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Article

Ways of developing the pension system of Ukraine through the study of some European countries' experience

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Abstract: This article presents a comparative analysis and characteristics of the pension insurance systems of foreign countries, namely Germany, Sweden, Estonia, Poland, France with the aim of implementing their effective and noteworthy experience in Ukraine. The key indicators of the characteristics of the pension systems of these countries and Ukraine (amount of insurance contributions to the public pension fund; retirement age; insurance period; the ratio of the average pension to the average wage) have been studied and analyzed. Having examined these indicators, the authors came to the conclusion that the general trend in most countries of the world is that they guarantee only a minimum pension, which is caused by the increase in the share of pensioners in society. To solve the demographic problems affecting pension provision, the most countries increase the retirement age and provide financial incentives to stimulate citizens to work after the retirement age. To increase the pension, there are pension accumulation tools at the expense of the employer or at the expense of one's own funds. Following the example of foreign countries, the directions for improving the pension insurance system of Ukraine were allocated.

Keywords: pension system; pension contribution; retirement age; insurance period; replacement rate

1. Introduction

The analysis of national pension systems is of great importance for understanding how each country solves the problems related to the aging of the population and ensuring a sufficient level of social protection for its citizens. France, for example, is known for its mixed pension system, which includes both public and private components. In comparison, the Polish one has undergone significant changes during the reforms to ensure funding stability and sustainability.

Sweden, in turn, is known for its high level of social support for pensioners, as well as active involvement of the public in the decision-making process regarding pension reforms. Estonia, on the other hand, stands out for its innovative e-government system, which can serve as an example for other countries in improving the management of pension funds and reducing bureaucratic processes. Germany, as one of the largest economies in Europe, faces unique challenges related to the level of funding of its pension system amid demographic changes and economic turbulence.

Ukraine, for its part, is going through the painful process of socio-economic deterioration of the majority of the population. Thus, according to the UN, Ukraine is among the top 15 countries with the highest rates of population decline. According to UN, by 2050 the share of people over 60 will increase to 32%. The ratio between the population of working and retirement age in Ukraine will almost double. It should be emphasized that demographic changes in Ukraine generally correspond to global trends, but occur at a faster pace compared to the rest of the world because of the war on the territory of our country. Due to the full-scale invasion of Russia, about 20% of Ukrainians, or approximately 8 million citizens of Ukraine, are abroad. Most of them (42%) are women aged 35–49. More than a quarter are women aged 18 to 34. That is, the lion's share of Ukrainian refugees abroad are women of working and childbearing age. Most of them—about 70%—have university degree and worked in cities before the war According to international surveys, 65% of respondents plan to return to Ukraine someday, although the Ukrainian authorities are talking about returning at least half of their refugees (Vinokurov, 2023).

As of 1 April 2024, there were 10.2 million pensioners in Ukraine (out of this number, 2.7 million pensioners are still working), whose average pension is UAH 4623—about $126 at the official exchange rate (at the same time, about 2/3 of pensioners receive a pension less than UAH 4000, whilst pensions are the largest social expenditures of the Ukrainian budget) (Buturlym, 2024). Meanwhile, the number of working Ukrainians who could support the pension system with their contributions is decreasing exponentially faster than the number of retirees. Currently, there are also about 10.7 million of them, that is, the ratio of those who pay a single social contribution and pensioners is already one to one, that is, absolutely critical. The situation is further aggravated by the fact that some of the Ukrainian families separated during the war may be reunited abroad. As a result, after the end of the war from 100,000 to 745,000 citizens, mostly men, may go abroad. This trend can be partly observed even now. In addition, last year 120,000 Ukrainians received the status of persons with disabilities, that is, they will partially or completely drop out of the labor market as well (Zanuda, 2023).

According to the Center for Economic Recovery and the Institute of Demography, the country will lack 3.1–4.5 million workers by 2032 due to the departure of citizens. As a result, economic losses during this period may reach 113 billion dollars (Vinokurov, 2023). We cannot yet say exactly how the demographic situation in Ukraine will develop, but the trends are quite negative. There are reasons to believe that the ratio between workers and pensioners will worsen, and therefore there are great risks for the pay-as-you-go pension system.

As one can see, there is a number of problems that must be resolved immediately. The analysis of the functioning of the pension systems of the developed European countries will allow to identify the best practices and the most effective strategies that can be applied in our country. Moreover, studying different models enables to understand which aspects can be adapted to our own needs and conditions. Such analysis can serve as a valuable source of information for policy decision-making and help Ukraine to improve its pension system to ensure stability and economic well-being in the future.

2. Literature review

A number of theoretical studies are devoted to the concept of "pension system"; however, the research is ongoing, because in the process of functioning, the model of the pension system requires constant improvement and, as a result, its content and structural elements continuously change. Therefore, in order to most fully reveal the essence of the concept of pension system, it is necessary to conduct an analysis of scientific works on the topic of research.

