

## **PENSION MODELS: FORMATION AND DEVELOPMENT**

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### **Abstract**

International Labor Organization report on global social protection in 2020-2022 notes that “Among all social payments, pensions play an important role in reducing poverty, especially among the elderly, and are the only source of income for most pensioners”[1]. Also, “in many countries, since the number of contributions is not enough to meet their obligations, the financing of pension payments is increasingly dependent on the State budget, and the cost of covering the deficit is from 1% to 5% of the GDP”[2]. “At the moment, 77.5% of people of retirement age worldwide are provided with an old-age pension”[3]. There are significant differences in pension provision between regions, between rural and urban areas, and between women and men. There are still problems related to establishing an effective pension system, increasing the financial stability of pension funds, and ensuring the minimum international standards (level) of social security in the countries that are members of the Commonwealth of Independent States (CIS). For this reason, in most countries of the world, special attention is being paid to the creation and improvement of the multi-level pension system, development based on the requirements for ensuring the minimum international standards of social security.

### **Introduction**

Many scientific results were obtained as a result of the scientific research conducted on the improvement of the theoretical and methodological foundations of the development of the pension system for citizens in the world. For example: in the CIS countries, for the purpose of social protection of the population, the principles of coordination and regulation of the activities of pension and social funds, development of their international relations have been developed (International Association of Pension and Social Funds - IAPSF); Using more than 40 indicators, rating indexes such as the Melbourne Mercer Global Pension Index (MMGPI) and the Global AgeWath Index (Melbourne Mercer Global Pension Index), which evaluate pension systems internationally, have been theoretically improved (Melbourne Mercer Global Pension Index – MMGPI); mechanisms ensuring the quality and efficiency of private pension system control in all countries of the world have been researched (The International Organization of Pension Supervisors - IOPS); developed requirements and criteria for the gradual introduction of a multi-level pension system based on social insurance contributions in developing countries (World Bank Group); the insurance mechanism of financing pension programs has been strengthened, practical recommendations have been developed for the

organization and development of private pension funds, the active introduction of corporate pension programs (Organization for Economic Cooperation and Development - OECD); Practical recommendations aimed at introducing a multi-level pension system and ensuring the financial stability of the pension system in the member countries of the Organization for Economic Cooperation and Development (OECD) have been developed (Pensions at a Glance); the degree of influence of demographic factors on the pension system of citizens was researched and modified methods were developed (World Population Prospects), the trends of social protection of the population were determined and evaluated (Waseda University - Japan), the priority directions of the pension system reform were (National research university "Visshaya shkola ekonomiki" - Russian Federation).

Scientific studies by some foreign economists, such as G. Tetlow, G. Waubruha, J. Peng, L. Christensen, A. Moore, C. Campbell, S. Butler, and others, are devoted to improving the theoretical and methodological foundations for the development of the pension system in the world<sup>1</sup>.

In the scientific works of foreign scientists such as E. Azarova, G. Andryushchenko, S. Brovchak, D. Gusakov, M. Kulikova, N. Kosarenko, S. Orlov, A. Shemetov, V. Roik, A. Fedotov, A. Ijaeva and others issues related to the concepts of provision, including pension provision, development of the social insurance system, social protection of the population, development of the pension system<sup>2</sup>.

A. Vakhobov, B. Umurzakov, R. Dalimov, T. Malikov, O. Olimzhanov, Sh. Shokha'zami, R. Karlibaeva, G. Kasimova, N. Majidov, B. Khusanov in their studies of local economists legal and institutional foundations of organization, theoretical and methodological aspects, development trends, problems in the field, priority directions, reforms were researched<sup>3</sup>.

### Analyzes and results

<sup>1</sup> TETLOW G. ESSAYS ON THE ECONOMICS OF RETIREMENT AND PENSIONS. A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY OF UNIVERSITY COLLEGE LONDON. – ENGLAND: DEPARTMENT OF ECONOMICS UNIVERSITY COLLEGE LONDON. 2015. – 224 p.; VOBRUBA G. DER WIRTSCHAFTLICHE WERT DER SOZIALPOLITIK. - BERLIN: DUNCKER U. HUMBLOT, 1989. – 238 p.; JUN PENG. STATE AND LOCAL PENSION FUND MANAGEMENT. – USA.: AUERBACH PUBLICATIONS, 2008. – 286 p.; CHRISTENSEN L., MOORE A. PENSION REFORM HANDBOOK: A STARTER GUIDE FOR REFORMERS. COPYRIGHT © 2014, REASON FOUNDATION. ALL RIGHTS RESERVED. - 139 PAGES; COLLIN CAMPBELL. SOCIAL INSURANCE IN FIGURES 2018. SWEDISH SOCIAL INSURANCE AGENCY. - STOCKHOLM, SWEDEN. 2018. – 70 p.; STEPHEN BUTLER. ROADMAP TO RETIREMENT SECURITY: HOW TO BUILD AND PRESERVE RETIREMENT WEALTH. - UK: IUNIVERSE, 2014. - 112 p.

