household makes the choice between risky assets on the basis of indicators of their future incomes, variations, and dispersion [7]. The expected incomes of a risky asset are calculated as follows. Firstly, for a given the probability distribution of possible values for realized incomes. The probability distribution is a feature that correlates with each possible value of incomes and the likelihood of their realization. Secondly, for a given probability distribution, the expected incomes are the weighted average of the possible incomes. The role for the weighted average has "will play" the probability distribution of these incomes. In practice, the probability distribution is based on past statistics (realized) incomes.

The released income of the portfolio for a fixed period determined by the following formula:

$$R_p = w_1 R_1 + w_2 R_2 + \ldots w_i R_i, \tag{7}$$

Where R_p– the released income of the portfolio for period p; R_i- Income of the share i for period; W_i – The proportion of share i in the portfolio; i - The number of shares in the portfolio [7].

As a typical example, consider a portfolio that consists of three stocks (A, B and C) and the investing period (for example one year) showed following indicators of incomes for each of these assets.

Table 1. The indicators of income for investment portfolio household		
Stock	Market value ($)	Income (%)
A	6	12
B	15	10
C	25	3

The total market value of the investment portfolio household is 46 USD (6 + 15 + 25). So:

$$w_A = \frac{6}{46} = 0,13 \text{ , or } 13\%$$

$$w_B = \frac{15}{46} = 0,33 \text{ , or } 33\%$$

$$w_C = \frac{25}{46} = 0,54 \text{ , or } 54\%$$

$$R_p = 0,13*12\% + 0,33*10\% + 0,54*3\% = 6,48\%$$

The realized income of the portfolio for a fixed period is equal to 6.48 %.

On this stage of household's investment portfolio management is a choice of strategy that meets their aims and investment policy. This is the stage when the household like investor tries to create an efficient portfolio. Based on the household's preferences distinguish:

a) aggressive (speculative) portfolio (formed by the criterion of maximizing current income or gains on invested capital regardless of the level of investment risk, provides a maximum rate of investment return on invested capital, but is accompanied by the highest the level of investment risk);

b) moderate (compromise) portfolio (overall the portfolio risk and accordingly the rate of income on invested capital close to the market average);

c) conservative portfolio (formed by the criterion of minimizing current risk; in these portfolios are practically no financial instruments with investment risk level higher than the market average).

Evaluating the effectiveness of investment is the latest stage in the process of investment management. At this sense, the household makes the measuring return portfolio and comparing the result with the selected baseline. Baseline, in this case, serves some quantitative characteristic behavior of the pre-selected set of assets. As a benchmark can be selected any known stock indexes such as Standard & Poor's 500 (S & P 500), or indices that publish known consultancy firms.

The household can make this choice yourself or make it with a help of a professional asset manager. In the first case, a household should have a certain level of financial literacy.

5. Conclusions.

In the article researched micro- and macroeconomic prerequisites for the formation of the investment portfolio of households.

Microeconomic pre-conditions are conditioned by a circumstance that the forms of riches of households in the process of its life are different. It proved that savings in the period of labour activity of households have been the source of such wealth only. It considered that the influence on savings level is the level of interest rate and set of tools are presented at the financial market of the country. From another point of view, macroeconomic pre-conditions are conditioned by equalization that shows an important fact, that for an economy the savings of subjects of financial relations are always equal to the investments. As result, the interest rate as an instrument of financial market "uniting" macroeconomic and microeconomic aspect of the necessity of investment portfolio of households. Additionally, the needs to improve the financial literacy of households Ukraine have considered.

The exploring of the ways outlined above for improving the development of household finances in general and the formation of their investment portfolio in particular as a result of raising the level of financial literacy opens up prospects for future research in this sphere of financial science.

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Необхідність формування інвестиційного портфеля домогосподарств
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Анотація. У статті досліджено мікро- та макроекономічні передумови формування інвестиційного портфелю домогосподарств як суб'єкта фінансових відносин у суспільстві.

Мікроекономічні передумови зумовлені різним співвідношенням форм багатства домогосподарства упродовж його життєвого циклу та втратою вартості грошей у часі.

Макроекономічні передумови мають за основу підхід, за яким обсяги заощаджень в економіці країни дорівнюють інвестиціям усіх суб'єктів економічної системи. Встановлено, що відсоткова ставка як інструмент фінансового ринку «об'єднує» макро- та мікроекономічний аспект інвестиційного портфеля домогосподарства. Запропоновано шлях збільшення добробуту домогосподарств України у пенсійний та передпенсійний періоди — заощадження упродовж періоду їхньої трудової активності.

У дослідженні доведено взаємозв'язок між рівнем відсоткової ставки та стимулами до заощаджень населення. А саме, чим вищий рівень відсоткової ставки тим менше стимулів до заощадження повинно бути, і навпаки — невисокий рівень відсоткової ставки повинен стимулювати заощадження вітчизняних домогосподарств. У даному контексті розглянуто необхідність підвищення рівня фінансової грамотності населення України.

Ключові слова: домогосподарство, фінанси домогосподарств, інвестиційний портфель домогосподарств, добробут домогосподарства.

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Необходимость формирования инвестиционного портфеля домохозяйств
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Аннотация. В статье исследованы микро- и макроэкономические предпосылки формирования инвестиционного портфеля домохозяйства.

Микроэкономические предпосылки обусловлены тем фактом, что формы богатства домохозяйства в процессе его жизнедеятельности разные. Если объём финансового и материального богатства должен иметь тенденцию до роста, то человеческая форма (трудоспособность) имеет однозначную тенденцию к падению. Поэтому желательным есть путь, когда, несмотря на постепенное снижение трудоспособности, уровень финансовой формы богатства домохозяйства. Источником

такого развития могут стать только сбережения в период трудовой деятельности, поскольку на их уровень влияют другие, кроме трудоспособности факторы, а именно уровень процентной ставки и набор инструментов, представленный на финансовом рынке страны. Поэтому предложен инструмент увеличения благосостояния домохозяйства Украины в пенсионный и пред пенсионный периоды — их сбережения, сделанные в период трудовой деятельности.

Макроэкономические предпосылки обусловлены уравнением, которое показывает важный факт, что для экономики в целом, сбережения субъектов финансовых отношений всегда равны инвестициям. Процентная ставка как инструмент финансового рынка уравновешивает предложение и спрос свободных ресурсов «объединяя» макро- та микроэкономический аспект необходимости инвестиционного портфеля домохозяйства. Именно процентная ставка, регулируя предложение и спрос, обуславливает поведение домохозяйства, которое делают сбережения и субъектов хозяйствования, которые нуждаются в инвестициях развивая свой бизнес и экономику в целом. Структуры финансового рынка (кредитные учреждения, негосударственные пенсионные фонды, страховые компании и другие) есть теми регуляторами денежных потоков сбережений и инвестиций, которые в свою очередь станут основными факторами долгосрочного роста ВВП и уровня жизни населения (формируют предложение на кредитном рынке), прибыли субъектов хозяйствования (формируют спрос на кредитном рынке).

Исследование доказывает взаимосвязь между уровнем процентных ставок и стимулами к сбережениям населения. А именно: чем выше процентная ставка, тем меньше стимулов к сбережениям, и наоборот - низкая процентная ставка должна стимулировать сбережения домашних хозяйств. В этом контексте рассматривается необходимость повышения уровня финансовой грамотности населения Украины.

Ключевые слова: домохозяйство, финансы домохозяйства, инвестиционный портфель домохозяйства, благосостояние домохозяйства.

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