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Is Albania converging towards the Europeans Unions demographic structure?- An analysis of the aging populations indications based on findings from Eurostat

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Abstract

Albania appears to be undergoing a demographic transition. It has experienced a gradual increase in the proportion of the population aged 65+ in recent years. The aim of the study is to analyse if Albania is converging towards the demographic structure of European Union countries. The analysis will focus on the 65-79 and 80+ age groups. Eurostat was chosen as the main source of data in order to guarantee the comparability and standardisation of data between Albania and the European Union 27. Three hypotheses are tested for the research question: Is Albania converging towards the European Union (EU 27) demographic structure based on the population aging indicators? The results show that the share of the population aged 65-79, the share of the population aged 80+ and the dependency ratio have shown increasing trends in Albania. Life expectancy at age 65 has shown considerable fluctuations, while no comparable data are available for healthy life expectancy for Albania. However, the pace of change is not the same for all indicators and the degree of convergence to the European average varies according to the dimension analyzed. The results of the study suggest the need for policies that promote active ageing. They suggest the need to improve the quality of life of the elderly population. They also suggest the need to develop health and social services adapted to the new demographic structure.

Keywords: Demographic transition; time series; demographic convergence.

1. Introduction

Demographic aging constitutes one of the most important transformations of the structure of population in a global and European level. The aging of the population is enhanced particularly from the increasing life expectancy, fertility decline and changes in the reproducing models. These factors are considered to be the determining factors of an aging population in an international level (Fernandes, Turra & Rios-Neto, 2023). These transformations have resulted in an increased aging structure of the population. This is especially evident and felt in developed economic countries, but in the last few years, a similar trend is also being felt in developing countries. This transformation influences labour markets, pension systems, healthcare service and social services offered by the government (UN DESA, 2023). In this study the focus will be on the demographic findings published by Eurostat, as these findings allow to directly compare countries, due to the fact that the methodology used across countries for measuring the demography in question has been harmonised. In this study, the aim is to analyse if Albania is converging towards the demographic structure of European Union countries. The analysis will focus on the 65-79 and 80+ age groups. This will allow the study to analyse the elderly dependency ratio, the age group life expectancy and healthy life expectancy. Albania appears to be undergoing a demographic transition. It has experienced a gradual increase in the proportion of the population aged 65 and over in recent years. These findings have become more noticeable after the Population and Housing Census 2023, clearly requiring an analysis of the age structure based on the harmonised statistic on an European level.

2. Literature Review

Demography is considered to be the study of characteristics for a group of people and not their individual characteristics. The term used by Achille Guillard in 1855 in which he noted that "Demography is the scientific study of human populations" (Guillard, 1855) is what is known widely today as demography. The word that he then coined is the combination of two Greek words: "demos" meaning people and "graphein" meaning to write about a specific subject, in this case, populations. He used this in the title of his book "Elements de statistique humaine ou demographie comparee". Current literature treats demographic aging as a multidimensional process. This is due to the fact that the age group 65+ should be segmented and studied according to a new structure, in which age group of 65-79 is studied separately from late elderly of 80+. This is due to the fact that the current literature states that these reflect two different phases of the population (Gavino et al., 2024). The World Health Organisation (2025) states that population aging is an increasingly global phenomena, characterised by increased life expectancy and increased percentage of the elderly in the population. It is forecasted that up to 2050, population over 60 year old will increase from 12% to 22%. The report then emphasises that approximately 80% of seniors will live in countries with low and medium income. This trend requires the adaptation of health and social

