

## EUROPEAN EXPERIENCE IN THE FIELD OF PENSION PROVISION

**Viktor I. Shcherbyna** \*  
**Kateryna H. Shapovalova** \*\*  
**Yaroslav Ya. Melnyk** \*\*\*  
**Lesya Yu. Malyuha** \*\*\*\*  
**Mariya B. Mel'nyk** \*\*\*\*\*

---

### ABSTRACT

*The sustainability of pension systems directly depends on the quality of life of the population of retirement age, due to the fact that they form a social security system. The high level of life expectancy and the decrease in the number of births contribute to an increase in the elderly population, which thus provokes an increase in the cost of retirement provision of citizens. The COVID-19 pandemic has also left its mark on the stable functioning of the pension system. The purpose of this research is to study the effectiveness and relevance of the implementation of a multilevel pension system in European countries. The introduction of a multilevel pension system will create a more sustainable pension system, which will allow to balance the costs of social security for individuals in some way and reduce the level of social inequality between generations. To reduce the pressure on the working population and the state budget, we have proposed the transition to a 2-level pension system. The functioning of such*

---

\* Viktor I. Shcherbyna, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; shcherbyna8260-10@edu-knu.com.

\*\* Kateryna H. Shapovalova, State Service of Geodesy, Cartography and Cadastre in Poltava Region, Poltava, Ukraine; shapoval8260-10@neu.com.de.

\*\*\* Yaroslav Ya. Melnyk, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; melnyk8260-10@acu-edu.cc.

\*\*\*\* Lesya Yu. Malyuha, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; malyuha8260-10@edu.cn.ua.

\*\*\*\*\* Mariya B. Mel'nyk, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine; m.melnyk8260-10@sci-univ.com.

*a system is more promising and effective compared to the use of the system of state payments or the accumulation system.*

**KEYWORDS:** *reform, pension system, European countries, multilevel system, pensions.*

---

## **1. INTRODUCTION**

As of today, in all countries of the world, the trend of an aging population that is likened to society, despite the difference in economic well-being, is becoming widespread. After analyzing the demographics of several European countries, you can see a steady predisposition to an aging population.<sup>1</sup> European countries are concerned about the financial and economic situation, which is under threat due to the increase in the number of elderly.<sup>2</sup> The fears of the leadership of the countries are not unfounded, because the quality of life of the elderly population directly depends on pensions. After all, it is the basis of the system of social protection of the population. In the context of the development of market relations, the personal participation of citizens in the formation of pension funds becomes important.

Decisive is the impact of a steady trend of an aging population, which weakens the sustainability of retirement income systems. According to the forecasts of the European Commission by 2070, the share of the European population aged 65 years and older will reach 30% compared to today's 20%. The response of the leadership of European countries to increase the number of pensioners was reforms aimed at reducing the impact of negative demographic factors on the system of state payments and reducing costs from the state budget. However, the reforms were carried out to protect persons of retirement age and those who approached this period, which reduced the right to pension provision of the younger generation, and laid the foundation for the formation of an imbalance of generations.

According to the most common classification of pension income systems proposed by the World Bank, the pension system was divided into 3 levels: the first level was formed by a system controlled by the state, that is, it is the so-called PAY-AS-YOU-GO system, the second level is a private savings system, which is mandatory; level 3 form voluntary savings.<sup>3</sup> As practice shows, state

---

<sup>1</sup> Zaidi, A.: *Mainstreaming ageing: Indicators to monitor sustainable progress and policies.* New York, 2017, p. 34.

<sup>2</sup> Harper S.: *The challenges of twenty-first-century demography*, in: Torp C.: *Challenges of Agingm*, London, 2015, p. 18. [https://doi.org/10.1057/9781137283177\\_2](https://doi.org/10.1057/9781137283177_2)

<sup>3</sup> OECD: *Pension-system typology*, in: *OECD Pensions at a Glance 2005: Public Policies across OECD Countries.* Paris, 2006. [https://doi.org/10.1787/pension\\_glance-2005-3-en](https://doi.org/10.1787/pension_glance-2005-3-en)

pensions remain the most vulnerable to the aging process of the population.<sup>4</sup> In the fight for public funding, the largest expense item remains the pension system, which is the main competitor to other areas of social security, in particular, such as healthcare and health care.<sup>5</sup> Due to the high standard of life expectancy and a decrease in fertility, the number of the elderly population increased, which led to a gradual increase in the cost of retirement.<sup>6</sup>

Most European Union countries have reformed their pension systems over the past 30 years in response to an increase in the number of elderly people.<sup>7</sup> Reforms were implemented to reduce the number of costs compared to the projected ones, that is, they tried to reduce the impact of an aging population on public spending.<sup>8</sup> There was an increase in the retirement age in each state, early retirement was terminated, and several investments were made in the employment of the elderly.<sup>9</sup> A significant amount of funds was directed to training elderly workers.<sup>10</sup> In addition, the division of the projected life expectancy between increased working life and the extended retirement period will be the main measure in the process of combating an aging population.<sup>11</sup> However, quite often the reforms of the pension income system cause public discontent among political forces.<sup>12</sup>

Since the beginning of the 21st century, in the countries of the European Union, where there was a system of dominant (solidarity) level, the movement towards a multilevel system can be observed. To avoid poverty in old age, it is

---

<sup>4</sup> Eger, M.A. et al.: Welfare nationalism before and after the 'Migration crisis'. In: *Welfare State Legitimacy in Times of Crisis and Austerity*. Cheltenham, 2020, p. 178. <https://doi.org/10.4337/9781788976305.00021>

<sup>5</sup> Hinrichs, K.: Recent pension reforms in Europe: More challenges, new directions. An overview. *Social Policy & Administration*, 55(3) 2021, p. 412. <https://doi.org/10.1111/spol.12712>

<sup>6</sup> Fouejieu, M.A. et al.: *Pension reforms in Europe: How far have we come and gone?* Washington, 2021, p. 40

<sup>7</sup> Borchardt, K. et al.: *Enabling social Europe*, Berlin/Heidelberg, 2006, p. 24

<sup>8</sup> Hinrichs, K.: Recent pension reforms in Europe: More challenges, new directions. An overview. *Social Policy & Administration*, 55(3) 2021, p. 409. <https://doi.org/10.1111/spol.12712>

<sup>9</sup> De Tavernier, W. et al.: (2019). Delaying retirement, in: *Encyclopedia of Gerontology and Population Aging*, Cham, 2019, p. 4. [https://doi.org/10.1007/978-3-319-69892-2\\_167-1](https://doi.org/10.1007/978-3-319-69892-2_167-1)

