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The Demographic Challenge in the Western Balkans and Its Impact on Regional Consolidation

Filip Ejdus, Predrag Jureković (Eds.)

Study Group Information

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The Demographic Challenge in the Western Balkans and Its Impact on Regional Consolidation

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Foreword

Filip Ejdus, Predrag Jureković

This volume is composed of articles from the 49th workshop of the Study Group "Regional Stability in South East Europe". The workshop was conducted in Belgrade, Serbia, from 18 to 21 September, 2025. Under the overarching title "The Demographic Challenge in the Western Balkans and Its Impact on Regional Consolidation" experts from the South East European region and other parts of Europe, international organizations and major stake holder nations met under the umbrella of the PfP Consortium of Defence Academies and Security Studies Institutes and the Austrian Ministry of Defence, represented through its National Defence Academy and the Directorate General for Defence Policy.

The Western Balkans, including Albania, Bosnia and Herzegovina (BiH), Kosovo, Montenegro, North Macedonia and Serbia, is one of the regions with a particularly negative demographic development within Europe, but also from a global perspective. This negative trend has continued even after the Yugoslav wars of disintegration (1991–1999). It is characterized by a predominantly declining population in the individual states due to an unfavorable age structure, low fertility rates and emigration figures that exceed those of immigration. Tens of thousands of young, well-educated people in particular are leaving their countries for the EU and other emigration areas. Thus, the UN's population forecasts predict further population losses of around 20% by 2050, particularly in BiH, Albania and Serbia.

From the perspective of the unfinished regional peace consolidation in the Western Balkans, the question arises as to how the demographic challenges could affect social, economic and political developments in the region as well as ongoing conflict issues. Are the economic opportunities in the richer countries of the West decisive for the emigration of the young citizens of the Western Balkans or is the unwillingness/inability of regional politicians to end systemic corruption and enable functioning institutions and state services at least as important? How should the activities of non-regional actors, especially the EU, in this regard be assessed vis-à-vis the Western Balkans?

EU growth plans launched by the EU Commission for the Western Balkans, for example, go hand in hand with increased recruitment efforts by individual EU member states to obtain young skilled workers from the region.

What are the chances of democratization, reconciliation and the successful completion of EU integration in the Western Balkans if the trend of young hopefuls increasingly opting to emigrate continues? How promising are national and external strategies to mitigate the negative demographic trend in the Western Balkans? What concepts, which also include the diaspora, exist to steer the brain drain in the direction of a brain gain?

These are some of the key questions that the authors of this Study Group Information address in their contributions. In the first part of the publication, the authors describe the general characteristics of demographic trends in the Western Balkans. The second part contains articles dealing with the specific demographic situation in Serbia. Part III analyses developments in Serbia's neighbouring countries: Albania, Bosnia and Herzegovina, Kosovo, Montenegro and North Macedonia. The recommendations of the Study Group members are summarized in part IV. The publication concludes with an Epilogue that links the issue of demographic challenges in the Western Balkans with the prospect of EU accession and geopolitical upheavals.

The editors would like to express their thanks to all authors who contributed papers to this volume of the Study Group Information. They are pleased to present the valued readers the analyses and recommendations and would appreciate if this Study Group Information could contribute to generating positive ideas for supporting the still challenging processes of consolidating peace in South East Europe. Special thanks go to Miriam Zeug and Agathe Formanek, who supported this publication as facilitating editors.

Abstract

The Western Balkans have been experiencing for some time a demographic decline, characterised by low birth rates, the emigration of well-educated young people, and an increasingly structurally problematic age distribution within the population. In this part of South-East Europe, which is generally characterised by fragile peace consolidation and, in some cases, strained bilateral and domestic relations, this critical demographic trend generates serious economic, political, and potentially also security challenges. The departure of highly educated workers produces a persistent brain drain and labour shortages in key sectors of the individual Western Balkan states. In contrast, the Western Balkan countries – even though they have opened their borders to foreign workers – still have limited capacities to integrate newcomers that are highly needed for the modernization of their economic systems to ensure compatibility with the economies of the European Union. From a political perspective, the dramatic brain drain makes it difficult to safeguard democratic processes, which are threatened by authoritarian and nationalist policies. Changes in ethnic composition may also unsettle fragile peace arrangements in multiethnic states, particularly in Bosnia and Herzegovina.

The articles in this volume examine the specific demographic situation in each of the Western Balkan states within a regional context. In addition to analysing the relevant influencing factors, they offer concrete recommendations for introducing measures to promote positive demographic development.

PART II:
Impact of the Demographic Challenge on Serbia

Population Ageing and Labour Force in Serbia – Present-Day and Perspectives

Vladimir Nikitović

Introduction

The term 'demographic crisis' is commonly used to describe the shrinking and ageing populations in Serbia and neighbouring countries (Nikitović, 2022; Rašević & Galjak, 2022). On a global scale, depopulation has become widespread, paralleling the increase in population ageing. Interestingly, while humanity spent decades trying to slow population growth, many regions now face the opposite challenge – working to reverse population decline. This paradox highlights how complex and difficult it is to manage demographic trends and their interrelated factors.