<sup>2</sup> Azarova E.G.i dr. Sotsialnoe obespechenie: nastoyashchee i budushchee: Monograph. - M.: IZSPPR, 2017. - 284 p.; Andryushchenko G.I. Modernization of the social sphere in the Russian Federation. Author. diss. nor sois. three. St. d.e.n. - M.: RGSU, 2011. - 53 p.; Brovchak S.V. Pension noe obespechenie. Rossiyskiy i zarubezhnyi opyt. - M.: INFRA-M, 2009. - 215 p.; Gusakov D.B. History of pension insurance and social welfare in Russia. - SPb.: Sankt-Peterburg State Institute of Psychology and Social Work. 2010. – 260 p.; Kulikova M.A. Sovremennoe sostoyanie effektivnosti mezhnykhov sotsialno-strakhovogo obespecheniya kachestva jizni naseleniya: Monograph. - Tambov: TGTU, 2009. - 104 p.; Kosarenko N.N. Sotsialnoe straxovanie kak faktor razvitiya sotsialnoy zashchity naseleniya: Monograph. - M.: LAP LAMBERT, 2016. - 140 p.; Orlov S.N., Shemetov A.P. Pension noe obespechenie v Rossiyskoi Federatsii: Monograph. - Kurgan: Izd-vo Kurganskogo gos. un-ta, 2013. – 106 p.; Roik V.D. Sotsialnaya politika: zarabotnaya plata i straxovanie riskov eyo otroto: Uchebnik. - M.: Yurayt, 2019. - 536 p.; Fedotov A.I. Istoriya vozniknoveniya pensionnnyx sistem v zarubejnyx stranax // Trudy ISA RAN. – 2006. – No. 23. – S. 308-316.; Ijaeva A.R. The concept of the development of the pension system of the Russian Federation in the post-crisis period: Autoref. dis. ... c.e.n. - M.: FGBOU VPO, 2013. - S. 31. ; Ijaeva A.R. The concept of the development of the pension system of the Russian Federation in the post-crisis period: Autoref. dis. ... c.e.n. - M.: FGBOU VPO, 2013. - S. 31. ; Ijaeva A.R. The concept of the development of the pension system of the Russian Federation in the post-crisis period: Autoref. dis. ... c.e.n. - M.: FGBOU VPO, 2013. - S. 31.

<sup>3</sup> Vahobov A.V., Majidov N.M. The role of the funded pension fund in the implementation of investment policy in Uzbekistan: Monograph. - T.: University, 2017. - 128 p.; Umurzakov B.Kh. Sovershenstvovanie sistemy sotsialnoy zashchity netrudosposobnyx sloev naseleniya v usloviyax formirovaniya rynochnoy ekonomiki: Author. dis. nor sois. three. Step. K.E.N.: 08.00.10. - T., 1995. - 22 c.; Dalimov R.T. Mirovoy opyt reformirovaniya pension system and ego use and transitional economic conditions: Autoref. diss. nor sois. three. Step. k.e.n.: - T.: NUU, 2002. - 20 p.; Malikov T.S., Olimjonov O.O. Finance: Textbook. - T.: Economy-Finance, 2019. - 800 p.; Shoha'zami Sh.Sh. Value anti-inflationary concept of the investment model of the pension system // Financier reference. #9 (45). 2015. – B. 34-38.; Karlibaeva R.Kh. Development of the financial system and the fundamental foundations of the formation of the theory of financial management // "International Finance and Accounting" scientific electronic journal. #4. August. 2017.; Kasymova G.A. Social insurance: Textbook. - T.: Economy-Finance, 2019. - 568 p.; Khusanov B.Sh. Problemy regulirovaniya finansovogo mehanizma sotsialnogo obespecheniya naseleniya: Author. diss. nor sois. fly Step. k.e.n.: - T.: NUU, 2011. – 25 p.

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The initial stage of the history and development of the pension system dates back to the 18th and 19th centuries, and “the first state pension system based on social insurance was introduced in Germany by Otto von Bismarck in 1889” [4]. It is worth noting that O. Bismarck's pension reforms and ideas laid the foundation for the development of the social protection system and social insurance, labor, and pension insurance measures were developed relatively carefully in this model, and other countries adopted this model in their practice. began to apply and served as a basis for future pension reforms.