<sup>10</sup> Walker, A. (2019). Introduction, in: Walker, A.: *The Future of Ageing in Europe*. Singapore, 2019, pp. 1-2. [https://doi.org/10.1007/978-981-13-1417-9\\_1](https://doi.org/10.1007/978-981-13-1417-9_1)

<sup>11</sup> Kuitto, K., Helmdag, J.: Extending working lives: How policies shape retirement and labour market participation of older workers. *Social Policy & Administration*, 55(3) 2021, p. 428. <https://doi.org/10.1111/spol.12717>

<sup>12</sup> Verbič, M., Spruk, R. Political economy of pension reforms: an empirical investigation. *European Journal of Law and Economics*, 47 2019, p. 171. <https://doi.org/10.1007/s10657-018-9606-7>

crucial to ensure a stable income, which is the goal of the solidarity pension system (PAYG), while the goal of the pension savings system (Funded) is to maintain the necessary living standards during retirement, as well as to recreate the social inequality that a person has received during his work activity. It is worth noting that these goals are part of a multilevel pension system, so their balance is significant.<sup>13</sup> However, the reforms protected only those of retirement age and those who approached this period reduced the rights to the pension provision of the younger generation thus forming an imbalance of generations. Over the past few years, some European Union countries have reversed their reforms.

During the Great Recession of 2008, the financial position of many countries weakened significantly, which emphasized the creation of reliable medium-term budget adjustment plans, which also includes reforms of the health-care and pension system.<sup>14</sup> At the same time, a kind of a step backward in the field of pensions was the abolition of several reforms in some European countries, which thus violated the stability of the functioning of this system. During the global COVID-19 pandemic, the risk of the resilience of the pension system reached its critical point, disproportionately affecting the young and working population. By 2020, most European Union countries have taken extraordinary short-term measures, including ensuring the purchasing power of pensioners and reducing or deferring contributions applied to employers.<sup>15</sup>

The main goal of the work is to investigate the impact of the reforms and find out the effectiveness of the implementation of a multilevel pension system in the European Union. Studying the impact of reforms on the pension system is important because increasing the resilience of pension systems directly depends on their modernization. Our study of European experience on the issue of pension provision will first of all be relevant for states that have announced their European integration policy (Ukraine, Georgia, Moldova, Serbia, Bosnia and Herzegovina, Albania, North Macedonia, Montenegro). To join the EU, these countries first need to improve and equalize their legislation to the level of European norms and laws. Implementation and compliance with European standards for these countries are of great importance because they make it

---

<sup>13</sup> Ebbinghaus, B.: Inequalities and poverty risks in old age across Europe: The double-edged income effect of pension systems, *Social Policy & Administration*, 55 2021, p. 440. <https://doi.org/10.1111/spol.12683>

<sup>14</sup> Clements, B.J. et al.: (2014). *Equitable and sustainable pensions*. Washington, 2024, p.123. <https://doi.org/10.5089/9781616359508.071>

<sup>15</sup> Natali, D.: Pensions in the age of COVID-19: recent changes and future challenges, in: *ETUI Research Paper-Policy Brief*, 13 2020. <https://dx.doi.org/10.2139/ssrn.3729359>

possible to realize the main goal of the welfare state, that is, to ensure high standards of living for the population. The EU countries are characterized by fairly high social standards and centuries-old experience of law-making, which allows countries with a lower level of development to rely on the experience of more developed countries to further formulate proposals for improving social legislation.

## **2. MATERIALS AND METHODS**

Achieving the goal of this study involves the use of several interrelated conceptual approaches, general scientific and special methods that form the methodological basis of this work, based on the principles of ascent from the abstract to the concrete, logical and historical, the laws of the subject's development and the laws of his knowledge. This approach will allow us to comprehensively investigate the issues of pension provision, as well as based on the obtained data to form their results and conclusions on this issue. At the same time, it is necessary to follow the principle of anthropocentrism, which, when considering the study of the pension sector, finds that the reformation of the outdated solidarity system is the main criterion for the effective development of the social security sphere of European countries. Among the general scientific methods, methods of analysis and synthesis of information, comparative method were widely used.

However, a fundamental, comprehensive study of the issue of pension provision could be considered impossible without the use of special methods of scientific study and cognition, including comparative legal and historical and legal methods. A comparative analysis of the European experience in reforming pension systems makes it possible to determine that most countries use individual pension schemes and their combination, which in particular in France, Italy, and Germany outweighs the use of a solidarity system, while Switzerland and Denmark have introduced a system of so-called "fixed rate".<sup>16</sup> Systemic and structural methods helped in studying the main elements of the reforms in the field of pensions, and research of a multilevel pension system. In particular, using the system-information method, the main problems that led to the impetus for reforms in the pension system were identified, among them a decrease in the level of employment of the population, a decrease in the birth

---

<sup>16</sup> Koval, N. et al.: Analysis of economic-financial experience of the world countries in the system of pension insurance. *Baltic Journal of Economic Studies*, 6(1) 2020, p. 2. <https://doi.org/10.30525/2256-0742/2020-6-1-1-8>

rate, and an aging population.<sup>17</sup> Using the method of analysis, we were able to investigate each of the levels of pension provision, and the peculiarities of its implementation, and with the help of synthesis we managed to form a general idea of the state, level, features of the functioning of legal regulation and the problems of the pension system.

The historical and legal method was used to study the development and formation of modern pension systems in the European Union. With the help of this method, it was established that Germany, given the progressive process of the aging population, became a pioneer and began the reform process, which was subsequently repeated by other countries.<sup>18</sup> The use of a historical approach in the study of social security of persons of retirement age provided an opportunity to determine the peculiarities of the genesis of the rules of law governing relations in the field of pension provision, and therefore, to determine the advantages and disadvantages of regulations governing this area. It is the historical approach that makes it possible to investigate the development of processes and events in sequence, allowing you to better understand the content of the legal security system used in EU countries. One of the key research methods was comparative law, which was used for a detailed study of the practice of European countries in the field of pension provision. The specifics of the subject of the study cause the need to use an analogy, induction, deduction, and synthesis, which became important in the assembly and processing of the material.

