

# Demographic changes in Slovenia and Europe

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# CON- TENTS

**Project partners / 4**

**Contributors / 5**

**Abbreviations / 9**

**Primož Jelševar: Introduction / 10**

**Franc Bogovič: DEMOGRAPHIC TRENDS AND CHANGES - The situation in the EU and its Member States / 13**

**Mag. Monika Kirbiš Rojs: The impact of demographic changes on the planning and implementation of development policies of the European Union and Slovenia / 24**

**Anja Fortuna: Youth and demography / 36**

**Sandra Pasarić: Croatia, deserted island under the European sky: Migration flows from and within Croatia and their social impacts / 40**

**Marko Vidrih: : Demographically speaking, Slovenia is a mature lady / 50**

**Marjan Podobnik, Boštjan Furlan: Rural areas as a space for the integrated resolution of housing issues facing the elderly / 58**

**Prof. dr. Andrej Umek: Demography and the 4th Industrial Revolution / 70**

## Project partners

***The Wilfried Martens Centre for European Studies (WMCES)*** was established in 2007 as the political foundation and official think tank of the European People's Party (EPP). The Martens Centre has four main goals: advancing centre-right thought, contributing to the formulation of EU and national policies, serving as a framework for national political foundations and academics and stimulating public debate about the EU. It promotes a pan-European mind-set based on centre-right, Christian-Democrat, conservative and like-minded political values.

***The Anton Korošec Institute (INAK)*** was established in 2015 as a think-tank and foundation for political engagement. The main goals of the institute are to contribute to the further development of democracy and the achievement of a higher level of quality of life in Slovenia by encouraging the exchange of ideas and best practices from Christian democratic values and virtues in Slovenia, Europe, and the world. Through different activities, INAK wants to contribute to the formation of the basis for new political action, the development of methods for the democratic assertion of political interests, and to support economic, scientific research, cultural and humanitarian activities.



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**Prof. dr. Andrej Umek** studied at the University of Ljubljana, Faculty of Civil Engineering, and concluded his studies with a doctorate from the Illinois Institute of Technology in Chicago, USA. From 1965 to 1970, he worked in Germany and Switzerland, and a year before going to study in Chicago, in Ljubljana at the Institute for Testing and Research in Materials and Structures. After completing his doctoral studies, he returned to Ljubljana and got a job as a researcher at the Faculty of Civil Engineering. In 1976, he started working at the University of Maribor, first as an assistant professor and later as an associate and full professor. From 1990 to 2000, he was also the Vice-Chancellor of the University of Maribor. He interrupted his academic career twice when he took over a Minister position in the Slovenian government, first as Minister of Science and Technology and the second time as Minister of the Environment and Spatial Planning.



**Marjan Podobnik** graduated from the Jurij Vega Grammar School Idrija, and in 1986 he graduated from the Biotechnical Faculty of the University of Ljubljana. He first worked as an agricultural consultant and then became the director of Agricultural Cooperative Idrija. In 1988, he was one of the initiators of the founding of the Slovenian Rural Youth Association (Zveza slovenske podeželske mladine) and the first democratic Slovene political party after World War II, the Slovenian Peasant Union (Slovenska kmečka zveza), which was later renamed the Slovenian People's Party (SLS). From 1990 to 1996, he led the SLS parliamentary group. He was president of the SLS from 1992 to 2000 and took over leadership of the party again in 2018. From 1997 to 2000, he served as Deputy Prime Minister of the Slovenian Government under the leadership of Dr Janez Drnovšek. Due to his resolute fight against wild privatizations and other types of corruption, in 1998 and 1999 he received one of the harshest media and political lynchings in independent Slovenia. After one year of managing Telekom Slovenije plc, he worked abroad until 2014, mostly in Serbia, mainly in the field of real estate and as a consultant in the field of denationalisation. He later actively collaborated with the Grm Novo mesto – Center of Biotechnics and Tourism (GRM) and the Landscape Governance College GRM, especially in setting the basics for cluster economic development in rural areas based on 'Trustworthy' philosophy (Gospodarski grozd za podeželje Zaupanja vreden) and in other projects whose primary goal is to build short food supply chains between consumers and producers.

**Marko Vidrih** is an independent investigative journalist with a great enthusiasm for such economic topics as modern entrepreneurship, finances of the future, and technology that influences human development.





# Abbreviations

<b>AI</b>	artificial intelligence
<b>CBS</b>	Croatian Bureau of Statistics
<b>EPP</b>	European People's Party
<b>EU</b>	European Union
<b>GDP</b>	Gross domestic product
<b>IMAD</b>	Institute of Macroeconomic Analysis and Development
<b>INAK</b>	Anton Korošec Institute
<b>IT</b>	information technologies
<b>JVP</b>	Austrian Youth People's Party
<b>MEP</b>	Member of the European Parliament
<b>MSS</b>	National Youth Council of Slovenia
<b>NEET</b>	Not in Education, Employment, or Training
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>RRI</b>	Responsible Research and Innovation
<b>RS</b>	Republic of Slovenia
<b>SAZU</b>	Slovenian academy of sciences and arts
<b>SLS</b>	Slovenian People's Party
<b>SURS</b>	Statistical Office of the Republic of Slovenia
<b>UBI</b>	universal basic income
<b>UKOM</b>	Government Communication Office
<b>USA</b>	United States of America
<b>WMCES</b>	Wilfried Martens Center za evropske študije

*Primož Jelševar*<sup>1</sup>

# INTRO- DUCTION

Slovenia and Europe are facing a rapidly ageing population. According to current projections, Slovenia will be among the countries with the oldest population in the EU in 2050, and in 500 years there will be no more Slovenians. Shifts in the population's age structure are already having an impact on all levels of our lives today; everything from pension system sustainability to healthcare capacities, economic competitiveness to various other issues.

A fundamental question we should ask ourselves is why we should strive to improve demographic indicators at all. Why would we want to rejuvenate? If our old continent has decided to quietly fade away and lie down to rest after thousands of years of turbulent life, why even bother to prevent or delay this? John Rhys-Davies, the actor who portrayed Gimli in the film *The Lord of the Rings*, said 'there is a demographic catastrophe happening in Europe that nobody wants to talk about, that we daren't bring up because we are so cagey about not offending people racially'. A similar consideration applies also to our nation, which, according to some indigenous theories, was one of the first to settle in this part of Europe. If this is true, it seems somehow logical that we will be one of the first European nations to self-destruct. Are our natural endowments too worn out for young people to see a perspective for their offspring in this corner below the Alps? Or have we become simply too selfish in the abundance of previous years to share these goods with others?

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<sup>1</sup>Primož Jelševar, direktor Inštituta dr. Antona Korošca, primoz.jelsevar@inak.si

The theory of the depletion of our goods probably does not hold water, as we have nations in the European neighbourhood living in scarcity of basic natural goods - in an environment that is far more challenging to survive, and create a family, in than in Slovenia. A lot of immigration from the Middle East and Africa in recent years is an eloquent fact that speaks in favour of a good part of the world seeing the European space as promising for life. This fact is not surprising, since Europe has been a relatively peaceful region for the last 50 years, where we have enjoyed high social security. We can expect with great certainty that this will not be possible to claim for the future when the population changes. Natural conditions do not affect behaviour to such an extent as the characteristics of the nation itself and their culture. However, when a new culture enters a space, it usually erases the traces of the old. Only the gullible, however, hope that this will not happen with Brecher's 'accelerated demographics'. We have witnessed this many times in history, and the decline of Europe with its rich cultural heritage and history would be a great loss for all of humanity.

In the days when I am very much looking forward to my first offspring, I have spent a lot of time thinking about the future: mine, our family, the nation, and future in the broadest sense.

Reproduction is one of the basic characteristics of living beings and is in the function of conservation and survival of our species. This characteristic is found in the most basic unicellular organisms, in animals, and, last but not least, in humans. People, who are placed above other beings, reproductive behaviour at some higher level would be expected, even with their many peculiarities. First and foremost, to continue our family line by passing on our genes to our offspring with a genetic record that will be similar to ours. Then to add a stone to the survival mosaic of our community or nation to which we belong. And after all, to enable the survival of our species, which should be our instinctive tendency. Among all living beings, however, it is man who does not always place the need for the continuation of its species at the top of the scale of his priorities. So, what leads to the conscious decision to sometimes decide differently on these issues than other living beings?

At the Anton Korošec Institute, in cooperation with the Wilfried Martens Centre for European

Studies, we organized our first joint project entitled Demographic challenges of Slovenia and Europe, this year. The project aims to shed light on some of the above-mentioned issues and to open a wider public debate on how we will live differently in the future. In August, a well-attended and content-rich round table was held in Ankaran. Speakers touched on the problems of population ageing and presented their views and solutions to worrying demographic trends in Slovenia and Europe. The publication that is now in front of you was created as a continuation of this project; due to the worsening of epidemiological forecasts in the second half of the year. I would like to thank Franc Bogovič, Member of the European Parliament (SLS / EPP), for his excellent insight into the situation on a European and global level, and his analysis of demographic trends and changes in the European Union and its Member States. Thanks to Monika Kirbiš Rojs, State Secretary at the Government Office for Development and European Cohesion Policy of the Republic of Slovenia, for her in-depth contribution on the impact of demographic changes on the planning and implementation of development policies of the European Union and Slovenia. Investigative journalist Marko Vidrih walked through the data on the ageing population with great precision and noted that Slovenia, demographically speaking, is a mature lady, while the President of the National Youth Council of Slovenia Anja Fortuna in her excellent reflection Youth and demography emphasized the need to include in the discussion of demography young people as well. President of SLS, Marjan Podobnik, and his colleague Boštjan Furlan, together with consultants from various fields, prepared a proposal for a comprehensive solution to the housing problem facing the elderly, with an emphasis on exploiting the potential of the Slovenian countryside. The collection of articles is concluded by Prof. Dr Andrej Umek, who in his reflection Demography and the 4th Industrial Revolution shows a clear path for systemic changes that would enable our system to remain valuable and economically sustainable. I would also like to thank the co-organizer of the project, the Wilfried Martens Centre for European Studies, for an exceptional opportunity, and their colleague Sandra Pasarić for all the support and advice as well as for her excellent insight on migration flows from and within Croatia and their social impacts. Special thanks for all the work done in the project Demographic changes in Slovenia and Europe go to my indispensable colleague Suzana Lara Krause, who played a key role in organizing the event in Ankaran, and in the preparation of this publication.

*Franc Bogovič, Agr. Eng., Member of the European Parliament (SLS / EPP),  
European Parliament<sup>1</sup>*

# DEMOGRAPHIC TRENDS AND CHANGES - The situation in the EU and its Member States

## Abstract

Demographic trends and changes are constant in human development. However, due to the latter, we have been facing more and more significant problems in recent periods, which will intensify in the future. A falling birth rate, substantial ageing of the population, labour shortages, burdened social and health systems, and increasingly abandoned and empty rural and poorer areas due to mass migration from the poorer to the more developed parts of Europe are a constant which brings with it many negative and worrying consequences that will negatively affect all aspects of our society. Europe, as the continent with the oldest population, therefore, faces not only the negative consequences of external migration but also negative migration flows that take place within the EU.

**KEYWORDS:** demographic trends, EU trends, falling birth rate, ageing of the population, Western Balkans, labour shortages, education, social expenditure, health expenditure

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<sup>1</sup>Franc Bogovič, MEP (SLS/EPP), email: franc.bogovic@europarl.europa.eu..

