

# Analysis of the Demographic Dependency Ratio in Romania and Its Social Implications (1992-2025)

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**Abstract.** This study analyses the demographic dependency ratio of the Romanian population between 1992 and 2025, with the aim of showing its dynamics and highlighting its social consequences. The study is based on public statistical data from the National Institute of Statistics and describes and compares the dependency ratios within the resident population with those based on domicile. The analysis of the demographic dependency ratio revealed two aspects: first, that in 1990 the working population felt pressure from the young population (0-15 years old), and that currently the situation has changed, with increased pressure from the elderly population (65 years and older); secondly, by comparing the dependency ratio calculated for the population domiciled in the country and for those residing in Romania, it appears that public pressure is greater on the resident population. The social consequences are felt through the following: the burden on the working population bearing the responsibility of care for the elderly population, the increasing demand on the social protection system for the elderly, the focus on the young population, whose dependency ratio has decreased due to the decline in the birth rate, requiring public policies in the field of human resource management to ensure the labour force reserve. The study is of interest both to those concerned with demographic research and to those involved in the development and management of public policies.

**Keywords:** Romanian population, demographic dependency, dependency ratio, old age dependency, youth dependency

### **1. Introduction**

Studying a country's population involves analysing its size and structure, spatial distribution, natural or migratory movement, as well as income structure (analysis of living standards) and a numerical ratio between generations. All of these are part of a complex set of issues that describe the demographic system. One of the issues that has been frequently discussed lately, due to the worrying signals it sends, is the aging of the population and, related to this, the dependence of some contingents on others.

Observing demographic dependency within a population is justified by a set of socio-economic aspects and needs manifested at the societal level, generating analyses regarding demographic policy interventions to ensure demographic optimization (Mărginean 2000: 5), which is regarded as a socio-economic development priority (International Bank for Reconstruction and Development 2023: 65-83). Demographic dependency reflects the pressure exerted by the young population (aged 0-15) together with the old age population (aged 65 and over) on the working-age population (aged 15-64). By dividing the combined size of young and older population by the size of the working-age population, the *dependency ratio* is obtained (Rotariu et al. 2017: 106).

The adult population, under pressure from both the young and the older population (to ensure a decent living, support and care for physically dependent persons, etc.) requires, under certain circumstances, the intervention of specialized public structures. This in turn involves the allocation of budgetary funds and institutional and professional infrastructure to meet these demands. At the same time, demographic dependency reflects changes in the population structure by age groups, an aspect that correlates with other demographic issues such as the replacement of generations, ensuring the labour force resources and the balance of the demographic system from the perspective of natural increase, etc. Thus, two categories of the population are dependent on one other and, as a result, when compared to the population of Romania, require careful analysis.

The importance of analysing the evolution of the dependency ratio is also highlighted in the European Commission report, which shows that one of the consequences of the increases in the dependency ratio is the increase in pension expenditure between 2022 and 2070, an effect felt by all European countries. The report shows that in 2020, for every 10 people in the EU aged over 65, there were 28 people aged between 20 and 64. It is estimated that the number of working-age people will fall to 19 by 2045, and to 17 by 2070 (European Commission 2024: 41).

The purpose of this research is to show the dynamics of the demographic dependency ratio of the Romanian population between 1990 and 2020 and to highlight the consequences this shift incurs, especially in the social realm. The starting point is that an increase in the dependency ratio (the working age population supporting a larger number of dependent people, whether young or old) is accompanied by a perception of pressure on the population to take on responsibilities (care, time commitment, need for economic resources, institutional and emotional support, etc.) so that the phenomenon of demographic dependency is accompanied by that of intergenerational family and social solidarity. Closely related to this is the issue of transnational families and the circulation of support and care as a result of migration (Földes 2023). Against the backdrop of Romanians' migration to European countries - typically involving young, working-age individuals - the phenomenon of solidarity within transnational families has developed. This entails that the older population remaining in the country may become dependent on support from adult children working abroad (Hărăguș and Telegdi-Csetri 2018). To illustrate the scale of this phenomenon, we refer to data provided by EUROSTAT, according to which, in 2024, 3,105,271 Romanians were living (resident) in countries within the European Union. The absence of this segment of the population from Romania contributes to the deepening of the demographic dependency ratio.

Within the present paper, we will initially present the definition of the notion of demographic dependency. We will present the results of recent research on the dependency ratio, then we will briefly describe the Romanian demographic context. The research continues with the description and analysis of the dependency ratio; it compares the values within the usual resident population with the one for the permanent resident, an approach that is relevant given the significant difference between the two groups, as the usual resident population bears socio-economic pressures that influence the decisions regarding fertility, nuptiality, and internal or external migration, etc; subsequently, the findings arising from the analysis will be presented and correlated with social and economic aspects/problems of the population that could arise from demographic dependence; finally, an advanced solution will also be presented, based on various studies reflecting on this issue. The conclusions will focus on the Romanian population. We will therefore reflect, in this study, on the working-age population and population outside working-age, as well as on the aspects regarding the dependency of young people (the population aged 0-14, mainly engaged in educational activities) and the

dependency of the older population (individuals over the age of 65, mostly retired from professional activity, having retired status).

