PRIVATE PENSION FUNDS IN THE PENSION SYSTEM OF UKRAINE: 
THE RISKS OF FUNCTIONING

The article presents the classification of risks of the national pension system in terms of its components. The risks of functioning of pension funds are investigated and the measures to prevent adverse effects are proposed.

In the present conditions the category of risk is organically common to all spheres of human life and life of state in general. It is obvious that modern society is a society of risk. Like all other areas of the state activities the pension system is also prone to various kinds of risks. However, the special significance of the effective functioning of the pension system is determined by its purpose, namely by providing material welfare to retirees, the vulnerable class of population. Besides, the results of functioning of the social sphere influence the economy directly.

Systemic problems on the background of negative demographic trends and shortage of financial resources confirm that the current state of the national pension system is the result of influence of numerous internal and external threats. Thus, the problem of identifying the pension risks and their management acquires special relevance today.

The issues of risk management of the pension system and of private pension funds in its structure are reflected in the works of many scholars and practitioners, including V. Tolubyak, K. Hremyatska, L. Yakimov, G. Nechay, A. Fedorenko, C. Erlyk, S. Brovchak and others.
The purpose of this article is to identify and analyze risks inherent in the national pension system in general, as well as private pension funds as institutions of pensions in particular.

Analyzing numerous definitions of risk we can distinguish key characteristics of this category, namely the random (possible) nature of an event, the uncertainty of results (possibility of obtaining losses or additional income), the availability of alternative solutions, the objective manifestation and the subjectivity of assessment.

Risk is an activity connected with overcoming of uncertainty in inevitable choice situation, in which the opportunity of quantitative and qualitative evaluation of the probability of achieving the expected results, failures or deviations from targets varies [1, p. 6].

Pension system future depends on a number of uncertainties and risks: demographic, economic, political, legal and others. In addition, the overall effect of the combined action of these risks is greater than the sum of effects of each. This combined effect (or the effect of "super-additivity") increases for long periods: from the moment of savings for future retirement (payment of contributions) until its receipt.

On the basis of existing works on this issue, we propose to divide the risks of the pension system into two main groups: external (independent functioning to the system) and internal (risk generated by the pension system) (Fig. 1).

External risks include economic, political, legal, demographic, social, financial, market, information and system risks.

The basis for the effective functioning of the social sphere, including pension system, is the availability of favorable economic conditions. Economic growth is a basic foundation for the proper performance of the State of its functions. However, cyclicity of economy creates economic risks impact on the functioning of the pension system. Increasing unemployment rate, low wages, growth of the shadow economy cause the financial imbalance of the pension system.

The basis of political risk is the negative impact of political changes taking place in the country (change of policies, geopolitical situation, the priority of political
goals over economic) [2]. Various political decisions are reflected in the legal field. Administrative and legislative changes in the institutions of the pension system and inadequate legislation cause influence of the legal risks on the functioning of the pension system.

The demographic risks are extremely dangerous for Ukraine today. Current trends in life expectancy lead to rapid population aging. Accordingly, the number of retirees grows rapidly in comparison to the number of employees while the birth rate lowers. "System load factor" or correlation of quantity pensioners to contributors was 88% in 2011 and the expected forecast for 2050 will reach 117%. Thus, while preserving the existing demographic tendencies four workers will provide five pensioners. In addition Ukraine experiences gender inequality [3, p. 50-51].

![Fig. 1. Risks of the pension system of Ukraine*](image)

An important role among the risks of the pension system is given to their social component. Extremely powerful factor in increasing the amount of social commitments is a low standard of living of the general population, widespread

* Constructed by the author
poverty in conjunction with the domination of dependent mentality in society [2]. Economists attribute the risk of manipulation (consumer basket, quality of life) here also.

Underdeveloped financial markets in general, negative dynamics of the individual sectors, weak investment attractiveness form a group of market risks of the pension system.

A direct consequence of information risk is ignorance of citizens in reforming of the pension system, the lack of properly organized explanatory work, "pension illiteracy" of workers and employers.

Systemic risks that occur in the area of pensions include the risks of funds loss through the "opacity" of the system or arise as a result of the "collapses" of related systems such as the stock market, banking or insurance system. These risks are most severe, and they are almost impossible to avoid and minimize only by establishing "correct legal standards" [4]. Thus, this group of risks may belong to both external and internal.

As shown in Fig. 1, the funded component of the pension system is less dependent on demographic trends. However, the actual independence of demographic risks offset the impact of the financial and market risks.