## Introduction

Demographic trends and changes are constant in human development. However, especially due to demographic trends and the uneven distribution of the population, we have been facing more and more substantial problems in recent periods, which will intensify in the future. Mainly, larger and more developed urban centres as well as developed, rich countries attract all the young, talented, and skilled labour force from the continent, thus destroying opportunities for positive development in rural, remote, mountainous, and poorer areas. Moreover, a noticeable increase in the share of the population over the age of 65 has a significant impact on the increase in expenditure on pensions, health care, long-term care, and other age-related expenditure, where Slovenia, according to the projected amount of these expenditures in the future, stands out significantly compared to other EU countries, which are also facing the problem of an ageing population.

The consequences of such demographic trends will be visible in several areas, in particular in labour and employment markets, education, social protection and the provision of services for the elderly, public expenditure and housing, spatial and regional policies.

## Demographic trends around the world

The fact is that the number of people is changing significantly and constantly around the globe. International trends suggest that the population will continue to grow in relative proportions, with the largest population growth expected by 2050, mainly in Africa and Asia. In contrast, Europe, already the continent with the oldest population, is projected to have more than 25% of its total population over the age of 65 by 2050<sup>2</sup>.

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<sup>2</sup>Eurostat Regional Yearbook, 2018.

Trends show that, in the coming years, the population of Europe will continue to grow steadily and is expected to reach a peak of 525 million in 2045, but then the population will begin to decline; by 2100, it is estimated that there will be only 492.9 million people.<sup>3</sup>

International migration trends also show that by 2050, especially in poorer and less developed regions such as Africa, Asia (excluding Japan), Latin America, the Caribbean, and Oceania, the urban population will almost double; that is, the population living in large urban centres will grow (over 5 billion people), while the rural population will decline (to less than 3 billion people). In more developed regions such as Europe, North America, Australia, Japan, and New Zealand, in particular, the urban population will increase (to around 1.2 billion), while the rural population will decline (to less than 200 million)<sup>4</sup>. The preceding shows that the main demographic trends are a world population with constant growth, especially in less developed regions, more developed regions will start to see a gradual decline in population after 2050, and there will be migration from poorer to more developed areas as well as relocation from rural areas to urban centres.

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<sup>3</sup>Eurostat, Population, Visualisation.

<sup>4</sup>Eurostat Regional Yearbook, 2018.

## Trends in the EU and by Member States

The following demographic trends can be observed in the European Union and in individual Member States<sup>5</sup>:

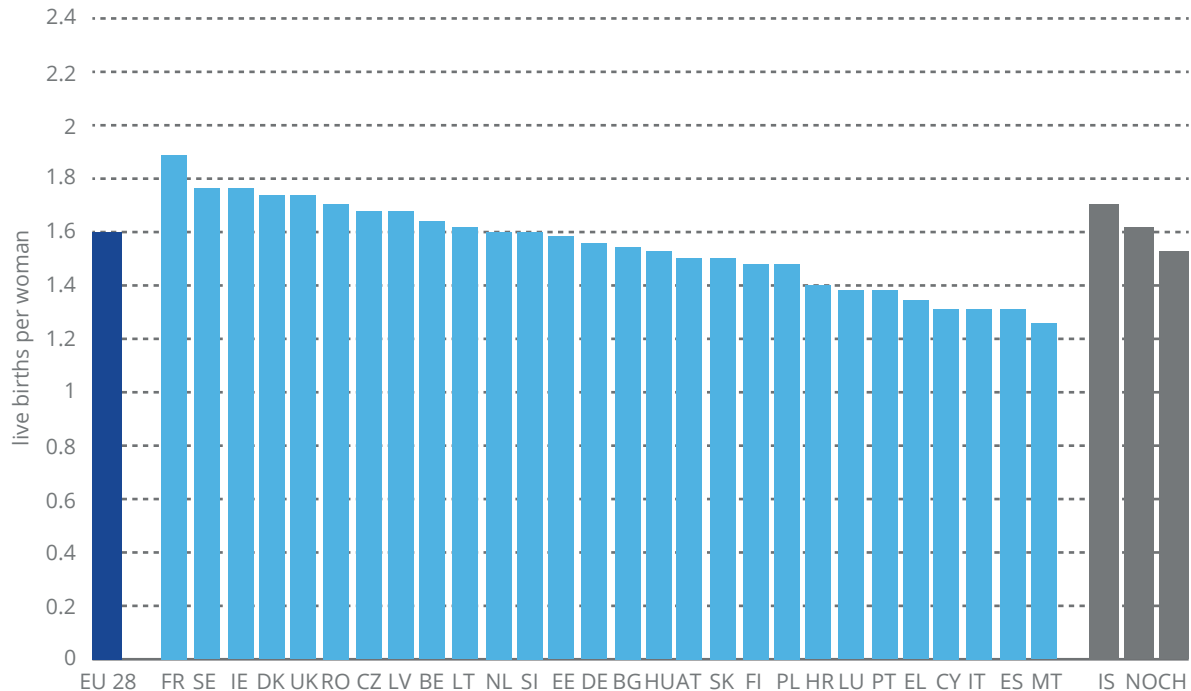
- **Declining birth rates** – this trend varies from country to country in the EU; in France, the birth rate, an average of 1.9 live births per woman, is still relatively high. On the other hand, Malta has the lowest birth rate of 1.25 live births per woman. In 2017, the birth rate in Slovenia was 1.61 live births per woman. The reasons for the falling birth rate, among other things, is the extended period of study and the lack of appropriate family policies in individual EU Member States. Appropriate family and especially housing policy would therefore be the first and most necessary step toward improving the situation. The following graph shows the actual data by individual Member States, showing differences in fertility <sup>6</sup>:

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<sup>5</sup>Vasilis Margaras, January 2019.

<sup>6</sup>The graph shows the birth rate by individual countries, it covers data from 2017 and shows the number of live births per woman (Eurostat, Population, Visualization).





- **Significant ageing of the population** – Statistics show that Europe is currently the continent with the oldest population, and the situation will worsen in the future. The reason for this situation is, among other things, low birth rates and longer life expectancy.

- **Migration flows within the EU** – official data indicate that in 2016 as many as 11.8 million working European citizens lived in a Member State other than the one in which they were born. The reasons for this situation are poorer living conditions in the home Member State, including an underdeveloped labour market, poorer quality of life, unpromising environment, poor infrastructure, etc. In Europe, there are two main trends in migration, namely migration from rural to urban centres and migration from poorer to richer parts of Europe<sup>7</sup>.

### Examples of individual EU Member States

- **GERMANY** – Germany, especially in recent years, is facing a drastic ageing of the population on the one hand, and low birth rates on the other. According to forecasts, by 2025, Germany will be short **5.5 million skilled workers**<sup>8</sup>. Official data show that the immigration rate in Germany is still very high, especially from third-country Member States. In 2017, 3.1 million residence permits were issued in the EU to third-country nationals, of which 17% were issued in Germany, alone. However, Germany, like other Member States, is also facing emigration. In 2017 alone, 917,100 people immigrated to Germany and 560,700 people<sup>9</sup> emigrated out. Germany has already disclosed its official figures, which state that it needs at least an additional 380,000 people net per year to maintain its economics and economy.
- **POLAND** – Since joining the EU, Poland has faced increasing emigration from the

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<sup>7</sup>Karin Wiest, Tim Leibert, Espon Programe 2013.

<sup>8</sup>Eurostat, Migration and migrant population statistics.

<sup>9</sup>Ibidem.

local population, especially young people, and the working population. Nevertheless, the current population of Poland is not (yet) declining drastically, as Poland has recorded a large number of immigrants, especially from Ukraine. Thus, for comparison, in 2017, 3.1 million residence permits were issued to third-country nationals across the EU, of which as much as 22% of all permits were issued in Poland alone, particularly from Ukrainian migrants. In 2017, official data showed that 209,400 people immigrated to Poland and 218,500 people emigrated.<sup>10</sup>

- **BULGARIA, ESTONIA, ITALY, LATVIA, LITHUANIA, PORTUGAL, ROMANIA** – These countries have seen a growing population decline since joining the EU, mainly due to the emigration of citizens to the other EU Member States, as the number of emigrants significantly exceeds the number of immigrants. In 2017, e.g. 177,400 people immigrated to Romania and 242,200 emigrated. Also, it is interesting to note that 9.5% of Romanians lived in other EU Member States in 2008, and in 2018 this percentage was already 21.3%. Official forecasts indicate that the population of Romania will decrease by as much as 30.19% between 1989 and 2050. Bulgaria is facing an even greater decline in population, with projected emigration to be as much as 38.68% of the total population between 1989 and 2050<sup>11</sup>

## Western Balkans

Demographic trends and demographic changes, in recent years, have significantly changed the structure of the population and thus the entire area of the Western Balkans, which includes Serbia, Bosnia and Herzegovina, Kosovo, Montenegro, Albania and Northern Macedonia.

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<sup>10</sup>Ibidem.

<sup>11</sup>Ibidem.

The fact is there is no real development strategy in the Western Balkans, and thus no real opportunity for a decent future, so the young and educated in particular, in addition to the working population, are leaving their hometowns en masse in their desire for better quality of life. This is mainly due to poor infrastructure, unevenly distributed capital, corruption, lack of perspective jobs, heavy and unpromising industry, uneven population, regression and decay of rural areas, poor supply of social and other services, etc. Then again, the needs of northern EU countries, especially Germany, attract and lure young people and the working population from this region. The Balkan region is thus increasingly becoming emptied and emigrated. Especially recently, for migrants leaving the Balkans, Slovenia has become a throughfare on their way to Austria and Germany. We can notice also a secondary migration trend of Balkan families, that are, after a few years of living in Slovenia, continuing their journey further north, mostly towards Germany.


The latest data and forecasts from the Western Balkans show that, in the period from 1989 to 2050, the largest emigration and population decline will be reached in Bosnia and Herzegovina (as much as 28.57%), followed by Serbia (as much as 23.81%), Albania (as much as 18.15%) and Kosovo (as much as 11.22%).<sup>12</sup>

### **Trends between young people and the working population**

There is no doubt that young people and those employed today are in a significantly different situation than young people were years ago. Many prospects and opportunities for education and internships in other countries, especially through European Youth Programmes such as Erasmus+, Discover EU, etc.,<sup>13</sup> enable youngsters by especially making it considerably easier for them to travel and study or do an internship abroad. Unfortu-

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<sup>12</sup>Tim Judah, 28.1.2020.



nately, too often young people, and young professionals who have been studying abroad, usually do not return to their home countries, but they stay in the country of their studies (abroad) instead. A similar situation can be observed within a country, where students often do not return to their hometowns after graduation but remain in urban university centres. It is a so-called 'brain drain', when the state or rural country environments lose educated, capable, young, ambitious people who could otherwise contribute as much as possible to the development of their environment.

Given that we also know examples of good practices from abroad, such as when young people like to return home<sup>14</sup> after school abroad and enrich the domestic economy with their new knowledge and experience, Slovenia should implement a similar policy, where instead of a 'brain drain' the country employs a 'brain circulation'. The latter could be ensured by creating the right possibilities and opportunities for young people, offering concrete solutions regarding employment, promoting the preservation of a balanced population density within Slovenia, creating attractive projects for young people in rural areas, etc. In particular, the education system should be modified and modernized to regulate an appropriate education policy for profiles that are realistically employable and have a real employment opportunity at home, within their own environment. Improved and modern approaches to vocational education and traineeship should also be needed, which would adequately train and prepare young people for their careers during their studies and education. In this sense, the dual system of apprenticeships, with its mix of general education and training, in direct cooperation with the economy has proved to be a good example in practice.