## ***2. Defining the dependency ratio***

Rotariu *et al.* specifies that, in order to analyse the age structure, the synthetic indicator *dependency ratio*, (2017: 106), described according to the National Institute of Statistics (NIS), can be used as follows: “the demographic dependency ratio is the ratio between the number of people of dependent age (people under 15 years old and over 64 years old) and the working-age population (15-64 years old) expressed per 100 people.” (NIS 2023: 213).

Harasty and Ostermeier (2020) show that dependency, from a demographic perspective, implies a relationship between the working and non-working persons. The non-working persons, represented by two categories of people: those under 15 and those over 65, is considered dependent on the working persons, which includes people aged 15 to 64, who, through their tax payments, finance public services such as education, health, and pensions (Harasty and Ostermeier 2020: 11).

Hickes Lundquist, Anderton and Yaukey (2015: 97-98) reveal the cultural facets of the concept of dependency and its modification over time, showing that there are societies in which children start working before the age of 15, while in others the employment of children is prohibited by law. On the other hand, in some countries, young people become active and earn a salary around the age of 25. Similarly, there are countries where the elderly continue to work until the age of 70 and do not accept to be considered dependent. A reconfiguration of the age ranges used to measure the dependency ratio may be possible amid the increase in lifespan.

Sanderson and Scherbov (2015) show that a single old-age dependency ratio is no longer sufficient and that the age of 65 is not always associated with dependency, as many individuals lead independent and active lives and earn income from work after this threshold. The age of 65 is seen as anachronistic in relation to old-age dependency because the onset of old-age dependency shifts over time, being related to remaining life expectancy and to prospective age (Sanderson and Scherbov 2007: 48-49). The concepts of old age and dependency, linked to the old-age dependency ratio, have been interpreted from a new perspective. Sanderson and Scherbov thus define older persons as those who are in age groups in which remaining life expectancy is 15 years or less; at the same time, they invite analysts to no longer assume that people invariably become old at age 65 regardless of place or time (Sanderson and Scherbov 2015: 703–706).

Recent approaches to demographic dependency take into account the diversity of population and the changing characteristics of different groups (life expectancy, health status, cognitive functioning). Fixed thresholds of 60 or 65 years are considered inconsistent, and alternatives are being sought to define the onset of old age based on remaining life expectancy. Intergenerational equity is also emphasized (the balance between pension contributions and benefits), along with the Human Life Indicator (well-being in terms of year of life), the survival rate from age 20 to 65, and the health of adults constituting the labour force (IIASA 2020). Skirbekk et al. (2022) propose a new indicator, namely the Health-Adjusted Dependency Ratio (HDR), which combines demography with age-related health. Calculated for 188 countries, HDR shows that older population may bear a relatively low aging burden, while younger population can have high dependency due to poor health. HDR proves to be a more accurate predictor of health expenditure than old-age dependency ratio (Skirbekk et al. 2022: e333).

The demographic dependency ratio can be used to approximate the effects of population ageing on health care costs to estimate the effects on pension costs, to approximate the effects on old-age consumption ratios, or to analyse the demographic dividend (the ratio between those who are working and those who are not working) (Sanderson and Scherbov 2015).

### ***3. Results of recent research on the dependency ratio***

Monitoring the demographic evolution (in particular the dependency ratio) is all the more important since, at the level of managing the population problem through public policies, there is a concern to ensure conditions for social balance, the well-being of the population and the adoption of measures to improve the condition of the population, where necessary. At the same time, signals regarding the aging process of the population have been transmitted for a long time, mainly through intense discussions focusing on this topic from the perspective of the implications and needs for intervention. An International Labour Organization study shows that, by 2050, three quarters of the world's countries will be affected by ageing<sup>1</sup>, and calculating the dependency ratio on the basis of age alone does not fully reflect reality, and it is necessary to take into account the non-participation in work of some of the working age or employment that does not fully cover economic independence. The conclusions of the study on dependency ratios highlight the impact of high

<sup>1</sup>According with Oizumi et al. (2006) “a country is categorized as an “aged” society when the share of persons aged 65 years and over reaches 14 per cent or more of the total population, as “ageing” when it accounts for between 7 and 14 per cent, and as “not aged” when it constitutes less than 7 per cent of the total” (apud Harasty & Ostermeier 2020: 5).

youth unemployment, the low share of women in work, high rates of labour underutilization, in-work poverty, etc., with the authors considering that the absorption of more people into productive work leads to a reduction in the dependent population (Harasty and Ostermeier 2020: 5; 37).

