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The performance of the Romanian pension system from the perspective of sustainability, adequacy and equity

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Abstract. *Ensuring financial security in old age is an important goal of all contemporary societies. Public pension systems have become a foundation of income security for the elderly in most countries, being one of the main pillars of the welfare state. An effective pension system is one that manages to achieve its objectives, namely combating poverty among the elderly and maintaining a decent standard of living in old age, under the conditions of ensuring intra- and intergenerational equity. In the context of an aging population, the major challenge for our societies is to ensure an adequate income for the elderly without putting excessive pressure on the younger generations. The paper aims to achieve a multidimensional analysis of the performance of the pension system in Romania from the perspective of sustainability, adequacy and equity.*

Keywords: pension systems, ageing, financial sustainability, adequacy of pensions, intra- and intergenerational equity

JEL Codes: H55, J26

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1. Introduction

The Romanian pension system is a multi-pillar system, resulting from the implementation of successive reforms that have been carried out since 1990. Demographic aging is one of the main factors that have made it necessary to reform pension systems in all European countries (European Commission, 2021a). The growing costs associated with pensions and healthcare in the decades to come as a result of the constant aging of the population are expected to have a negative impact on the financial sustainability of social protection systems in the medium and long term.

In recent years, Romania has experienced a significant change in its population structure as a result of the sharp decline in fertility, the increase in life expectancy, and external migration. The fertility rate has gradually declined from 13.6 live births per 1,000 inhabitants in 1990 to only 7.8 live births per 1,000 inhabitants in 2022. Life expectancy has increased significantly in recent years and is expected to continue to rise. In 1990, life expectancy at birth was 69.9 years, and in 2021 it was estimated at 72.8 years. In

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Romania, life expectancy at birth is projected to increase by 11.6 years for men (from 71.9 years in 2019 to 83.5 years in 2070) and by 9 years for women (from 79.5 years in 2019 to 88.5 years in 2070) (European Commission, 2021b). External migration is also a phenomenon with significant effects on demographic evolution. The migratory flow intensified with the abolition of visas and the granting of the right to free movement in the European Union. According to the Romanian Ministry of Foreign Affairs, 5.7 million Romanians live in the diaspora today.

All of these developments have led to a significant demographic aging. In 1990, the population aged 65 and over represented 10.3% of the total population. This share has been growing steadily in recent years and reached 19.5% in 2022, surpassing the share of the young population, aged 0-14, which was 16.2% (Eurostat data). Demographic aging, although it is partially the result of a positive phenomenon, represented by the increase in longevity, still has negative consequences in terms of the increasing dependency ratio of the elderly and the burden on social protection systems. The pension system does not make an exception, and there is a risk of affecting its financial sustainability and ability to meet its core objectives, namely to combat poverty among the elderly and to ensure a decent standard of living in old age.

2. Literature Review

The main objectives of any pension system, from the perspective of beneficiaries, are consumption smoothing throughout the lifecycle and to insure against the risk of having an insufficient income in old age. The pension system must provide the individual with an income at retirement in exchange for the contributions paid by him during his working life, thus realizing a transfer of consumption from the working years to the retirement years (Barr & Diamond, 2008). In addition, from the perspective of the government, any pension system should contribute to the prevention of poverty among the elderly and to the redistribution of income and well-being in society.

Ensuring income security in old age is an important aim of any modern society. Public pension systems have emerged as a cornerstone of income security for older adults across the majority of countries, they are one of the main elements of the welfare state (Rosado-Cebrian, Peris-Ortiz & Rueda-Armengot, 2020).

One of the key social policy challenges facing ageing societies is to ensure that all people have an adequate income in old age without placing too much of a burden on younger generations. In light of the funding and sustainability challenges facing social security systems due to demographic changes, it is very important to ensure the long-term balance between resources and expenditures to guarantee that societies will fulfill their commitments to older individuals (ILO, 2019).

Today, the pension system in Romania has a four-pillar architecture:

- Pillar I: A mandatory public pension scheme (pay-as-you-go, based on intergenerational solidarity);
- Pillar II: A pre-funded private pension scheme (defined contributions, part of the individual contributions initially earmarked for the public pension system are now accumulated in individual accounts);
- Pillar III: A voluntary private pension scheme (defined contributions, with voluntary participation and individual accounts);

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- Pillar IV: An occupational pension scheme with optional participation (defined contributions, with voluntary participation and individual accounts).