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<sup>13</sup>The European Union Youth Strategy 2019–2027

<sup>14</sup>Example Ireland.

## Conclusion

As is clear from all the above, Europe is already facing, and will continue to face, major demographic challenges and changes in the future, and, above all, population decline. All the above mentioned will have a particularly negative impact on the economy, countries' social systems, the overburdening of health systems, personnel policy, the staffing gap, etc. However, the problem is not only in the ageing population on the one hand and the declining birth rate on the other but also in the mass migration of the working and young from poorer areas to richer areas of Europe. The relocation of young people and the working population from rural areas to urban centres is also a growing problem. This is causing increasing decay and overgrowth of rural areas, while large urban centres are becoming too crowded and are increasingly facing an inability to provide all the necessary services for a growing population. Europe's problem, therefore, is not just external migration, but especially migration flows within the EU. With the help of EU Cohesion Funds and the provision of European funds to ensure balanced rural development, this process has slowed, but such an approach does not mean it is a sustainable solution; so, crucial changes and activities are also urgently needed at the level of each Member State.

To at least partially mitigate the negative consequences that demographic change will have in the future, countries should therefore already have appropriate family policies in place to encourage young people to start families and increase birth rates. Equally, an appropriate housing policy should be adopted to provide appropriate assistance, especially to young families, which would also have positive effects on increasing fertility. Effective cohesion and agricultural policies at a national level should also be ensured to adequately support rural and agricultural areas in particular and to create promising jobs in areas that would keep young people and the working population at home. The fact is that only a preserved and populated countryside, provided with quality services, will be able to ensure



a sustainable and developing integrated environment and society, which is also one of the aspirations and emphases within my European initiative, Smart Villages, which has also been recognized as extremely important and sustainable by European institutions. The educational process should be improved as well; in which it is essential to ensure a greater link between education and labour market needs. Only in this way will it be possible to educate such profiles that will actually be employable and have the opportunity to work at home, within a home environment. In particular, it would make sense to reintroduce vocational teaching that would adequately train and prepare young people for their careers during their studies and education; or a system of dual learning in direct cooperation with practice and the economy, which would certainly help towards reducing the staffing gap and sustainable economic development. An appropriate reformed strategy for employment, the labour market, support for small and medium-sized businesses and family businesses and, last but not least, proper integration of immigrants would be needed to prevent further secondary migration and to build a proper sense of belonging and inclusion in society.

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# The impact of demographic changes on the planning and implementation of development policies of the European Union and Slovenia

## Abstract

Slovenia, like most countries and regions within the EU, is facing alarming demographic developments. Demographic projection scenarios for Slovenia show that the process of population ageing will be even more intense than it will be on a global scale, and when compared to other EU countries. The effects of demographic trends are reflected in the labour market, in the field of education, social and health security, the housing sector, and especially long-term care. These areas have been identified by the Government of the Republic of Slovenia as crucial in the preparation of development documents for up until 2030, i.e. The National Recovery and Resilience Plan and the Multiannual Financial Framework for cohesion policy.

Demographic projections point to high increases in government expenditure for pensions and pose a challenge to all generations. To this end, two very significant decisions were made in Slovenia in 2020, namely, the establishing of the Government Office of Demography and setting up the National Demographic Fund for providing additional

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funds for pensions and co-financing the construction of purpose-built real estate for the elderly.

**KEYWORDS:** population aging, Recovery and Resilience Plan, European funds, development, long-term care, health, Office of Demography, Demographic Fund

## Introduction

Slovenia is one of the countries with a rapidly ageing population. Projections show that in 2050 Slovenia will demographically be among the oldest countries in the EU. Population ageing is one of the major long-term challenges for Slovenia, which will be reflected in the labour market, long-term care, healthcare, education, and many other social systems. The effect of demographic changes is therefore taken very seriously in the preparation of all strategic development documents for the period up to 2030. In 2020, the Government of the Republic of Slovenia adopted two operational measures in this field, namely the Government Office of Demography and the National Demographic Fund.

## Demographic trends in the European Union and Slovenia

Slovenija se, tako kot večina držav in regij znotraj EU, sooča s skrb zbujajočim demografskimi razvoji. Slovenija, kot večina držav in regij znotraj EU, se sooča s skrb zbujajočimi demografskimi razvoji, ki so značilni za upad smrtnosti in rojstnih števil, kar vodi v starajočo populacijo. Demografske projekcijske scenarije za Slovenijo kažejo, da bo proces staranja populacije še bolj intenziven kot na globalni ravni in v primerjavi z drugimi državami EU. Posledice demografskih trendov so odražene v skoraj vseh področjih socialnega življenja, zlasti na področjih dela, izobraževanja, socialne in zdravstvene varnosti, zlasti v dolgotrajni negi in na področju stanovanjskega

sector. Rural areas are characterised by an outflow of young people, and there is also a 'brain drain' from some Member States within the EU. As a consequence, we are facing a number of challenges due to demographic change, in particular, how to ensure the long-term sustainability of public finances, affordable and quality health and long-term care, and how to adapt the work and living environment for all generations. We are also facing changed social relations between young people, middle-aged people, and the elderly; as well as an 'epidemic' of loneliness and an increasing number of lonely people, which has been further exacerbated by the COVID-19 pandemic. The following are key statistics and findings from relevant studies illustrating the aforementioned trends:

### 1. Demographic outlook for the European Union 2020 2020 (Comparison Table I Slovenia - EU-27)

- Demographic projections from the European Commission's 2018 Ageing Report covering the period 2016–2070 indicate that the EU-27 population will not increase significantly in the coming decades, but that **there will be major changes in the age structure of the European population, namely the population** of children under 14 years old will remain virtually unchanged up to 2070 (15%), the share of the elderly population, over 65, will increase by 10 percentage points (from 19% in 2016 to 29% in 2070), and the share of the working-age population (15-64 years) will decrease significantly, from 65% in 2016 to 56% in 2070. During this period, the share of the very elderly population, over 80, will increase the most (from 5% to 13%).
- **Old-age dependency will increase sharply in the coming decades**, with the ratio of the number of the elderly population (65 years and over) to the number of working-age population (15-64 years) being 25% in 2010 and 29.6% in 2016. By 2070, this ratio will rise to 51.2%, which means that in 2010 there were four working-age people per one elderly (65+), while in 2070 there will be only two working-age people per one elderly person (65+).

## 2. General government expenditure on health and long-term care (Figure I)

- According to the 2018 Ageing Report, the **extent of demographic changes forecasted** in the future, while maintaining current social protection systems, will **increase public expenditure by well over a quarter of GDP by 2050**, which ranks Slovenia along with Italy, Austria, France, Belgium and Finland among the top European countries with the highest announced age-related public expenditure. The number of pensioners is expected to grow by about 20% by 2070.
- It should be emphasized that the **total expenditure on healthcare and long-term care in Slovenia is increasingly lagging behind the EU average**. In 2017, compared to GDP, the total long-term care (LTC) expenditure in Slovenia amounted to 1.21% of GDP, and on average in 24 EU countries for which data is available, to 1.5% of GDP. Public expenditure on LTC decreased slightly in 2017 in Slovenia - to only 0.89% of GDP, while in the EU it averages around 1.3% of GDP (IMAD, Development Report 2020).
- **3. The European Commission's Study on the movement** of skilled labour from 2018 finds that **between 2004 and 2016, the number of highly skilled workers** who moved from one EU country to another almost tripled. Thus, the total number for 2016 was estimated to be 3.6 million. The most common destination countries are Belgium, Denmark, Germany, Austria, Sweden, the Netherlands, Spain and the United Kingdom, with most highly skilled labour leaving Bulgaria, Estonia, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia and Croatia.

- **4. The European Social Survey** notes that population ageing, the rising number of people living alone, and an increased use of digital technologies for communication have led many to posit that **loneliness is on the rise among Europeans**. Thus, 7% of adults in Europe report that they often feel lonely. Loneliness affects all age groups. **However, although elderly people are more socially isolated compared to other age groups, they do not report more frequent feelings of loneliness.**

**Table I: Main demographic and macroeconomic assumptions: Slovenia - EU-27**

	2016		2030		2050		2070	
	SI	EU-27	SI	EU-27	SI	EU-27	SI	EU-27
Fertility rate	1,58	1,55	1,66	1,67	1,74	1,74	1,81	1,80
Life expectancy at birth - Men	76,2	78,2	80,4	80,6	83,3	83,5	85,8	86,1
Life expectancy at birth - Women	83,8	83,7	85,7	85,7	88,0	88,2	90,1	90,3
Net migration (thousand)	0,2	1240,8	4,1	937,2	3,8	919,1	2,5	697,4
Net migration as % of population	0,0	0,3	0,2	0,2	0,2	0,2	0,1	0,2
Population (million)	2,1	445,3	2,1	452,4	2,0	450,8	2,0	439,2

Children population (0-14) as % of total population	14,9	15,2	13,9	14,6	14,8	14,6	14,9	14,9
Prime age population (25-54) as % of total population	42,6	41,3	36,4	36,6	33,4	34,0	33,7	33,9
Working-age population (15-64) as % of total population	66,4	65,3	61,0	60,9	54,6	56,1	56,7	55,9
Elderly population (65 and over) as % of total population	18,7	19,5	25,2	24,6	30,6	29,3	28,5	29,2
Very elderly population (80 and over) as % of total population	5,0	5,5	6,9	7,4	11,4	11,5	13,5	12,9
Very elderly population (80 and over) as % of working-age population	7,6	8,4	11,4	12,1	20,9	20,5	23,8	23,0
Potential Real GDP (growth rate)	1,0	1,3	1,6	1,2	1,2	1,4	1,4	1,4
Labour productivity per hour (growth rate)	0,3	0,7	2,1	1,4	1,8	1,7	1,5	1,6
TFP (growth rate)	0,9	0,5	1,4	0,9	1,1	1,1	1,0	1,0
Potential real GDP per capita (growth rate)	1,0	1,0	1,6	1,2	1,4	1,5	1,6	1,6