systems to meet the growing needs of elderly population. Meanwhile, according to an analysis done by United Nations, World Population Prospects 2022, it is noted that the global population of 65+ age is trending upward. It is estimated that it will reach 16.4% of the entire world population, nearly doubling from 9.7% now. This report also notes that for the first time the age group 65+ will surpass the population age group of up to 15 year old (UN DESA, 2022). This presents a very important demographic change, which would bring social and economic consequences. These developments affect not only the demographic structure but also the organisation of social and healthcare systems. Additionally, it shows that an aging population is no longer a challenge but a process that requires new measures, precise policies for pensions for this age group, healthcare and improved quality of life for the elderly. According to findings of Eurostat, the percentage of population above the age of 65+ has grown continuously in the majority of EU member states. This has also led to an increased age group of 80+, a sign of advanced aging. The old-age dependency ratio is an indicator that measures the relationship between the population aged 65+ and the working-age population. European studies do not just focus on the structural age changes, but at the same time, they emphasise the quality of life that these different age groups have. The conditions and social services in which these people live are one of the indicators that reflect the quality of life enjoyed by this age group. The literature shows that migration affects the ageing process not only through the direct change of the age structure, but also indirectly, by influencing the number of future births (Fihel, Janicka & Kloc-Nowak, 2018). This has led to a continuous increase in the weight of the 65-79 age group, while the 80+ age group is also gaining ever greater importance in demographic analyses. Albania has not remained untouched by these changes, which have been observed mostly during the last few years. The data show that the ageing process is not linked only to the increase in the number of elderly persons, but also to the increasing share of the more advanced age groups. The results of the Population and Housing Census 2023 (INSTAT, 2024) brought about a revision of the resident population statistics in Albania. This is particularly important in countries with high emigration, since migratory movements affect the age structure and accelerate the process of demographic ageing (Fihel, Janicka & Kloc-Nowak, 2018). In the Albanian literature, most studies have concentrated on fertility, migration or general population changes. Analyses that deal directly with the convergence of the age structure with the European Union are still limited. Demographic convergence refers to the process through which the age structures of countries or regions gradually become more similar. This happens as a result of the common evolution of fertility, mortality and migration (Fanet al., 2020). In this study, demographic convergence refers to the process through which the demographic structures of different countries gradually become more similar over the years. The study does not link convergence to the size of the population. It links it to the narrowing of the indicators that characterise the process of population ageing. The assessment of convergence is carried out by analysing the evolution of the difference between Albania and the European Union average. This is done for indicators such as the percentage of the population aged 65-79, the percentage of the population

aged 80+, the old-age dependency ratio, life expectancy at age 65 and healthy life expectancy. In studies on demographic convergence, the assessment of the evolution of differences between territorial units is a widely used approach. It serves to identify processes of convergence or divergence of demographic indicators (Bitonti, Ghio & Mazza, 2026). If the gap between Albania and the European Union narrows over the period of analysis, this is interpreted as evidence of demographic convergence. On the contrary, a widening of the difference would indicate divergence. The contribution of this paper lies in the use of a comparative approach. It analyses at the same time five main demographic ageing indicators harmonised by Eurostat. In this way, the study is not limited to describing the changes of a single indicator. It offers a fuller assessment of the process of demographic convergence of Albania towards the European Union.

3. Methodology

3.1 Study Design

The study is quantitative and longitudinal in character. The quantitative approach has been chosen because the analysis is based on aggregated statistical data. It aims to identify the changes in population ageing indicators. The study is longitudinal in character too, since it analyses the changes of these indicators over a multi year time series. This makes it possible to assess the long-term trends of population ageing and to identify the process of demographic convergence. It has also a descriptive approach too, because it analyses the evolution of demographic indicators. The unit of analysis is the macro level. Each observation represents the annual value of an indicator for Albania or for the European Union average.

The comparative approach has been chosen in order to assess whether the demographic changes of Albania are gradually moving closer to the demographic structure of the European Union countries. The objectives of the study are several folded as follow: (i) Analysis of the evolution of population aging indicators in Albania; (ii) Comparison of these indicators with European Union averages; (iii) Assessment of the degree of Albania's convergence towards the EU's demographic structure; (iv) Discussion of the implications of the results for the demographic transition. Based on the objectives, the research question identified is: Is Albania converging towards the European Union (EU 27) demographic structure based on the population aging indicators? The following hypotheses are tested: H1- The proportion of the 65-79 and 80+ age groups and the dependency ratio show upward trend over the period; H2- The absolute gap in age structure and the dependency ratio shows a decreasing trend, indicating convergence between Albania-EU 27; H3- The absolute Albania-EU27 gap in life expectancy at age 65 shows a decreasing trend.

3.2. Data Source and Variables

Eurostat was chosen as the main source of data in order to guarantee the comparability and standardisation of data between Albania and the European Union 27. Eurostat provides standardised and harmonised data for the EU 27 and for the candidate countries.