Serbia's region was one of the first in the world to encounter depopulation and ageing, a reality now seen in almost half of European Union member states (United Nations, 2024c). A particularly important issue is the shrinking and ageing workforce, which is affected not only by demographic changes but also by economic conditions.

Can these trends be changed? Are we facing a demographic turning point? Could immigration or the return of citizens from abroad help shift the situation? Is the widespread anxiety about how ageing will affect vital social systems supported by evidence? What kinds of strategies could best address these demographic challenges: those targeting demographic factors directly, or efforts to boost workforce participation? Which approach is more likely to have an impact? Such questions have long been discussed in academic literature. In this article, we examine recent knowledge and offer insights into how the demographic crisis – especially ageing – might shape future changes in Serbia's workforce. Our quantitative framework relies on models projecting future demographic trends, using data from the July 2024 revision of the United Nations Population Division's probabilistic world population projections (referred to as UN2024) (United Nations, 2024a), recognized for its rigorous methodology and biennial updates.

Serbia's Demographic Outlook

In contemporary societies experiencing depopulation and ageing demographics, the short- and medium-term objectives of population policy are frequently set with considerable optimism – often exceeding what scientific understanding of demographic change would support. Nevertheless, the possibility of unexpected long-term shifts remains, as evidenced by historical changes in global population trends that were not anticipated by prior empirical or theoretical frameworks. To date, there is no scientific consensus regarding the future trajectory of humanity's demographic development. The *homeostatic* phase, characterized by relatively low birth and death rates, was traditionally viewed as the final stage of demographic transition and considered an attainable and self-sustaining outcome for most societies, resulting in a stable population. This perspective has usually shaped demographic projections by national and international agencies, wherein the most desirable scenario assumes replacement fertility levels and zero net migration, consistent with the prevailing expectation among demographers that equilibrium is the only viable long-term state for modern societies. However, newer forecasting models, which utilize increasingly robust demographic data – including more granular indicators from recent decades – have challenged the plausibility of such scenarios. These models provide explicit probabilities for various demographic outcomes, allowing for a clearer quantification of the roles played by births, mortality, and migration in shaping population dynamics.

Regardless of the validity of specific population policy objectives, it is clear that concerns regarding anticipated substantial population decline – particularly at the (sub)regional and local levels – are well founded (Lutz & Gailey, 2022; Nikitović, 2019, 2022). The region encompassing Serbia has already been identified as especially vulnerable on a global scale as of the mid-2020s. According to UN2024 projections, the populations of Serbia and several neighbouring countries, including Bulgaria and Croatia, are expected to decrease by at least 20% over the next three decades, and may be reduced by nearly half by the year 2100 (United Nations, 2024c). Serbia is recognised as an early and prominent case in the regional depopulation process, a trend influenced by unique aspects of its socioeconomic development following World War II. These factors have shaped the broader determinants of mod-

ern demographic shifts, notably resulting in persistently low fertility rates (Nikitović et al., 2019; Nikitović & Magdalenić, 2024; Rašević & Galjak, 2022).

Figure 1 illustrates Serbia's total population trends, detailing historical data from 1950 to 2024 and projections extending to the end of the century. The graph clearly demonstrates that the decline commenced over thirty years ago (solid black line) and is projected to persist through 2100. This visualisation integrates probabilistic uncertainty regarding Serbia's future population size – derived from 2,000 simulated trajectories with 80% and 95% prediction intervals[1] – as well as deterministic uncertainty illustrated by two conventional scenarios from the UN2024 projection set: low and high fertility.