Internal risks of PAYG and funded pension system components differ. Thus, the basic risks of PAYG pension system are: the risk of market disequilibrium, i.e. unequal conditions of pension provision for different categories of pensioners (preferential, early and special retirement) and differentiation of pension costs, the risk of financial instability (the budget deficit of the Pension Fund of Ukraine, low pensions); insecurity of pension liabilities by insurance funding sources (violation the principle of insurance) and others.

At the same time the system of funded pensions are more inherent institutional, operational and investment risks.

Taking into account the priority of private pension funds in the future operation of the pension system as participants of the third and second levels we suggest to focus on the risks under which funds are.
The preconditions and causes of increased risk of private pension funds are:

1) a high dependence degree of their work results on financial market conditions;
2) long-term nature of the activity;
3) separation of functions and powers between a wide range of subjects;
4) lack of a unified regulator of subjects of private pension provision;
5) absence of compensation and guarantee mechanisms for participants in case of inefficient operation of the fund.

The key characteristics of successful functioning of private pension fund are

1) reliability, resulting in the preservation of retirement savings of citizens and their protection against internal and external threats;
2) yield, i.e. the ability to provide high profitability of pension assets and, therefore, acceptable size of pension payments to fund participants.

The most important moment in investing of pension assets is the establishment of a balance between profitability and risk. A number of risks which influence pension fund are correlated depending on the chosen combinations. However, due to social orientation and non-commercial activities, the ensuring of reliability of pension funds is the main condition for their long-term operation.

According to scientists, the problem of protection (saving) of pension assets has several aspects concerning their protection against losses related to:

– withdrawal of assets as a result of abuse by individuals who perform service of pension fund;
– non-return of invested funds due to loss of liquidity of certain financial instruments or insolvency of the issuer (borrower);
– inflationary depreciation of assets due to the declining purchasing power of the national currency;
– low profitability of assets insufficient to compensate administrative, operating and other expenses of the pension fund, which results in "wasting" assets [5].

Modern economic literature is characterized by a variety of approaches to risk classification of private pension funds. Thus, G. Nechay claims that there are three groups of risks specific to these funds, as well as for any system of accumulation
funds: investment, institutional and system risks [4]. The given viewpoint is shared by K. Hremyatska by adding a group of non-financial risks: legal, strategic and reputational risks [6].

According to O. Baranov, the typical risks of pension funds as financial market participants are:

1) financial, including credit risk of debt instruments (in part of the portfolio of fund investment reserves and fund investment savings); market risk concerning pension reserves and pension savings, credit risk of fund counterparty;

2) operating (when dealing with asset management companies and related client subdivision of fund);

3) business risks: actuarial risk, the risk of interaction with regulatory authorities, reputational risk [7].

S. Brovchak and M. Syrotkina divide risks of private pension funds into three groups:

1) market (financial): price, currency, interest rate, liquidity risks and risk of partnership;

2) country risks: risk of changes in legislation, political and demographic risks;

3) operational: actuarial, technology, management risks [8].

L. Yakimova attributed the group of operational risks to the risks of forming pension assets. The author gives a complex classification of risks of private pension funds, depending on the degree of controllability, the scope and nature of the operations or the type of possible events [9].

Conventional division of risks that arise when investing pension assets into two main groups: financial and operational is defined in the Regulation on the requirements for persons engaged in management of pension assets to comply with internal rules and procedures for assessing and risks management associated with investing of pension assets.

Financial risk is a combination of risks associated directly with the asset management of private pension funds, which includes credit, investment and liquidity risks.
Operational risk is a risk of possible loss of the pension fund while investing pension assets as a result of improper organization of accounting system, workflow and internal control, lack of or ineffective rules and procedures of risk management, making wrong decisions by officials as well as the negative impact of external factors [10].

The adoption of a legal act undoubtedly increases the importance of the problem of risks identifying and management in the activities of private pension funds. However, this classification is incomplete.

In the structure of the risks affecting the activity of private pension funds we offer to highlight the following groups: internal risks, that arise in operation of the fund and depend on the effectiveness of their management, and external risks, i.e. country risks, macroeconomic and systemic risks that are objective and does not depend on the fund (Fig. 2).