The use of these data ensures international comparability, since all the indicators have followed a unified methodology. The time series used is 2016-2025, with the exception of cases with missing data. For each year, five main demographic ageing indicators have been analysed, but for the convergence analysis four indicators are analysed Albania - EU 27. Healthy life expectancy is addressed only in descriptive approach for EU 27, due to the lack of data for Albania. INSTAT data have been used as a complementary source. They serve to interpret the methodological changes in statistical time series, based on specific publications related to demographic data. INSTAT data does not constitute the main basis of the analysis.

The study analyses five indicators that represent different dimensions of population ageing. The variables of the study include five demographic ageing indicators: the population aged 65-79; the population aged 80 and over; the old-age dependency ratio; life expectancy at age 65+ and healthy life expectancy at age 65+. The 65-79 age group represents the initial phase of demographic ageing. This phase is usually accompanied by retirement. The 80+ age group represents the advanced ageing of the population. This phase is usually accompanied by greater needs for healthcare and social services. The old-age dependency ratio assesses the relationship between the population aged 65+ and the working-age population. It is used to assess the pressure that population ageing exerts on the working-age population and on the social protection systems. Life expectancy at age 65 assesses the average number of years that an individual is expected to live after reaching the age of 65. It is considered an important indicator of the level of health and of the development of the healthcare system. Healthy life expectancy at age 65 assesses the number of years that an individual is expected to live without serious limitations in daily activities. It offers information on the quality of the years of life after the age of 65. They offer a full picture of the process of demographic ageing.

3.3. Data Analysis Methods

The statistical data have been analysed in several phases.

The first phase includes descriptive statistics. These are used to present the evolution of each indicator in Albania and in the EU 27 during the period of the study. This analysis includes the presentation of the annual values and the identification of the main trends. The second phase includes trend analysis. This is used to show the direction and the pace of change of each indicator over time. In order to assess the process of convergence between Albania and the EU-27, the absolute gap between Albania and the EU 27 is calculated for each year as: $\text{Gap}_t = |AL_t - EU_t|$, where Gap_t represents the absolute gap in year t , AL_t represents the value of the indicator for Albania, and EU_t represents the corresponding EU 27 value. The absolute gap measures the size of the difference but does not indicate its direction. Therefore, the interpretation also considers whether Albania's value is below or above the EU 27 value. A decrease in the absolute gap indicates convergence, whereas an increase indicates divergence. To analyze whether the change in the gap is statistically stable, linear regression is applied, where the dependent variable is the absolute gap between Albania and the EU 27, while the independent variable is time, expressed in years. The model is presented in the form:

$$\text{Gap}_t = \beta_0 + \beta_1 \times \text{Time}_t + \varepsilon_t$$

β_0 represents the model constant, β_1 the average annual change in the absolute gap, Time_t the time; ε_t the error term. When the coefficient β_1 is negative, the absolute gap decreases, signaling convergence. When β_1 is positive, the absolute gap widens and the process is interpreted as divergence. For each model, the regression coefficient β_1 , the coefficient of determination (R^2) and the level of statistical significance (p-value) are reported. Statistical significance is assessed at the $\alpha = 0.05$ level. If the p-value is below 0.05, the estimated trend in the absolute gap is considered statistically significant. Due to the limited number of observations, the lack of data for some years and possible methodological breaks in the statistical series, the results of the regressions are interpreted as exploratory evidence. Years for which data were not available were excluded from the regressions and were not interpolated. The time variable was expressed in terms of the real calendar year, preserving the time distance between observations

3.4. Limitations of the Study

The study is based on secondary aggregated data from Eurostat. For this reason, the results are interpreted at the population level and no conclusions are drawn at the level of individual characteristics. Another limitation is the change of methodologies following the results of the Population and Housing Census 2023 in Albania. This change affects the comparability level of some indicators between years. The results are interpreted taking into consideration the methodological changes done by the statistical offices and published by Eurostat. The analysis places the focus only on the harmonised Eurostat indicators. It does not include other factors, such as migration, fertility or socio-economic characteristics. These unincluded factors may influence the process of population ageing. For this reason, the results should be interpreted as an assessment of the convergence of the demographic structure. They should not be interpreted as a full analysis of the causes of this phenomenon.