The pension model created by O. Bismarck (Bismarck model - pay-as-you-go) [5] envisages a “distributed” pension system based on “solidarity of generations”, where the pension of current retirees is paid by the current working generation. The higher amount of social payments paid by working citizens today, the higher the amount of pension will be in proportion to the payments made by them later. The average monthly contribution paid by German citizens to the Pension Fund is 20% of their salary, half of which is paid by the employer. Payments are made at the expense of the state during civilian military service or at the time of women's maternity and child-rearing leave. Pension calculations are carried out based on individual coefficients (over the entire working life). It depends on the retirement age, length of service, salary, and type of pension. Most workers in Germany participate in private pension funds and have private pension plans. This model is directly related to demographic factors, in those times, the number of elderly people did not have a large share in the total population, and financial problems arose in providing them with pensions by the state. didn't come

The model created by U. Beveridge, an English economist who created the foundations of the social insurance system in Great Britain in 1942, assumes the need to strengthen the role of the state in the social sphere. According to him, the expenses of social allowances (aid) for families and the national health care system should be paid from the state budget, and other expenses (events) of social protection should be paid for by employers and workers and state subsidies. A distinctive feature of the Beveridge model: the state guarantees the social protection of the population; an employer is the implementation of social insurance of hired workers; the employee must carry out additional personal insurance.

The main elements of the Bismarck and Beveridge pension models are still present in the pension system in use in most countries today. In the scientific literature, these models are often compared and their advantages and disadvantages are identified. Table 1 below lists the main differences between the Bismarck and Beveridge pension models. Both models are widely used in practice, not in pure form. Different national pension systems use some elements of the Bismarck and Beveridge models based on the country's socioeconomic development, demographic factors, labor market, and financial market conditions.

**Table 1 Comparative analysis of Bismarck and Beveridge pension system models [6]**

	<b>Bismarck model</b>	<b>Beveridge model</b>
Foundations of organization	Compulsory pension insurance system	Social security system
The principle	Economic (professional) solidarity	Social solidarity
Funding source	Social insurance contributions	State budget (taxes)
Coverage	All working population	All residents
Amount of pension	Depends on the amount of insurance premiums paid	A minimum amount that does not depend on the contribution of labor
Level of state involvement	At a minimum	To the maximum extent
The degree of participation of the insured person	To the maximum extent	At a minimum
The purpose	Compensation for lost wages	Protection of citizens from poverty

Thus, the main elements of the Bismarck model formed the basis of the pension systems of countries such as France, Austria, Greece, Portugal, Germany, Finland, Spain, Sweden, and Belgium. The pension systems of Great Britain, Canada, the Netherlands, Denmark, Switzerland, Australia, and the USA are based on the Beveridge model.

In the US, there is a public pension system and a private pension system. Accordingly, US citizens provide themselves with not one, but three types of pensions: state; private team (by workplace), and private individual (by opening a personal pension account). In the "distributive" (state pension) system, pensioners receive a pension at the expense of contributions paid to the Pension Fund by currently working citizens. The largest public pension system in the United States is the general Federal program, which covers all people employed in the private sector of the economy. The program is based on the Social Security Act of 1935 and provides a minimum pension. The accumulation system includes both state pension programs and private pension programs. State pension programs in the accrual system are intended for citizens working in local bodies and the Government. Employees in the private sector of the economy can participate in the additional state pension system organized at the workplace. The program is formed from contributions made by employers based on fixed payments, in which employees do not participate. Every US citizen can open a personal retirement account in commercial and savings banks, mutual funds, and insurance companies. The annual amount of contributions to the personal retirement account is capped at \$2,000. Funds from this account cannot be withdrawn until the age of 59.5 years, and upon reaching the age of 79.5 years, the account is closed in a compulsory manner. These funds in the account are tax-free, however, withdrawals of these funds from the account and the closing of the account are subject to income tax. In the USA, the retirement age for persons born before 1938 is 65 years. Due to the increase in the life expectancy of the population, relevant amendments were made to the Law "On Social Security" and the retirement age was set at 67 years. The model of the US pension system is also used in several Latin American countries and Portugal. Due to the increase in the life expectancy of the population, relevant amendments were made to the Law "On Social Security" and the retirement age was set at 67 years. The model of the US pension system is also used in several Latin American countries and Portugal. Due to the