The study of pension provision can be considered inferior without the use of a sociological approach. Using this method, changes in legal regulation and stages of a reformation of the pension provision sphere were traced. This approach made it possible to trace the impact of economic changes and pension reforms on the level of social security for people of retirement age. The research methodology was based on a systematic approach, the specificity of which is determined by the fact that it focuses on the disclosure of the integrity of the object of study. From the standpoint of the stem approach, we considered the multi-level pension system as an important structural element of the social security system. The basics of the system method were also used in the study of regulations governing relations in the field of pension provision.

---

<sup>17</sup> Coelho, M.: Old-age pension systems: Characterization and comparability, *Financial and Monetary Policy Studies*, 48 2019, pp. 11-35. [https://doi.org/10.1007/978-3-030-29497-7\\_2](https://doi.org/10.1007/978-3-030-29497-7_2)

<sup>18</sup> Hinrichs, K.: New century – new paradigm: pension reforms in Germany, in: *Ageing and Pension Reform Around the World: Evidence from Eleven Countries*. Cheltenham, 2005. <https://doi.org/10.4337/9781845423377.00010>

The main stages of the study of the state of the pension sector and the directions of its reform in Europe include:

1. the hypothesis that, regardless of the economic condition and level of development, the pension sector in European countries has similar problems and challenges;
2. analysis of the state of the pension system and practice of European countries on reforming the pension sector;
3. forming a conclusion on the effectiveness of the implementation of a multi-level pension system.

The theoretical basis of this article is formed by scientific articles and researches of scientists about the experience of European countries in reforming pension systems, and the effectiveness of the use of multilevel pension systems. The materials and methods used allowed us to comprehensively, fully, and objectively analyze the issues of pension provision, and obtain probable, motivated conclusions and results.

### **3. RESULTS**

#### *3.1. PENSION REFORM TRENDS AND APPROACHES IN EU COUNTRIES*

There is a wide range of pension practices in European countries, but many common trends and approaches can be identified as follows:

**A mixed pension system model:** Some countries in Europe have a mixed pension system model that combines mandatory state pension elements with additional funded pension programs. This allows citizens to receive a guaranteed basic pension from the state and accumulate additional funds for retirement.

**Increasing the retirement age:** Many European countries are facing the problem of an increasingly aging population and demographic challenge. Therefore, some measures have been taken to increase the retirement age to ensure the financial sustainability of the pension system.

**Private pension funds:** Some countries in Europe have developed a private pension fund sector, which allows citizens to invest their money in pension programs and, thus, receive additional retirement support.

**Pension reform and adjustment:** Several European countries have undertaken pension reforms to make their pension systems more sustainable and resilient. Such reforms involve changing the pension calculating system, raising the retirement age, and changing the financing system.

Social equity: Several countries have emphasized social equity in their pension systems, through guaranteed minimum pensions and support for the disadvantaged.<sup>19</sup>

Given the negative tendencies to reduce the number of young and able-bodied population, we can conclude that the use of “PAYG” exclusively is economically unprofitable for further use in Europe. The use of pension distribution systems generates population stratification and loss of contact between generations because the burden of the problem of an aging population falls on the shoulders of the working population and the state budget. However, the complete transition to the accumulation system also contains certain risks. As the practice of the global crisis of 2008 shows, the accumulation system is quite sensitive to drastic changes in the economic situation of a particular state and the world as a whole. Given the current unstable economic situation of European countries caused by the COVID-19 pandemic, the introduction of a cumulative system of pension savings as the main type of income in old age is unreasonable and can lead to significant losses of funds not only by the state but also by people who invested them in non-state funds.

At the same time, non-state pension provision causes social inequality among the elderly, because the amount of funds allocated to a special pension fund depends on the level of earnings of an individual and his ability to invest in his future old age. Also, using only retirement savings systems is a fairly high risk of experiencing these savings and as a result, finding yourself below the poverty line in retirement age. Taking into account unfavorable demographic trends and current economic conditions for the creation of a sustainable pension system, subject to the introduction of a multilevel pension system will allow to balance the costs of social security of individuals in some way and reduce the level of social inequality between generations. We believe that the functioning of this pension system is more effective and promising compared to using only the system of state payments or the accumulation system.<sup>20</sup>

As a result of the reform of pension systems, pension provision in the countries of the world is becoming more and more common. In most foreign countries, a three-tier model of pension provision is being formed with a combination of solidarity and accumulative component. Pension provision according to this principle is carried out by public and private bodies in a mandatory and voluntary manner.

---

<sup>19</sup> Antoniuk, L., et al.: Code of ethics for SMEs: Substantiating the necessity and willingness to implement in Ukraine. *Problems and Perspectives in Management*, 16(3), 2018, pp. 150-162. doi:10.21511/ppm.16(3).2018.12

<sup>20</sup> Myles, J., Pierson, P.: *The comparative political economy of pension reform*, in: *The new politics of the welfare state*, Oxford, 2001, p. 305. <https://doi.org/10.1093/0198297564.003.0011>

Like the multilevel system proposed by the World Bank, the first level forms a system of public spending. The system of public spending should include minimum guaranteed payments for all citizens and state-calculated pensions. The minimum guaranteed income forms the basis of further pension provision, it is basic and must be guaranteed for all citizens, regardless of what the person was doing in working age. The minimum guaranteed pensions in other words can be called social security, the introduction of which reduces the level of poverty among the population of retirement age. While the state pension is dependent on the work experience of the employee. That is the greater the work experience of an individual employee, the greater his state-calculated pension income will be. The actual level of the system of public spending is formed from the taxes of the working population, but due to the effective implementation of non-state pension income, the economy will develop steadily, which will bring profit to the state.

The second level forms a non-state pension provision, the so-called system of pension savings, which can be both mandatory and voluntary. That is, it is a deduction of a certain percentage of a person's income to a special accumulation fund to an individual account. The introduction of a non-state pension provision is one of the main measures that significantly increase the level of retirement income of the population. The combination of a mandatory and voluntary system of savings at the level of non-state pension provision allows the population not only to personally regulate the level of their income in old age but also to start investing from a fairly young age, which will significantly increase the level of income. At the same time, the multilevel pension system has a significant impact on the functioning of the retirement age. Based on the results of research of other scientists, we see that the life expectancy of the population increases.

At the same time, we can conclude that the duration of the working period will also increase proportionally, which thus increases the number of the working population. Increasing the retirement age is perhaps the main measure aimed at combating the trend of an aging population. The simultaneous use of state-calculated pensions and the accumulation system minimize the risks caused by an increase in the number of elderly people and a difficult economic situation. In our opinion, the use of this classification makes the system more stable and resistant to external factors. The distribution of risks between levels in some way ensures the working population from reducing incomes after reaching retirement age, and also allows to reduce and in some way equalizes social stratification and inequality between persons of retirement age and the working population. The transition to a two-tier pension system is quite promising because this system contributes to the efficiency, sustainability, and diversity of pensions.