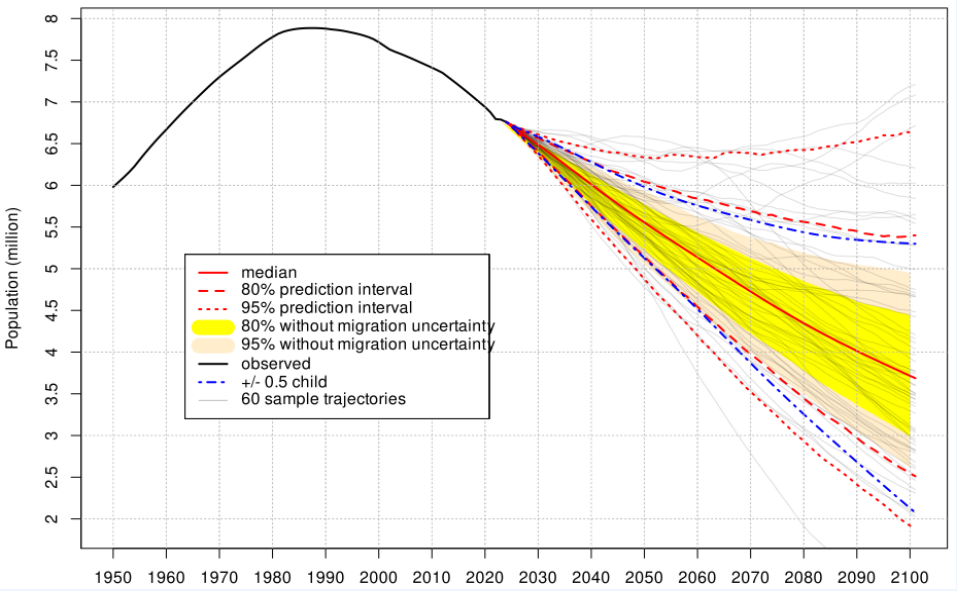


Figure 1: Total population of Serbia – historical and projected, 1950–2100

Source: United Nations, 2024b.

[1] Each trajectory was generated with the bayesPop package in R, using one projected path each for total fertility rate, life expectancy by sex, and net migration, sampled from their respective predictive distributions (Shevchikova et al., 2025).

The median of the prediction interval indicates that Serbia's total population is projected to decrease by approximately one million persons by 2050, and by a further two million by the end of the century. Depopulation appears highly probable, as only the upper bound of the 95% prediction interval (represented by the red dotted line) suggests the possibility of halting this decline by mid-century, followed by a minor increase. In contrast, the upper bound of the 80% prediction interval (the red dashed line) implies there is merely a 10% likelihood that the overall population decline could be stopped, and only towards the century's conclusion. There is also a comparable probability that Serbia's population in 2100 may reach as low as 2.5 million people. It is important to note that these intervals are relatively broad, given that this is the first revision of United Nations projections incorporating migration uncertainty – by far the biggest among the three components of demographic change. The yellow region illustrates the 80% prediction interval, and the orange represents the 95% prediction interval, both excluding migration uncertainty, which continues to be a conventional approach in most national demographic forecasts due to insufficiently reliable migration data and the inherent unpredictability of long-term migration trends.

Figure 1 illustrates that the likelihood of the traditional high and low fertility scenarios, commonly used in UN projections,[2] is low since they fall near the respective 80% prediction interval bounds (including migration uncertainty). Moreover, such demographic futures are highly unlikely within this century given the 95% prediction interval excluding migration uncertainty. This insight is especially important regarding the high fertility scenario, which in Serbia corresponds to replacement-level fertility – a result largely dependent on the effectiveness of policies promoting childbirth. Notably, this outcome is also considered unrealistic by projections informed by subjective expert assessments, such as those from national statistical offices or Eurostat (Eurostat, 2024; Paunović Radulović et al., 2024). Even under this scenario, reversing the ongoing population decline over an extended period remains unattainable, as clearly depicted in Figure 1.

[2] High and low fertility scenarios depict futures in which the total fertility rate is most of the time for 'half' of the child above or below the most likely trajectory (median distribution).

The projection indicates that, when accounting for migration uncertainty based solely on the modelling of historical trends, there remains a possibility – albeit modest – that Serbia's population could increase, contingent upon achieving a highly positive, yet plausible, net migration balance. Even when disregarding models and focusing exclusively on empirical evidence of migration developments in Serbia and neighbouring countries over the past century (the annual migration balance in Serbia since 1950 is illustrated in Figure 2), it is conceivable that comparably high net immigration may occur in the coming decades. This perspective aligns with contemporary theoretical frameworks informed by empirical data, which increasingly view Europe as an immigrant continent and predict a transition for remaining net emigration countries – primarily in Eastern and Southeastern Europe – towards net immigration status (Fassmann & Reeger, 2012; Nikitović, 2017).