The definition of the pension system as a complex of relations is, clearly, quite appropriate, but, in our opinion, not complete. We believe that the pension system as a comprehensive and multifaceted phenomenon in addition to a set of relations, should also contain relevant administrative institutions (primarily the pension fund as an extrabudgetary trust fund) and other actors of the joint and cumulative pension system.

In this regard, we recognize Overchuk's (2004) view, who states that the pension system is a complex system of institutions, relations and mechanisms, with the help of which pension funds are formed and appropriate conditions for pension provision are created, to be complex and scientifically correct.

Parkhomenko and Moiseenko (2021) examined the current state of the pension system in Ukraine. They proved that its demographic and gender indicators will allow to create an optimal pension system in Ukraine in the future, and justified the need for mandatory reform of the pension system in order to introduce the second level (cumulative) of the pension system, which will allow to have a decent European pension both for men and women.

Petrushka (2019) having examined pay-as-you-go and cumulative pension systems, came to the conclusion that the crisis of the first one began in some countries in the 1970s. The reason for this was the rapid aging of the population due to the increase in life expectancy and the low birth rate. One of the options for solving this problem for most countries was the introduction of a multi-level pension system, another—the increase in the retirement age. Currently, there are various models of pension systems in the world, but almost all of them are based on three main strategies: pay-as-you-go, cumulative and mixed ones. It is difficult to classify all the pension systems in the world, since each of them has its own peculiarities inherent one or another country; however, the pension systems of developed countries have a clear 3-level structure.

Cheberiako and Bykova (2020) substantiated the nature of the national models of the pension system and its structure in accordance with the concept of the Organization for Economic Co-operation and Development (OECD) and studied the peculiarities of formation of pension provision models in Ukraine and some other countries. On the basis of the conducted research, the further vectors of the formation of the domestic model of pension provision containing elements of both pay-as-you-go and cumulative pension insurance in mandatory and voluntary forms, are substantiated.

Vyhovska (2021) justified the need for the comprehensive study of modern problems of the development of non-state pension provision in Ukraine and formulating proposals for improving the effectiveness of the indicated institution for the future welfare of citizens. According to the results of the research, the advantages of non-state pension provision were clarified and the problems slowing down its implementation were identified.

Lypko (2023) devoted his research to the study of the main problems of the pension system of Ukraine and the search for ways to reform it. To solve this issue, he studied the world experience and proved that effective pension system is possible only if three levels are combined. An important factor is active participation of the population in ensuring their own pension.

Concerning the pension systems of the countries under consideration, the 125-year long history of the State pension system in Germany and its current status were the subject matter of the research by Zimakov (2016). The author studied its main stages and change of paradigms, development process, modern challenges it currently faces with a focus on demographic factor and described further political steps as well as main components of consequent reforms in this area.

Oorn (2004) considered the reform of the Estonian pension system with a focus on the operation of the new funded scheme, which involves centralised contribution collection, account management and record keeping.

Poteraj (2009) presented the overview of the French pension system, having highlighted 3 main aspects: its evolution, the present situation, challenges and future changes. The author comes to the conclusion that the main element of the French pension system is the mandatory public system, which is divided into four categories for various groups of occupations.

The basis of the Swedish NDC scheme's financial stability, factors influencing the adequacy of benefits, and its interplay with other components of the pension system: the public financial defined contribution scheme, the minimum pension guarantee, and the occupational schemes were the object of the examination by Edward Palmer and Bo Könberg (2019).

An overview of the Poland's pension system was provided by Kowalewski (2008), who conducted an analysis of the development of the public and private social security system since its reform in 1999, as well as described privately managed pension funds.

Currently, the pension system of Ukraine does not satisfy any of those involved: pensioners—because of the low amount of payment and injustice, when the principle of "the more you work—the higher the pension" is almost leveled; workers—through the realization of the futility of pension contributions, which definitely do not provide the person in old age; the State—due to the annual gap in the solidarity deficit.

This situation requires new approaches and systemic solutions, which led to the study's relevance. Therefore, the aim of the article is to conduct comparative characteristics of the pension system of Ukraine and other countries based on the chosen indicators with the aim of implementing their effective and noteworthy experience in Ukraine.

3. Methodology

The article uses a set of general and specific scientific methods, which contributed to ensuring the conceptual unity of the research. The substantiation of the theoretical provision of the state pension insurance was carried out on the basis of dialectical method.

The method of legal comparison was applied to compare pension systems of some European countries (Germany, Sweden, Estonia, Poland, France) with an aim of revealing positive foreign experience that could form the basis for reforming Ukrainian one.

Dogmatic approach was used to analyse Ukrainian legislation (Laws of Ukraine on Non-State Pension Provision, on Mandatory State Pension Insurance) governing the functioning of pension system in our country and EU legal instruments (Regulation 883/2004 and Directives 98/49/EU and 2014/50/EU) regulating some issues of pension provision in the commonwealth.