![Diagram of Risks of Private Pension Funds]

**Fig. 2. The risks structure of private pension funds**†

External risks of private pension funds are common to other parts of the pension system (Fig. 1). However, the main attention should be paid to financial risks, including:

† Constructed by the author
1) inflation risk is the risk of depreciation of the real value of assets, and the expected income from financial transactions in an inflationary environment;

2) currency risk is the risk of a shortfall in expected income due to the impact of change in foreign exchange rates on cash flows by the operations;

3) interest rate risk is associated with unexpected changes of interest rates in the financial market;

4) price risk is the risk of incurring of financial losses due to adverse changes in the price indices for assets traded in the financial market.

All these risks generated by the action of external factors, some of which are associated with changes in the purchasing power of money, and therefore cannot be controlled by private pension funds.

Since the private pensions fund performs its function not independently but using the services of other institutions an important place is given to institutional risks or risk partnership, i.e. institutions that ensure the functioning of private pension fund do not perform or perform their duties improperly or contrary to the provisions of law, service fund contract or other documents. The risk of bankruptcy should be also included here.

The most significant operational risks of private pension funds are management (strategic) risks, which are risks of making false or incorrect decisions by the governing bodies of funds.

Actuarial risks are the risks of actuarial estimates and actuarial evaluation of activity of private pension funds, which include:

– model risk is the risk of incorrect use of actuarial model for the estimation of pension contributions, benefits, pension scheme;

– parametric risk is the risk of using incorrect parameters in modeling or the risk of incorrect use of actuarial basis in actuarial assessment;

– informational risk is the risk of using incorrect data when calculating investment income and pension benefits [9].
Technological risks are directly related to the technology used (from paperwork to software) and can occur at different stages of fund functioning: from the time of the contract to payment of pensions [8].

Informational risk arises while using inaccurate, incomplete or untimely information in the process of involving of pension contributions, investment of pension assets and pension payments by fund. The best example of this would be information about the status of issuers or forecast of changes in market conditions in the investment of pension assets.

Reputation risk plays a crucial threat to the functioning of private pension funds as formation of a negative image of the public funds could cause reduction of citizens' participation in specific private pension funds and in the private pension system in general.

Among the internal financial risks special attention should be paid to investment risk, i.e. the risk of unforeseen financial losses as a result of pension fund investments.

Selective risk characterizes the structure of fund investment portfolio and the effectiveness of its investment policy; that is the risk of wrong choice of securities to invest in a portfolio formation. The high level of selective risk may indicate inefficiency of the asset management company, negligent performance of its functions and the inaction of the Board of private pension fund [6].

When managing selective risk it is important to allocate liquidity risk, i.e. current or future risk of financial losses of the pension fund, which could be due to the inability to use pension assets as a direct means of payment or failure to their rapid conversion into monetary form without significant loss of their current market value [10].

In case of insolvency of the issuer of debt securities to pay interest or principal amount of debt credit business risk arises. Taking into account long-term nature of the activity of private pension funds, the risk of time also poses a significant threat as it is the risk of negative changes in the value of assets over time.
The main result of the influence the aforementioned risks is the failure fund its own obligations to the participants, i.e. the problem of ensuring adequacy (sufficiency) of the future amount of pension payments arises.

Proceeding from the proposed division of the risks of private pension funds into foreign and domestic risks, we believe that the responsibility for internal risks should be relied on the private pension funds and institutions that serve them, and formation of favorable legal, economic, political and market environment is the sphere of competence of the state.

In order to reduce investment risks the current legislation establishes requirements for directions of investment activities of private pension funds, known in economic literature as "Wall of China principles":

1) mandatory division of functions of collection, investment and deposit of funds between the different subjects, the principle of separation of pension assets;
2) mandatory diversification of private pension funds.

Foreign practice also offers a wide range of mechanisms used for the operation of this group of risks, including:

– internal risk management system;
– quantitative investment restrictions;
– opportunities to choose the pension products by participant (by the criterion of riskiness and taking into account age restrictions);
– risk control (method Value at Risk);
– guarantee of retirement savings yield;
– strategic target orientation (modeling of optimal portfolio according to established replacement rate) [11, p. 9-10].

Along with pension funds an important role in the implementation of these methods is given to the entities of state oversight and control.

Certainly, it is impossible to overcome all the risks in activity of private pension funds. However, the main emphasis should be placed on minimization of negative consequences of their influence. We believe that the scientists’ offer to implement the foundation of state prudential supervision of such parameters of
private pension system as the level of risks in terms of their species, the adequacy of evaluation of the real level of risk by the subject of system, the identification of deficiencies in subjects by controlling authorities in the early stages of their occurrence is expedient [6].