Jaiswal (2025), analysing demographic and economic aspects in 34 European and Asian countries, presents three distinct situations: countries with a high dependency ratio to the elderly population, such as those in Europe, which puts pressure on social assistance programmes, leading to a slowdown in economic growth; nations with a decreasing dependency rate on the young population, such as in Central Asia, which can be followed by improved labour market and economic output; and, nations with healthy dependency ratios, where the working-age population is used efficiently and economic growth is strong (Jaiswal 2025: 1). The author believes that extending the period of activity (by delaying retirement), accompanied by improved health services and improved education levels, leads to a reduction in the dependency ratio in the elderly (Jaiswal 2025: 10).

The dependency ratio of the older people is also often used in the analysis of the effects of demographic processes on the labour market, and one of the elements signalled is the fact that the age of 65 is regarded as a time of retirement, taking into account the future increase of the retirement age (Şerban and Aceleanu 2015: 319). The economic progress of a society is linked to the labour reserve and the dependency ratio, an aspect shown in an analysis of the Georgian economy, which showed that the country's economic growth was not accompanied by a demographic dividend (i.e. the increase in the labour reserve) due to low fertility and informal employment, and that the dependency ratio does not reflect the specifics of a labour market marked by informal labour and underemployment (Tsintsadze et al. 2025: 70-71), which justifies constant analysis at the level of each country.

The analysis of the demographic dependency ratio can provide answers regarding the population's demand for intervention by public institutions or can explain some demographic phenomena such as migration or declining birth rates as well as some fiscal aspects. The 2023 World Bank report draws attention to the need for further research in Romania on the relationship between demographic trends, the fiscal gap and economic growth (International Bank for Reconstruction and Development 2023: 83).

Harasty and Ostermeier (2020) point out that the increase in the dependency ratio is followed by the increase in the burden on the working population to maintain the pensions of dependent persons (economic dependence). Starting from the classification of three categories - developing

countries, emerging countries and developed countries - the authors analysed the dependency rate and noted that in developing countries the dependency ratio was decreasing, from 0.93 in 1991 to 0.83 in 2020, with prospects of decreasing by 2030 to 0.72. The phenomenon is due to the reduction of the dependency ratio among children. In emerging countries, whose demographic dependence has decreased by a quarter because the share of children in the total population has decreased, the rate is expected to remain constant at 0.50 until 2030. In developed countries, which have experienced slight decreases in the dependency rate, also amid the decline in the young population, since 2010 the dependency rate has started to increase and is expected to continue to increase until 2030 (Harasty and Ostermeier 2020: 12). It is estimated that in the coming decades, the European Union, amid an ageing population, will face a sharp increase in the dependency ratio of the older segment of the population. It has increased since 2010 from 29% to 36% in 2022, with an estimated 59% of the working population expected by 2070 (European Commission 2024: 3).

#### ***4. Demographic context: description of Romania's population (changes over last 35 years)***

In 1950, the population over 65 years of age represented 5.3% of the total population (Laslett and Paillat 1999: 271 *apud* Rotariu et al. 2017: 106). The increase in the proportion of the older population, together with the slowdown in the birth rate (and implicitly in the proportion of children) and a slight decrease in the proportion of the population aged 15-59, were reported in Romania as early as 1956-1966 (Alexandrescu, 2007: 142). The same author points out that in 1966, 45.8% of the total population was outside working age, almost 70% of whom were aged between 0 and 14 (Alexandrescu 2007: 157).

In 1989, Romania had the youngest population among European countries, with a total dependency ratio of 51.5%. The young-age dependency ratio was 36.2%, while the old-age dependency ratio was 15.3% (Rotariu et al., 2017: 106-107). In 1992, 60.9% of the population was aged 15-59 years, while 22.7% was aged 0-14 years and 16.4% was aged 60 and over (Alexandrescu, 2007: 177), which means 39.1% for demographically dependent age groups.

Currently, the Romanian demographic context is characterized by natural decline and aging of the population, a consequence of the decrease in the birth rate and the increase in international migration manifested in the last 30 years; however, the year 2023 registers an increase in the Romanian population by 11.5 thousand people (Vîrva 2024: 59). In other words, the year

2023 is characterized by an economic dependency ratio of 1452.4 unemployed persons (inactive or unemployed) per 1000 employed persons, representing a slight increase compared to the previous year (Virva 2024: 66).