Analytical method helped to process and examine data on the pension systems' key indicators: amount of insurance contributions; retirement age; insurance period; the ratio of the average pension to the average wage.

Key concepts such as "pension", "pension system", "pension provision", "pension insurance" were identified with the help of the method of semantic analysis.

Application of the system and structural method allowed to study the structure of the pension systems in the countries under consideration.

Usage of summarization method made it possible to generalize the studied material and draw the conclusion about the necessity of reforming Ukrainian pension system, especially under current conditions, aggravated by the war and its consequences.

The chosen methods enabled to obtain objective and reliable comparative characteristic of the pension systems of the States under study.

4. Results and discussion

4.1. The history of pension provision

Historically, the concept of pension has been defined in ancient times. Namely, in the 1st century B. C. Julius Caesar approved the state support for the military after the end of service. With the States' development, there were also changes in the ideology of pension: in the past, it was a symbol of privileges, and only later it acquired a wider social meaning. For almost twenty centuries, various states provided people who completed their civil and military service with money and land.

The German chancellor, Otto von Bismarck, was the first to officially introduced state pension for all workers in 1889. 20 years later, Australia and Great Britain followed this example, but, for instance, the United States of America reached the state pension system only in the 1930s. The USSR, in turn, made the people entitled to an old-age pension only in 1956 (National Bank of Ukraine, 2024).

It should be noted that non-state pension funds are not an innovation; they have existed since the beginning of the 18th century. The very first pension fund based on the principle of "earn yourself a pension", was created in England.

If we talk about Ukraine, it is worth noting that the first mentions of the prototype of social payments, compensation for damage caused to human life and health, were documented on its territory in the 9th century. Among these documents is Yaroslav the Wise's collection of laws "Ruska Pravda", where such sorts of payments were provided for.

If we consider the feudal period, there were guild and merchant associations.

History mentions so-called mutual aid funds, which are a prototype of insurance in case of loss of a breadwinner and accidents. In 1899, a Workers' and Craftsmen's Accident Insurance Society was established on the territory of Ukraine. Pensions were first paid to the workers in the south; in 1904, 22 enterprises in Odesa insured their employees.

The general pension law first came into force on the territory of Ukraine in 1967. This was the law of the Ukrainian SSR on State pensions. This legal act provided that after reaching a certain age (55 years for women, 60 years for men), people were entitled to retire and receive benefits. First of all, it concerned the city workers specialties.

4.2. Pension system models

Nowadays, the pension system is understood as a set of legal, organizational, financial and economic institutions and rules, as well as specialized organizational structures, the purpose of which is the provision of material benefits to the non-working part of the population with material support in the form of pensions (Kulikova, 2018).

The pension system of all countries is primarily defined as a set of interconnected elements (structures, institutions), the combination of which varies in each State depending on historical, political and economic development.

In this regard, the concept of "pension provision model" is operating in foreign sources. According to the concept of the Organization for Economic Cooperation and Development, the pension model is defined as the "design" or "architecture" of the pension system, which is "based on the rules determining the right and level of payments simultaneously with the division of pensions into private and State ones in accordance with national accounts" (Chuhunov, 2017).

Thus, the national model of pension provision is the structure of the pension system formed in accordance with national legislation with individual features of the pension payments formation.

National models of pension provision are based on two well-known models of social security (Cheberyako, 2020):

- Model of the German chancellor O. Bismarck (classical (continental)). It establishes a strict connection between the level of social protection and the duration of professional activity. The basis of this model is the mechanism of social insurance, so social expenses are financed, mainly, at the expense of insurance contributions of employers and insured employees. Thus, this model provides for the implementation of the rule of equivalence when the amount of insurance payments is determined primarily by the amount of insurance premiums.

This model is based on the principle of social insurance and professional solidarity, which provides for the existence of insurance funds, managed on a parity basis by the owners of enterprises and hired workers. Such funds accumulate social deductions from wages, at the expense of which insurance payments are made. Funding of such systems usually occurs independently of the state budget, since this model of social protection contradicts the principle of budgetary universality (according to which the budget must contain all state revenues and expenditures without exception).

Today, this model, as a rule, is based not only on the principle of social insurance. For low-income members of society who do not have the opportunity to receive insurance social benefits (for example, due to lack of insurance experience), social protection is implemented through the principle of social assistance. These are auxiliary mechanisms that are deviations from the initial principles of the Bismarckian model. Thus, the development of the social assistance system leads to modification of this model and an increase in the share of budget financing of the social protection system. Despite the existence of the principle of compulsory social insurance, it is not always followed. This is due to marginal salary levels, above which either deductions are limited, or membership in the social insurance system is no longer mandatory (Sunchuk, 2015).