4. Results

4.1. The Evolution of the Population Aged 65-79

The population aged 65-79 is one of the main indicators of demographic ageing. It reflects the increase in the weight of the population in the first phases of old age. The analysis of Eurostat data shows an upward trend of this indicator both in Albania and in the European Union during the period 2016-2025. In Albania, the share of the population aged 65-79 increased from 10.48% in 2016 to 13.18% in 2023 and to 16.85% in 2025. In the same period, the indicator for the EU-27 increased gradually from 13.91% to 15.78%.

Until 2023, Albania presented a lower weight of the population aged 65-79 compared to the EU27 average. However, the difference between them decreased. In 2016, the gap was 3.43 percentage points, while in 2023 it decreased to 2.12 percentage points. According to the data of 2025, Albania reaches 16.85%, exceeding the EU 27 level of 15.78% by 1.07 percentage points. This trend suggests an acceleration of the process

of demographic ageing in Albania and a rapid convergence with the age structure of the European Union.

However, the result of 2025 should be interpreted with caution. The strong increase compared to 2023 is linked not only to demographic changes, but potentially also to the revision of the resident population figure after the Population and Housing Census 2023. In addition, Eurostat data for Albania are not available for the years 2022 and 2024. For these reasons, the data show a clear trend towards population ageing, but a continuous increase for every year of the period cannot be claimed.

Table 1. Population aged 65-79 (%) in Albania and EU 27, 2016-2025

Year	Albania (%)	EU-27 (%)
2016	10,48	13,91
2017	10,73	14,09
2018	11,03	14,28
2019	11,42	14,45
2020	11,88	14,64
2021	12,27	14,85
2022	-	15,07
2023	13,18	15,30
2024	-	15,53
2025	16,85	15,78

Source: Eurostat, data analysed by the authors

4.2. Evolution of Population aged 80+

The 80+ age group is considered an indicator of advanced demographic ageing, while the group age 65-79 is considered as the phase before advanced aging. It is very important for assessing the future needs for healthcare services, long-term care and social support. The increase in the share of this age group (80+) reflects not only the general ageing of the population, but also the improvement of survival at the more advanced ages.

Eurostat data show an upward trend in the share of the population aged 80+, both in Albania and in the European Union during the period 2016-2025. In Albania, this indicator increased from 2.31% in 2016 to 3.28% in 2023 and to 4.32% in 2025. In the EU 27, the share of the population aged 80 and over increased more gradually, from 5.44% in 2016 to 6.03% in 2023 and to 6.18% in 2025.

Throughout the period analysed, the level of this indicator in Albania remained lower than the EU 27 average. However, the difference between them presents a clear tendency of decreasing. In 2016, the gap was 3.13 percentage points, while in 2023 it decreased to 2.75 percentage points. According to the data of 2025, the difference was reduced further to 1.86 percentage points. This shows that the process of advanced ageing in

Albania is developing at a faster pace than in the European Union. The increase of the 80+ age group represents a more advanced phase of the demographic transition than the increase of the 65-79 age group. The decrease of the difference with the EU27 suggests that the process of demographic convergence is present also in the oldest segment of the population. This development may bring an increase in the demand for geriatric services, long-term care and specific social protection policies. However, the value for Albania for 2025 should be interpreted with caution. The clear increase compared to 2023 may be linked in part to the revision of the resident population figure after the Population and Housing Census 2023. In addition, Eurostat data for Albania is not available for the years of 2022 and 2024. For this reason, the results show a clear long-term trend towards advanced ageing. However, a continuous increase for every year of the period cannot be claimed.

Table 2. Population aged 80+ (%) in Albania and EU 27.

Year	Albania (%)	EU27 (%)
2016	2,31	5,44
2017	2,41	5,58
2018	2,52	5,69
2019	2,67	5,80
2020	2,88	5,93
2021	2,98	6,03
2022	-	6,06
2023	3,28	6,03
2024	-	6,09
2025	4,32	6,18

Source: Eurostat, data analysed by the authors

4.3. The Evolution of the elderly dependency ratio

The elderly dependency ratio is one of the most used indicators for evaluating the impact of demographic ageing on the working-age population. In this analysis, the indicator indicates the number of persons aged 65+for every 100 persons in the 20-64 age group. Its increase means that a smaller number of people in the working age must support a growing elderly population. This adds pressure on the pension system, the labour market, public finances and health and social services.

