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MODELLING OF HOUSEHOLD FINANCIAL BEHAVIOUR

МОДЕЛЮВАННЯ ФІНАНСОВОЇ ПОВЕДІНКИ ДОМОГОСПОДАРСТВ

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Abstract. *The article discusses the modelling of household financial behaviour. Synthesis and analysis are used as a general scientific method of scientific cognition. The purpose of the study is to consider possible stages of modelling households' financial behaviour to achieve households' financial sustainability in the face of endogenous and exogenous factors of influence. Financial behaviour should serve as an instrument to help define the financial potential of a household, link it to consumption and non-consumption needs, and ensure financial sustainability in adverse circumstances. The methods of modelling the financial behaviour of households are defined. The interrelation of the stages of the household life cycle and the modelling of its financial behaviour by combining risky and risk-free financial instruments is substantiated. According to the study, ensuring financial sustainability is one of the positive results (efficiency) of households' financial behaviour. Moreover, further research should use elements of correlation and regression analysis to rank risky and risk-free financial instruments by the strength of their impact from least to greatest.*

Key words: *household, finance, financial behaviour, modelling.*

Inroduction.

Domestic researchers of household financial behaviour define it without reference to specific goals, but rather as characterizing individual objects of management – income, and expenses (consumption, savings or investments). This approach to the essence of households' financial behaviour is explicitly pointed out by Golub G. and Golub R., who note that «financial behaviour includes various types of financial activity of the population, such as savings, investments, insurance, lending, various programs for accumulating pensions, etc.» [1, 43]. Confirmation of this approach can be found in the study by Kizyma T., who notes that «different degrees of expression of certain priorities, needs and interests of households form a wide range of specific models of their financial behaviour» [2, 215]. In her opinion, the household's needs will determine the patterns of its financial behaviour. Continuing this thesis, Vdovychenko A. understands financial behaviour as «the choice (inclination) of the population to use their own financial resources for consumption, saving in an organized or unorganized form». Similarly to the approach of Kizyma T., the author determines the final form of financial behaviour depending on the dominance of the household's choice between the directions of use of financial resources [3, 155]. The team of authors of the monograph «Financial Policy of Investment and Innovation Development of Ukraine» edited by Demianyshyn V. expands the objects of financial behavior of households with their income. They define the financial policy of a household as an activity based on the creation and use of funds of financial resources to meet personal needs. Accordingly, the financial policy of such entities is to optimize the formation of income from labour activity, entrepreneurial activity, property, etc., as well as to rationalize consumer and non-consumer expenditures [4, 331]. Dorosh V., Chepel K. and Kuzyk O. focus on all components of households' financial activity as the object of their financial behaviour, they believe that it is essentially «a set of mechanisms through which households interact with other participants in the market economy to generate income, consumption, savings and investment and the factors that influence their activities» [5, 365]. Thus, the approaches of these scholars either do not contain clear formulations of financial policy goals or formulate them in a broad sense.

The purpose of the article is the modelling of household behaviour to achieve their financial sustainability.

Results.

Today, household financial management is not effective. In our opinion, this is the result of the fact that the management of households' financial resources is structured in such a way that it is aimed solely at individual components of their financial activity – income, expenses, savings, investments – and at checking deviations from the planned values that arise due to the influence of endogenous or exogenous factors of their life. Such an approach is ineffective and unjustified, as it does not reflect the importance of management in the field of household finances in general and does not allow for achieving its effectiveness in particular. This affects the development of both a particular household and causes negative phenomena that do not allow this area of the financial system to take a worthy position among its other areas, mainly due to the role of household savings and investment instruments in the financial market.

The development of a household requires it to apply an effective approach to managing its own or borrowed financial resources, using which it has the opportunity to take preventive actions that take into account the likelihood of negative endogenous and exogenous phenomena in this process. Modelling the financial behaviour of households aimed at ensuring financial sustainability requires the use of risk-free and risky instruments to influence the objects – income, expenses, savings, and investments. But, as practice shows, some of them are not only not used or little used, but also not disclosed in the theoretical plane (the essence of risk, sustainability).

Thus, modelling financial behaviour and its impact on the financial sustainability of households is a new type of result-oriented financial resource management in which the subject, by influencing objects, not only moves the household from an unstable state to a stable one as a result of internal or external threats but also makes it possible to identify tools to influence emerging deviations. The main advantage of an effective approach to financial behaviour (aimed at sustainability) compared to an ineffective one (aimed at individual components of financial activity) is that instead of reacting after problems arise in the process of household development, it financially compensates for their occurrence through the planning and use of risk-free and risky financial instruments.

Modelling the financial behaviour of households and its impact on their financial stability involves the use of the following methods:

1) normative (based on the established norms, determining the principles of financial resources management, taking into account endogenous and exogenous factors that may affect the approved norms);

2) monitoring (constant monitoring of the financial condition of the household, the course of certain processes of its life cycle that may affect financial stability; includes the collection of necessary information about the objects of financial activity, factors influencing changes in their composition or structure);

3) functional (identifying correlations between the impact of the objects of financial activity of the household on sustainability, with an emphasis on the knowledge of interdependent factors);

4) control (the possibility of assessing financial sustainability using the developed indicators and determining the level of influence of the objects of financial activity of the household on their values);

5) preventive (preventing the occurrence or preventing the occurrence of deviations in modelling financial behaviour);

6) surveys for the National Bank of Ukraine and the Ministry of Finance of Ukraine (collecting information on the financial stability of households through direct or indirect communication; allows tracking trends in the development of household finances to ensure its positive impact on other areas of the financial system – public finances and finances of business entities). Along with the methods by which households influence their financial sustainability, we propose to distinguish types of financial policy (income, expenditure, savings, investment), which make it possible to study it in different manifestations at different stages of their life cycle.