- Model of the British economist W. Beveridge (liberal-democratic (Anglo-Saxon)). The Beveridge model is based on the fact that any person, regardless of his (her) membership in the active population, has the right to minimal protection against disease, old age or other causes of resource depletion. In those countries that have chosen this model, there are sickness insurance systems, the attachment to which is automatic, and pension systems providing a minimum income to all older people regardless of their previous efforts to make deductions from wages (so-called social pensions as opposed to professional ones). Such social protection systems are financed through taxes from the State budget. In this case, the principle of national solidarity, which is based on the concept of distributive justice, prevails (Melkonian, 2020, p. 123).

The Anglo-Saxon model, which is the basis for the national pension systems of Denmark, Ireland, Great Britain, as well as the Netherlands, provides for additional methods of pension protection in relation to State pensions established in minimum fixed amounts—additional mandatory professional pension programs and personal pension insurance. At the same time, the continental model (Sweden, France, Germany, Belgium) is to a greater extent a differentiated form of the basic solidarity system, and other forms are of auxiliary value (Cheberiako and Bykova, 2020).

Thus, national model of pension provision is a structure of the pension system formed in accordance with national legislation with specific features of the pension payments formation. The development of financial and investment models of pension systems since the creation of the first prototype in Germany has been driven by changes in the gender and age structure of the population, globalization and rapid development of technology (Dorofeev and Tamashiro, 2023).

Modern pension systems function to a greater extent as mixed ones, combining the principles of the Bismarck's and Beveridge's models, that is, they use both distributive methods of financing and additional production support programmes in accordance with the distribution principle and based of the capitalization of contributions (Cheberiako and Bykova, 2020).

Many scientists tend to believe that the highest level of the efficacy of social guarantees for pensioners is achieved by creating a multi-tier pension system and by simultaneous operation of both models of the pension system.

Currently, there are various models of pension systems in the world, but almost all of them are based on three main strategies: pay-as-you-go, cumulative and mixed. It is difficult to classify all the pension systems, since each of them has its own peculiarities inherent one or another country; however, the pension systems of the developed States have a clear 3-level structure (Patrushka, 2019).

4.3. Pension system levels

To date, it can be observed that absolutely all developed countries find a reasonable compromise between state and private pensions in the form of a balanced three-level system. The States are building a personal model of the pension system taking into account their own national characteristics; in addition, the proportion of non-state pension in the pension system is gradually increasing.

The modern pension system combines economic and legal institutions to meet the needs of all sections of society. The level of pension insurance is determined using the following statistical indicators:

- Insurance contributions to the state pension fund;
- Retirement age;
- Insurance period;
- The ratio of the average pension to the average wage.

Besides, it is worth noting that the States use quite different models of pension systems, which include various institutions of social protection, such as pension insurance. The pension system of most states consists of three levels.

Germany. Level I—mandatory pension insurance; level II—“pension from the enterprise”; level III—taking care of one’s own old age privately.

France. Level I—basic pension regime; level II—mandatory additional pension provision; level III—voluntary pension savings.

Estonia. Level I—state pension provision; level II—mandatory pension fund; level III—additional pension fund.

Poland. Level I—National income of the targeted pension plan of the first level; level II—mandatory corporate plan; level III—voluntary corporate and individual programs.

Sweden. Level I—general state (basic) pension; level II—retirement pension; level III—personal pension savings.

As an example, let us show how the pension within multi-level pension system is calculated in some countries. For instance, in Germany there is a concept of “basic pensioner”. This is a conditional worker who worked 45 years for an average salary and retired after reaching the appropriate age. His estimated, so-called standard pension is 1441 euros in the west and 1381 euros in the east of the country. At the same time, not only work experience and the amount of deductions are taken into account, but also the age of the person who retires, the period of study, the presence of children, parental leave, service in the army and other life circumstances. All these data and criteria are transferred to so-called “pension points” and then again—to specific amounts (Zholkver, 2020).

In France, the primary tier contribution amounts to 14.95%–32.70% of remunerations, out of which the employer pays from 8.30% to 16.35%, and the employee pays from 6.65% to 16.35%. The level of contribution may not be higher than the gross remuneration equal to €2,773. The contributions paid are converted into pension points. A person has the right to the full pension if he or she is over 60 and provided the insurance period has not been shorter than 160 quarters, i.e., 40 years. The level of the benefit is calculated according to the following formula: $P = F \times \mathrm{R} \times C/160$, where: *P*—annual pension benefits, *F*—percent rate, which fluctuates from 25% (for people aged 60) to 50% (for people aged 65), *R*—an average gross remuneration, *C*—the contribution period expressed in quarters, 160—the number of quarters (Poteraj, 2009).

With the adoption of the Law of Ukraine "On Mandatory State Pension Insurance" and the Law of Ukraine "On Non-State Pension Provision", the reform of the pension system took place on the territory of our country as well. From this moment, the pension system in Ukraine formally consists of 3 levels and pension payments will come from 3 independent sources (Lazebnova, 2021). This method of distribution of pension savings should provide the possibility to balance the pension system and increase the standard of living during retirement.