Eurostat data show an increasing rate of the old-age dependency ratio, both in Albania and in the EU 27 during the period 2016-2025. In Albania, the indicator increased from 21.13% in 2016 to 24.78% in 2021 and to 26.86% in 2023. According to the data of 2025, the ratio reached 36.56%. This means that in 2025 there were around 37 persons aged 65 and over for every 100 persons aged 20-64.

In the EU 27, the ratio increased more gradually. It increased from 32.19% in 2016 to 35.43% in 2021, 36.41% in 2023 and 37.67% in 2025. Although the level of the indicator in Albania remained lower than the EU 27 average throughout the period analysed, the difference between them decreased significantly. In 2016, the gap was 11.06 percentage points, while in 2023 it was reduced to 9.55 percentage points. In 2025, the difference was only 1.11 percentage points.

The reduction of this gap shows that Albania is moving closer to the demographic structure of the European Union. The increase of the dependency ratio is linked to the expansion of the elderly population and to the decrease of the working-age population. In the case of Albania, this trend is influenced by the combination of several factors. Among these factors are the decline in fertility, the emigration of the young population and the increase in life expectancy.

However, the strong increase of the indicator for Albania between 2023 and 2025 should be interpreted with caution. It may reflect not only demographic developments, but also the revision of the number and the structure of the resident population after the Population and Housing Census 2023. In addition, the data for Albania is not available for the years 2022 and 2024. As a result, the results show a clear upward trend, but a continuous increase for every year of the period cannot be determined or stated.

From the perspective of public policy, the increase of the old-age dependency ratio signals a possible rise in the pressure on the pension system, on the financing of healthcare and that of long-term care services. Facing these challenges requires measures that encourage participation in the labour market, extend active life, increase economic productivity and improve the financial sustainability of social protection schemes.

Table 3. Dependency of the elderly ratio in Albania and the EU 27, 2016–2025.

Year	Albania (%)	EU27 (%)
2016	21,13	32,19
2017	21,53	32,87
2018	22,12	33,50
2019	22,93	34,11
2020	24,01	34,78
2021	24,78	35,43
2022	-	35,98
2023	26,86	36,41
2024	-	37,00
2025	36,56	37,67

Source: Eurostat, data analysed by the authors

4.4. Evolution of Life Expectancy at age 65

Life expectancy at age 65 is an important indicator of demographic and health development.

It expresses the average number of years that a person is expected to live after reaching this age, based on the existing mortality rates. The evolution of this indicator is linked to the quality of healthcare, living conditions, the prevention and treatment of chronic diseases, as well as to economic and social factors.

Eurostat data show that life expectancy at age 65 has had significant fluctuations during the period analysed, particularly in Albania. Before the pandemic, the indicator in Albania increased from 17.6 years in 2016 to 18.1 years in 2019. In the EU-27, the increase during the same period was more moderate, from 19.8 to 20.0 years.

During the COVID-19 pandemic, a clear deterioration of life expectancy at age 65 was recorded. In Albania, the indicator fell to 16.6 years in 2020 and further to 14.8 years in 2021. The decline was also evident in the EU-27, but it was more limited: from 20.0 years in 2019 to 19.2 years in 2020 and 19.1 years in 2021. These developments reflect the high impact of the pandemic on mortality at the advanced ages, particularly in Albania. After 2021, the indicator shows signs of recovery. In Albania, life expectancy at age 65 increased to 17.7 years in 2022 and to 19.1 years in 2024. In the EU-27, it increased to 19.4 years in 2022, 20.0 years in 2023 and 20.2 years in 2024. Following the end of the period with available data, the level of the indicator did not only return to its previous level, but exceeded the level recorded before the pandemic.

Albania continues to present lower life expectancy at age 65 than the EU 27, but the difference has decreased. In 2016, the gap was 2.2 years, while in 2024 it was reduced to 1.1 years. This development may signal a convergence of survival conditions at the advanced ages with the European average. However, the conclusion on convergence should be treated with caution, taking into consideration the large fluctuations of the Albanian series and the methodological break noted by Eurostat for the year 2024.