In the process of transition to a two-tier system of pension savings, dialogue between the state and members of society is important. Clarification of reforms takes key positions immediately before their implementation, but this should be approached with a clear understanding of what the state seeks to obtain in the end. After all, the population, first of all, strives to know and understand what awaits them in the future of the development of retirement income systems. However, the wrong approach to explaining to the population the essence of reforms quite often causes public discontent, which generates a conflict between the authorities and the people. Effective implementation of changes largely depends on the understanding of these reforms by the population and its readiness for modernization.

Taking into account the specifics of each European country, its economic development, political, demographic, and social situation, and the immediate mentality of the population, we can conclude that the introduction of a single unique pension system that would be fit for all European countries is impossible. It is necessary to create the necessary conditions for the effective implementation of a multi-level pension system because it is the implementation of this system that will become support not only the state and the economy but also the entire population of European countries.

In addition, the regulations of the European Union do not enshrine the concept of tier (pillar). From this, we can conclude that the legislation does not reflect the differences between the so-called 2nd and 3rd levels of pension systems.

### *3.2. EU COUNTRIES' AUTHORITY AND INFLUENCE ON THE PENSION POLICIES*

The sphere of pension provision is represented by a fairly significant number of international legal documents, characterized by the presence of a single line of the policy on the social security of people. International organizations play an important role in compliance with international legal standards in the pension sector. The foundation of the EU presupposed the creation of a new level of relations. Hence, international norms are applied to regulate national relations on social protection and interstate structures are created to manage social protection. It should be noted that the pension policy is adopted and implemented by each EU country at the national level. However, the EU supports national efforts to ensure a high level of social protection, including the level of pensions, which is carried out by promoting mutual learning and sharing of implemented practices that have positively affected the development of the pension system.

Each EU member state independently sets the retirement age, based on the demographic situation in the country, its economic opportunities, and priorities in the formation and implementation of political activities. However, our attention should be paid to the fact that the EU governing bodies are increasingly considering the issue of the so-called “harmonization” of national legislation, as well as the establishment of a single retirement age bar for all.<sup>21</sup> Also, it is worth paying attention to the fact that EU legislation does not detract from the authority of member states in matters relating to social security. In addition, the EU’s regulatory intervention in additional pensions is extremely difficult due to the lack of competence in social security issues, and the heterogeneity of pension schemes in the EU Member States. However, the EU has some authority over the pension policies of its member countries. For example:

- Social security coordination: The EU ensures coordination between national pension systems, allowing EU citizens who are entitled to a pension in one country to receive their pension benefits wherever they live in the EU.
- Directives on Supplementary Pension Schemes: The EU develops directives that deal with supplementary pension schemes, such as pension funds or employer pension plans. These directives set minimum standards for the protection of pensioners’ rights, transparency of information, and other aspects of ensuring the stability and security of supplementary pension schemes.
- Economic coordination: The EU regulates economic coordination and provides guidance to countries on sustainable and resilient pension systems. As part of the European Semester process, which assesses countries’ economic policies, recommendations may be made for pension system reforms to ensure financial sustainability and resilience<sup>22</sup>.

Although the EU has limited competence in the area of pensions, it can influence national pension policies through recommendations, standards, and legislation and promote cooperation and exchange of best practices between the countries.

One of the main features of social security in the member states of the European Union is that the principle of the welfare state is ensured not only by the constitution of this individual state but also by the EU, as an organization acts

---

<sup>21</sup> Haltsova, V.V. et al.: Criminal law as a means of protecting human rights and freedoms in the modern world. *Journal of the National Academy of Legal Sciences of Ukraine*, 28(3), 2021, pp. 248–256.

<sup>22</sup> Guliyeva, A., Britchenko, I., Rzayeva, U.: Global security and economic asymmetry: A comparison of developed and developing countries. *Journal of Security and Sustainability Issues*, 7(4), 2018, pp. 707-717. doi:10.9770/jssi.2018.7.4(8)

as a guarantor that each member state is a welfare state. It should be noted that modern pan-European approaches to pension reforms are characterized by a concentration of attention on the criteria for the adequacy of pension provision. For European countries, a viable and stable pension system and guaranteed pension payments belong to the fundamental principles and social rights of citizens, which are enshrined in the European Social Charter and the Social Program of the European Union «Modernization and Improvement of Social Protection». That is, the Charter formulated the most important conditions that provide for the realization of its social rights and the creation of normal conditions for life. It should be noted that the effectiveness of the fulfillment by states parties of the obligations set out in the Charter of Human Rights is determined not so much by the activity of national governments in their implementation, but by the availability of appropriate material resources because an underdeveloped economy does not provide an opportunity for full and qualitative satisfaction of basic social needs of people.

The multi-level system should be implemented in proportion to the problems that exist in the field of social security of a particular country and take into account the specifics of existing negative trends.

### *3.3. FEATURES OF THE PENSION SYSTEM AND REFORM IN EU COUNTRIES*

At this time, the issue of pension provision is quite relevant. This study makes a significant contribution and expands previous research into the field of pension provision. One of the main tasks was to analyze the effectiveness of the multilevel pension system.

According to previous research, the first full pension system in the world was the system of mandatory pensions, which was introduced in Germany by Otto von Bismarck in 1889.<sup>23</sup> However, since the mid-90s of the twentieth century, the dynamics of pension reforms in Europe have been growing, which in some way contradicts previous ideas about the sustainability of the pension system, specifically about the security of old age.<sup>24</sup> Some researchers note that pension reforms have gained the greatest intensity somewhere since 2000.<sup>25</sup> In the

---

<sup>23</sup> Clements, B.J. et al.: *Equitable and sustainable pensions*. Washington, 2014, p. 3 <https://doi.org/10.5089/9781616359508.071>

<sup>24</sup> Pierson, P.: *The new politics of the welfare state*. *World Politics*, 48(2) 1996, p. 149. <https://doi.org/10.1353/wp.1996.0004>

<sup>25</sup> European Commission.: *Pension reforms in the EU since the early 2000's: achievements and challenges ahead*. Luxembourg, 2016. [<https://data.europa.eu/doi/10.2765/04018>], 12/10/2022].

period after the global economic crisis, the UN developed several anti-crisis measures, among which the initiative on the minimum level of social protection, became the official policy of the UN.