Anghel (2025a), analysing the evolution of life expectancy, underlines its increase from 69.56 years (as it was in 1990) to 75.52 years in 2025, amid improved living, working conditions and economic growth, to which is added the option for smaller families, facts that have determined a negative natural increase over time, demographic decline and population aging. Demographic ageing has social and economic consequences, including rising spending on healthcare and social assistance (Anghel 2025a: 6-10).

In an analysis of the economic dependency ratio and the demographic dependency ratio, Titu et al. (2012: 241) pointed out that an increase in these measures will be accompanied by difficulties for states facing the phenomenon of population ageing in providing pensions and social security. The cited authors presented the EUROSTAT estimates on the increase of the dependency ratio in Romania to 60% by 2060, against the background of the increase in the population (Titu et al., 2012: 208). Ghețău (2007: 3) questioned the economic implications in Romanian society in the situation of the return of Romanians who emigrated for work.

The Romanian population is experiencing changes in the age structure, following the aging trend also found in European countries (Rotariu et al. 2017: 105). Demographic changes in Romania are mainly marked by changes in the age structure of the population, namely the high share of the older population (whose life expectancy has increased) and a downward trend of the population under 15 years of age (Anghel 2025b: 57) and the decrease in the resident population, which continues to age (Iftimoaei and Gabor 2024: 121).

### ***5. The dependency ratio in Romania***

Starting from what has been reported so far, the approach below aims to describe and analyse the evolution of the dependency ratio of the population outside working age in Romania and to follow the trend of the dependency ratio. The reference period is 1990-2025.

This exploratory study examines intergenerational dependency by tracing its evolution over time, with the aim of shedding light on its demographic implications and consequences. Although this ratio alone is not sufficient to describe the phenomenon of demographic and economic dependence, and it is necessary to consider alternative dependency ratios that allow the analysis of the causes of dependency (as shown by Harasty and Ostermeier 2020: 11-12), in our approach, we place emphasis on the standard

(age-based) demographic dependency ratio, calculated both for the *usual resident population*<sup>2</sup> and for the *permanent resident population*<sup>3</sup> in relation to the territory of Romania. The choice to analyse the two population categories is justified by the numerical difference between them, resulting from emigrants (individuals who have permanent residence in Romania but have been living and working in other countries for many years – and are therefore not usually residents of Romania).

The research approach involves analysing official statistical data supplied by the National Institute of Statistics. The objectives are: (1) To describe the evolution of the population structure by cohorts, based on the following age groups: children (0-14 years); working-age population (15-64 years old) and older population (65 years and above); (2) to present the evolution of the population dependency ratio (dynamics) and analyse this dynamic in order to follow the changes over time; (3) Highlighting the characteristics of this report and identifying potential areas of demographic, social and economic risk, as well as some measures that can be adopted. We calculated the dependency ratio for the period 1992-2025, using the formula presented before:

$$\text{Dependency ratio} = (P_{0-14} + P_{65+}) / P_{15-64} \times 100$$

Where:

$P_{0-14}$  = population under the age of 15

$P_{65+}$  = population aged 65 and over (pension beneficiaries)

$P_{15-64}$  = working-age population (15 to 64 years)

In analysing the evolution of the population structure by age cohorts, we started from the following population structuring according to age: children (0-14 years), working-age population (15-64 years), population outside working age (65 years and over). The age-group structure of the permanent resident population in Romania is presented in Table 1 of the Appendix). Amidst the decline in the total population, the age structure has changed in the 33 years analysed, witnessing an increase in the share of the older population (over 65

<sup>2</sup> Usual resident population represents all persons with Romanian citizenship, foreigners and without itizenship, who have their usual residence on Romanian territory. Usual resident population at a certain date was determined according to international methodology and regulations in this field. (INS, 2024: VII)

<sup>3</sup> Permanent resident population represents the number of persons with Romanian citizenship and permanent residence on the territory of Romania, determined according to administrative-territorial criteria (INS, 2024: VII)

years old), and a concomitant decrease in the share of the young population (under 15 years old), while the population between 15-64 years old has remained relatively constant, even witnessing a slight increase (in 2025 it represents 67.49% of the total population, and in 1992 it represented 66.21%).

The analysis of the cohort aged between 15-19 years is of interest because most of this population is economically inactive, by virtue of its inclusion in the education system (high school) and as a result still economically dependent on their parents. Table 1 includes the statistical data on the population enrolled in high school and vocational education, assuming that the population aged between 15-19 years old falls into this category. However, we do not exclude the possibility of people over 19 years of age being enrolled in high school and vocational education.