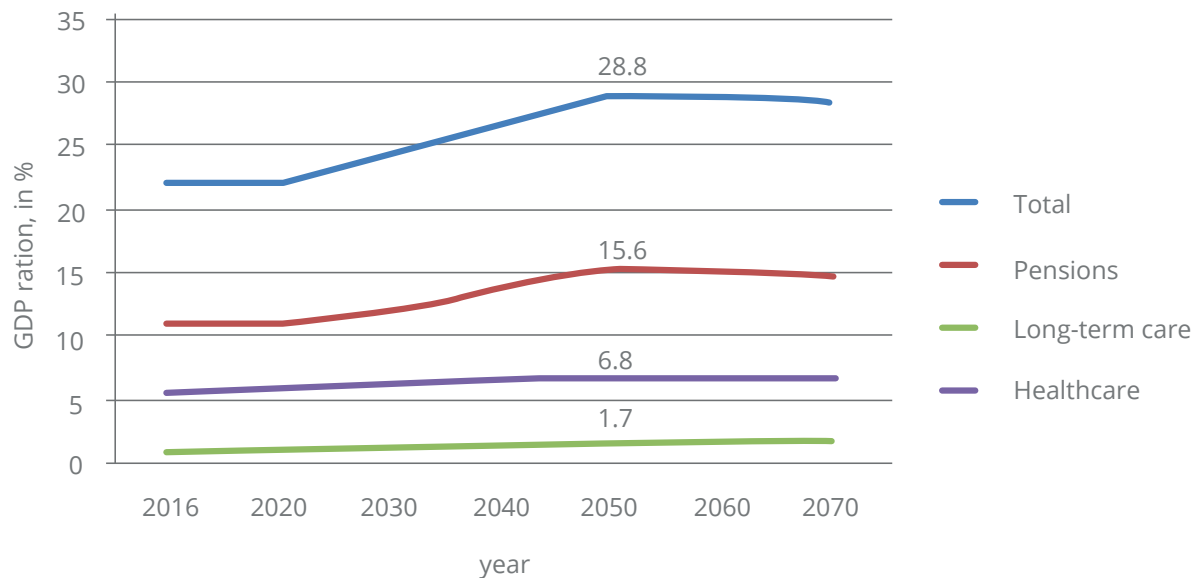
Working-age population (15-64) (in thousands)	985	290,697	930	275,374	822	252,854	810	245,570
Employment rate 15-64	71,8	72,3	73,3	73,9	73,6	74,3	73,1	74,4
Youth employment rate 15-24	34,1	39,2	33,2	39,6	33,8	40,1	34,3	40,0
Employment rate of the population 25-54	90,5	85,4	90,0	85,9	90,2	86,2	89,9	86,3
Employment rate of older workers (55-64)	41,1	58,2	60,8	67,9	58,8	69,5	60,9	70,8
Unemployment rate (15-64)	8,1	9,3	5,9	7,6	5,9	6,5	5,9	6,6
Old-age dependency ratio (15-64)	28,1	29,9	41,3	40,3	55,9	52,3	50,2	52,2
Old-age dependency ratio (20-64)	30,1	32,5	46,3	44,0	61,2	57,3	55,3	57,5
Total dependency ratio *	50,5	53,2	64,0	64,3	83,0	78,3	76,5	78,9
Economic old-age dependency ratio (15-64) **	41,4	43,5	57,8	54,6	78,0	69,6	71,0	69,3

\* Population under 15 and over 64 as a % of the population aged 15-64

\*\* Inactive population aged 65+ as a % of the employed population 15-64

Source: The 2018 Ageing Report: Economic & Budgetary projections for the 28 EU Member States (2016-2070), Institutional paper 079, May 2018

**Figure I: Long-term projections of public expenditure on social protection systems, reference scenario, Slovenia**



Source: The 2018 Ageing Report: Economic & Budgetary projections for the 28 EU Member States (2016-2070), Institutional paper 079, May 2018

## **Demographic changes and preparation of development documents of Slovenia up until 2030**

During its session on October 8th, 2020, the Government of the Republic of Slovenia approved the draft National Recovery and Resilience Plan, which will be the basis for the use of funds of the EU's Recovery and Resilience Facility (RRF). Within this framework, 5.2 billion euros are available to Slovenia by 2026, of which 1.6 billion euros are grants and 3.6 billion euros are repayable funds. The plan aims to ensure rapid investment into those sectors crucial for recovery and make the country more resilient in the future, especially in the parts of the country that have been neglected up until now. It aims to provide additional capacity within the healthcare system, improvements to the elderly care system, investments which represent a step forward in terms of a digital society, sustainable development as well as upgrading physical or transport, and environmental as well as energy and communication infrastructure. One of the priorities is debureaucratisation, which is also one of the essential conditions for decentralization, that is, for these funds to be fairly invested throughout the country, and not only in central Slovenia.

The draft plan arose from reforms and structural changes in crucial developmental areas, followed by investments that will support reforms and structural changes. The reform part of the draft plan addresses the labour market, social security and long-term care, the healthcare system, the financial and fiscal system, and the removal of administrative barriers. Investments related to this work are investments in the field of flexible forms of work, accelerated employment of young people, construction of accommodation facilities of social infrastructure (retirement homes, nursing hospitals/homes) and construction or strengthening of healthcare infrastructure, such as investments in infectious disease clinics etc.



The structural part covers mainly those fields that can be restructured through transformation to strengthen the economy as well as society and the state, namely:

- **TRAJNOSTNI IN ZELENI PREHOD:** these are investments for the conversion into renewable energy sources, increasing energy efficiency in the economy, energy refurbishment of public buildings, a comprehensive strategic project for the decarbonisation of Slovenia through the transition towards a circular economy, investments in economic and municipal infrastructure, measures in the field of sustainable mobility.
- **SUPPORTIVE ENVIRONMENT FOR ENTERPRISES:** domestic and foreign investments into deprived areas, investments in a supportive environment for enterprises (business zone management, brownfield investments, programs to promote alternative types of entrepreneurship).
- **DIGITALIZATION:** digital transformation programs for businesses, the state and society.
- **EDUCATION - KNOWLEDGE-BASED SOCIETY:** education system reform and promotion of the development of digital competences, program for structural change of the innovation system, promotion of Research, Development, and Innovation (RDI).



The plan takes into account European Commission Recommendations for Slovenia to the National Reform Programme, the Development Report 2020 (The Institute of Macroeconomic Analysis and Development), the 2020 Economic Survey of Slovenia (OECD – Organisation for Economic Co-operation and Development) and numerous national strategic documents. The plan is also in line with guidance for drafting national recovery and resilience plans which the European Commission prepared for Member States. The guidelines stipulate, inter alia, that Member States contribute at least 37% of measures to meet climate targets and a minimum level of 20% of expenditure related to digital targets. In addition to the recovery and resilience plan, other development documents for up until 2030 are being prepared, some of the most important of which are the operational programmes under cohesion policy, which will appropriately cover the impact of demographic changes in Slovenia.

### **Establishment of the Government Office of Demography and the National Demographic Fund**

In 2020, the Government of the Republic of Slovenia adopted two significant decisions related to demographic trends, namely the establishment of the Government Office of Demography in the eastern, less developed part of Slovenia and preparation of the National Demographic Fund Act.

The Government Office of Demography will provide support for the development of a long-lived society, for which the strategy was adopted in 2017. The office's tasks will include monitoring and analysing demographic trends on a national level and in individual regions, and preparation of the country's strategic papers and policies in the field of demography. The office will also deal with measures for the care and situation of the elderly, intergenerational cooperation and solidarity, and family policy, coordinate housing policy for the elderly and raise societal awareness about demographic challenges. At the same time, it will monitor the demographic policy of other countries and propose to the government good practices that it should take up to improve Slovenia's demographic situation.

The main solution to the draft of the Act on the Demographic Fund is to alleviate the pressure on public finances while providing additional funds for decent pensions and co-financing the construction of purpose-built real estate for the elderly and the implementation of family policy measures. The importance of the National Demographic Fund is also in relieving the state budget not only of regular payments to the Pension and Disability Insurance Institute of Slovenia but also in times of crisis when the budget is even more burdened.

## **Conclusion**

The crisis following the outbreak of COVID-19 further highlighted the need to protect funding for the health and long-term care system, applicable to the areas in need of structural renewal due to an ageing population. The aim of the Recovery and Resilience Plan, which provides extensive financial support for reforms/structural changes and investments, is to mitigate the economic and social impact of the coronavirus pandemic and make the economy, the public sector and society as a whole more sustainable, resilient and better prepared for the challenges posed by the green and digital transition.

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# Youth and demography

## Abstract

Slovenian society, and European society in general, is facing significant social changes. The changed demographic situation, together with rapid technological progress, brings many challenges among economic, social, transportation, housing, and health fields, and radically changes intergenerational relations. Debate within demography, at least in Slovenia, is continually focused on the discussion between the elderly and issues associated with them. Although demography, at least in theory, is a topic that covers all age groups in society, we young people, when it comes to demography, are almost always omitted from substantive discussions; both in terms of the presence of young people and in addressing these topics. There is an urgent need for young people to be represented in the analysis of a situation and the planning of measures, as the effects of such measures will mainly concern the generations entering the labour market today or are still in school.

**KEYWORDS:** youth, demography, inclusion, National Youth Council of Slovenia, intergenerational solidarity

## Introduction

Slovenian society, and European society in general, is facing significant social changes. With declining birth rates, as well as an increase in life expectancy, the age structure of

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in formal institutions. Representation of both young and older generations is urgently needed for the planning of measures, as the effects of measures enacted will mainly affect the generations that are entering the labour market today or are still in school. Deciding on such crucial issues as the future of the pension and health care system, the labour market and intergenerational coexistence, in general, should not be reserved for one generation only.

The National Youth Council of Slovenia advocates and promotes intergenerational solidarity, not in a way that one generation maintains another, but rather in a manner that intergenerational solidarity and cooperation enable each generation's own development. It is necessary to provide job opportunities for young people, to take care of their existence, and not to be existentially dependent on other generations. The younger and older generations are the most vulnerable in independent living. Young people are at a disadvantage due to their not yet having an established living space, because of exposure to low-quality forms of employment and because they are facing all the other challenges that modern society brings. Younger generations must be provided with accessible education, quality jobs, the possibility of regulating the housing issue, and childcare that will be affordable for all. On the other hand, it is necessary to ensure greater social inclusion for the elderly, for a more active lifestyle for seniors, and to organize a long-term care system that will relieve younger generations of caring for older family members.

There is plenty of talk about supporting the elderly, but if we intend to address demographic challenges seriously, we must also talk about supporting the young. If we make sure that young people can become independent as swiftly and effectively as possible and spend their lives in a quality labour market, with regulated housing and other family policies, they will have more opportunities and will take better care of older generations, also. Policies that address demographic challenges must, therefore, ensure that they

support young people so that they will be able to pay into the pension fund.

## **Conclusion**

Slovenia is facing important decisions and challenges that may mark the fate of many across generations, especially those entering the labour market and those just coming into the world. For their lives in Slovenia to be decent, we need long-term and systemic solutions to the key challenges facing young people during the period of their developing independence - the transition from education to the labour market and solutions to the housing issue. Above all, we need a broad dialogue that will not exclude anyone, that will not take place within a very narrow circle of interest but will take into account and involve all generations. Only by involving all generations can we talk about a sustainable demographic fund.

The world needs to look ahead, and if we, as a society, want to address the challenges posed by the changing demographic picture, young people, in particular, must be involved in the conversations as well as the content.

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*Sandra Pasarić*<sup>1</sup>

# Croatia, deserted island under the European sky: Migration flows from and within Croatia and their social impacts

## Abstract

The article examines emigration history and reflects on demographics of Croatia, the European Union's youngest member state. Throughout history, Croats have been challenged by various reasons and circumstances to leave their homeland and settle down in foreign world. Hence, Croatia is traditionally an emigrant country with Croatian diaspora being spread all over the world. Even though it is hard to determine the exact numbers of Croats living outside of Croatia, the numbers are significant. Since Croatia joined the EU, more than 200,000 Croatian citizens have emigrated, which corresponds to five percent of the population. According to the Croatian Bureau of Statistics (CBS) main destination of Croatian emigrants is Germany, followed by Ireland and Austria. However, since emigration of Croatian citizens dates way back into history, it is duly to consider estimates of about four million Croats residing in other countries, trustworthy.