The first level is the pay-as-you-go system of mandatory state pension insurance, which is based on the principles of solidarity and subsidization; pensions and social services are paid at the expense of the Pension Fund under the conditions and in the manner stipulated by the Law of Ukraine "On Mandatory State Pension Insurance" (Verkhovna Rada of Ukraine, 2003). This is the type of state pension provision that society is used to: working people pay set contributions to the pension fund of Ukraine, and the allowance are paid to today's pensioners at the expense of these contributions. At the same time, it does not take into account the amount of funds/taxes that the pensioner transferred to the pension fund during his (her) working experience.

The second level is the cumulative system of mandatory state pension insurance, which is based on the principles of accumulation of funds of insured persons in the accumulation fund and financing the costs of life pension insurance and one-time payments under the conditions and in the manner prescribed by the Law (Pokrova non-state pension fund, 2020).

In accordance with the requirements of this level, the employer must transfer funds to the employee's personal pension account to accredited non-state pension fund or Accumulation Fund. The employee, at the time of his (her) retirement, will receive payments from this account, the amount of which will directly depend on the amount of funds accumulated in his (her) own account (Petrushka, 2019).

The system of voluntary non-state pension provision belongs to the third level. It is based on the principles of voluntary participation of citizens, employers and their associations in the formation of pension savings in order for citizens to receive them under the conditions and in the order provided by the legislation on non-state pension provision.

In accordance with this system, natural persons and employers voluntarily transfer contributions for their own benefit or for the benefit of third parties to personal individual pension accounts in non-state pension funds. The size of the pension paid by the non-state pension fund directly depends on the amount of funds accumulated in the individual pension account; inheritance of savings is also provided.

The first and second levels of the pension system in Ukraine represent mandatory state pension insurance. The second and third levels of the pension system in Ukraine provide for the cumulative pension system.

The old-age pension in Ukraine is determined by the formula: Pension = average salary × SC × CIE, where: pension—the amount of pension according to age; average salary is an indicator of the average salary in Ukraine for the last three years prior to the award of the pension, with which the insurance contributions were paid; SC—individual salary coefficient—the amount of monthly salary to average salary; CIE—coefficient of insurance experience.

As one can see, it is the SC coefficient that correlates the employee's individual salary with the national average wage. Moreover, it is calculated as accurately as possible, which makes impossible unjustified equalization of pension entitlements without taking into account individual contributions to the pension system (equalization), thus ensuring social justice (National Institute for Strategic Studies, 2024).

As a result of this linkage, imbalances in the pension provision between individual citizens, "old" and "new" pensioners are emerging and are gradually increasing, which negatively affects the work of the national pension system as a whole. However, in the digital age, one can easily fix this problem – it is enough to introduce the individual replacement rate (IRR), which is calculated according to the formula: IRR = SC × CIE, where: IRR—individual replacement rate (ratio of individual and average salaries to retirement); SC—individual salary coefficient—the amount of monthly salary to average salary; CIE—coefficient of insurance experience.

4.4. Current state of pension system in Ukraine

Currently, only the first and third levels are functioning in Ukraine, that is, there is a mixed pension system based on the principle of generational solidarity. This means that those who work finance the pensions of those who have retired. That is, contributions made to the pension fund of Ukraine are used to pay pensions. However, such a concept has not been effective for a long time, and the war in Ukraine only exacerbated the existing problems in the country's economy:

The demographic situation has significantly worsened: human losses, the departure of Ukrainians abroad, outflow of the most active and educated part of the population, an increase in the number of people with disabilities.

According to the UN, Ukraine is among the top 15 countries in the world with the fastest rates of population decline. In the coming decades, population reduction will occur almost exclusively at the expense of the working-age population.

If the current rates of birth, death and migration are maintained, the UN predicts a decrease in the population of Ukraine by 28% by 2050. At the same time, the share of people aged 60 and over will increase to 32%; due to reduced number of employees paying the single insurance premium, solidarity insurance premiums (excluding military) decreased by 25%; according to statistics, economic activity decreased by 30% compared to 2022; the ratio of insured persons to pensioners is 1:1. That is, one working Ukrainian who pays the single insurance premium actually supports one pensioner. Due to migration, this ratio will only worsen, which will negatively affect the financing of solidarity pensions; the average amount of pension (UAH 4623) does not cover the basic needs of a person and is the lowest in Europe; replacement rate (percentage of salary that a person can receive as a pension) is about 30%, which means that on retirement, a person's income is reduced threefold.

The norm on the introduction of a mandatory cumulative system (second level) appeared in the Ukrainian pension legislation back in 2004, that is, 20 years ago. However, all these years the reform was "not on time" (Zaburanna, 2023).