*Table 1. Dynamics of the share of people included in high school and vocational education (aged 15-19) in the working-age population (aged 15-64)*

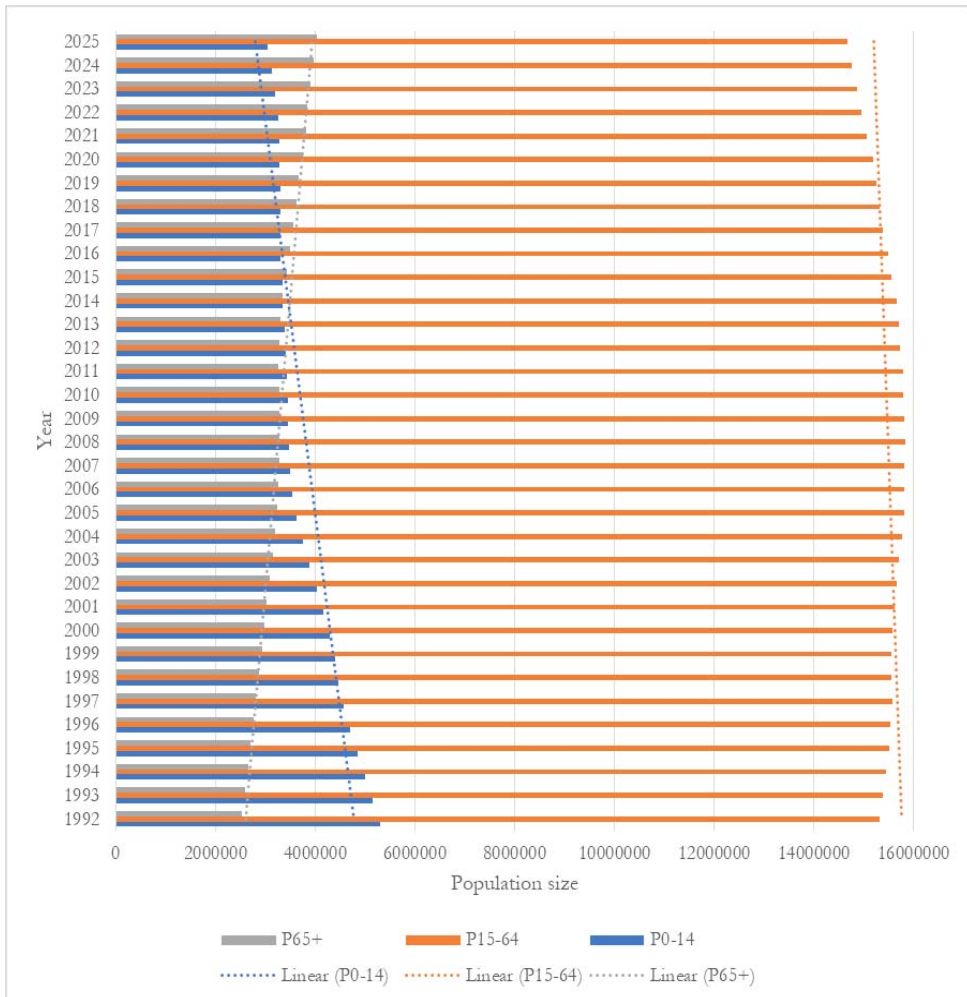
Year	Weight (%)	Year	Weight (%)	Year	Weight (%)	Year	Weight (%)
1990	10.1	2000	6.6	2010	6.3	2020	5.2
1991	8.5	2001	6.8	2011	6.2	2021	5.1
1992	7.7	2002	7.2	2012	5.8	2022	5.
1993	7.5	2003	7.4	2013	5.5	2023	5.1
1994	7.6	2004	7.5	2014	5.4		
1995	7.8	2005	7.4	2015	5.2		
1996	7.6	2006	7.2	2016	5.1		
1997	7.3	2007	7.0	2017	5.1		
1998	6.8	2008	6.7	2018	5.1		
1999	6.5	2009	6.5	2019	5.1		

*Source:* Data obtained through the processing of statistical data of the INS (Tempo online)

We see from Table 1 that the share of young people in the process of high school and vocational training, aged between 15-19 years (and are thus included in the official statistics as part of the working-age population) within the work-age population (15-64 years) has followed a downward trend, decreasing from 10.1% in 1990 to 5.1% in 2023. This segment included in working-age population is, in reality, outside the labour force and economically dependent on their parents. The fact that their share in the labour force has halved within 30 years represents a reduction in the pressure on the working-age population.

The dynamics of the population by age groups of the population in Romania, from 1990 to 2025, reflected in Figure 1, shows the changes within these subpopulations. The year 2014 represents a year of balance between the two categories of demographically dependent population, after this year there has been a significant increase, year after year, of the elderly population.

Figure 1. Dynamics of the working-age population and dependent-age population by age categories in Romania (period 1992-2025). Population with permanent residence.