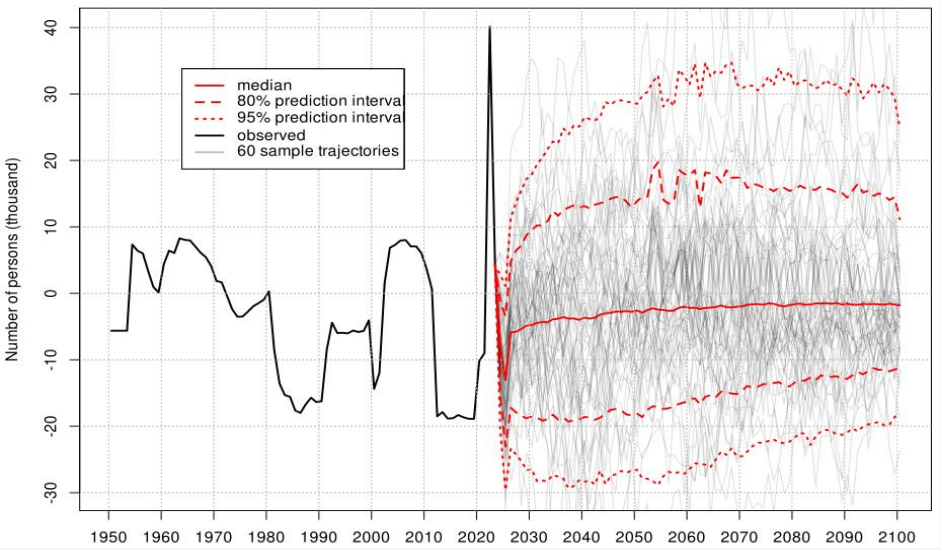


Figure 2: Serbia's migration balance – historical and projected, 1950–2100

Source: United Nations, 2024b.

The UN2024 projection incorporates such a migration future, which serves as the analytical basis for this paper. A comparison of Figures 1 and 2 indicates that migration remains a principal source of long-term population uncertainty. While the projection suggests Serbia and neighbouring countries will likely sustain a slightly negative migration balance – potentially trending

towards zero by century's end – there is also a significant likelihood of either its further decline or a reversal of current migration patterns. To halt population decrease or foster growth, it would be necessary for Serbia to achieve a sustained positive net migration of approximately 15,000 to 30,000 individuals annually in the long term, as indicated by the upper bounds of the 80% and 95% forecast intervals, respectively (see Figure 2). In practical terms, this would require Serbia to transition from its current migration rate (roughly -2 per thousand) to between +2 and +4.6 per thousand population within 15 to 25 years.

In this context, Eurostat's most recent population projections for EU member states (EUROPOP2023, spanning 2022–2100) extend beyond the UN2024 model, largely assuming an imminent shift whereby Serbia's traditionally emigrant neighbouring countries will transform their migration balance from negative to positive. Even under the lower immigration scenario, net emigration is not forecasted after the initial 5–7 years for erstwhile emigrant countries such as Bulgaria and Croatia. The baseline (most probable) scenario anticipates an almost immediate transformation to net immigration, while the high immigration scenario matches the upper bounds of the prediction intervals of the UN2024 projection (Eurostat, 2024).

Although the likelihood of this future scenario is considered low by the UN2024 model, historical data and theoretical perspectives suggest that substantial changes in migration patterns may be more probable than shifts in fertility rates. More specifically, they indicate a higher possibility of increased immigration levels in this region rather than a substantial rise in birth rates over the coming decades (Nikitović, 2022). Recent increases in immigration to the region that includes Serbia support these assumptions. Economic growth and anticipated improvements in living standards may lead to the region becoming a net immigration area in Europe, a possibility viewed as more feasible now compared to 5–10 years ago.[3] Nevertheless, Eurostat projections do not anticipate a reversal in the declining population trend until the last two decades of the century. Unlike the UN2024 projection, Eurostat considers this turnaround possible within its baseline, or most likely, scenario (Eurostat, 2024).

[3] In October 2024, Eurostat updated the long-term EUROPOP2023 by including a short-term projection for 2023–2050 to reflect recent trends in increased immigration.

Prospects of Population Ageing in Serbia

If rapid population growth was the predominant global demographic challenge during the 20th century, population ageing has clearly assumed this role in the 21st century. While Europe is the first continent to encounter this phenomenon, concerns regarding its impact on essential social systems have extended well beyond its borders, as evidenced by recent population projections (United Nations, 2024c). Consequently, many countries have implemented policies designed to reduce the emigration of citizens, stimulate foreign immigration, or increase birth rates. However, these projections indicate that the effects of such measures typically manifest over the long term, or at best, the medium term, as determined by the period required for a new generation to reach working or reproductive age. Furthermore, the outcomes of these initiatives remain uncertain, as discussed previously. Accordingly, apprehension about the potential consequences of population ageing appears warranted, as illustrated in Figure 3.