This paper aims to analyse the performance of the Romanian pension system in terms of sustainability, adequacy, and equity. We consider that a well-performing pension system should effectively achieve its primary goals of alleviating poverty among the elderly and ensuring a comfortable standard of living in old age while maintaining fairness within and between generations.

3. Analysis of the Romanian pension system performance

3.1. Sustainability of the Romanian pension system

The concept of sustainability was introduced by economists in 1980. They argued that current generations should not commit to more renewable natural resources than their ability to regenerate, and non-renewable resources should only be used if technological progress would allow for the substitution of those natural resources in the future.

In the early 1990s, the concept of sustainability was also used in the field of public finance, in the context of the implications of demographic aging.

Pension expenditures represent an important part of public expenditures in almost all countries. A financially healthy public pension system is essential for the sustainability of public finances as a whole, and this, in turn, is important for overall economic performance and global growth.

Sustainability can be defined in a narrow or a broad sense (Mattil, 2006). In a narrow sense, sustainability is ensured if a pension system will remain accessible in the future. Sustainability in a broad sense, in addition to financial factors, also involves non-monetary aspects of the system's stability, which is closely linked to the perception of the system's distributive equity. If the working-age population does not perceive the pension system as being equitable and providing adequate pensions, they will avoid participating in the system. Therefore, financial aspects interfere with the credibility and acceptance of the pension system by the population.

The analysis of financial sustainability can be carried out by comparing the current level of public spending on pensions as a share of GDP with the projected level.

Currently, in Romania, the expenditures of the State Social Insurance Budget (SSIB) exceed the revenues, the deficit of this budget being increasingly large. The evolution of the SSIB balance as a percentage of GDP can be tracked in the graph below (Figure 1). It can be easily seen that the problems in ensuring the resources needed to pay pensions and other SSIB expenditures continue throughout the entire analyzed period, annually being necessary significant transfers from the state budget to balance the budget. Starting in 2008, with the implementation of Pillar II, part of the contributions that fueled the public pension system were redirected to the mandatory private pension scheme. As the contribution rate to Pillar II has increased and the number of participants in this pension scheme has increased, a deepening of the deficit in the public system has been observed.

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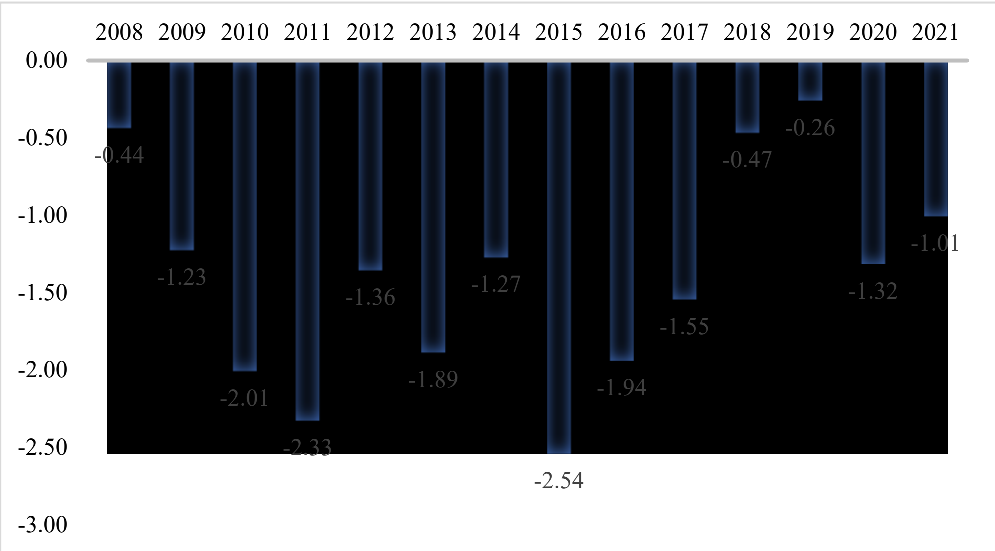

Figure 1: The State Social Insurance Budget balance as a percentage of GDP, in the period 2008-2021 (without the State Budget subsidies) (%)
Source: Author's calculations based on data provided by the National Institute of Statistics, TEMPO online database

The level of public spending on pensions as a percentage of GDP has fluctuated between 6.5% and 8.5% in the analyzed period (Figure 3). An important influencing factor in terms of the level of spending on pensions is also the decisions taken by the government regarding the increase in the value of the pension point.