**KEYWORDS:** emigration, Croats, Croatia, EU, demography, brain drain

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## Introduction

Under the influence of various historical, political, and economic reasons, Croats continuously emigrated from the Croatian territory, and the historical processes of emigration can be divided into several phases. Furthermore, according to duration of their stay and legal status they enjoy, diaspora can be divided in roughly three groups: countries in which Croats form one of the constituent nations (Bosnia and Herzegovina); states in which Croats are considered to be a national minority (Austria, Bulgaria, Montenegro, Czech Republic, Italy, Kosovo, Hungary, North Macedonia, Romania, Slovakia, Slovenia, Serbia); and other countries to which Croats emigrated throughout history.

One of the most significant milestones in Croatian emigration history was without doubt Croatia's accession to the European Union (EU) in July 2013. Since Croatia joined the EU, more than 200,000 Croatian citizens have emigrated, which corresponds to five percent of the population. According to the Croatian Bureau of Statistics (CBS) main destination of Croatian emigrants is Germany, followed by Ireland and Austria.

In a country like Croatia that due to its diverse geography and climate has an uneven population density, it is more likely to observe internal-migration trends. Unlike international, or cross-border migration, internal migration is being characterised by citizens migrating within borders of one country, most commonly from less populated areas with unfavourable relief and climate to medium and larger cities. In particular, this translates into Croats moving from Gorski kotar, Lika, Dalmatian Hinterland, Velebit coast, a large number of Croatian islands, and Slavonia to Zagreb, Split, and to other larger cities. Finally, international, such as internal migrations have a significant impact on Croatian social and economic developments. Hence, this article analyses the main social impacts on Croatian society and predicts future developments and trends in this area.

## **Croatia, traditionally an emigrant country**

Throughout history, Croats have been challenged by various reasons and circumstances to leave their homeland and settle down in foreign world. Hence, Croatia is traditionally an emigrant country with Croatian diaspora being spread all over the world. The first significant wave of emigration occurred in the 15th century, with the expansion of the Ottoman Empire, having Croat national minorities in Austria, Hungary, Slovakia and Italy as consequences.

The second wave happened in the second half of the 19th and early 20th century, with large number of Croat emigrating to North and South America, Australia, New Zealand, and South Africa due to economic and political reasons. As every war prompts new waves of emigration, so did the Second World War. According to relevant estimations, around 157,000 persons emigrated from Croatia between 1941 and 1948 divided into distinct groups: refugees, prisoners of war, and members of the defeated military forces (Winland, 2005).

The next wave took place between 1940 to 1948 with Croats emigrating in Argentina and other countries of South America, mostly due to the political persecution. In the period after 1965 when the former Yugoslavia began to allow travel and work abroad, almost half a million of workers from the former Yugoslavia emigrated to West Germany, thus ranked first among all groups of foreign workers. Statistical data, although not precise, show that most of them were Croats (Jurić, 2017).

As a result of war and transition, the period between 1991 and 2000 was a turbulent decade regarding migration into and out of Croatia. In this period, the war in Bosnia and Herzegovina led to large-scale forced migration into Croatia, resulting in settlement of many Bosnian Croats onto Croatian territory. All in all, the war between 1991 and 1995 cost some 20,000 lives and led to massive population displacement (Mežnarić & Stubbs, 2012).

Since joining the EU in 2013, there has been massive emigration to Western European countries. While the numbers are still vague, there is little doubt that they are in the hundreds of thousands. According to recently published data, far more people than previously thought have left Croatia since it entered the EU. While official Croatian statistics according to the Croatian Bureau of Statistics (CBS) for the period from 2013 to 2019 report 229,222 emigrants, foreign sources say that the number of emigrants was significantly higher (CBS, 2020).

### **Croatia on free movement of persons - EU internal migrations**

With each accession to the EU prior to 2004, free movement of people was automatically applied to the new member countries. After eight Central and Eastern European countries (the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia) joined the EU in 2004, followed by Bulgaria and Romania in 2007 and Croatia in 2013, concerns of mass migrations within the EU were raised. Hence, some EU members, excluding Ireland, Sweden and United Kingdom imposed restrictions on new member states lasting between two and five years (World Bank, 2019). The same provisions concerning movement of the labour force including a 2+3+2 arrangement, meaning that for the first two years after joining the EU, the labour force from Croatia would have access to the EU labour markets on the basis of a default clause of limitations and on the basis of bilateral arrangements were valid for Croatia too (Freedom of Movement for Persons, 2011).

Although statistical data is limited, there are assumptions that Croatia has faced a new wave of emigration since joining the EU on 1 July 2013. According to the Croatian Bureau of Statistics (CBS), the amount by which emigration exceeded immigration rose from 1,472 in 2009 to 17,945 in 2015 when a total of 29,651 persons emigrated (CBS, 2016).

The latest data (CBS, 2020) indicate that 40,148 people emigrated in 2019, resulting in negative net migration amounted to -2,422. Most of the experts and politicians are unanimous in their belief that the actual number is probably much higher, although different figures are often quoted in public, which are not sufficiently proven. Higher figures are usually derived from figures provided by the statistical offices of the principal emigration countries. Taking into consideration that out of the total number of emigrants from the Republic of Croatia, 48,0 % of persons departed to Germany, it is logical to examine German official statistics. According to them, Germany alone had an increase of 1,559,000 immigrants in 2019, with a total of 40,151 Croats, resulting in 414,890 Croats residing in Germany. Since EU accession in 2013 until 2019, according to German statistics, a total of 296,554 Croats emigrated from Croatia to Germany, which is far more than the Croatian Bureau of Statistics cites (DStatist, 2020).

While figures from foreign statistical offices may be subject to slight overstatements (e.g. by including holders of Croatian passports who did not live in Croatia), it is evident that the true extent of emigration from Croatia is higher than the official statistics indicate, perhaps double or even triple. Without a population census, stricter enforcement of a 2012 law requiring anyone leaving Croatia for more than a year to have their residence permit revoked, or representative survey data, any figures used are no more than an informed assumption.

Even though EU internal migrations are no exemption, the fact that Croatia, following Malta, has the highest emigration rate in the European Union, estimated in 21.9 percent of the population, which means that more than a fifth of the population lives abroad, is alarming fact (World Bank, 2019).

## Internal migration within borders of Croatia

In a country like Croatia that due to its diverse geography and climate has an uneven population density, it is more likely to observe internal-migration trends. Unlike international, or cross-border migration, internal migration is being characterised by citizens migrating within borders of one country, most commonly from less populated areas with unfavourable relief and climate to medium and larger cities. According to Croatian Bureau of Statistics, in 2019 there were 71,790 persons who changed their place of residence within the Republic of Croatia. The largest number of migrated population within Croatia were aged 20-39 (46.9%), while the share of women in total number of migrated population was 54.8%. The majority of migrations between counties were recorded in the City of Zagreb and the County of Zagreb. Out of the total of twenty counties and the City of Zagreb, fifteen counties had a negative net migration, with the County of Vukovar-Sirmium, the County of Osijek-Baranja, and the County of Slavonski Brod-Posavina recording the largest net migration. It is to specify that all of the most affected counties are situated in region Slavonia, who is often perceived as most affected with schools without pupils in the eyes of public (CBS, 2020).

The fact that internal migration peaks among those in their 20s, who often migrate to learn new skills or make the most of those already acquired is no exception in Croatia. People with a primary education are twice as likely to migrate as those with no education at all. Rural migrants can improve their education attainment when they move to cities, but this is not a hard and fast rule. Furthermore, examined data suggests that subject to rural-urban migration are mostly women, leaving sooner and in larger numbers. Thus, the rural population left behind is homogenized in terms of a very low birth-rate, a stable and high death-rate, and higher proportion of men, resulting in population decline (Mežnarić & Stubbs, 2012).

## Social impacts of migration

Europe is today the destination of every third immigrant in the world. Economic migration has helped immigrant countries to tackle labour shortages, but also improve migrants' living standards. At the same time, however, this opens up a big problem for the origin countries, especially when it comes to "brain drain". Large-scale migration from poorer to wealthier countries are resulting in pattern of employment and wage inequality that leads to debates where immigrants are often held responsible for many of the economic problems in the countries of origin and destination. In the destination countries, they are blamed for causing unemployment and decreasing wages. In the countries of origin, they are seen as the source of the brain drain (World Bank, 2019).

Examining official reports, at first it may seem that migration has short-term "positive" impacts on different social dimensions, such as employment rate. According to the World Bank report, employment continued to increase in the first half of 2019 at a similar pace as in 2018, and the growth was spread across most sectors, with the largest contribution coming from construction and services related to tourism. At the same time, registered unemployment continued to decline falling close to 8 percent in the second quarter of 2019. Furthermore, wages grew moderately and a decline in the youth NEETs were observed in 2019 (World Bank, 2019).

However, in addition to the short-term "positive" consequences of lowering the general unemployment rate, the brain drain has a medium- and long-term negative consequence of possible disruptions in the labour market and destabilization of the health, social and pension systems due to the expected loss of fiscal and tax base. Furthermore, labour market disruptions as a result of emigration may include destabilization of the labour force base and structure, a reduction in the number and share of the working-age popu-

lation, and the aforementioned reduction in the general unemployment rate (Župarić-Iljić, 2016).

Examined data shows clearly that the majority of Croatian emigrants are of prime working age, meaning that almost 50 percent of those emigrating are between 20 and 44 years old. In addition, different numbers indicate that about 50 percent of emigrants have secondary education and about 8 percent have tertiary education. Similarly, there are ongoing concerns that there has been a significant brain drain in the health sector, with estimates that 525 doctors left Croatia between 2013 and 2016, equivalent to the total number of doctors working in hospitals in Osijek or Rijeka, two of the largest in Croatia (Župarić-Iljić, 2016).

In the long run, brain drain can also result in a demographic collapse of a country, given that the loss of highly educated, mostly young inhabitants results in the lack of population of reproductive age. Furthermore, the departure of highly qualified means a loss of human capital for country of origin, directly affects the entire scientific and educational community, puts into question the values of society as a whole and creates a negative and uncertain atmosphere for future generations and their contribution to society.

## Conclusion

On account of various historical reasons and circumstances Croats were challenged to leave their homeland and settle down in foreign world, defining Croatia as traditionally an emigrant country. Even though motives varied throughout history, impacts have always been visible for this small South-Eastern European country, resulting in 4.284,889 Croats living in Republic of Croatia (latest population census was made in 2011) with similar number of Croats living abroad.

Croatia's accession to the EU paved the way for many positive reforms in the country, while at the same time attracting human capital towards western member states, resulting in brain drain and serious impacts on social dimensions in the country.

Ultimately, while the emigration of highly educated people can seriously shake the foundations of an education system, it should not be overlooked that the same people who have changed their educational environment and acquired new knowledge, skills, acquaintances and financial resources can return to their home country and thus help social and economic development even more than those who had the opportunity to shape a new life abroad but chose to stay in their home country.



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**Marko Vidrih<sup>1</sup>**

# Demographically speaking, Slovenia is a mature lady

## Abstract

Slovenia is a country strategically placed in the heart of Central Europe, surrounded by Italy, Croatia, Hungary, and Austria, with 46.6 kilometres of coastline along the Adriatic Sea. Historically, the area of present-day Slovenia was a crossroads from east to west and from north to south. All these different influences helped to shape her character.