Modernization of the outdated solidarity system is the main criterion for the effective development of the social security sector in Europe. The introduction of a system of non-state pension income will slightly improve the political and economic situation within Europe. That is why the beginning of the 21st century is characterized by the emergence of a multilevel pension system. The purpose of the multilevel pension system is to ensure a minimum stable income and maintain the level of pensions necessary for individual citizens and reduce the risks caused by the increase in the number of elderly people and the difficult economic situation. A significant role in the functioning of this system of retirement income is played by the tendency to increase the retirement age, which thus enables the population to work longer and increase the level of their incomes, as well as to increase the number of the working population. Increasing the age of retirement is one of the main areas aimed at combating the trend of an aging population.<sup>26</sup>

Each European country has its specificities regarding the pension system and reforms. Pension reform policies may vary depending on the political, economic, and social conditions of the country. Several European countries are particularly interesting for the analysis of pension systems and reforms, namely: the Netherlands, Sweden, Denmark, the Czech Republic, and Poland, which are considered examples of successful pension systems that combine sustainability, resilience, and social equity due to their different approaches to the pension sector.

The cases of Denmark, the Netherlands, and Sweden are characterized by a high level of pension coverage, social equity, and sustainability of pension systems. This is achieved through a combination of state support, collective funds, and private pension savings.

In the Netherlands, the pension system is based on the principle of collective pension provision. The main component of the system is the second pillar, which consists of collective pension funds (pension funds or insurance companies). Contributions to pension funds are made by both employers and employees. Upon retirement, the amount of the pension depends on earnings and length of service. The Netherlands also has a system of “financial equilibrium” with funds being invested to provide future pension benefits. The Dutch pension system was last reformed in 2015 intending to create a more sustainable and resilient system.

---

<sup>26</sup> Naegele, G., Bauknecht, J.: Extending working lives, in: *The Future of Ageing in Europe*. Singapore, 2019. [https://doi.org/10.1007/978-981-13-1417-9\\_5](https://doi.org/10.1007/978-981-13-1417-9_5)

In Sweden, the pension system is based on the model of mandatory individual pension accounts. The Swedish pension system consists of three pillars. The first pillar is the basic state pension; the second pillar is the possibility for employees to contribute to private pension funds; and the third pillar is additional voluntary pension savings. Sweden undertook a major reform of the pension system in the 1990s, replacing the old pay-as-you-go system with an individual savings system. This reform aims to ensure the efficiency of the pension system in the face of demographic change.

In Denmark, the pension system also includes elements of a mandatory state pension and additional private retirement savings. The Danish pension system consists of a first pillar providing a basic state pension, a second pillar of collective pension funds contributed to by employers and employees, and a third pillar of additional voluntary pension savings. Denmark has a long history of social security and the country's pension system is regularly updated and adapted to changing socio-economic conditions. Pension reforms aim to ensure the financial stability and fairness of the pension system.

In Austria, the pension system is based on the pay-as-you-go principle. Thus, pensions are financed by a joint pension fund to which both employees and employers contribute. The retirement age in Austria is calculated on the basis of years of service and the age of a person. There have been several reforms in recent years to ensure the financial sustainability of the pension system, such as raising the retirement age and changing the pension calculation system.<sup>27</sup>

The experience of pension reform in countries such as the Czech Republic and Poland is interesting in light of their Soviet past. In both countries, pension reforms are aimed at attracting the private sector and individual retirement savings, and ensuring a sufficient level of pension provision for future generations.

For example, in Poland, the pension system was substantially reformed in 1999. It is currently based on a system of capitalized and supplementary pension funds that operate alongside the mandatory state pension system, better known as the «third pillar». This system allows employees to make additional contributions to private pension funds to provide for their retirement. One of the key reforms was a change in the calculation of pensions, which increased the role of individual savings and private pension funds.

The Czech pension system is based on a mixed model. It includes the state pension system, supplementary pension funds, and individual pension ac-

---

<sup>27</sup> Osiejewicz, J.: Studies in politics, security and society/global governance of oil and gas resources in the international legal perspective. In *Studies in Politics, Security and Society-Global Governance of Oil and Gas Resources in the International Legal Perspective*, 2020, pp. 1–412

counts. Employees are required to contribute to the state system and can choose to divert a portion of their contributions to supplementary pension funds or individual pension accounts. In recent years, the Czech Republic has implemented reforms to ensure the sustainability of the pension system and to raise the retirement age.<sup>28</sup>

On the other hand, EU candidate countries face challenges related to the aging of their population, the financial sustainability of the pension system, and high levels of pension underfunding. Hence, reforms are aimed at ensuring a more effective pension system for citizens.

In Moldova, for example, the pension system is based on a mixed model that includes a mandatory state pension and a supplementary funded pension system. The mandatory state pension is based on the length of insurance and earnings. In addition, employees can voluntarily contribute to a funded pension system based on individual pension accounts. In recent years, Moldova has implemented reforms to its pension system to ensure financial stability and increase pension levels. These reforms include changes to the pension calculation system, enhanced control over benefits, and an increase in the retirement age.

In Georgia, the pension system is based on a system of accumulating individual pension accounts. Citizens can voluntarily contribute to their pension accounts for future pension payments. The government also provides guaranteed minimum pension payments for people with low incomes. Georgia has also been implementing reforms to its pension system to improve its sustainability and efficiency. The reforms include changes to the pension calculation system, raising awareness of pension options, and developing a financial market for investing pension assets.<sup>29</sup>

### *3.4. COMPARISON OF DIFFERENT PENSION SYSTEMS*

However, the number of elderly people is increasing every year. The use of exclusively state pensions is economically unreasonable and leads to an increase in public debt in many European countries. According to the European Commission estimates, by 2070 the share of the European population aged 65 years and older will reach 30% compared to today's 20%.<sup>30</sup> Previous studies

---

<sup>28</sup> Inshyn, M. et al.: Correlation of labor and civil contracts related to the performance of work: Preventing the substitution of concepts. *Employee Responsibilities and Rights Journal*, 33(4), 2021, pp. 265-279. doi:10.1007/s10672-021-09373-3

<sup>29</sup> Inshyn, M., et al.: Transformation of labor legislation in the digital economy. *InterEU-LawEast*, 8(1) 2021, 39-56. doi:10.22598/iele.2021.8.1.3