The introduction of the second level of pension provision is not a know-how for Ukraine—most European countries have already gone through this path before. At the same time, another myth is widespread in Ukraine: it seems that cumulative systems in other countries often failed. But it is not true. Many countries in Eastern Europe faced problems in the implementation of mandatory cumulative pension provision, but these problems were caused by flaws in the design of the reforms. Almost all countries learned from their mistakes and restarted the reform. For example, since 1999 the Polish pension system has been based on three pillars: according to the first pillar, all employees have individual accounts within the state social security system; the second pillar is grounded on pension fund societies that manage open pension funds; the third pillar of the pension system is based on voluntary pension plans that are set up by either employers or individuals (Kowalewski, 2008).

The French pension system consists of 3 pillars as well: 1) public mandatory pension system, which includes the parts of the 1st and 2nd pillar and embraces a few hundred pension schemes, which can be divided into four basic categories: a) general scheme (Regime generale), b) special schemes (regimes speciaux), c) scheme for the self-employed, and d) scheme for farmers. The public pension system covers 98% of pension spending and is financed through pension contributions and taxes; 2) voluntary pension savings schemes, which constitute the 3rd pillar (Poteraj, 2009).

So far, only two countries in Europe could not do this and canceled the pension reform—the Russian Federation and Hungary.

It should be noted that there are several draft laws related to the reform of the pension system in the Legislative Plan of the Verkhovna Rada of Ukraine for 2024, but none of them is marked as European integration, which is a shame, because the issue of pension provision is both in the narrative and in the specific requirements of the European Commission to Ukraine.

Thus, it is about the compliance of Ukrainian legislation with the rules of EU Regulation 883/2004 on the coordination of the social security system (The European Parliament and the Council of the European Union, 2004) and two directives: 98/49/EU on safeguarding the supplementary pension rights of employed and self-employed persons (Council of the European Union, 1998) and 2014/50/EU on minimum requirements for enhancing worker mobility (The European Parliament and the Council of the European Union, 2014). Separately there is a clause that low pension requirements (age and length of insurance) are rising slowly; many pensioners are at risk of not even reaching the minimum subsistence level; this is especially true for women who previously could have received pension for men and are at risk of remaining in poverty in old age. And these are more specific guidelines about the nearest changes.

It cannot be stated that the European Commission has any categorical and unequivocal requirements for the parameters of pension provision in Ukraine in the context of joining the EU, because each country has its own unique system that is formed based on historical, cultural, economic and other factors. The EC Report of 1 February 2023 contain only clear requirements aimed at protecting the rights to pension payments of employees with the work experience in other Member States (European Commission, 2023).

At the same time, unsuccessful pension policy of an EU Member State will have consequences both for itself and for other countries and the commonwealth as a whole. And the biggest challenges are common: aging of the population, politically sensitive issue of raising the retirement age, economic and geopolitical crises, etc.

That is why the EC is working on documents, which may soon form the basis of social protection regulations and directives in the field of social protection in general and pension provision in particular, the norms of which will become mandatory for Member States. For example, in January 2023, the High-Level Working Group, created at the EC initiative and whose members were 12 leading scientists in the field of social policy, published the report "The future of social protection and of the welfare state in the EU" which, inter alia, paid attention to the issue of pension provision. After reviewing the report, the key, fundamental difference of discourses regarding the pension systems in Ukraine and the EU becomes evident—it does not concern only persons of pre-retirement or retirement age, it's a lot more than just payments and much more than social policy. The authors of the report consider the main function of the pension system to be "the provision of adequate income in old age after retirement within a reasonable period of time, minimizing poverty risks and maintaining the standard of living achieved during working life" (European Commission, Directorate-General for Employment, Social Affairs and Inclusion, 2023).

Ukraine, which claims to acquire EU membership in the near future, should already take into account the recommendations given for reforming its pension system, the need for which does not need to be proven.

4.5. Mandatory insurance contributions

Mandatory insurance contributions are the basis for the pension system of many countries of the world. At the same time, the deduction of mandatory contributions in most countries is divided between employees and employers (Kulikova, 2018).

The amount of mandatory pension contributions ranges from 9.8% to 33%. For example, in Sweden, 16% of an employee's salary is deducted for pension obligations, 2.5% are directed to the private pension account. In Poland, there are mandatory pension contributions (19.5% of the salary fund is deducted to the pension fund) and there are also private pension funds. In Estonia and Ukraine, contributions are higher than in the European Union. Most scientists consider this tax burden on the wage bill to be high compared to countries of the European Union. However, the Federal Republic of Germany also has one of the highest mandatory pension contributions among the EU countries, but despite all this, this burden does not affect the pension provision of the country's citizens (the situation is the same in the countries of the Northern Europe) (Eurostat, 2024).

4.6. Retirement age

In Europe, the retirement age is different for all countries. So, for example, in Germany, provided that the citizen has no disability or is not representative of another privileged category, it is possible to stop working as early as 65, and this figure is the same for both men and women. In France, the retirement age is 62; in addition, person must have at least 42 years of service to be paid in full; if the period of service is not sufficient, it is possible to finish up to 67 years and then get full payment. In Great Britain, both men and women can retire at the age of 66. In Iceland, Norway, Denmark and Greece, the retirement age is already 67. In Italy one can retire at 62 with 38 years of experience. In Finland the retirement age is 63, in Sweden—65, in Switzerland—65 for men and 64 for women, in Poland—60 years for women and for men 65 years, in Slovakia—62 years (Hlavkom, 2020).