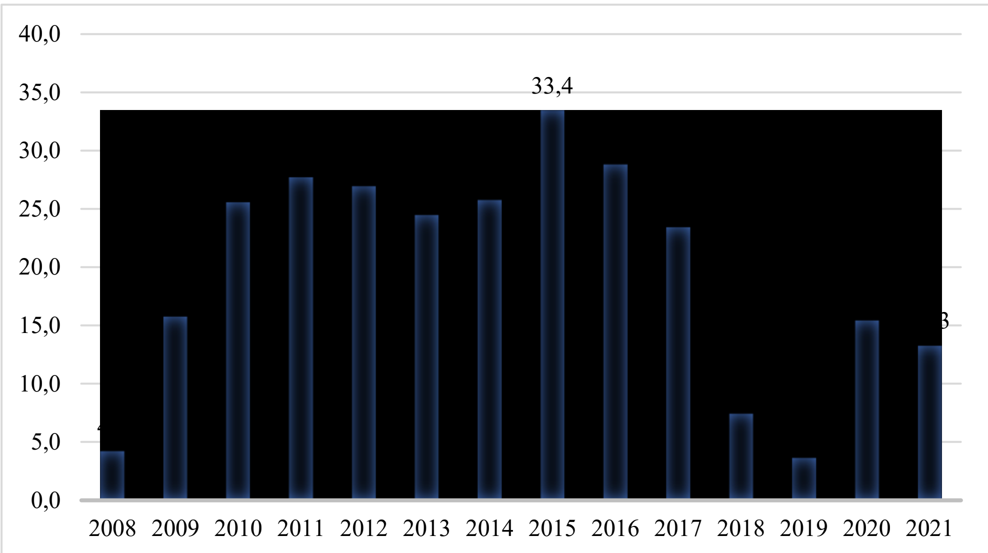

Figure 2. Share of the State Budget subsidies in total SSIB revenues, in the period 2008-2021 (%)
Source: Author's calculations based on data provided by the National Institute of Statistics, TEMPO online

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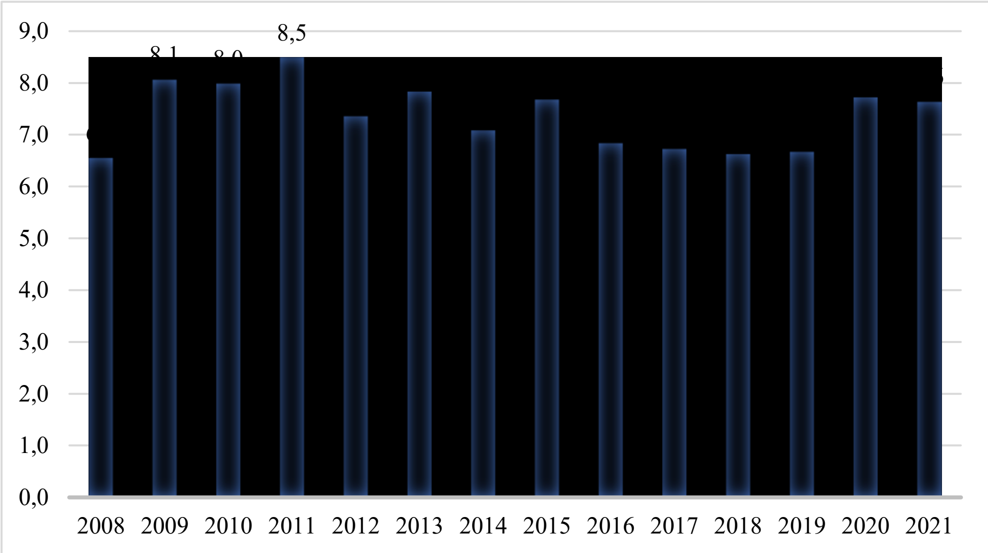

Figure 3. Public pension system expenditures as a percentage of GDP, in the period 2008-2021 (%)
Source: Author's calculations based on data provided by the National Institute of Statistics, TEMPO online database