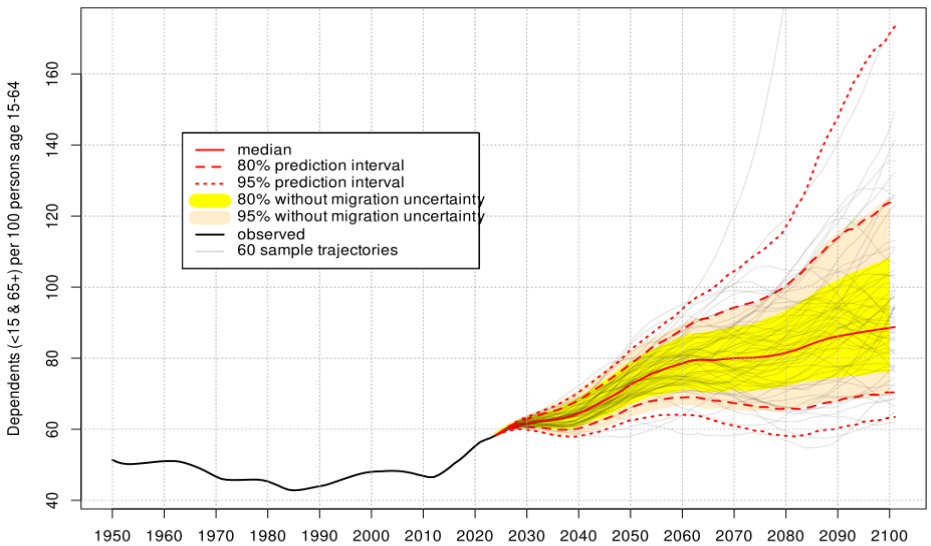


Figure 3: Total dependency ratio (number of persons aged <15 and 65 + per 100 persons aged 15–64) of the population of Serbia – historical and projected, 1950–2100

Source: United Nations, 2024b.

The Total Dependency Ratio (TDR) serves as a widely utilised demographic measure that quantifies population ageing, representing the proportion of young and older individuals relative to those of working age.[4] It is commonly interpreted as an indication of the economic burden placed on the economically active by dependent segments of the population. According to the UN2024 projection, illustrated in Figure 3, the prediction interval suggests that the TDR – already at an elevated level – is highly unlikely to decline before the end of the century. The principal driver of this trend is the projected increase in the old population, which intensifies the 'pressure' on individuals of working age. Following a projected deceleration until 2040, a subsequent surge around 2060 appears probable, mirroring the rise observed post-2010 and the anticipated peak around 2030 attributable to the ageing of the baby boomer cohort. This phenomenon results from Generation X, the offspring of boomers, entering the older population bracket during this timeframe.

It is especially important to highlight the noteworthy probability – under unfavourable birth and mortality trends and excluding migration-related uncertainties – that the number of dependents could almost match the working-age population over the next six decades. This scenario, characterised by a sustained negative migration balance, is reflected at the upper bound of the 80% forecast interval (depicted in yellow in Figure 3). Conversely, while immigration is often regarded as the most expedient means to alleviate pressure on the working-age population, the lower bound of the 80% prediction interval with migration uncertainty for the TDR (represented by the red dashed line) indicates that Serbia's transition to an immigrant-receiving country – with increasingly positive migration balance – would yield substantial benefits only after four to five decades. The incremental reduction in TDR attributed exclusively to this factor is illustrated in Figure 3 by the area between the red dashed line, denoting the lower bound of the 80% prediction interval

[4] Age limits for defining working-age populations depend on demographic, cultural, and economic factors. This paper uses the standard range of 15 to 64 years, with 65 typically marking retirement age and 15 indicating the threshold between youth and working age. The focus is on analysing ways to increase activity rates among young people, which are generally low in Serbia's cultural context.

with migration uncertainty, and the bottom edge of the yellow-shaded region, which marks the lower bound of the 80% prediction interval without migration uncertainty.

Currently, Serbia and neighbouring countries are considered among the regions experiencing notable population decline and ageing; however, their TDR remains lower than that of Western Europe. According to the median scenario of the UN2024 projection, the TDR in Western Europe is expected to increase at a faster rate over the next 15 years, while a similar shift for Serbia and its neighbours is projected to occur around the middle of the century. From that point on, the region is forecasted to have the most unfavourable ratio of young and old to working-age individuals in Europe until the century's end (Nikitović et al., 2024). This indicator, based strictly on age, suggests the region has time to adjust to forthcoming demographic changes. Nevertheless, shifts in the proportions of key age groups in this region present major challenges, particularly in comparison with Western Europe, primarily due to lower activity rates.

Rising Labour Force Participation in Response to Population Ageing

The Total Dependency Ratio (TDR) provides a rough estimate of the relationship between economically dependent and independent segments of the population. Its primary function is comparative, permitting demographically standardised assessments of age profiles across different populations as a straightforward indicator. The simplicity of this measure, however, entails certain limitations: it assumes that all individuals over the age of 65 are economically dependent, and that those aged 15–64 uniformly participate in the labour market (Marois et al., 2020). In practice, these assumptions overlook crucial societal shifts, such as rising life expectancy, longer periods of life spent in good health, and higher levels of education, which have led to increased rates of workforce participation. Notably, Serbia has experienced a marked rise in labour force participation among highly educated individuals under 40, with women on average surpassing men in educational achievement for all cohorts born after 1966 – an indicator of social progress (Galjak, 2025).