<sup>30</sup> European Commission.: European commission report on the impact of demographic change, 2020. [[https://ec.europa.eu/info/files/report-impact-demographic-change-reader-friendly-version-0\\_en](https://ec.europa.eu/info/files/report-impact-demographic-change-reader-friendly-version-0_en)], 12/10/2022.

have found that in response to negative demographic processes, several reforms were introduced aimed at raising the retirement age, which thus will increase the number of the working population.<sup>31</sup> It was also confirmed that traditional PAYG is outdated and its further functioning is economically unprofitable, so the introduction of a system of non-state savings will improve the situation in some way. A significant element of most pension income systems belongs to the state's calculated pensions, paid at the expense of taxes levied on the working population.<sup>32</sup> Supporters of the 3-tier pension system expect that its use will increase the transparency of the system and ensure a higher level of retirement income.<sup>33</sup>

According to the 3-tier system proposed by the World Bank, pension reforms were aimed directly at the gradual reduction of state-calculated pensions and the expansion of the accumulation system, which led to an increase in privatization and finance pensions. Directly, when switching to a multilevel pension system, the private flow increases, which leads to an expansion of the system of non-state pension savings, as well as reliance on state pension payments, which become a kind of basis for further savings.<sup>34</sup> The use of some pension systems allows you to recreate the inequality that was created by the labor market, while others allow you to equalize the differences between people of retirement age and in a certain way equalize retirement income. The combination of professional and social pensions allows us to best protect the population of retirement age from poverty.<sup>35</sup>

Some analysts are supplementing the 3-tier pension system with another zero level, which contains schemes without contributions aimed at overcoming poverty among people of retirement age.<sup>36</sup> Other researchers point to the im-

---

<sup>31</sup> Hess, M. et al.: Planned retirement timing in Europe: Are Europeans adapting to the policy of extending working lives. *Frontiers in sociology*, 6 2021, 691066. <https://doi.org/10.3389/fsoc.2021.691066>

<sup>32</sup> Barslund, M.: Pension systems in the EU – Some policy issues, *Intereconomics*, 55 2020, p. 69. <https://doi.org/10.1007/s10272-020-0873-5>

<sup>33</sup> Schiff, J.A. et al.: III Introduction of a three-pillar pension system. In: *Pension Reform in the Baltics*, Washington, 2001. <https://doi.org/10.5089/9781557759689.084>

<sup>34</sup> Ebbinghaus, B.: The privatization and marketization of pensions in Europe: A double transformation facing the crisis, *European Policy Analysis*, 1(1) 2015, p. 60. <https://doi.org/10.18278/epa.1.1.5>

<sup>35</sup> Kuivalainen, S. et al.: Length of working life and pension income: Empirical evidence on gender and socioeconomic differences from Finland. *Journal of Pension Economics and Finance*, 19(1) 2020, p. 128. <https://doi.org/10.1017/S1474747218000215>

<sup>36</sup> OECD: Pension-system typology, in: *OECD Pensions at a Glance 2005: Public Policies across OECD Countries*. Paris, 2006. [https://doi.org/10.1787/pension\\_glance-2005-3-en](https://doi.org/10.1787/pension_glance-2005-3-en)

portance of using a pension system like Bismarck and Beveridge.<sup>37</sup> The use of the Beveridge system aims to reduce poverty, but in some cases, it cannot effectively do so, while the use of the Bismarck system, due to its focus on maintaining status, brings better results. Policy-based studies mainly analyzed certain reform measures and their impact on the pension sector.<sup>38 39</sup>In particular, a large number of studies were aimed at studying the impact of pension system reforms aimed at increasing the duration of working life.<sup>40 41 42</sup>It should be noted that a large number of reforms were aimed at delaying retirement, due to the fact that the progressive trend towards an ageing population makes it an important need for financially motivated pensions.<sup>43</sup> However, it is worth paying attention to the fact that the European Commission has put forward a recommendation to increase the retirement age to 70 years.

Most research scientists note that an important role in the formation of the pension system is played by the economic factor. Its impact is expressed in non-intensive economic growth, budget deficits, financial instability, and debt load, which is present in many European countries. All this stands in the way of pension systems regarding their promises regarding the formation of retirement income.<sup>44</sup> This study provides a new insight into the multilevel pension system. It was found that the resilience of the pension system depends both on the ability of the state and society to finance the system and on non-gov-

---

<sup>37</sup> Bonoli, G.: Two worlds of pension reform in western Europe. *Comparative Politics*, 35(4) 2003, p. 400. <https://doi.org/10.2307/4150187>

<sup>38</sup> Kuitto, K., Helmdag, J.: Extending working lives: How policies shape retirement and labour market participation of older workers. *Social Policy & Administration*, 55(3) 2021, p. 426. <https://doi.org/10.1111/spol.12717>

<sup>39</sup> Möhring, K.: Consequences of non-standard working and marital biographies for old age income and poverty. *Social Policy and Administration*, 55 2021, p. 461. <https://doi.org/10.1111/spol.12720>

<sup>40</sup> Geppert, C. et al.: Labour supply of older people in advanced economies: The impact of changes to statutory retirement ages, in: *OECD Economics Department Working Papers*, No. 1554, Paris, 2019. <https://doi.org/10.1787/18151973>

<sup>41</sup> Ebbinghaus, B., Hofäcker, D.: Revising early retirement in advanced welfare economies: A paradigm shift to overcome push and pull factors, *Comparative Population Studies*, 38 2023, p. 811. <https://doi.org/10.12765/CPoS-2013-24en>

<sup>42</sup> Riekhoff, A.-J. et al.: Substitution and spill-overs between early exit pathways in times of extending working lives in Europe. *International Social Security Review*, 73 2020, p. 32. <https://doi.org/10.1111/issr.12237>

<sup>43</sup> Komp, K.: Shifts in the realized retirement age: Europe in times of pension reform and economic crisis. *Journal of European Social Policy*, 28(2) 2018, p. 137. <https://doi.org/10.1177/0958928717709174>

<sup>44</sup> Florișteanu, E.: Repercussions of economic and social factors on Pension Systems, *Procedia Economics and Finance*, 6 2013, p. 630. [https://doi.org/10.1016/s2212-5671\(13\)00182-2](https://doi.org/10.1016/s2212-5671(13)00182-2)

ernmental organizations. According to the results of the study, the most productive is the introduction of a multilevel system of retirement savings to the needs of each specific country. Through the use of a two-tier pension system, a balanced relationship between generations is restored, which will further provide a stable basis for the formation of further pension policies.