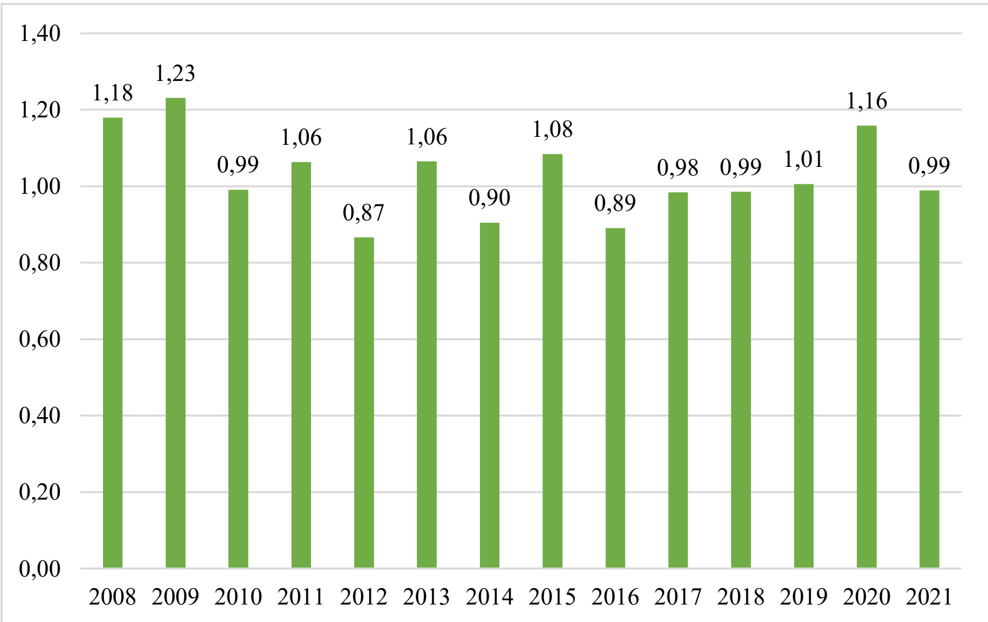

Figure 4. Correspondence coefficient between the growth of SSIB expenditures and the growth of GDP
Source: Author's calculations based on data provided by the National Institute of Statistics, TEMPO online database

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Analyzing the correspondence coefficient between the growth of SSIB expenditures and the growth of GDP for the entire analyzed period (2008-2021), it is found that in some years the value of this coefficient was supraunitary, which signifies a more rapid change of BASS expenditures in relation to GDP.

To track the future evolution of the pension system in Romania, we will analyze the long-term forecasts underlying the Report prepared by the experts of the European Commission: The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070).

The evolution of public spending on pensions as a percentage of GDP in the period 2019-2070, as forecast by the European Commission, is shown in Figure 5.

It can be observed from the graph that, among all the countries analyzed, Slovenia is the country with the highest risk regarding ensuring the sustainability of the public pension system in the long term. The projected increase in public spending on pensions as a percentage of GDP in Romania in the period 2019-2070 is 3.8 percentage points (pp) compared to only 0.1 pp at the EU27 level. Latvia, Estonia, Croatia, and Poland will show an improvement in the financial sustainability of the pension system. The explanation for this evolution is mainly related to the inclusion in the public pension systems of an automatic mechanism for permanent adjustment of the level of pension and the degree of coverage of the system depending on the evolution of some objective indicators (such as the demographic dependency ratio).