Modelling financial behaviour and its impact on financial stability should begin at the first stage of the life cycle by planning the formation of household reserve capital. It is created in the amount of 6 monthly household incomes using risk-free instruments in the medium term (up to 3 years) using the rates of deduction from the income received (for example, 10%). The actual process of households' reserve capital formation during the planned period will be strengthened by the function of active control (implementation of management decisions) and the ability to make adjustments (regulation) based on identified deviations. Such regulation is aimed at removing obstacles to the achievement of the strategic goal of household financial policy (ensuring financial sustainability) by the approved standards and provides for changes in their size under the influence of real external or internal factors. This approach allows the household's financial plan to become a fundamental document that defines the models of its financial policy that will be used to implement its financial decisions.

Drawing up a financial plan for a household at the first stage of its life cycle and for the medium term (up to three years) is intended to ensure the financial sustainability of households in such cases:

- the negative impact of endogenous factors of temporary disability and unemployment through the use of risk-free financial instruments in the interaction of individual components of the household's financial activity as a whole, resulting in the formation of a reserve fund with a composition and structure that meets the goal. This makes it possible to avoid instability in the

financial support of households' livelihoods, which necessarily arises under the influence of endogenous factors;
- the negative impact of exogenous factors (inflation, exchange rate changes, etc.) through the use of risk-free financial instruments, which results in the formation of a reserve fund in the composition, structure, and amount that allows for nominal (taking into account the negative impact of changes in consumer prices) financial stability of households. This also helps to avoid instability in the financial support of households' livelihoods, which necessarily arises under the influence of exogenous factors.

The next stage after the formation of the household reserve capital in the amount set by the household is the modelling of the household investment policy and the realization of its investment potential in practice. This modelling at the stage of active labour activity in the life cycle of a household is carried out for the long term (up to twenty years) and provides for ensuring the financial stability of households in the following cases:
- the negative impact of endogenous factors of permanent disability, reaching retirement age through the use of risky financial instruments in the interaction of individual components of the household's financial activity as a whole, resulting in the formation of investment capital in the composition and structure that meets the goal. This makes it possible to avoid instability in the financial support of households' livelihoods, which necessarily arises under the influence of endogenous factors;
- the negative impact of exogenous factors (inflation, exchange rate changes, etc.) through the use of risky financial instruments resulting in the formation of investment capital in composition, structure, and amount that allows for real and not just nominal financial stability of households. This also helps to avoid instability in the financial support of households' livelihoods, which necessarily arises under the influence of exogenous factors.

At this stage of modelling financial behaviour, it is extremely important to use risky financial instruments and invest in the index of any of the domestic stock exchanges. Given the need to improve household financial literacy for the formation of investment capital – that it also becomes the basis for the development of other spheres of the financial system.

At the stage of implementation of the selected financial behaviour models, it envisages constant accounting and analysis of the process of formation (income financial policy of the household) and uses (expenditure financial policy of the household, including savings and investment models) of household financial resources in order to immediately identify deviations and make the necessary adjustments to ensure its financial stability. The need for further control by the household disappears, as all deviations that occurred during the management of its financial resources and the implementation of the chosen model of financial behaviour are eliminated during this process. This makes it possible to assess the degree of timeliness and prudence of decisions made and to increase the efficiency of the financial resources management process in general.

An effective approach to modelling household financial behaviour to ensure their financial sustainability is based on its mechanism that can work ahead of deviations and provide management results. Using the method of analogy, we will draw a conditional parallel between models of household financial behaviour. The main purpose of such modelling is to choose between risky and risk-free financial instruments, their composition, and structure, as a response to the impact of endogenous and exogenous factors that have arisen and caused phenomena that negatively affect financial stability. In turn, any of the selected models «fit» into the state regulation of the development of the financial system's spheres and links, as it provides for an increase in the efficiency of households' financial resources management by forming reserve or investment capital using the country's financial market instruments.

Conclusions.

Thus, modelling the financial behaviour of households to ensure their financial sustainability is a system of formation and use of household financial resources through the use of risk-free and risky instruments. Such modelling is implemented at all stages of the household's life cycle and is determined by the level of its financial literacy and the current legislation regulating relations in the financial sector of the state. Further research in this sphere of science study should use elements of correlation and regression analysis to rank risky and risk-free financial instruments by the strength of their impact from least to greatest.

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Анотація. *У статті розглянуто моделювання фінансової поведінки домогосподарств. Як загальнонаукові методи наукового пізнання використано синтез та аналіз. Метою дослідження є розгляд можливих складових моделювання фінансової поведінки домогосподарств для досягнення фінансової стійкості домогосподарств в умовах дії ендогенних та екзогенних факторів впливу. Фінансова поведінка має слугувати інструментом, який допоможе визначити фінансовий потенціал домогосподарства, пов'язати його зі споживчими та неспоживчими витратами, а також забезпечити фінансову стійкість за несприятливих обставин. Визначено методи моделювання фінансової поведінки домогосподарств. Обґрунтовано взаємозв'язок стадій життєвого циклу домогосподарства та моделювання його фінансової поведінки шляхом поєднання ризикових і безризикових фінансових інструментів. За результатами дослідження встановлено, що забезпечення фінансової стійкості є одним із позитивних результатів (ефективності) фінансової поведінки домогосподарств. Крім того, у подальших дослідженнях доцільно використовувати елементи кореляційно-регресійного аналізу для ранжування ризикових та безризикових фінансових інструментів за силою впливу від найменшого до найбільшого.*

Ключові слова: *домогосподарство, фінанси, фінансова поведінка, моделювання.*

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