After analyzing the pension system of the EU countries, we can conclude that the main task of pension reform in European countries was to reduce the burden on the state budget in the part related to pension payments; an increase in revenues to pension funds, which also include non-state funds; optimization of pensions, their harmonization with European social standards and the ratio of pension payments depending on insurance premiums. It should be noted that EU Directive 2016/2341 of the European Parliament and of the Council on the activities and supervision of labor pension institutions extends its effect to professional pension participants who also operate mandatory employment-related pension schemes, which are considered social security schemes. These schemes fall under EEC Regulation 1408/71 and 574/72. In addition, this Directive 2016/2341 states that in the EU internal market, professional pension institutions should be able to work in other Member States, providing a high level of protection and security for members and beneficiaries of professional pension schemes.<sup>45</sup>

#### **4. CONCLUSIONS**

Thus, we can conclude that taking into account the negative trends in the field of social welfare of the population, it was necessary to modernize the pension systems of European countries. Basically, reforms were introduced to reduce public spending on the pension sector. To reduce the pressure on the working population and the state budget, this article proposed the transition to a 2-level pension system. The first level is formed by the system of state payments, consisting of the minimum guaranteed payments and the state-calculated pension. While the second level consists of a system of non-state payments, which are divided into mandatory and voluntary. The simultaneous combination and application of the system of state payments and the accumulation system gives citizens the right to manage the level of their income, which further allows them to ensure the level of residence they need.

---

<sup>45</sup> Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs) (recast) (Text with EEA relevance). EUR. (n.d.). [[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L\\_.2016.354.01.0037.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.354.01.0037.01.ENG)], 12/10/2022.

From our point of view, the use of a multilevel pension system by European countries is quite effective, because it allows the distribution of the risks of subsequent economic crises and some negative demographic factors, which makes the pension system more stable and resistant to negative factors of social development than the previous one. The use of state benefits and retirement savings in one system reduces the impact of social inequality between generations and within generations and reduces the threat of the transition of the poverty line in old age. The introduction of a 2-level system of retirement income is quite effective because it allows for protecting the population from a decrease in the level of income at retirement age and will ensure the stable development of the economy of European countries. A rather significant contribution to the functioning of this system of retirement income is the tendency to increase the retirement age, which thus enables the population to work longer and increase the level of their incomes, as well as increase the number of the working population.

At the same time, taking into account the level of economic development, the mentality of the population, and the political and demographic situation, we can conclude that there is no universal pension system that would meet the needs of all European countries. Given that destabilizing processes in each European country are spreading at different speeds, the introduction of the necessary levels of the pension system should be aimed at solving the problems that exist in a particular state, and not in the region as a whole. At the same time, to avoid conflict between the management apparatus and society, it is important to clarify the goal of reforms, the expectations of the state from its implementation, and the immediate final result after the changes.

## **LITERATURE**

1. Antoniuk, L., et al.: Code of ethics for SMEs: Substantiating the necessity and willingness to implement in Ukraine. *Problems and Perspectives in Management*, 16(3) 2018, 150-162.  
– DOI: [https://doi.org/10.21511/ppm.16\(3\).2018.12](https://doi.org/10.21511/ppm.16(3).2018.12)
2. Barslund, M.: Pension systems in the EU – Some policy issues, *Intereconomics*, 55 2020, pp. 69-72.  
– DOI: <https://doi.org/10.1007/s10272-020-0873-5>
3. Bonoli, G.: Two worlds of pension reform in western Europe. *Comparative Politics*, 35(4) 2003, pp. 399-416.  
– DOI: <https://doi.org/10.2307/4150187>
4. Borchardt, K. et al.: *Enabling social Europe*, Berlin/Heidelberg, 2006, 339 p.

5. Clements, B.J. et al.: (2014). *Equitable and sustainable pensions*. Washington, 2024, 431 p.  
– DOI: <https://doi.org/10.5089/9781616359508.071>
6. Coelho, M.: *Old-age pension systems: Characterization and comparability*, *Financial and Monetary Policy Studies*, 48 2019, pp. 11-35.  
– DOI: [https://doi.org/10.1007/978-3-030-29497-7\\_2](https://doi.org/10.1007/978-3-030-29497-7_2)
7. De Tavernier, W. et al.: (2019). *Delaying retirement*, in: *Encyclopedia of Gerontology and Population Aging*, Cham, 2019, pp. 1-9.  
– DOI: [https://doi.org/10.1007/978-3-319-69892-2\\_167-1](https://doi.org/10.1007/978-3-319-69892-2_167-1)
8. Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs) (recast) (Text with EEA relevance). EUR. (n.d.). [[https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AAOJ.L\\_2016.354.01.0037.01.ENGj](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AAOJ.L_2016.354.01.0037.01.ENGj)], 12/10/2022.
9. Ebbinghaus, B.: *The privatization and marketization of pensions in Europe: A double transformation facing the crisis*, *European Policy Analysis*, 1(1) 2015, pp. 56-73.  
– DOI: <https://doi.org/10.18278/epa.1.1.5>
10. Ebbinghaus, B.: *Inequalities and poverty risks in old age across Europe: The double-edged income effect of pension systems*, *Social Policy & Administration*, 55 2021, pp. 440-455.  
– DOI: <https://doi.org/10.1111/spol.12683>
11. Ebbinghaus, B., Hofäcker, D.: *Revising early retirement in advanced welfare economies: A paradigm shift to overcome push and pull factors*, *Comparative Population Studies*, 38 2023, pp. 807-840.  
– DOI: <https://doi.org/10.12765/CPoS-2013-24en>
12. Eger, M.A. et al.: *Welfare nationalism before and after the ‘Migration crisis’*. In: *Welfare State Legitimacy in Times of Crisis and Austerity*. Cheltenham, 2020, pp. 177–198.  
– DOI: <https://doi.org/10.4337/9781788976305.00021>
13. European Commission.: *Pension reforms in the EU since the early 2000’s: achievements and challenges ahead*. Luxembourg, 2016. [<https://data.europa.eu/doi/10.2765/04018j>], 12/10/2022.
14. European Commission.: *European commission report on the impact of demographic change*, 2020. [[https://ec.europa.eu/info/files/report-impact-demographic-change-reader-friendly-version-0\\_enj](https://ec.europa.eu/info/files/report-impact-demographic-change-reader-friendly-version-0_enj)], 12/10/2022.
15. Florișteanu, E.: *Repercussions of economic and social factors on Pension Systems*, *Procedia Economics and Finance*, 6 2013, pp. 627-633.  
– DOI: [https://doi.org/10.1016/s2212-5671\(13\)00182-2](https://doi.org/10.1016/s2212-5671(13)00182-2)
16. Fouejjieu, M.A. et al.: *Pension reforms in Europe: How far have we come and gone?* Washington, 2021.