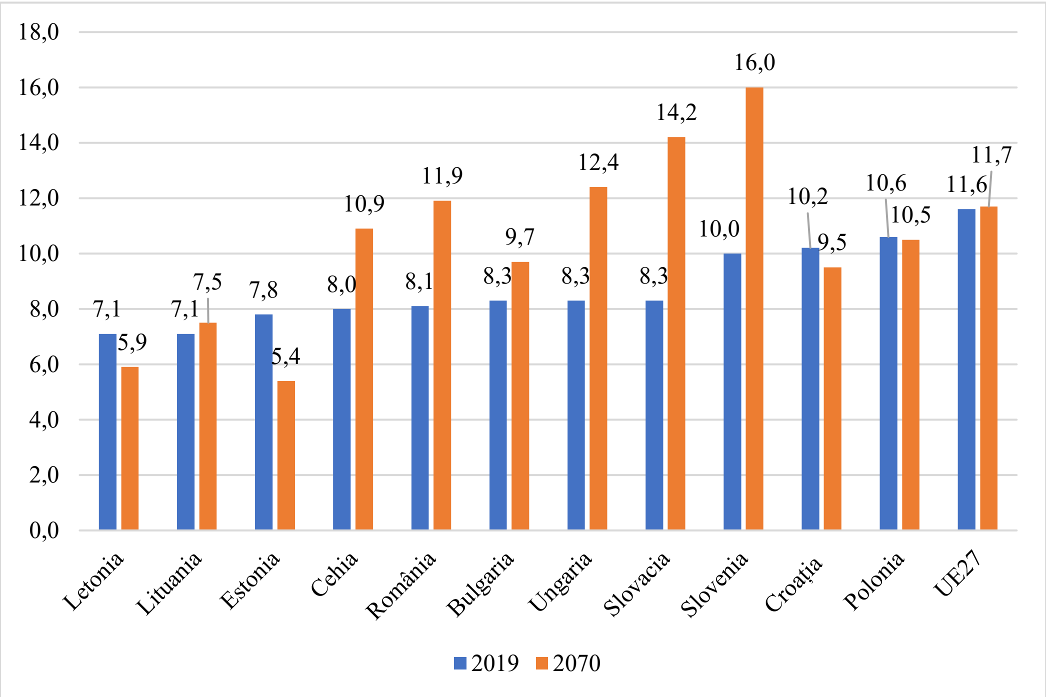

Figure 5. Evolution of public spending on pensions as a percentage of GDP, in the period 2019-2070
Source: European Commission, The 2021 Ageing Report. Economic and Budgetary Projections for the EU Member States (2019-2070)

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In Romania, although the level of public spending on pensions as a percentage of GDP is below the EU27 average in 2019, these, under the conditions of maintaining the current legislation in the field of pensions and the conditions of demographic developments, will reach in 2070 to surpass the EU27 average (see table 1).

Table 1. Estimates of the evolution of public spending on pensions in the period 2019-2070, in the EU27 and Romania (% of GDP)

	2019	2030	2040	2050	2060	2070	2070/2019
România	8,1	12,9	14,2	14,8	13,6	11,9	3,8
UE27	11,6	12,5	12,8	12,6	12,1	11,7	0,1

Source: European Commission, The 2021 Ageing Report. Economic and Budgetary Projections for the EU Member States (2019-2070)

3.2. Pension adequacy in the Romanian pension system

Indicators of the adequacy of pensions for current pensioners, which we will analyze further, indicators that highlight how pension systems play the role of combating poverty and preserving the standard of living after retirement are the following:

- At-risk-of-poverty rate of people aged 65 and over (source: EU-SILC survey);
- At-risk-of-poverty rate for pensioners (source: EU-SILC and ECHP surveys);
- Aggregate replacement ratio for pensions (source: Eurostat, EU-SILC survey);
- Median relative income of elderly people (source: EU-SILC survey).

At-risk-of-poverty rate for older persons is an indicator that highlights the proportion of people with an equivalent disposable income below the poverty line before social transfers, a threshold that is set at 60% of the equivalent disposable income at the national level (after social transfers).

In 2021, the at-risk-of-poverty rate for people aged 65 and over was 16.8% in the EU27, while in Romania the indicator reached a level of 22.0% (Table 2). Other countries where at-risk-of-poverty rate exceeded 20% were Latvia, Estonia, Lithuania, Bulgaria, Croatia, Malta, Ireland, and Portugal. At the other end of the spectrum were France, the Czech Republic, Slovakia, and Luxembourg, countries where the at-risk-of-poverty rate was around 10%. In 18 out of the 27 Member States of the European Union, the at-risk-of-poverty rate among the elderly increased in 2021 compared to 2012.

However, these large differences between countries should be viewed with caution, as only monetary income is taken into account when assessing the relative position of older persons. There are some Member States where older persons have free access to or subsidized certain social services (health services, transport, etc.). In addition, the wealth acquired by the individual (private savings, real estate properties) is not taken into account, which influences the distribution of pensioners' incomes.

In terms of the at-risk-of-poverty rate among pensioners, it decreased in 2021 compared to 2012 in only nine Member States. In 2021, the EU27 average was 15.7%, and Romania was above this, with an average at-risk-of-poverty rate for pensioners of both sexes of 20.1%, an increase of 7.6 percentage points

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from 2012. The countries where pensioners are most affected by the scourge of poverty are Latvia, Estonia, Lithuania, Bulgaria, Croatia, Malta, Cyprus, Ireland and Romania, with indicator values exceeding 20%. However, the indicator treats poverty as a relative concept and not as an absolute one. By decreasing or increasing national disposable income, the reference threshold falls or rises (it is set at 60% of the national equivalent disposable income) and thus the relative position of pensions to this threshold changes.