Slovenia has the highest gross domestic product (GDP) per capita of all the former European communist countries with 22,080 euros per capita. Slovenia is well run and offers a high quality of life, yet it is facing a 'brain drain', especially from young people. Most of them leave to work in Germany and Austria, where GDP per capita is about twice as high. Despite a period of economic expansion in the last five years alone, 10,639 young people have left Slovenia, of which 3,675 have tertiary education. In recent years, young people have been leaving Slovenia even more than before, including during the crisis between 2014 and 2018, and the state is still looking for an answer on how to increase prosperity for all citizens.

**KEYWORDS:** demographic changes, Slovenia, migrations, emigration, immigration, birth rate, life expectancy

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*From the Adriatic to the Black Sea, the story of the demographic spiral is the same: the population is ageing, emigrating, and there is a shortage of immigrants. The result is population decline, but Slovenia has its own story.*

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## Hidden demographic challenges in Slovenia

In the second half of the 20th century, Slovenia changed significantly from a rural society to a non-agrarian one. Due to emigration and the absence of immigration until the 1970s, population growth was not as high in Slovenia as elsewhere in Europe. However, the flow of migrants from the Balkan Peninsula to the highly industrialized regions of central and western Slovenia has maintained the country's population levels.

The break-up of the Yugoslav Federation in 1991 further increased the number of immigrants entering Slovenia. Also, conflicts in Croatia, Bosnia and Herzegovina and Kosovo have brought about 70,000 refugees and asylum seekers into Slovenia. By the beginning of the 21st century, migration flows to and from Slovenia were mostly balanced, and the population of Slovenia was approximately the same it was in 1991. (Šircelj, 2006)

Currently, the country is in a period of extensive social change driven by political, economic and population factors. Due to low birth rates, increased life expectancy, and lower mortality, the age structure of the population is changing.

At the beginning of 2020, according to the Statistical Office of the Republic of Slovenia (SURS), there were 2,096,000 inhabitants in Slovenia, which is almost 15,000 more people than the year before. (SURS, 2020) At the time of Slovenia's independence in 1991, the population was approximately two million; so, the number in 2020 is almost five % higher. (Šircelj, 2006)

Slovenia is one of the few former communist countries in Europe where the population is growing, and today has more people than it had three decades ago. But the news of population growth masks significant demographic problems.

As elsewhere in Europe, the population in Slovenia is ageing. Life expectancy is 81.5 years, which is slightly higher than the EU average. It is also the highest among all former communist countries in Europe. Life expectancy in neighbouring Croatia, for example, is significantly lower - 78.2 years.

More Slovenes are dying than are being born - exactly 900 more in 2018 - and although the birth rate in Slovenia has risen to 1.62 in recent years, which is higher than the EU average of 1.55, it is still well below the target of 2.1 needed for demographic renewal.

Despite Slovenia's increasing birth rate, this does not, however, mean that more children are being born. The latter means that the fertility rate is increasing because the number of women of childbearing age - according to which the fertility index is calculated - is decreasing.

The main reason that the population of Slovenia is increasing, therefore, is that there are a larger number of workers from abroad in the country today. The number of Slovenian citizens decreased by approximately 3,200 in 2019, while the number of foreigners increased by almost 18,200, which means that foreigners comprise of 7.5% of the Slovenian population.

86.4% of them come from other countries of former Yugoslavia, the most, 54%, are Bosniaks. (SURS, 2019)

In 2018, the last year for which data is available at the Institute of Macroeconomic Analysis and Development (IMAD), 28,455 people immigrated to Slovenia, including about 4,300 citizens who returned home, and 13,527 people left the country, just under half of them were Slovenes. This means that in 2018 there were 14,928 more immigrants than emigrants. Without this net immigration, the country's population would decline. (IMAD, 2019)

According to the results of EUROPOP2018, population projections prepared by Eurostat for all EU Member States, Iceland, Norway, and Switzerland, Slovenia is expected to have a population of just under 1.8 million in 2100.

The population of Slovenia is expected to increase by 2023 and then slowly decrease. When the first day of 2100 rolls around, the projected Slovenian population will be 1,796,000, or 13% less than the population in 2018, the base year used in calculating the projection.

In 2100, 1,800 more people are expected to immigrate to Slovenia than emigrate. In the future, the overall birth rate is expected to increase gradually, reaching 1.77 in 2100. An

increase in life expectancy at birth is also expected; men born in Slovenia in 2100 are expected to live 89 years, and women almost 93 years. (EUROPOP2018, 2019)

### **The share of the working-age population of Slovenia is decreasing**

The population of Europe is ageing, and Slovenia is no different in this respect. The working-age population (aged 20-64) has been declining, especially since 2012. Today, the share of people aged 65 and over is lower than the EU average, but as IMAD predicts, this is expected to alter in the short term.

In one or two decades, the country will have a much higher proportion of elderly people than the EU average, which means that it will face one of the largest increases in age-related expenditure, such as pensions and social security. The latter is not only due to demographic changes, but also to the fact that the country's social security system has not adapted for the new demographic situation. (IMAD, 2019)

In 2016, IMAD noted in a report that, according to current forecasts, age-related public expenditure will reach a third of GDP by 2060, which would be among the highest in the EU. IMAD also emphasizes that the 'pension system in Slovenia is financially unsustainable', and that 'in Slovenia, there is no comprehensive system for long-term care'. (IMAD, 2016)

The Institute for Ethnic Studies (IES) has also been warning that Slovenia's demographic situation will worsen for some time. IES points out two problems.

The first is that about 300,000 people in Slovenia under the age of 65, many in their 50s, have already retired to encourage young people to work. The latter means an enormous burden for the Slovenian pension system.

Another problem, according to the Institute for Ethnic Studies, is that governments have sponsored the large-scale expansion of higher education since independence. Today, the consequences of that are a majority of well-educated Slovenes; however, there are too

few who would be able or willing to work, for example, in construction or manufacturing. (Josipovič, 2009)

There are also too many well-educated graduates for too few of the jobs which require their skills, so some accept jobs that are below the level of their qualifications, leading to a loss of human capital.

Although the number of working-age Slovenes is naturally declining, the relative shortage of jobs requiring a higher education is also a major factor in finding employment abroad. At the same time, some of these jobs are occupied by immigrants.

According to the Slovenian Migration Institute, the latter has led to the development of stereotypes - that well-educated Slovenes are emigrating, while poorly educated Bosniaks, Macedonians and others 'come to Slovenia to build roads'. (SAZU, 2013)

Data from the last few years show that the education of immigrants and Slovenian emigrants is remarkably similar. The number of immigrants and emigrants is related to the performance of the economy, so in 2010–17 more or less the same number of people came to Slovenia as left it. In 2018, when the economy finally recovered from the 2008 financial crisis, the number of immigrants increased sharply. (SURS, 2019)

Today, it is far from clear what the legacy of the COVID-19 pandemic will be, but according to past data, it is inevitable that a declining economy will again lead to a decline in the number of immigrants. Anecdotal evidence shows that quite a few foreign workers have already gone home when Slovenia began to stop public life.

### **The population structure in Slovenia is changing**

The percentage of children and adolescents under the age of 14 has shown an upward trend in recent years, the same applies to the percentage of the elderly (over the age of 65), but the percentage of the working-age population has decreased (from 15 to 64 years).



Also, health and care systems will have to be adapted, and solutions will have to consider how to fund higher age-related public spending to address the issue of Europe's ageing society. Additionally, the report shows that Europe's share of the world's population is shrinking, and by 2070 it will account for just under 4% of the world's population. Its share of the world's GDP will also become comparatively smaller. This increasingly emphasizes Europe's need to be united, strong, and more strategic, the report said.

Among other things, the report illustrates the significant differences in demographic change between regions, as well as the need to address their impact on growth and sustainability, employment, health, and long-term care in the different parts of Europe.

The report marks the beginning of the commission's work in this area and will help identify how best to support the people, regions, and communities most affected by demographic change.

## Conclusions

There is a demographic winter in Europe: the birth rate is close to the critical limit, there are around thirty people from the 65+ generation for every 100 from the working-age population. The Slovenian demographic picture is only a little better: the value of the coefficient is 27.6, but Slovenian women, instead of two, have been giving birth to only 1.5 to 1.6 children on average for years. So, is the Slovenian nation dying?

According to various forecasts, the population of Slovenia will not decline dramatically by 2050 - in contrast to all other countries of former Yugoslavia, and almost all of the former communist countries in Europe. Either it will be slightly higher, or it will still be hovering around two million.

As life expectancy lengthens, retirement age increases, and as the number of elderly people grows rapidly, the share of the working-age population between the ages of 20 and 64 decreases. The question is, therefore, how long Slovenians will work in the face of such demographic trends.

The labour market, education, social protection, living and working environments, and so forth will need to be adapted. Slovenia's strategy for a long-lived society is based on active



ageing, creativity almost to the last breath, concern regarding the health of its citizens, solidarity, and intergenerational cooperation. But there is usually a long way to go from strategy to realization.

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# Rural areas as a space for the integrated resolution of housing issues facing the elderly

## Abstract

Europe has so far had difficulty following the social care needs facing the elderly. Forecasts for the coming decades suggest a rapidly ageing population, and the COVID-19 pandemic and its health and other consequences have added a whole new dimension to this problem.

One example of a tangible project using an integrated approach to solve housing issues facing the elderly is being carried out in Slovenian Styria with active participation from the proposal's creators, where existing capacities of a tourist centre with hotels, swimming pools and rehabilitation facilities are being used as well as building land in a genuinely pleasant environment for the new construction of sheltered housing, a home for the elderly and a nursing home. Around forty-five small and medium farms will be engaged in the vicinity of this centre, which will offer locally produced food, and about ten farms will adjust their living capacities for the possibility of accommodating up to five elderly who are

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still active. Not only does this approach have many benefits for the elderly and their relatives, but for the state and the EU, as well. With one investment, the problem of providing the conditions and sufficient capacities for the humane and dignified care of the elderly is solved, it as well provides stimulating conditions for young people on farms while at the same time providing the conditions necessary for the preservation of cultivated and populated rural areas.

**KEYWORDS:** an integrated resolution of housing issues facing the elderly, the human dignity of the elderly, dementia, Alzheimer's, COVID-19 pandemic, ageing of the rural population, keeping young people in rural areas, organic farming

## **Introduction**

The Universal Declaration of Human Rights, by the United Nations General Assembly in Paris on December 10th, 1948, recognized in its first Article equal dignity and rights for all human beings. It is with respect and emphasis on human dignity that it is possible to find answers to the long-term solution of two seemingly unrelated but key demographic challenges facing a growing part of the (especially the developed) world - population ageing and the depopulation of rural areas.