Nevertheless, the real economic dependency pressure on the active population remains greater in Serbia and neighbouring countries than in Western

Europe, as activity rates – particularly among younger and older segments of the potential workforce, especially women – are traditionally lower. This trend is illustrated in Figure 4, presenting activity rates by gender and five-year age groups based on annual data from the 2023 Labour Force Survey (Eurostat, 2025). The graph compares Serbia, the EU-27 average, and Sweden – a country whose age-specific labour activity patterns remain challenging for many advanced EU states to match. Within this context, Serbia's patterns resemble those observed in Mediterranean countries, particularly regarding delayed entry of young individuals into the labour market, attributed to cultural similarities in the transition to adulthood (Ignjatović, 2009; Tomanović, 2022).

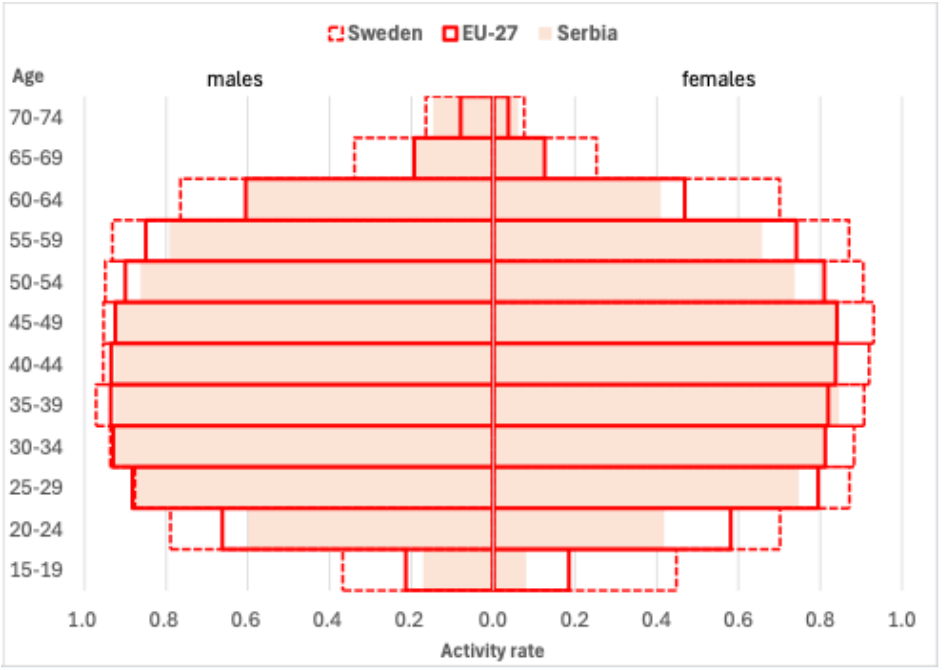


Figure 4: Activity rates by gender and five-year age groups for Serbia, EU-27 average and Sweden according to the 2023 Labour Force Survey

Source: Eurostat, 2025.

Conversely, reduced activity rates in the working-age population over 50 are correlated with factors such as poorer health status (Marinković & Galjak, 2021; Rašević & Galjak, 2022), a persistently high proportion of disabled

pensioners (Pension and Disability Insurance Fund, 2025) attributable to historical liberal disability legislation (Stojilkovic, 2011), limited effectiveness of retraining initiatives, and certain forms of labour market discrimination during Serbia's ongoing socioeconomic transition. In the population aged over 65 years, lower activity levels[5] relative to those observed in more developed countries are also linked to fewer years spent in good health, positioning Serbia among the least favourable European contexts in this regard (Galjak, 2023; Marinković, 2022). Furthermore, low activity rates among both younger and older working-age women, particularly compared to the Swedish age-specific activity pattern, can largely be attributed to lower levels of gender equality within the private sphere, distinguishing Serbia from more gender-egalitarian societies (Bobić, 2018).

Given the limited and primarily long-term effects that Serbia's transition to an immigration country or an increase in birth rates may have on workforce size – according to the UN2024 projection – and considering these factors depend largely on the effectiveness of immigration and pro-natal policies, which are either absent or inconsistently implemented in Serbia (Nikitović, 2017; Nikitović & Magdalenić, 2024), assessing the future workforce size and its relationship with the dependent population requires examining the impact of potential changes in activity rates.

A notable portion of the working-age population remains outside the labour force, including categories such as students, housewives, and early retirees, while some individuals over 65 remain economically active. Data indicates that activity rates are generally increasing (Eurostat, 2025), a trend attributed to higher levels of education, as those with more education tend to participate in the labour market for longer periods (Marois et al., 2020). If advancements in artificial intelligence and widespread automation do not result in fundamental changes, projections suggest future generations may attain even higher educational levels and maintain economic activity at older ages. Research has identified associations between continued economic activity beyond traditional retirement age and positive psycho-physical health outcomes (Lutz & Gailey, 2022; Skirbekk & Lutz, 2014). In this section, we use the labour force dependency ratio (LFDR) to assess the impact of an ageing

[5] Rates for individuals aged 70–74 are higher than the EU-27 average, which is attributed to a larger proportion of agricultural workers in these age groups.

population on the labour force. Unlike the TDR, LFDR compares all economically inactive individuals to all economically active individuals, regardless of age, thereby reflecting actual participation in the labour force.