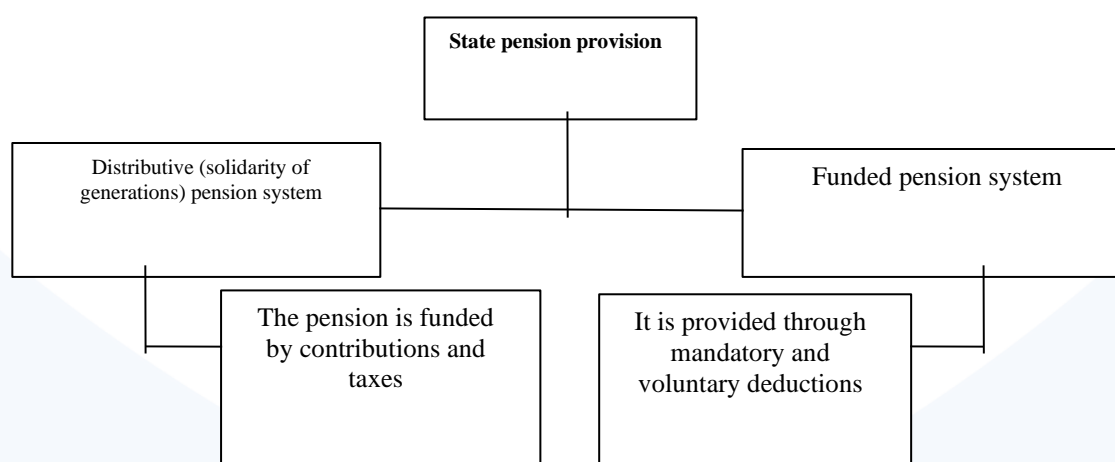
increase in the life expectancy of the population, relevant amendments were made to the Law "On Social Security" and the retirement age was set at 67 years. The model of the US pension system is also used in several Latin American countries and Portugal.

In the early 1980s, when pension system crises were expected, raising the retirement age (Germany, Greece, Italy, Portugal, Great Britain), increasing the length of service to receive a full pension (Germany, Greece, Italy), early retirement is mandatory. the processes of creating a strict system of conditions (France, Germany) have begun. During these periods, pension funds established based on pension insurance became the main participants of the national pension system.

In international practice, the pension system is classified in terms of calculating and paying insurance contributions. "In world practice, two programs are used to finance the pension system: defined contributions and defined payments - social benefits (defined benefit). These systems differ from each other in terms of the formation of social funds (budget) [7].

"The pension program of defined payments (or fixed payments) is a social program, in which future pensions will depend on the amount of the citizen's salary received in recent years, its indexation. Such contributions are calculated as a percentage of the employee's salary determined by the state [8]. The fixed payment program is formed from the contributions of entrepreneurs, the workers themselves do not participate in this financing system. Not only private programs but primarily federal programs (covering government employees and military personnel) are also built on a defined-fee system. However, in the 1980s and 1990s, other programs - the defined contribution program - developed rapidly in the private sector of the economy. This pension program was funded in equal shares by entrepreneurs and wage earners. In this case, each participant of this program will have his account number in the pension fund and the right to choose various investment programs offered by the management company.

The pension system in Uzbekistan is two-level, consisting of a "distributive" and a cumulative pension system based on the solidarity of generations (see Fig.1).



**Figure 1. Citizen pension provision in Uzbekistan  
organizational structure of the system[9]**



In the "distributive" pension system based on the solidarity of generations, employers and employees pay mandatory payments and contributions to the Pension Fund. Accumulated pension provision was introduced based on the Law of the Republic of Uzbekistan "On Accumulated Pension Provision of Citizens" adopted on December 2, 2004. This system makes it possible to increase the real income of pensioners and improve their standard of living.

**Table 2 Funded and unfunded (pay-as-you-go) comparison of systems [10]**

Criteria	Unfunded (PAYG) system	Funded system
The goal	Social justice to be provided	Achieving economic efficiency and a positive result
Demographic factors	It has a direct functional effect	The level of influence is not noticeable, everyone saves for himself
Funding sources	Current insurance premium current pension payment spent on	Current insurance premiums are private current in accounts is accumulated for the insured himself

It should be noted that distributed and accumulated pension systems have certain advantages and disadvantages. The main purpose of the shared pension system is to implement a mechanism to protect citizens from poverty, and this system is not adapted to demographic changes. The goal of the funded pension system is economic efficiency, which is characteristic of countries with a market economy. However, the funded pension system cannot be implemented immediately, and this system is very sensitive to changes in the financial markets.

Based on the above, the features of the pension system based on the solidarity of generations and accumulation can be expressed in the following table 2.

In a fully funded system, a citizen will have a future pension source for himself. Each deduction of a citizen is deposited into the account number of a specific bank or organization dealing with it.

### Conclusions and Suggestions

Accumulated pension is a form of social protection for the economically active population from various incidents related to loss of job, ability to work, and income. Funding from special off-budget social funds formed from targeted contributions of employees under the control of the state is a characteristic feature of the accumulated pension system.

In short, the accumulated pension system is the responsibility of the State budget to further improve the standard of living of pensioners based on increasing their real income, to establish a fair and effective system of social support for the elderly, and to finance pension payments in the context of the worsening demographic situation. lightening the load, making it possible to direct the accumulated funds to ensure the development of various sectors and sectors of the economy.

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