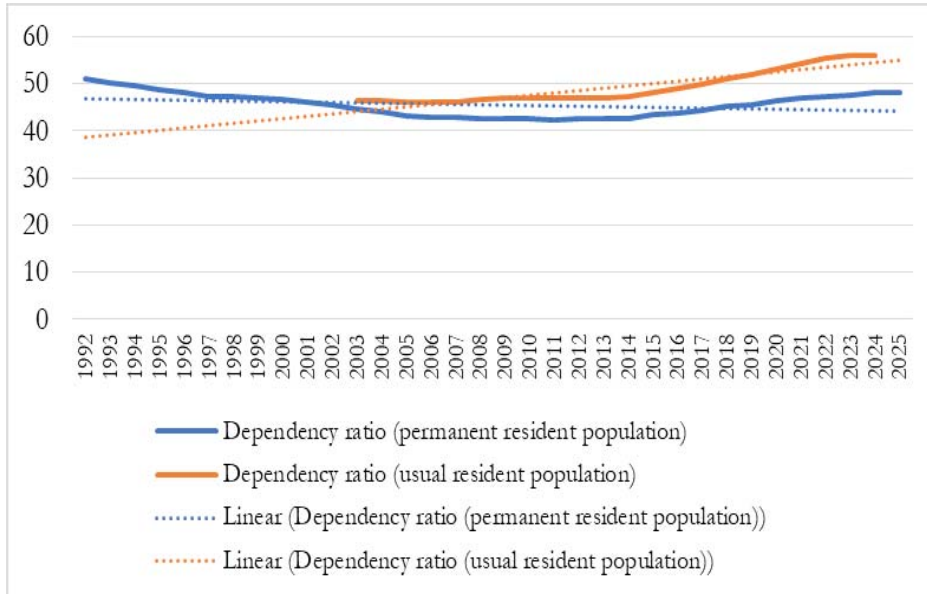
Analysing the data in the figure, we note the downward trend in the population aged 15-64 years. The size of this age group began decreasing starting in 2009 (in 2008 its number was 15,821,827 and a share of 70.12). In 2009 the size of the working-age population group was 15,819,710, but the share in the total population was 17.17, slightly higher than in the previous year. After this period, both the number and the share of this group within the total population continued to decrease, reaching 14,673,212 people in 2025, respectively 67.49% of the country's total population.

We also see the increasing trend of the population aged 65 years and over. After 2014, the volume of the elderly population begins to be higher than that of the young population. A decreasing trend in the young population aged 0-14 years is observable; a sharper decline was experienced until 2005-2006, followed by a marked period of about 10 years of very slow decline, the pace of decline increasing slightly after 2020. The downward trend of the population aged 0-14 years is more pronounced than the upward trend in the population aged 65-85 years and over. If in 1990 the working-age population felt pressure from the young population (0-15 years old), totalling 5,294,260 individuals (compared to an elderly population of 2,524,726 individuals) nowadays, in 2025, the situation has been reversed, with an elderly dependent population of 4,025,388 compared to a young population of 3,040,733.

Regarding the analysis of the evolution of the dependency relationship and its dynamics in the period 1992-2025, we start from the observation of the data summarized in Table 2 in the Appendix.

Comparing the dependency ratio, calculated for the two categories of population, shows us that there are differences that cannot be ignored. The public pressure (especially regarding the financial costs incurred by the state budget) is greater on the usual resident population than on the permanent resident one. The period 2011 – 2014 recorded the lowest values of the dependency ratio. The dynamics of the dependency ratio, calculated at the level of entire country of Romania, between 1992 and 2025, are depicted in Figure 2.

Figure 2. Dynamics of the dependency ratio for the permanent and usual resident population in Romania (period 1992-2025)



An analysis of Figure 2 and the values in Table 2 of the Appendix, reveals that the social pressure is stronger on the usual resident population - the one that actually lives in the country -, which is numerically lower compared to the permanent resident population. The gap between the dependency ratios of usual and permanent resident populations is increasing, which implies that the remaining population assumes more responsibilities, including that of developing policies and developing a social protection system. The trend of increasing the dependency ratio of the usual resident population is also increasing the pressure for solidarity between the generations for those living in Romania.

## 6. Discussion

In order to highlight the characteristics of the dependency relationship and identify potential areas of demographic, social and economic risk, we resort to synthesizing the above-mentioned findings, resulting in a picture of the phenomenon of demographic dependence and solidarity between generations. Whereas at the beginning of the analysed period (the 1990s) the substrate of the dependency relationship was the young population, currently, it is determined by the older population (the young-age dependency was more

pronounced than the old-age one). At national level, the working-age adult population is therefore forced to shift its attention and resources from children to the older age.