Figure 5 presents the projected trends of two indicators – the total age dependency ratio and the labour force dependency ratio – as measures of the potential economic impact related to population ageing in Serbia over the next four decades. The total age dependency ratio, in addition to the most probable path, incorporates probabilistically quantified uncertainty by accounting for variations in births, deaths, and migration, according to the UN2024 projection. Conversely, the labour force dependency ratio reflects potential shifts in activity rates, applying scenario-based uncertainty, tied to the most probable trajectory of future population change from the same projection.

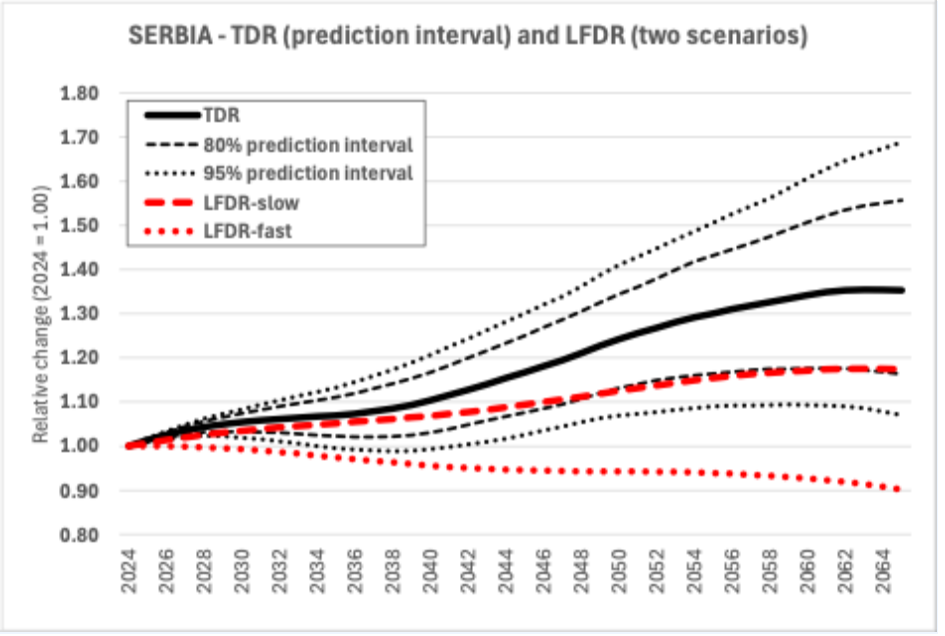


Figure 5: Total Dependency Ratio – TDR and Labour Force Dependency Ratio – LFDR (slow and fast scenario) as predictors of economic 'pressure' due to population ageing in Serbia, 2024–2065

Source: Author's calculations based on: United Nations, 2024a; Eurostat, 2025.

The dashed and dotted black lines represent the 80% and 95% prediction intervals, respectively, surrounding the most probable (median distribution) future trajectory of TDR (depicted by the solid black line). By contrast, the two red lines illustrate alternative scenarios for the future development of LFDR. A forty-year time frame is generally regarded as the maximum feasible period for projecting changes in activity rates. Considering Serbia's current relatively low activity rates in certain age groups (as shown in Figure 4), it is assumed that gradually aligning with the existing EU-27 average for age-specific activity patterns could be realistically achieved by 2065. This projection is especially plausible given that the EU-27 includes countries like Croatia and Bulgaria, which exhibit similar patterns to Serbia. Accordingly, this pathway is referred to as the slow LFDR scenario (indicated by the red line with circles). Conversely, achieving Sweden's present age-specific activity pattern within four decades is considered notably more ambitious due to pronounced cultural, demographic, and socioeconomic differences between Serbia and the Nordic countries that influence activity rates. Consequently, this trajectory is designated as the fast LFDR scenario (the red line with triangles).

All indicators in Figure 5 have been standardized to a baseline value of 1.0 for 2024 to facilitate comparison of trends over time. The good news is that over the next 15 years, the TDR is unlikely to experience significant growth – expected to increase by less than 10%, with at least a 90% probability of this outcome within the coming decade. This means that population ageing is projected to exert minimal pressure on the economically active segment, primarily due to the gradual inclusion of individuals from the 'silent or truncated generation' into the old population. During this period, similar outcomes result from the slow LFDR scenario, which implies only minor increases in activity rates. Conversely, the fast LFDR scenario suggests a potential reduction in workforce pressure over the next 15 years, even though it assumes a demographic trajectory without a migration transition or substantial rises in fertility rates.