One of the factors of reforming pension systems is the provision of gender equality in European countries, which is manifested in the trend towards the equalization of the retirement age of women and men. Consequently, in some States, the retirement age for both men and women are already the same today (among them are Estonia, Sweden and France); in other countries the process of equalization is taking place. It is worth noting that the period of raising the retirement age for women is quite long in some States (Poland, Germany). Above all, the difference in retirement age between men and women persists in post-socialist countries.

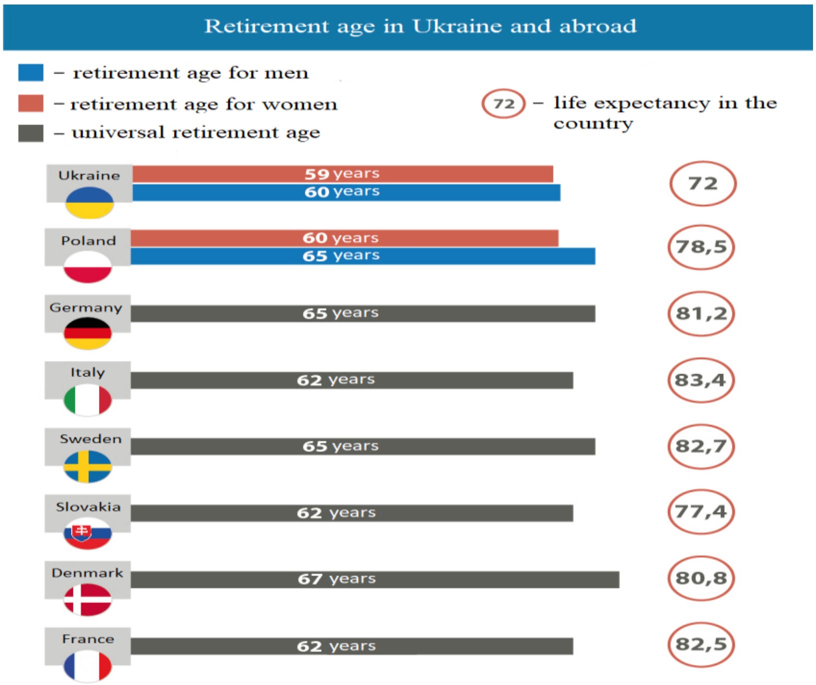

Figure 1. Retirement age in Ukraine and abroad.

By increasing the retirement age, the government is trying to reduce social benefits and the State budget deficit. The higher the retirement age, the longer people are forced to work and, consequently, transfer money to the social insurance system. Therefore, the authorities of a number of countries of the world are trying to raise the retirement age. In Great Britain, the retirement age has recently been raised from 65 to 66 and it is planned to raise it further to 68. In France, an attempt to raise the retirement age from 62 to 64 led to mass protests, so the authorities were forced to withdraw the issue. In Germany, the retirement age is increased by one month per year.

Despite the fact that the retirement age in Europe is still higher than in Ukraine, one should not forget about life expectancy. Thus, according to the data of the UN Development Program for 2018, the average life expectancy in Ukraine was 72 years (76.7 for women and 67 for men). At the same time, in Italy the average life expectancy is 83.4 years, in Switzerland—83.6, Sweden—82.7, in Germany and Great Britain—81.2, in Denmark 80.8, in Poland—78.5 years. It is noteworthy that even in Belarus life expectancy is higher than in Ukraine—74.6, and in Russia it is almost the same—72.4 years (**Figure 1**) (Hlavkom, 2020).

4.7. Minimum length of service required for retirement

Useful within the subject matter of our research is the analysis of the minimum length of service required for retirement, which varies considerably in different States.

For example, the shortest retirement insurance period is in Germany—5 years with an average pension of 1413 USD. France and Sweden have the longest insurance experience, while the rate is the same for both men and women. The average pension in these countries is 1393 euros and 1330 euros with 40 years of insurance experience. A relatively shorter insurance period is established in the pension system of Estonia—only 15 years, given that the average pension is much lower—774 euros. Poland establishes a longer insurance period, compared to Estonia—25 and 20 years for men and women respectively, but a smaller average pension—664 euros (Rozanov, 2015).

4.8. Replacement rate

A sign of the effectiveness of any pension system is the replacement rate—the percentage ratio of pension to wages. This indicator demonstrates the extent to which retirement income (after taxes) replaces recipients with their preliminary revenues from major sources before retirement. According to this indicator, pension systems of different countries can be compared.

Almost all countries are trying to ensure their citizens receive state pensions sufficient enough to meet the necessary financial needs. The basis of pension security is the distribution part in most States. With certain exceptions, the “lion’s share” of the replacement rate is formed within distribution systems. At the same time, cumulative systems can play a significant role (Kulikova, 2018).