## **RURAL + AGE = GREAT DEMOGRAPHIC CHALLENGE**

### **The case of Slovenia**

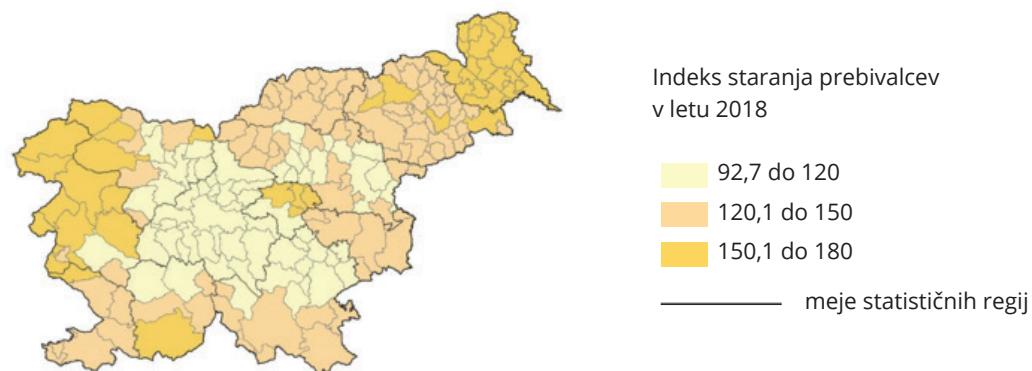
The number of people over the age of 65 in Slovenia will increase from 18.6% in 2018 to 20.3% by 2060. Demographic analyses suggest a continuing trend of population decline in the most rural parts of the country, with an increase expected only in (some) urban

centres and in some places along highways. Thus, the strongest increase in the share of the elderly can be expected in the most rural statistical regions: Pomurje, Zasavje, Podravje, Koroška and Goriška. In these statistical regions, the share of people over the age of 65 will reach 30% of the total population by 2038 (Nared, 2019).

Accelerated demographic decline and an ageing population are leading to a drastic deepening of social disparities between urban and rural areas, a deterioration of the stock of buildings and other infrastructure, overgrowing and changing environmental balances, and lowering the quality of life in rural areas.

**Figure 1**

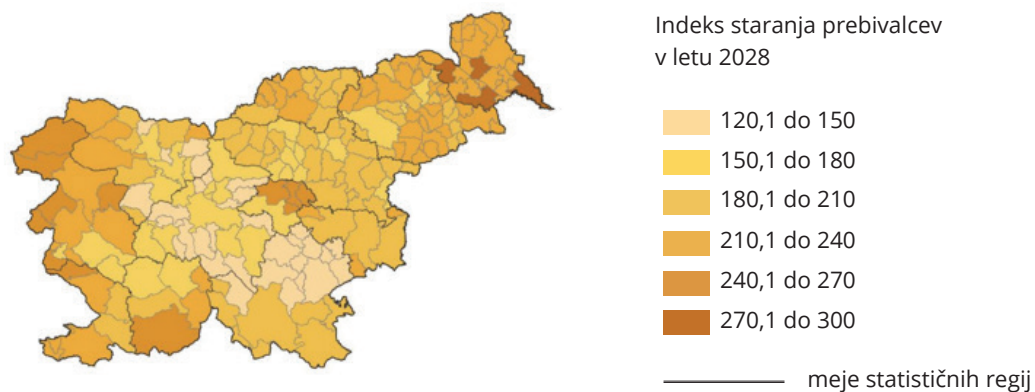
**Population ageing index in 2018 by demographically homogeneous areas**



Source: Nared, J., Repolusk, P., Černič Istenič, M., Trobec, A., Zavodnik Lamovšek, A., Drobne, S., Foški, M., Mrak, G., Rozman, U. (2019). PROJEKT V6-1731 Celovita demografska analiza s projekcijami za podeželska in urbana območja. Ljubljana: ZRC SAZU, Geografski inštitut Antona Melika.

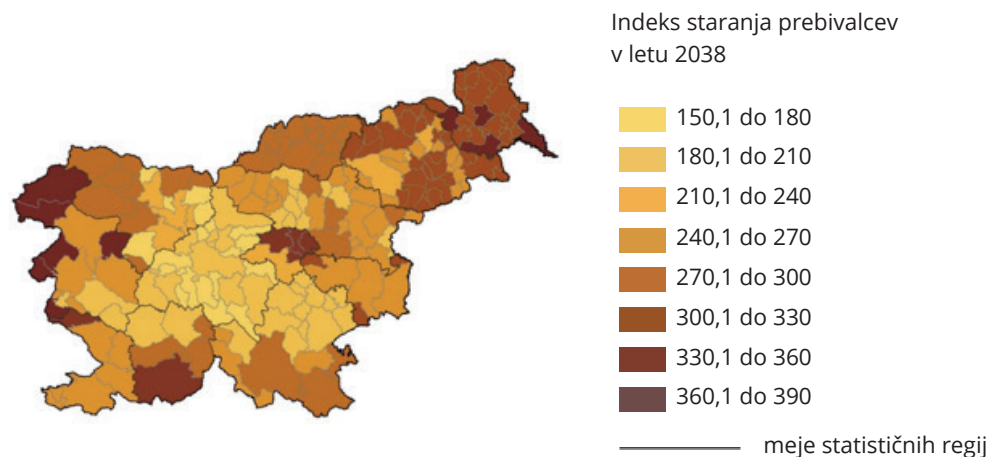
**Figure 2**

**Population ageing index in 2028 by demographically homogeneous areas**



Source: Nared, J., Repolusk, P., Černič Istenič, M., Trobec, A., Zavodnik Lamovšek, A., Drobne, S., Foški, M., Mrak, G., Rozman, U. (2019). PROJEKT V6-1731 Celovita demografska analiza s projekcijami za podeželska in urbana območja. Ljubljana: ZRC SAZU, Geografski inštitut Antona Melika

**Figure 3 Population ageing index in 2038 by demographically homogeneous areas**



Source: Nared, J., Repolusk, P., Černič Istenič, M., Trobec, A., Zavodnik Lamovšek, A., Drobne, S., Foški, M., Mrak, G., Rozman, U. (2019). PROJEKT V6-1731 Celovita demografska analiza s projekcijami za podeželska in urbana območja. Ljubljana: ZRC SAZU, Geografski inštitut Antona Melika

As the proportion of the elderly increases, the costs for their long-term care will increase in parallel. Within this, the largest expenditure is represented by health care, but with the ageing of the population, the costs for the social component of long-term care will increase even faster than the cost of health care. Healthcare expenditure at the national level is expected to increase from 6.1% of GDP in 2010 to 7-8% of GDP in 2060, while the

cost of social care is expected to increase from 1.4% of GDP in 2010 to (estimates vary but all fluctuate around) 3% of GDP in 2060. According to the Ministry of Labour, Family, Social Affairs and Equal Opportunities (MDDSZ), there were 118 retirement homes in Slovenia in 2018, offering 21,039 beds. They were all occupied. There were 11,294 people on the waiting list for admission to a nursing home. In 2020, the Government of the Republic of Slovenia announced an invitation to tender for a concession for 1,100 extra beds and plans to build five state nursing homes in the coming years, which will not even be enough to cover current needs.

There is about 900,000 people currently live in cities in Slovenia, representing 43% of the total population. In 1955, this share was approximately half lower, with more than three-quarters of the population of Slovenia over the age of 65 born and raised in rural areas (which is even more true for older immigrants from other republics of former Yugoslavia).

For many Slovenes, the notion that they will one day have to go to a retirement home is still scary. Institutionalized social care for the elderly is still stigmatized, as images of poor and helpless elderly inadequately treated during the communist dictatorship are still strongly present. However, even 30 years after the end of the totalitarian experience, Slovenian society has not completely shaken off the imposed mindset of having of the state play a dominant role in all areas of society. Thus, in the field of elderly social care and the preservation of rural settlements, private initiative is less developed in Slovenia than in many other parts of the developed world.

## **EXAMPLE OF AN INTEGRATED RESOLUTION TO HOUSING ISSUES FACING THE ELDERLY**

Forecasts for the EU and Slovenia for the coming decades indicate a rapidly ageing population, and the COVID-19 pandemic and its probable mutations have added a whole new

dimension to this problem, and the not yet fully established consequences that this virus leaves on those who have recovered. However, findings to date suggest that COVID-19 will reliably increase the proportion of people with Alzheimer's and that other negative effects of the disease which accelerate ageing will increase the pressure on various forms of elderly accommodations. Therefore, after analysis of the situation in Europe and Slovenia, we decided to prepare, together with consultants from various fields, a proposal for a comprehensive solution to the housing problems facing the elderly, based on previous experience from countries that represent examples of good practice and based on the needs of Slovenia, with emphasis on exploiting the potential of the Slovenian countryside.

We received an incentive for an integrated approach by actively participating in a tangible project in Slovenian Styria, where the existing capacities of a tourist centre with hotels, swimming pools and rehabilitation facilities are being used as well as building land in a genuinely pleasant environment for the new construction of sheltered housing, a home for the elderly and a nursing home. Around forty-five small and medium farms will be engaged in the vicinity of this centre, which will offer locally produced food, and about ten farms will adjust their living capacities for the possibility of accommodating up to five elderly who are still active, for whom living in a rural environment would represent an additional improvement to their quality of life in their mature years.

The project meets all the criteria of EU guidelines, which explicitly support the most humane way of solving housing issues facing the elderly, which support all forms of a circular economy and which are based on the green development paradigm. This integrated approach allows an elderly person who decides to leave their home environment due to the departure of young people, the inability to manage large residential areas, or the feeling of burdening their loved ones, to move to a new residential community with much less fear and without burdensome concerns. This new residential community will allow them to live





## NEW TECHNOLOGIES AT THE SERVICE OF OLDER PEOPLE

The development of technology and the rise in general well-being in recent decades have brought not only a drastic increase in the life expectancy of Europeans and Slovenes but also new opportunities to ensure a better quality of life in rural areas and care for the elderly. Within the European Union, the concept of 'Smart Villages' has been established, led by SLS/EPP MEP Franc Bogovič, by building new solutions in rural areas and communities on their existing strengths and assets. The idea is to improve new networks and services through digital, telecommunications technologies, and innovations as well as imparting a better knowledge about them and their advantages, for the benefit of residents, businesses, and other institutions.

Smart networks in rural areas could enable elderly people to stay longer in their home environment, thus creating jobs for caretakers of older people at home or in the community, by providing them with a better, safer built environment and 'smart' support for their safer care. Older residents have greater safety needs in their environment and their homes, as falls pose the greatest danger to an elderly person, becoming strapped to a bed or wheelchair will lead to a faster decline in vitality. The construction of elderly-friendly villages and settlements for the elderly and the construction of specialized housing units are, therefore, two of society's most effective responses to this demographic change.

The influence of healthy lifestyle factors on life expectancy without dependence on the help of others means an impact on self-sufficiency in feeding, bathing, dressing, getting out of bed, sitting in a chair, walking around the home and the ability to perform other tasks in self-care. Prolonging the period of dependence on the help of others at the end of life has significant individual and social consequences. Older people with declining functional abilities have a poorer quality of life and poorer health outcomes, frequent hospital admissions and other medical care, and a higher risk of death. The European Commission states in the document 'The 2018 Ageing Report' that for the 'baby boom' generation, an average of 4.5

years of dependence on the help of others is expected, which will increase expenditure on long-term care (Bogataj et al., 2019).

Technology also brings more and more opportunities to provide distance health services (e-health) and more efficient logistic solutions that can further contribute to the quality of life of the elderly in rural areas, while maintaining jobs through their demand for goods and services. Older people in the rural areas can also be a welcome help, e.g., in the care and upbringing of children, and, last but not least, the passing on of cultural tradition.