An important factor that influences the role of pensions in reducing poverty among older people is the coverage rate of pension systems.

Table 2. The evolution of the at-risk-of poverty rate for people aged 65 and over and for pensioners

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
At risk-of-poverty rate for people aged 65 and over										
Romania	14,4	14,5	15,7	19,4	19,1	20,0	22,8	25,1	24,5	22,0
EU27	14,2	13,3	13,2	13,7	14,3	14,7	15,5	16,1	17,1	16,8
At risk-of-poverty rate for pensioners										
Romania	12,5	13,0	14,5	18,3	17,8	18,0	21,3	23,5	23,3	20,1
EU27	13,1	12,4	12,3	12,8	13,5	13,8	14,5	15,1	16,2	15,7

Source: Eurostat, EU-SILC and ECHP surveys

An important aim of the pension systems, alongside that of combating poverty, is that of preserving the standard of living after retirement. The aggregate replacement ratio is an indicator of the degree of adequacy of the pension, which shows the maintenance of the standard of living after retirement at a level comparable to that reached during active life. The indicator is defined as the ratio between the median gross individual pension of people in the age group 65-74 and the median gross individual wage for people in the age group 50-59, excluding other social benefits.

At the EU27 level, in 2021, the aggregate replacement ratio was 0.58, which means that the median pension level reached approximately 58% of the median wage (Table 3). This level may indicate a low replacement income or a low coverage rate of pension schemes, but it may also mean careers with frequent interruptions or reduced contributions to the system due to undeclared work. It should also be noted that the aggregate replacement ratio is an indicator based on data on gross income and that factors such as differences in household composition, the structure of taxation systems, social protection systems, etc. can have a strong influence on the standard of living of individuals.

In Romania, the value of the aggregate replacement rate is 38%, which is much below the EU average, placing our country in one of the last positions in the European Union. Only Bulgaria and Lithuania have lower aggregate replacement rates than Romania.

The median income of older people is another indicator that can be taken into account when characterizing the degree of adequacy of pension systems. It is expressed as the ratio between the median equivalent disposable income of people aged 65 and over and the median equivalent disposable income of people in the age group 0-64. This calculated indicator is relevant for assessing the overall income situation of older people compared to the situation of the active population, as it also takes into account the composition of the household (reflecting the household's equivalent income).

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In 2021, the median relative income ranged from 61% in Latvia to 122% in Luxembourg. The pension systems that seem to be the most generous, alongside the one in Luxembourg, are those in Italy, Spain, and Greece. In our country, the median relative income is 86%, below the European average (~~of~~ 91%) and decreasing from 103% in 2012.

Table 3. The evolution of the aggregate replacement ratio and the median relative income of older people between 2012 and 2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Aggregate replacement ratio for pensions (excluding other social benefits)										
Romania	0,67	0,68	0,65	0,63	0,66	0,61	0,51	0,42	0,41	0,38
EU27	0,54	0,56	0,57	0,58	0,58	0,59	0,58	0,57	0,56	0,58
Median relative income of elderly people										
Romania	1,03	1,04	1,04	1,00	0,97	0,95	0,90	0,83	0,86	0,86
EU27	0,92	0,94	0,95	0,94	0,93	0,92	0,91	0,90	0,89	0,91

Source: Eurostat, EU-SILC survey (statistics on income, social inclusion and living conditions)

In conclusion, as can be seen from this analysis, for Romania, all three indicators that measure the current degree of adequacy of pensions have values that place it far below the European Union average, a fact that demonstrates the precarious situation, of economic insecurity, in which the elderly population finds itself.

However, it is important to point out that Individuals in different societies have different perceptions of what constitutes an adequate retirement pension. The adequacy of retirement benefits goes beyond the mere amount of cash provided. It is also influenced by the cost of essential services such as healthcare, food, housing, and other necessities.