The data for Albania is not available for the year 2023. At the same time, there is no data available for Albania or EU 27 for the year 2025. For this reason, the analysis of this indicator ends in 2024. This means that a continuous increase throughout the whole period 2016-2025 cannot be claimed. The results show more accurately an upward trend before the pandemic, a strong decline during the years 2020-2021 and a considerable recovery in the period after the pandemic.

Table 4. Life Expectancy at age 65

Year	Albania (years)	EU27 (years)
2016	17,6	19,8
2017	17,5	19,7
2018	17,8	19,8
2019	18,1	20,0
2020	16,6	19,2
2021	14,8	19,1

2022	17,7	19,4
2023	-	20,0
2024	19,1	20,2
2025	-	-

Source: Eurostat, data analysed by the authors

4.5. The evolution of healthy life expectancy at age 65

Different to total life expectancy, healthy life expectancy at age 65 analyses the average number of years that a person is expected to live without serious limitations in daily activities after reaching this age. This indicator represents a qualitative dimension of population ageing. It is considered an important component of the concept of active ageing.

Eurostat data show that healthy life expectancy at age 65 in the EU 27 has not followed a linear trend during the period analysed. The indicator was 9.9 years in 2016 and remained at the same level until 2018. In 2019 it increased to 10.3 years, before falling to 9.8 years in 2020, 9.7 years in 2021 and 9.1 years in 2022. In the following years a recovery was recorded, with 9.4 years in 2023 and 10.3 years in 2024.

These fluctuations show that the increase in total life expectancy is not linked or accompanied by a continuous increase in the years lived in good health. The decline of the indicator during the years 2020-2022 may be linked to the impact of the COVID-19 pandemic. But it is also linked to the subjective nature of the measurement of limitations in daily activities and to possible changes in data collection. For this reason, the annual changes should be interpreted with caution.

Eurostat does not publish data on healthy life expectancy at age 65 for Albania. The national INSTAT sources examined in the framework of this study do not contain a comparable series for this indicator. INSTAT publishes data on life expectancy at birth, but this indicator cannot be used as a substitute, since it measures a different concept. The lack of data for Albania makes it impossible to analyse the national evolution. It is also impossible to calculate the difference with the EU 27 and to assess convergence in terms of the healthy years of life after the age of 65. As a result, the results presented in this part describe only the development of the indicator in the EU 27. The lack of data for Albania constitutes an important limitation of the study and shows the need for the development of national statistics on healthy ageing.

4.6. Analysis of convergence between Albania and the European Union

In order to assess whether Albania is moving closer to the demographic structure of the European Union, the absolute gap between the value for Albania and the EU 27 average was analysed for each indicator. Convergence is considered to be present when this gap decreases over time.

For each indicator a linear regression was estimated, in which the dependent variable was the absolute Albania-EU 27 gap, while the independent variable was time. In this specification, a negative regression coefficient ($\beta < 0$) shows convergence, while a

positive coefficient ($\beta > 0$) shows a widening of the gap.

The results show that the most stable convergence is observed for the percentage of the population aged 65-79. The gap for this indicator decreased from 3.43 percentage points in 2016 to 2.12 percentage points in 2023 and to 1.07 percentage points in 2025. The regression coefficient was negative and statistically significant ($\beta = -0.252$, $R^2 = 0.937$, $p < 0.001$), showing a strong process of convergence. In 2025, Albania exceeded the EU 27 level for this age group. For this reason, the result shows a convergence of the structures, but also the possibility of moving beyond the European average.

Convergence is also found for the population aged 80 and over. The gap decreased from 3.13 percentage points in 2016 to 1.86 percentage points in 2025. The negative and statistically significant coefficient ($\beta = -0.123$, $R^2 = 0.703$, $p = 0.009$) shows that Albania is gradually moving closer to the EU 27 also in the dimension of advanced ageing.

For the old-age dependency ratio, the gap decreased from 11.06 percentage points in 2016 to 9.55 percentage points in 2023 and to only 1.11 percentage points in 2025. The regression gives a negative and statistically significant coefficient ($\beta = -0.890$, $R^2 = 0.602$, $p = 0.024$). However, this result is influenced considerably by the large change recorded in 2025 and should be interpreted with caution, taking into consideration the revision of the resident population after the 2023 Census.