In EU States, net average replacement ratio for all pension components, including the contributory part, is 66.7 per cent after 40 years of service. The average net pension replacement rate in the Netherlands is 100.6%, in Denmark—80.2%, in Italy—93%, in Austria—92%/ in Spain—82%, in Greece—58%, in Germany—56 (OECD, 2019).

In Ukraine, almost 60% of pensioners receive a pension of less than UAH 3000, that is, pension replacement rate is less than 29%. This is how the average pension is compared to the average salary. In practice, this means that a retiree starts to earn three times less, and, consequently, has to reduce his (her) expenses accordingly. And this despite the fact that according to the convention of the International Labor Organization, which was ratified by Ukraine, pension must be at least 40% of salary.

According to forecasts, income replacement at the solidarity level will continue to fall to 18%–20% due to demographic changes.

5. Conclusion

Reforming the pension system is not only relevant, we are 20 years too late, because pay-as-you-go pension system has long been exhausted. The introduction of a mandatory cumulative pension system in Ukraine is constantly being postponed. Even at the beginning of this process in 2004, Ukraine was one of the last countries of the former USSR, where only pay-as-you-go pension scheme was in place. Instead, contributory pensions have existed in the developed world for decades, which allowed them to achieve significant results in the sphere of pension provision. Thus, Allianz SE—German financial multinational corporation whose main activity is insurance—published the results of the annual research on pensions Allianz Global Pension Report 2023 with the rating of pension systems, which included 75 countries of the world. Among the leaders, in particular, are Sweden, Germany, France, Austria, Estonia (Allianz, 2023).

The key characteristic of the pension systems of these countries is a multi-level system. Usually, pension provision works simultaneously on three levels: the first is state or pay-as-you-go (basic pension); the second is professional or private (mandatory contributions to pension funds depending on the income of system participants); the third level is voluntary one.

These countries would not be able to succeed if only one of the levels operated.

Despite the challenges facing the pension systems of the EU countries (aging of the population; low birth rate; increasing the share of citizens of retirement age, the need to raise the retirement age for citizens and increase insurance length, instability of the financial sphere and frequent manifestations of financial crises, etc.), the governments of these countries find solutions to overcome the crisis phenomena. For example, Estonia approved a gradual increase in the retirement age from 63 to 65 and linked it to life expectancy. In 2020, Sweden raised the retirement age from 67 to 68 and to 69 —from 2023. In Germany, the retirement age is increased by one month per year and in 2029 it will reach 67 for everyone without exception (for comparison in Ukraine it is equal to 60 years for both men and women). In addition, the increase in the retirement age these States usually occurs at a slower pace than, for example, in the countries of Eastern Europe and the former republics of the USSR, because the retirement age in the former was set at a fairly high level from the very beginning.

If we turn to the question of the length of service required for retirement, then, for example, German legislation allows early retirement—at the age of 63, but for this one must have at least 35 years of work experience. However, the pension in this case will not be full; 45 years of service is required to get full pension, that is, one need to start working at the age of 18. The State will not pay a pension to those who have not worked anywhere or have less than 5 years of working experience.

In general, the countries of Western Europe introduced a minimum insurance period from 37 years to 40 years; in Ukraine, the insurance experience is 25–30 years.

Regarding the amount of pension contributions, Germany has set new minimum and maximum rates: no higher than 20% and no lower than 18.6% until 2025. In

Poland, these payments are divided equally between the employee and the employer, totaling 19.52% of the salary. The Social Insurance Office (ZUS) sends information to employees about the balance on their account and the expected amount of pension by 31 August every year. In Ukraine, they are equal to 18.5%, but we will not even compare the size of salaries in Europe and our country.

There is another assumption why the pension systems of these European countries are considered the most adequate and stable—most of them have at least one built-in automatic adjustment mechanism in mandatory pension plans, which is triggered under certain specified conditions and affects the design of the system itself. For example, the retirement age increases automatically when the expected life expectancy of the population raises.

Summarizing the above, it should be noted that the long-term experience of the functioning of pension systems indicates the need to transition to multi-level pension models. They provide an opportunity to use distribution and cumulative pension programs and allow retirees to receive several types of pensions. Ukraine has also followed the path of forming a multi-level pension model, but so far not very successfully. Clearly, Ukraine currently faces a number of challenges; in addition to the listed above, which are typical for all European countries, the functioning of the Ukrainian pension system is affected by war and the mass migration of the working-age population abroad, which is the result of it; increase in the proportion of citizens of pensionable age and decrease in the number of citizens of working age, insufficient in-house financial resources and need for external funds from international financial institutions, etc. All of it extra encouragement for implementing the best European practices of pension provision as soon as possible, bring Ukrainian legislation closer to the EU one, and develop additional measures that will help Ukraine to ensure an adequate quality of life for the elderly.

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