The principal distinction between TDR and LFDR emerges over the medium term. Following 2040, TDR is projected to rise considerably, reaching its peak around 2060. At that point, the indicator will likely be approximately 35% higher than the current level, primarily due to the ageing of Generation X (the descendants of baby boomers). This growth is expected to stabilise as

Generation X is succeeded by the next smaller generations – Y and then Z – in the old population. Notably, the upper bound of the prediction interval suggests that after 2058 there is at least a 10% chance that the TDR will exceed today's level by 50%. On the other hand, the increase in LFDR after 2040 is much smaller under the slow scenario, peaking at 18% above today's figure in 2060 – only half the forecasted rise in TDR. This is attributable to anticipated rises in labour force participation among both younger and older individuals, particularly women, driven by the rising educational attainment, increasing life expectancy and years spent in good health, and evolving cultural norms regarding the transition to adulthood. Similar patterns of divergences in forecasted trends between these two indicators are portrayed in projections for neighbouring countries within a comparable timeframe, regardless of methodological differences (Lutz & Gailey, 2022).

In the slow LFDR scenario, the projected trajectory of the inactive to active population ratio aligns with the lower bound of the 80% prediction interval for the TDR during the latter half of the projection period. This is another key point that Figure 5 conveys: achieving a stable annual net immigration rate of two per thousand, along with a 20% increase in total fertility rate, would reduce the expected population ageing pressure by half compared to the most likely demographic future (where neither large changes in fertility nor a transition to net immigration are assumed), though such a scenario holds only a 10% probability; nevertheless, the same reduction in pressure on the labour force could be achieved only through the expected improvements in activity rates even in the most likely demographic future, as implied in the slow LFDR scenario.

The most favourable outcome comes from the fast LFDR scenario, though achieving this appears challenging even for countries more developed than Serbia. Under this scenario, there would be no pressure on Serbia's labour force from the economically dependent population throughout the projection period; in fact, this pressure is expected to gradually fall, reaching a level 10% lower than today by 2065. Put differently, the pressure induced by the increasing total dependency ratio in the most likely demographic future would not only be completely offset but would actually decline. While this scenario expects its target values will only be met after 40 years, its feasibility – especially given it requires a substantial rise in women's workforce participation and increasing the retirement age to match that of Sweden – remains

debatable. Still, what is clear is that, according to comparisons with the prediction interval of total dependency ratio, long-term reduction of pressure on the labour force is unattainable without a sizeable boost in activity rates.

Conclusion

An analysis of Serbia's population projection through the end of the 21st century, based on the United Nations probabilistic model from 2024, indicates high uncertainty regarding future demographic patterns, particularly with respect to migration drivers. Nonetheless, the ongoing trends of population decline and ageing in Serbia appear highly likely to persist. While a reversal of these patterns is theoretically possible toward the century's end, the probability remains low even if Serbia soon becomes a country with more people moving in than leaving.

However, a strategic focus on reducing emigration and progressively moving towards net immigration should be integral to any approach addressing adverse demographic trends. With the probability of the total fertility rate returning to replacement level by the end of the century being negligible – and the forecasted impact marginal, contrary to common perceptions – this direction is vital.

The swift progress of artificial intelligence prompts numerous questions regarding potential civilizational shifts. Among these, some positive projections for humanity suggest that labour market requirements may diverge notably from current assumptions within the timeframe considered in this analysis. Nevertheless, as these factors were not discussed in the paper, enhancing labour force participation rates remains a central recommendation for public policy. In order to halve the expected increase in workforce pressure stemming from population ageing over the next forty years, both significant increases in fertility rates and stable immigration are necessary. However, the model examined here indicates only a 10% likelihood of achieving such outcomes. Alternatively, similar effects might be attainable already under the scenario of gradual alignment with the current age pattern of activity rates for the EU-27 average, even in the most likely demographic future – without the imminent migration transition and fertility increase.

In light of historical trends, the projected faster increase in activity rates towards the current age pattern in Sweden, warrants further discussion. However, probabilistic population projections clearly show that easing pressure on the labour force can only happen if activity rates rise substantially. These findings suggest that raising activity rates is probably the fastest and most effective way not only to slow down the 'pressure' inactive people place on the workforce, but also to reverse this ratio, especially as the population and workforce continue to shrink and age. Research on Western European countries supports these findings. Since Serbia and its region have some of the lowest activity rates in Europe, and further improvements in public health, education, and gender equality – factors influencing activity – are likely, the strategy of boosting labour force participation becomes even more pertinent. Consequently, the prospect of population ageing in the coming decades, characterized by an increasing proportion of a more educated and thus more active population, need not be perceived as the threat it appears to be from a contemporary viewpoint.

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The severe demographic decline is a common challenge facing the entire Western Balkans region, whose internal relations are otherwise still partly strained by the negative legacy of past wars. The articles in this volume provide an excellent overview of the social, economic and political implications of demographic trends for the individual Western Balkan states, all of which officially aspire to join the EU, and whose regional relations oscillate between cooperation and antagonistic measures.

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