Looking at the short term, the potential risk areas are related to the needs of the older persons, especially those dependent on care and alone, who may request institutional support (medical and caregiving). This type of support, especially in the public domain, currently seems to be insufficiently developed..

We cannot ignore the decrease in the pressure exerted by the young population, with an annual decrease in numbers, which can generate in the future the depopulation of educational establishments (in the medium and long term), a surplus of human resources in the educational field and, subsequently, a low labour market that could induce crises in the economic sphere. The decrease in the size of the working population (which is fed by the young population) will generate negative consequences on contributory-based systems, as there will be few contributors to a pension or health insurance fund to ensure their functioning in line with the consumption of services generated by dependent elderly population.

In the long term, amid the decline in the birth rate, we will witness a decrease in the working-age population, a population that will have to support a large mass of older people. State intervention is necessary, but it will need budgetary resources.

What solutions can be adopted? Several models have been advanced. A first model, and perhaps the one immediately applied, was intra-family solidarity. Once overwhelmed by the responsibility of caring for an older person dependent on medical care, the population asked for institutional support. The result was the development of residential centres in the public system, and especially in the private system. For the migrant working population, the model of care adopted for the dependents remaining in the country was to send money to other relatives in whose care their children remained or to those of dependent age (either for home care or for admission to residential centres) (Hărăguș and Telegdi-Csetri 2018; Földes 2022).

The increase in the dependency ratio against the background of the decrease in the birth rate may be followed by a social crisis of solidarity in the coming years, which will generate an increase in the demand for the intervention of the state. At the level of public policy, the solutions for reducing the economic dependence ratio of the older population derive from strategies to increase the level of employment and by increasing the birth rate (Titu, Banu and Banu 2012: 222).

Another solution identified aims to promote policies at European Union level to increase the retirement age, achieving a decrease in the population's dependency by reducing the gap between the age of exit from the labour market and life expectancy. Most EU countries are considering raising the retirement age (Șerban and Aceleanu 2015: 319). At the level of the European Commission, demographic changes are expected to have a strong budgetary impact, which can be offset by “policy measures aimed at raising the legal and effective retirement age or increasing employment rates among older workers (measured by the coverage rate) and measures to control the increase in the average pension benefit (measured by the benefit rate)” (European Commission 2024: 41).

### ***7. Conclusions***

The investigation showed that the evolution of the dependency ratio at the level of the population in Romania is characterized by the transfer of pressure from the young population (the young-age dependency ratio decreases by decreasing the number of the population aged 0-14 years) to that exerted by the older population (whose number is increasing, generating a higher old-age dependency ratio). This pressure is borne by the working-age population. Compared to 1992, when the working-age population reached 15,324,874 persons, it declined to 14,673,212 in 2025, after registering a slight increase in the middle of the analysed period. The analysis of the population, based on permanent and usual residence, showed a steady annual increase in the dependency ratio for the usual resident population (as a result of emigration), with a difference of 9.63 points between 2004 and 2024. The dependency ratio for the permanent resident population has also increased, but at a slower pace (the difference being 2.99 points). This demonstrates that population remaining in the country faced a higher dependency ratio. Hypothetically, the return of those who had emigrated would reduce the demographic dependency ratio.

Comparing the demographic dependency ratio calculated based on the usual resident population with that calculated for the permanent resident population in the country allows for a better understanding of the social mechanisms and social protection policies as responses to the population's challenge of supporting the two dependent groups: children and older persons. If we refer to the level of 2024, we find that the dependency ratio at the level of the usual resident population reached 56.06 compared to 48.06 at the level of the permanent resident population – those who remained in the country face the responsibility of care, and at the national level, with that of ensuring

legislative support and infrastructure, while those who emigrated face other concerns, such as ensuring money transfer and action through democratic mechanisms (voting).

In the face of these challenges, to which is added the one generated by the young population with a small population, the future working-age labour resource could be accompanied by an increase in the dependency ratio of the older population. Under this pressure, the Romanian society will have to strengthen the social assistance system (home care and assistance in specialized centres) for the older persons, as well as its policies on human resources management at national level to ensure a good functioning of the economy.

### ***Use of GenAI tools***

Artificial intelligence tools (DeepL and ChatGPT) were used to translate the study into English.