First steps in this direction have already been made. In the Regulation on the requirements for the person conducting the management of pension assets for compliance with the internal rules and procedures of assessment and management of the risks associated with pension assets investment it is determined that person who conducts the management of pension assets must implement a system of risk management. National Commission on Securities and Stock Market State exercises state control over compliance with these requirements [10].

The main tasks of risk management are: risks identification and classification, their quantitative and qualitative assessment, risks monitoring and reporting system formation of its results, the accumulation of statistical data to control the risks.

Without belittling the importance of a legal act adoption, we note that in addition to the risks associated with pension assets investment, private pension funds are pursued by other types of risks (see Fig. 2). That is why there is a need of forming of complex risk management system at the level of funds, within which there will be:

1) formation of risk management information database;
2) risks detection (identification);
3) complex analysis of risks and assessment of possible consequences of their action (determination of possible financial loss a result of risks);
4) selection of methods of influence on initial level of risk by its reduction, preservation or transmission (depending on the level of controllability);
5) search and implementation of methods of neutralizing the negative effects of risks;
6) risk monitoring and control.

As international experience shows, a key responsibility of the pension fund board is approval and regular reviews of risk management strategies which should reflect the nature, scale and complexity of the operations of the fund. For each of
major areas it is important to evaluate gross risk, the effect of risk management, volatility of results and the degree of financial vulnerability of the organization [12, p. 13].

The basic elements the risk management system is the investment strategy of the pension fund, which should be subject to regular monitoring and review. Fund Management team should establish the criteria for determining an acceptable level of concentration of investments in various types of assets, currencies, etc. Another area of potential danger for the pension fund is the level of expenses, especially if they have limitations. It is necessary to monitor and control the risk of death in order to ensure proper implementation of fund pension obligations [13, p. 16].

The effective risk assessment should be carried out in the context of internal (complexity of the organizational structure, quality of personnel, organizational changes) and external factors (fluctuations in economic conditions, legislative changes, technological advances) that could negatively affect the achievement of the goals of the pension fund. It is necessary to determine the degree of controllability of risks and opportunities for their neutralization.

Not all risks can be diversified and therefore pension funds should implement effective risk distribution among all participants. In addition, the impact of the risks should be smoothed during the life cycle of each participant. The famous Merton-Samuelson model implies that any loss of wealth should lead to a change in consumption of all people in the equal percentage throughout their lives. This model is a useful guideline for the optimal risk management throughout the lifecycle of participants of pension funds [14, p. 8].

A direct consequence of the potential riskiness of private pension funds is distrust of citizens to the institutions of this type. And since the voluntary participation is the basic principle of private pension funds functioning, namely the risk of mistrust is the greatest threat to the stable development of funds.

Solution of this problem will contribute to ensuring transparency of private pension funds and high-quality information support of their members.
OECD Recommendation regarding the rights protection of participants and beneficiaries of occupational pension plans reveal the detailed disclosure requirements. These guidelines emphasize that the following base must be provided to members of pension funds to monitor their investments:

- adequate information regarding which each member can analyze the fund's activities;
- information about the nature of the financial instruments (including investment rates of return and risk);
- standardized, compliant and complete information regarding investment decisions (including on the fees and expenses, portfolio composition, results of investment performance) [15].

In the formation of the proper information environment of pension funds operation the important place is given to the state supervisory and regulatory authorities. The main directions of their activity in this area are:

- establishment of the exact format of documents which must be made public (Chile, Italy, Mexico and Slovakia);
- preliminary approval of key documents before publishing them (Bulgaria, Hong Kong and Slovakia);
- establishment of order, frequencies and forms of reports submission, calculation scheme of basic indicators (Nigeria, Italy);
- disclosure of information about risk assessment (Hong Kong, Mexico, Israel);
- verification of the compliance of scheme of information disclosure (Turkey) [11, p. 11-12].

The complexity of functioning of private pension funds is conditioned by the fact that a significant part of the risks to which they are influenced are external and actually uncontrollable. Besides the issue of protection of pension savings from probable risks of loss is especially acute in view of social side of funds activity.

The undisputable social importance of private pension funds and their potential for the development of national pension system put the problem of ensuring of fund
financial stability and protecting the interests of their members to the forefront. At the same time the highest priority is given to the reliability factor of private pension funds.

Thus, the problem of protection of private pension funds from the actual and potential threats should find a practical solution in the system of assets risk management and properly organized system of state control in the field. This information will contribute to the stable development of private pension system in the future.

Bibliography


10. The Regulation on the requirements for the person conducting the management of pension assets for compliance with the internal rules and procedures