For life expectancy at age 65, the gap decreased from 2.2 years in 2016 to 1.1 years in 2024. However, the series presents strong fluctuations, particularly during the COVID-19 pandemic. The regression coefficient is negative, but very small and not statistically significant ($\beta = -0.049$, $R^2 = 0.020$, $p = 0.741$). As a result, there is not sufficient statistical evidence to confirm a linear process of convergence for this indicator.

Overall, the results suggest that convergence between Albania and the EU 27 is more evident for the age structure and the dependency ratio than for the life expectancy indicators. However, the regression results should be considered exploratory. This is due to the limited number of observations, the lack of data for some years and the methodological breaks in the Albanian series. For healthy life expectancy at age 65, convergence cannot be tested, since comparable data for Albania is not available.. The results provide descriptive support for H1. H2 is also supported, since the absolute gaps in the age-structure indicators and the old-age dependency ratio show negative and statistically significant trends. H3 is not statistically supported because, although the coefficient for the life-expectancy gap is negative, it is not statistically significant ($\beta_1 = -0.049$, $p = 0.741$).

Table 5. Albania-EU gap for each indicator.

Year	Population 65–79 (p.p.)	Population 80+ (p.p.)	Dependency Ratio (p.p.)	Life Expectan- cy at 65 (years)
2016	3,43	3,13	11,06	2,20
2017	3,36	3,17	11,34	2,20

2018	3,25	3,17	11,38	2,00
2019	3,03	3,13	11,18	1,90
2020	2,76	3,05	10,77	2,60
2021	2,58	3,05	10,65	4,30
2022	-	-	-	1,70
2023	2,12	2,75	9,55	-
2024	-	-	-	1,10
2025	1,07	1,86	1,11	-

Source: Eurostat, data analysed by the authors

Table 6. Linear regression results for the convergence analysis.

Indicator	Observation (n)	β (yearly)	R ²	p-value	Interpretation
Population 65-79 years	8	-0,252 p.p.	0,937	<0,001	Strong Convergence
Population 80+	8	-0,123 p.p.	0,703	0,009	Convergence
Old-age Dependency Ratio	8	-0,890 p.p.	0,602	0,024	Convergence, but strongly influenced by 2025
Life Expectancy at age 65	8	-0,049 years	0,020	0,741	No statistical evidence for convergence

Source: Eurostat, data analysed by the authors

5. Discussion

5.1. Interpretation of the results

The results of the study show that Albania is going through a clear and accelerated process of demographic ageing. This process is evidenced by the increase in the weight of the population aged 65-79 and 80+. It is also evidenced by the increase of the old-age dependency ratio.

Overall, these indicators show a transformation of the population structure. This transformation is characterised by the increase in the relative number of the elderly. It is also characterised by the decrease in the weight of the working-age population. The weight of the population aged 65-79 in Albania increased from 10.48% in 2016 to 16.85% in 2025. The weight of the population aged 80 and over increased from 2.31% to 4.32%. In the same period, the old-age dependency ratio increased from 21.13 to 36.56 persons aged 65+ for every 100 persons aged 20-64. These developments show that demographic ageing in Albania is not limited only to the increase of the elderly age groups. It is also accompanied by an increase in the demographic pressure on the

working-age population.

The convergence analysis shows that the movement closer to the EU 27 does not develop at the same pace for all the indicators. The strongest and most stable evidence of convergence is observed for the population aged 65-79. The gap between Albania and the EU 27 for this indicator decreased from 3.43 percentage points in 2016 to 1.07 percentage points in 2025. At the end of the period, Albania slightly exceeded the EU 27 average. This signals not only convergence, but also the possibility of moving towards a higher weight of this age group.

Convergence is also observed for the population aged 80 and over and for the old-age dependency ratio. The gap for the 80+ age group decreased from 3.13 to 1.86 percentage points. For the dependency ratio it was reduced from 11.06 to 1.11 percentage points. The regression results show negative and statistically significant coefficients for these indicators. However, the convergence of the dependency ratio is influenced considerably by the large change recorded in 2025. For this reason, it should be interpreted with caution.