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## Appendix

Table 1 – Population by age groups – share in the total population

Year	Total population in Romania (TP) (number of persons)	Population aged 0-14 (share in TP - %)	Population aged 15-64		
			Share in TP (%)	Of which:	
				age between 15-19 (share in TP-%)	age between 20-64 (share in TP-%)
1992	23143860	22.87	66.21	8.17	58.04
1993	23118745	22.28	66.55	8.35	58.20
1994	23093262	21.66	66.88	8.50	58.38
1995	23062448	21.04	67.22	8.46	58.76
1996	23009075	20.43	67.53	8.42	59.11
1997	22938405	19.89	67.85	8.32	59.53
1998	22885802	19.50	67.92	8.04	59.88
1999	22852905	19.18	68.01	7.70	60.31
2000	22825288	18.74	68.22	7.49	60.73
2001	22809546	18.27	68.44	7.35	61.09
2002	22779441	17.68	68.74	7.37	61.37
2003	22733751	17.06	69.10	7.55	61.55
2004	22688392	16.48	69.46	7.81	61.65
2005	22648514	15.94	69.77	7.88	61.89
2006	22614980	15.65	69.94	7.72	62.22
2007	22582773	15.49	70.03	7.3	62.72
2008	22561686	15.37	70.12	6.83	63.29
2009	22541941	15.32	70.17	6.31	63.86
2010	22516004	15.29	70.13	5.83	64.30
2011	22480599	15.28	70.20	5.52	64.68
2012	22433741	15.21	70.13	5.33	64.8
2013	22390978	15.13	70.12	5.22	64.90
2014	22346178	14.99	70.06	5.18	64.88
2015	22312887	14.93	69.73	5.15	64.58
2016	22273309	14.85	69.50	5.19	64.31
2017	22236154	14.82	69.21	5.19	64.02
2018	22221895	14.82	68.91	5.15	63.76
2019	22215217	14.80	68.66	5.11	63.55
2020	22211708	14.78	68.32	5.08	63.24
2021	22138604	14.75	68.02	5.08	62.94
2022	22028486	14.73	67.85	5.13	62.72
2023	21935704	14.54	67.71	5.17	62.54
2024	21849217	14.31	67.53	5.20	62.33
2025	21739373	13.98	67.49	5.25	62.24

Source: processing based on statistical data provided by NSI (Tempo online). Note: we have taken into account the permanent resident population (data extracted from Tempo online in July 2025, after updates have taken place, which justifies some small differences from the data communicated in other official documents).

Table 2. Population by permanent residence and usual residence and dependency ratio in Romania, between 1992 and 2025

Year	<i>Permanent resident population</i>				<i>Usual resident population</i>		
	P0-14	P65+	P15-64	Dependenc y ratio	P0-14	P65+	P15-64
	<i>Number of people</i>			<i>Number of people per hundred</i>	<i>Number of people</i>		
1992	5294260	2524726	15324874	51.02			
1993	5151221	2580297	15387227	50.24			
1994	5002578	2644820	15445864	49.51			
1995	4854113	2704337	15503998	48.75			
1996	4702987	2766511	15539577	48.06			
1997	4564632	2809544	15564229	47.37			
1998	4464795	2876413	15544594	47.22			
1999	4384830	2923578	15544497	47.01			
2000	4277810	2974319	15573159	46.56			
2001	4168078	3028570	15612898	46.09			
2002	4027406	3093278	15658757	45.47			
2003	3880075	3142528	15711148	44.69	3804686	3053118	14769705
2004	3739730	3188645	15760017	43.96	3772063	3042148	14706931
2005	3611578	3234654	15802282	43.32	3735907	3026156	14620291
2006	3539692	3257807	15817481	42.97	3588787	3132931	14535298
2007	3499262	3267439	15816072	42.78	3568304	3110437	14451762
2008	3468453	3271406	15821827	42.59	3372162	3187018	14076280
2009	3454556	3267675	15819710	42.49	3221916	3299478	13918896
2010	3443903	3279973	15792128	42.57	3206067	3274699	13813917
2011	3436752	3261974	15781873	42.44	3197519	3256361	13745179
2012	3413706	3285582	15734453	42.57	3184249	3242349	13669398
2013	3388468	3300973	15701537	42.60	3139609	3258198	13622267
2014	3349951	3340221	15656006	42.73	3100891	3296428	13555770
2015	3333511	3418502	15560874	43.39	3086604	3374954	13413984
2016	3308018	3484498	15480793	43.87	3066712	3435455	13258418
2017	3296835	3548731	15390588	44.47	3059268	3494137	13090544
2018	3295218	3612425	15314252	45.10	3058880	3549232	12925369
2019	3288940	3671109	15255168	45.62	3056051	3595481	12774341
2020	3284797	3749843	15177068	46.35	3058900	3660542	12634897
2021	3266832	3812042	15059730	47.00	3056590	3703136	12469793

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2022	3245988	3834960	14947538	47.37	3089748	3706284	12247066
2023	3189752	3892565	14853387	47.68	3086573	3755746	12212229
2024	3126736	3965531	14756950	48.06	3033139	3817031	12217406
2025	3040773	4025388	14673212	48.15			

*Note: we have taken into account the permanent resident population and usual resident population, data valid as of July 17, 2025 (some statistical data have been revised).*