17. Geppert, C. et al.: Labour supply of older people in advanced economies: The impact of changes to statutory retirement ages, in: OECD Economics Department Working Papers, No. 1554, Paris, 2019.  
– DOI: <https://doi.org/10.1787/18151973>
18. Guliyeva, A., Britchenko, I., & Rzayeva, U.: Global security and economic asymmetry: A comparison of developed and developing countries. *Journal of Security and Sustainability Issues*, 7(4) 2018, 707-717.  
– DOI: [https://doi.org/10.9770/jssi.2018.7.4\(8\)](https://doi.org/10.9770/jssi.2018.7.4(8))
19. Haltsova, V.V., et al.: Criminal law as a means of protecting human rights and freedoms in the modern world. *Journal of the National Academy of Legal Sciences of Ukraine*, 28(3), 2021, pp. 248–256.
20. Harper S.: The challenges of twenty-first-century demography, in: Torp C.: *Challenges of Agingm*, London, 2015.  
– DOI: [https://doi.org/10.1057/9781137283177\\_2](https://doi.org/10.1057/9781137283177_2)
21. Hess, M. et al.: Planned retirement timing in Europe: Are europeans adapting to the policy of extending working lives. *Frontiers in sociology*, 6 2021, 691066.  
– DOI: <https://doi.org/10.3389/fsoc.2021.691066>
22. Hinrichs, K.: *New century – new paradigm: pension reforms in Germany*, in: *Ageing and Pension Reform Around the World: Evidence from Eleven Countries*. Cheltenham, 2005.  
– DOI: <https://doi.org/10.4337/9781845423377.00010>
23. Hinrichs, K.: Recent pension reforms in Europe: More challenges, new directions. An overview. *Social Policy & Administration*, 55(3) 2021, pp. 409-422.  
– DOI: <https://doi.org/10.1111/spol.12712>
24. Inshyn, M. et al.: Correlation of labor and civil contracts related to the performance of work: Preventing the substitution of concepts. *Employee Responsibilities and Rights Journal*, 33(4), 2021, pp. 265-279.  
– DOI: <https://doi.org/10.1007/s10672-021-09373-3>
25. Inshyn, M., et al.: Transformation of labor legislation in the digital economy. *InterEULawEast*, 8(1) 2021, 39-56.  
– DOI: <https://doi.org/10.22598/iele.2021.8.1.3>
26. Komp, K.: Shifts in the realized retirement age: Europe in times of pension reform and economic crisis. *Journal of European Social Policy*, 28(2) 2018, pp. 130-142.  
– DOI: <https://doi.org/10.1177/0958928717709174>
27. Koval, N. et al.: Analysis of economic-financial experience of the world countries in the system of pension insurance. *Baltic Journal of Economic Studies*, 6(1) 2020, pp. 1-8.  
– DOI: <https://doi.org/10.30525/2256-0742/2020-6-1-1-8>

28. Kuitto, K., Helmdag, J.: Extending working lives: How policies shape retirement and labour market participation of older workers. *Social Policy & Administration*, 55(3) 2021, pp. 423-439.  
– DOI: <https://doi.org/10.1111/spol.12717>
29. Kuivalainen, S. et al.: Length of working life and pension income: Empirical evidence on gender and socioeconomic differences from Finland. *Journal of Pension Economics and Finance*, 19(1) 2020, pp. 126-146.  
– DOI: <https://doi.org/10.1017/S1474747218000215>
30. Möhring, K.: Consequences of non-standard working and marital biographies for old age income and poverty. *Social Policy and Administration*, 55 2021, pp. 456-484.  
– DOI: <https://doi.org/10.1111/spol.12720>
31. Myles, J., Pierson, P.: The comparative political economy of pension reform, in: *The new politics of the welfare state*, Oxford, 2001, pp. 305-333.  
– DOI: <https://doi.org/10.1093/0198297564.003.0011>
32. Naegele, G., Bauknecht, J.: Extending working lives, in: *The Future of Ageing in Europe*. Singapore, 2019.  
– DOI: [https://doi.org/10.1007/978-981-13-1417-9\\_5](https://doi.org/10.1007/978-981-13-1417-9_5)
33. Natali, D.: Pensions in the age of COVID-19: recent changes and future challenges, in: *ETUI Research Paper-Policy Brief*, 13 2020.  
– DOI: <https://dx.doi.org/10.2139/ssrn.3729359>
34. OECD: Pension-system typology, in: *OECD Pensions at a Glance 2005: Public Policies across OECD Countries*. Paris, 2006.  
– DOI: [https://doi.org/10.1787/pension\\_glance-2005-3-en](https://doi.org/10.1787/pension_glance-2005-3-en)
35. Osiejewicz, J.: Studies in politics, security and society global governance of oil and gas resources in the international legal perspective. In *Studies in Politics, Security and Society Global Governance of Oil and Gas Resources in the International Legal Perspective*, 2020, pp. 1-412  
– DOI: <https://doi.org/10.3726/b16688>
36. Pierson, P.: The new politics of the welfare state. *World Politics*, 48(2) 1996, pp. 143-179.  
– DOI: <https://doi.org/10.1353/wp.1996.0004>
37. Riekhoff, A.-J. et al.: Substitution and spill-overs between early exit pathways in times of extending working lives in Europe. *International Social Security Review*, 73 2020, pp. 27-50.  
– DOI: <https://doi.org/10.1111/issr.12237>
38. Schiff, J.A. et al.: III Introduction of a three-pillar pension system. In: *Pension Reform in the Baltics*, Washington, 2001.  
– DOI: <https://doi.org/10.5089/9781557759689.084>

39. Verbič, M., Spruk, R. Political economy of pension reforms: an empirical investigation. *European Journal of Law and Economics*, 47 2019, pp. 171-232.  
– DOI: <https://doi.org/10.1007/s10657-018-9606-7>
40. Walker, A. (2019). Introduction, in: Walker, A.: *The Future of Ageing in Europe*. Singapore, 2019, pp. 1-28.  
– DOI: [https://doi.org/10.1007/978-981-13-1417-9\\_1](https://doi.org/10.1007/978-981-13-1417-9_1)
41. Zaidi, A.: *Mainstreaming ageing: Indicators to monitor sustainable progress and policies*. New York, 2017.