## **Conclusions**

The population, as well as the social and cultural structure of Slovenian rural areas (and rural areas throughout Europe), offers a unique opportunity to build an effective system of social care for the elderly on social farms, which would complement integrated offerings in the contiguous geographical area, from sheltered housing to retirement homes, nursing homes and so on. This would provide jobs to keep rural areas populated, encourage intergenerational coexistence and, above all, offer a growing number of elderly Europeans personalized care and treatment tailored to their needs. Public expenditure would be significantly reduced with more populated rural areas and a healthier and happier elderly population. The dignified life of elderly Europeans can therefore be ensured even without special conventions on their rights; we must take advantage of the opportunities offered by rural areas for tailor-made individual care, while exploiting several new technological possibilities. It is up to local communities, regions, countries, and the European Union to provide the right frameworks and incentives. Some of these are already expected to be provided by programmes for the remediation of the COVID-19 pandemic's consequences and subsequent economic recovery.

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# Demography and the 4<sup>th</sup> Industrial Revolution

## Abstract

In technologically developed countries, two processes which are important for the country's future are taking place concurrently. The first one is demographic. In this process, all forecasts point to a significant population decline. The second one is the 4th Industrial Revolution. Under this term, we mean the robotization of the economy, the introduction of artificial intelligence (AI), and modern information technologies (IT). The basic thesis of this paper is that skilled and creative human resources are a key factor for the development and well-being of any modern society. On the one hand, skilled human resources create new, high-quality jobs which enable full employment precisely because of the development and meaningful use of 4th Industrial Revolution technologies. And on the other hand, they provide a rise in living standards and in the perspective of long-term well-being for society, which I believe will also contribute to solving demographic problems.

**KEYWORDS:** demography, demographic processes, economy, human resources, 4th Industrial Revolution, automation of economy, artificial intelligence (AI), information technology (IT), education

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## Introduction

In technologically developed countries, countries like the EU Member States and the USA and Canada, two processes important for their future are taking place concurrently. The first one is demographic. In this process, all forecasts point to a significant population decline. Thus, many analysts, looking at this process separately, predict a significant shortage of the working-age population, which is expected to lead to a significant shortage of human resources in the economy. Some of them, therefore, predict a significant reduction in economic activity, because of which the economy will not be able to meet the needs of the population - at least not at the current level. Others would again solve this problem by an import of labour from countries that do not belong to the Western civilization circle, as defined by Bertrand Russell. (Russel, 1977) In doing so, at least in my view, they irresponsibly overlook the differences between the circles of civilization that Samuel Huntington has so vividly described. (Huntington,1997).

The second one is the 4<sup>th</sup> Industrial Revolution. Under this term, we mean the robotization of the economy, the introduction of artificial intelligence (AI) and modern information technologies (IT).

These processes, as many authors point out, lead to a reduction in the number of positions available and, therefore, they predict a significant rise in the unemployment rate. This is expected to become a fundamental problem for future technologically-advanced societies. Therefore, they advocate for, and almost ultimately demand, measures that interfere with the very essence of modern society, such as significant reductions in working hours and universal basic income (UBI). Even a cursory analysis of these proposals shows their ludicrousness. Reducing working hours greatly reduces working conditions, especially in key occupations of modern society, such as medicine and engineering. For

example, a surgeon is expected to perform a certain number of operations of the same type each year, and a bridge builder is expected to build a certain number of facilities. Therefore, shortening working hours would significantly reduce the quality of work processes. Upgrading quality is a basic requirement of a modern economy. Only a constant increase in quality will lead to a rise in living standards among the population and an economy's global competitiveness. The nonsense of UBI is that it destroys one of the foundations of a modern democratic society, namely that the income of the individual is proportional to his contribution to social well-being. In their implementations, these authors, proponents of job reduction, overlook that the processes of the 4th Industrial Revolution and new technologies are primarily changing the needs of the economy for certain occupations. The number of jobs in certain sectors is indeed declining, so in other sectors of the economy the number of jobs is increasing, and completely new jobs are being created. The economically rational response to these changes is mainly in adapting to current and future labour market requirements, and not in reducing working hours and UBI.

In this article, however, I want to take it a step further. The basic thesis is that demographic processes cannot be viewed separately from the processes of the 4th Industrial Revolution. I am convinced that these two events are closely intertwined, both in cause and effect, and that we must also consider both processes and their intertwining in the responsible search for socially acceptable solutions.

### **Core thesis**

The core thesis of this paper is that skilled and creative human resources are a key factor for the development and well-being of any modern society. (Florida, 2005) On the one hand, skilled human resources create new, high-quality jobs which enable full employment precisely because of the development and meaningful use of 4th Industrial Revo-



lution technologies. And on the other hand, they provide a rise in living standards and in the perspective of long-term well-being for society, which I believe will also contribute to solving demographic problems. The basic answer to both above-mentioned problems should, therefore, be the development of human resources coordinated with the economy, with an emphasis on their creativity and innovation. I am convinced that if human society, including Slovenian society, is aware of these goals defined by the demographic crisis and the 4th Industrial Revolution, it will also be able to find appropriate solutions.

### **The current situation in Slovenia**

In recent years, between 19,000 and 20,000 children have been born in Slovenia annually. If we extrapolate these numbers into the future, we can see that we can expect that Slovenia will have a working-age population of around 780,000, representing a 13% reduction in the working-age population.

If we estimate the state of automation in Slovenia approximately and based on publicly available data as we did in terms of the number of working-age population in the previous paragraph, we can conclude that Slovenia has 140 work robots per 10,000 jobs. In this respect, we are not doing so badly. Finland and Austria have about the same number, and only Germany is significantly ahead of us. About 12,500 industrial robots are supposed to be operating in Slovenia currently. Assuming a work robot replaces an average of 10 jobs, we see that due to demographic trends, the expected loss of 120,000 working-age people may be supplemented by 12,000 work robots. Raising the number of work robots in Slovenia to 14,500, or again, considering demographic trends, to approximately 186 robots per 10,000 jobs. A number that is not excessively high, moreover, it is expected in the process of modernizing Slovenian industry, and this number is still significantly lower than the number of robots per 10,000 jobs in Germany.

Based on the above two paragraphs, unsatisfactory demographic trends in Slovenia will

be easily compensated by a normal transition into the 4th Industrial Revolution. All these calculations and considerations are performed on the assumption that we will make reasonable use of the human resources available to us in Slovenia. Quality, creative and skilled human resources, and the rational use of them are basic factors on which development and the standard of living of modern society is built. (Acemoglu, Robinson, 2012) Unfortunately, the current state of human resources and forecasts for the future show that our human resource management is inadequate, to put it mildly. The first one is that the number of unemployed young people in Slovenia is hidden by their acceptance of precarious employment, which makes the unemployment rate of young people seem lower than it is. Secondly, there is a lack of properly educated people in the workforce. Therefore, we will pay some more attention to this problem in the next paragraph. The irrational use of human resources has its root cause in the education system, both in secondary and tertiary education. In the following, I will analyse the operation of tertiary education.

If we want to understand the reasons for the irrational use of human resources and the difficult transition of young people from school to work, we must correctly interpret the indicators published in Slovenian mainstream media and not generalize them to whole generations. As a starting point, we can take the indicator that follows from the documentation of the relevant ministry, that about 75% of the current generation has been enrolled in tertiary education for several years in a row. If all of them also successfully completed their studies, no economy in the world could employ such a percentage of the highly educated. There is quite a bit of fictitious admission in this number, e.g. the newspaper Delo states there are 53.5% of students aged between 19 and 23 years in Slovenia. A comparison of the last two figures raises the question of how fictitiously enrolled people, which is more than 20% of the generation, enter the labour market. If we continue to follow the indicators presented in this newspaper, we see that only 40% of them graduate. Meaning we have about 14% of 'failed' students in the generation. If we

add to this the fictitious enrolment, we see that tertiary education enrolls, but is not completed by about 35% of the generation. They have been left without a profession, and their integration into the labour market is very problematic.


The fact that 40% of the generation successfully completes their tertiary education is not even that bad. This figure is at the upper limit of how many young people the most developed economies can still employ, provided, of course, that the professions are properly distributed, in line with the needs of the economy, and there are employment opportunities. This condition, however, we do not meet. According to OECD data, the more developed economies of the EU Member States employ about 35% of tertiary educated people. Another, even bigger problem in the employment of young people who have successfully completed tertiary education is the distribution of their occupations. In this analysis I will rely on OECD data, as well. If I form two basic groups, technology and science disciplines on the one hand, and social sciences and art disciplines on the other, the ratio of graduates between these two groups in Slovenia is about 1:2+. If we compare this ratio with the countries we like to emulate, we see that have extremely low youth unemployment and that their ratio is 1:1 in Austria, and even 1:0.9 in Germany. In Slovenia, about 13% of the generation graduates in technical or natural sciences, but we need the percentage to be somewhere around 18%. This deficit is also clearly seen in job vacancies for these professions and represents a serious obstacle to the development of the Slovenian economy. About 27% of the generation graduates from the social sciences, which is about 10% more than there are real employment opportunities. And it is precisely these 10% that are the main source of precarious and other non-standard jobs that are socially and ethically undesirable. The whole employment problem of young people becomes even more obvious if we add these unemployable social scientists to those who enrolled in tertiary education but did not complete it. Thus, we get an estimate that in Slovenia as many as 45% of the young generation are disadvantaged or unemployable.

This is a number that should seriously worry us all, not just young people, and it clearly shows that we in Slovenia manage our human resources very poorly.

### **Necessary measures**

Summarizing the findings of the previous paragraph, I can say that unfavourable demographic trends are reducing the number of the working-age population. Technological development – the 4th Industrial Revolution alleviates this unfavourable demographic trend under the condition of a rational use of available human resources. Unfortunately, this last condition is not met in Slovenia. The main reason for this is that education - enrolment in secondary and tertiary study programs is not in line with job vacancies - current and expected. Insufficient lifelong learning also contributes in part to the unsatisfactory use of human resources, but I am convinced that this is only to a small extent.

Based on what has just been said, I am convinced that we can talk about the need for necessary measures that will stop negative trends and turn them into positive ones. I will not deal with measures to improve demographic trends here because I do not cover this topic professionally. Therefore, I will limit my proposals to the areas described above for mitigating the effects of negative demographic trends, i.e. rapid and successful technological development and better use of human resources. These two areas are partially interconnected, as quality and reasonably trained human resources are a basic factor in technological development. However, since the world, the EU, and Slovenia are now in a phase of accelerated technological development - in the 4th Industrial Revolution, it makes sense to support Slovenian companies to be successful in this trend, and thus globally competitive. This support should include tax relief for the purchase of AI robots and equipment as well as a fund to accelerate technology development, which would co-finance investments into the technological modernization of Slovenian companies



and the training of employees to work with new technologies. However, I believe that there is a feedback loop here, as well. Technologically advanced, and therefore globally competitive, Slovenian companies will also enable a higher standard of living not only for employees, but for all residents of Slovenia, and by this, they will at least mitigate negative demographic trends. The second proposed set of measures is aimed at improving the use of human resources. Enrolment in state-funded secondary and tertiary education programmes must be adapted to the needs of the economy and employment opportunities. Giving deficit professions a new influx of skilled human resources and reduce the pressure on jobs in surplus professions to an acceptable level.

## **Conclusion**

Negative demographic trends require measures that will reduce and eliminate them in the long run. However, it makes sense to at least mitigate the consequences of negative demographic trends, if not eliminate them with an accelerated technological renewal of the economy – robotization, the use of AI, and a more rational use of human resources. Some measures for this have been mentioned in the previous paragraphs. In any case, importing unskilled or insufficiently skilled labour is illogical. Even if it solves short-term problems here and there, in the long run, the problems associated with negative demographic trends will only intensify and worsen.

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# KOLO- FON

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