3.3. Equity in the Romanian pension system

Any pension reform must, however, take into account the need to ensure distributive equity both within the same generation and between generations. Equity within a generation means the elimination of special regimes and the respect of the principle of contribution for all beneficiaries, regardless of the professional category to which they belong. In Romania, however, several special pensions have been introduced, which are currently enjoyed by military personnel, civil aviation personnel, parliamentarians, civil servants from the Parliament, members of the Romanian diplomatic and consular corps, judges and prosecutors, specialized personnel from courts, and auditors from the Court of Accounts. The average pension in the case of these categories far exceeds the average pension for retirement age and even the salary received before retirement by these categories of employees.

Also, it should be noted that a fair pension system for both women and men meets the needs of both sexes and provides each individual with the opportunity to build an adequate income in old age (Mattil, 2006). Because women still assume most of the family responsibilities (raising children, caring for the elderly or other dependents, housework, etc.), they run the risk of accumulating insufficient pension rights because pension schemes are based almost exclusively on paid work. In addition, it must be said that a fair pension system does not apply uniform rules to men and women, but one in which attention is paid to the details that could have a different impact on the two sexes. As the position of men and women in the

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labour market tends to differ due to a number of gender inequalities, uniform rules in the field of pensions typically lead to very different distributions of pension incomes for men and women. According to statistical data provided by the National House of Public Pensions (Casa Națională de Pensii Publice - CNPP), in 2022, women in Romania received an average monthly pension of 1,657 lei for reaching the retirement age, while the average size of the pension for the retirement age of men was 2,301 lei, resulting in a gender gap of 28%.

Distributional equity between generations means not sacrificing the pensions of future generations by accepting unsustainable deficits today. However, equity is put at risk by granting increasingly larger subsidies from the state budget to balance the pension budget.

A measure of distributional equity between generations is the evolution of pension expenditure as a share of GDP, as well as the evolution of the at-risk-of-poverty rate for the elderly population compared to the working-age population.

In Romania, in 2019, public spending on pensions was 8.1% of GDP, below the EU28 average of 11.6% of GDP (source: Eurostat). Long-term forecasts underlying the report prepared by experts of the European Commission (The 2021 Ageing Report) indicate a significant increase in this category of expenditure to 11.9% in 2070, when it will exceed the EU27 average.

The at-risk-of-poverty rate for older people, aged 65 and over, in Romania in 2022 was higher (32.1%), compared to the value of the indicator for people under the age of 65 (27.1%) (Eurostat, EU-SILC). The at-risk-of poverty rate in the period 2013-2022 has seen a significant increase, with this increase being more pronounced for people aged 65 and over. If the at-risk-of-poverty rate for people under the age of 65 increased by 3.3 percentage points (from 23.8% in 2013), that of people aged 65 and over increased by 6.7 percentage points (from 25.4% in 2013).

To preserve distributional equity, pension schemes must be regularly evaluated through a transparent process.

3.4. Conclusions

The Romanian pension system is a multi-pillar system, resulting from the implementation of a multitude of reforms in recent years. To analyse the efficiency of the Romanian pension system currently, three criteria were considered: 1) the financial sustainability of the system; 2) the adequacy of pensions; 3) intra- and intergenerational equity.

The expenses of the state social insurance budget exceeded the revenues during the entire analysed period, the deficit of this budget being considerable. Today, important transfers from the state budget are needed to be able to support the payment of pensions. Among the factors that generate this situation are demographic aging, low activity rates and existing imbalances in the labour market, external labour migration, low contribution collection rate and, last but not least, the redirection of part of the insured's contribution to the Pillar II since 2008. The level of public expenditure on pensions as a share of GDP is still below the EU27 average. However, the European Commission has predicted a continuous increase of this indicator, under the conditions of maintaining the current legislation in the field of pensions and under the conditions of the predicted demographic developments. Thus, at the level of 2070, the share of public

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expenditure on pensions would increase by 3.8 p.p. compared to the level of 2019 and exceed the EU27 average.

At the same time, the Romanian pension system in our country is not too generous. In the case of Romania, all three indicators that measure the current degree of adequacy of pensions (at-risk-of-poverty rate, aggregate replacement ratio and median relative income) have values that place our country in an unfavourable position compared to the average of the European Union, a fact that demonstrates the situation of economic insecurity in which the elderly population currently finds itself.

In this context, the Romanian pension system will require new reforms to ensure its long-term financial sustainability, but also an adequate level of pensions. However, any pension reform must take into account ensuring distributional equity both within the same generation and between generations.

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