The development of life expectancy at age 65 appears less stable. Before the pandemic a gradual improvement was evident. This was followed by a strong decline during the years 2020-2021 and by a recovery in the following years. Although the gap with the EU 27 decreased from 2.2 years in 2016 to 1.1 years in 2024, the linear regression did not provide statistically significant evidence of convergence. As a result, the convergence of this indicator cannot yet be considered a stable process.

For healthy life expectancy at age 65, the evolution or the convergence of Albania cannot be assessed. Eurostat and the national sources examined do not provide comparable data. The absence of data constitutes a limitation of the study. It does not allow the assessment of the qualitative dimension of ageing. This dimension refers to the years that the elderly population is expected to live without serious limitations in daily activities. In general, the results suggest that Albania is moving closer to the demographic structure of the EU 27. This applies particularly to the age composition and to the relationship between the elderly population and the working-age population. However, this demographic convergence cannot be equated automatically with convergence in health conditions or in the quality of life of the elderly population.

The interpretation of the results should take into consideration the lack of data for some years. It should also take into consideration the revision of the population series after the Population and Housing Census 2023.

In particular, the large changes of 2025 may reflect real demographic developments. They may also reflect changes in the statistical basis of the population estimate. Despite these limitations, the long-term trend towards the ageing of the Albanian population remains clear.

5.2. Comparison with Existing Literature

The findings of this study are in line with the international literature. This literature identifies the decline in fertility and the increase in life expectancy as the main factors of demographic ageing. The United Nations and the World Health Organisation

have emphasised that these processes will continue to change the age structure of the population in the coming decades.

The results are also in line with Eurostat statistics. These statistics show that most European countries are experiencing a continuous increase in the elderly population and in the dependency ratio. Albania follows the same direction, although at rates that change according to the indicator analysed.

At the national level, the existing studies have focused mainly on the changes in fertility, migration or the total number of the population. This study complements the literature by analysing the process of convergence of demographic ageing indicators with the European Union average. It does so through a comparative and longitudinal approach.

5.3. Public Policy Implication

The process of population ageing creates important challenges for the economic and social development of Albania. The increase in the share of the elderly population is expected to influence the demand for healthcare services, long-term care and social support. It is also expected to influence the financial sustainability of the pension system. At the same time, the increase of the old-age dependency ratio means that a relatively smaller part of the working-age population will have to support a growing number of pensioners. This requires policies that encourage participation in the labour market, investment in human capital and the increase of productivity.

The results of the study also suggest the need for policies that promote active ageing. They suggest the need to improve the quality of life of the elderly population. They also suggest the need to develop health and social services adapted to the new demographic structure.

5.4. Limitations and directions for future research

Although the study offers a broad analysis of population ageing indicators, it is based on aggregated data. It does not analyse the impact of individual or regional factors. For this reason, the results should be interpreted at the macro level.

Future studies may include analyses by county and differences by gender. They may also include more advanced econometric models. Another possibility is the comparison with other countries of the Western Balkans, in order to assess whether the process of demographic convergence follows the same pace across the whole region.

6. Conclusion

This study analysed the process of convergence of Albania towards the demographic structure of the European Union. It did so through five main indicators of population ageing. The analysis used harmonised Eurostat data for the period analysed.

The results show that the share of the population aged 65-79, the share of the population aged 80+ and the dependency ratio have shown increasing trends in Albania. Life expectancy at age 65 has shown considerable fluctuations, while no comparable data are available for healthy life expectancy for Albania. However, the pace of change is

not the same for all indicators and the degree of convergence to the European average varies according to the dimension analyzed.

The analysis of the gap between Albania and the European Union suggests that a process of convergence exists for some indicators. For others, the differences still remain considerable. This shows that the demographic transition in Albania is a process under development. The convergence with the European demographic structure is gradual. From the perspective of public policy, the results underline the need for long-term planning in the field of pensions, healthcare and social support. This planning should take into consideration the expected changes in the age structure of the population. In scientific terms, the study contributes to the literature on Albanian demography. It offers a comparative analysis based on internationally harmonised indicators. It also uses the concept of demographic convergence as an analytical framework for assessing the transformations of the population structure.

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