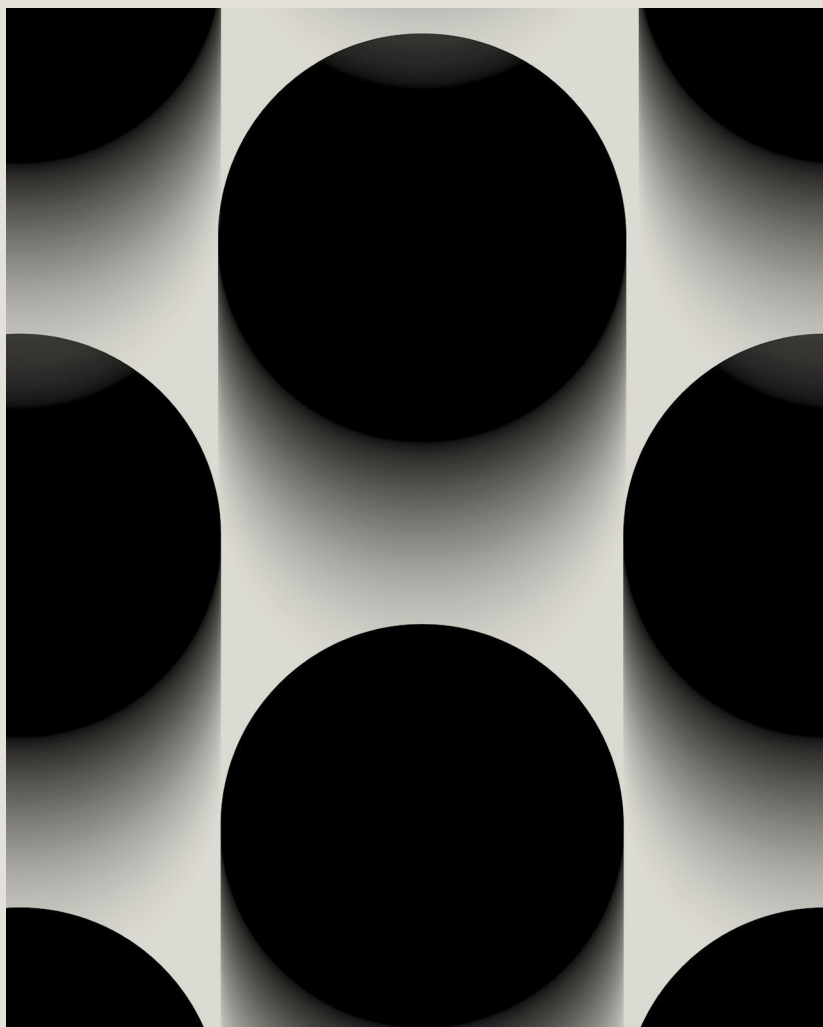


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Editor's introduction

Uvodna reč urednika

Poštovani čitaoci, autori i saradnici, pred vama je prvi broj časopisa Stanovništvo u 2025. godini i ujedno prvi broj koji izlazi pod mojim uredničkim vođstvom. Velika mi je čast što sam preuzeo ulogu glavnog i odgovornog urednika najstarijeg demografskog časopisa na Balkanu, koji već više od pola veka igra ključnu ulogu u razvoju demografske nauke i afirmaciji istraživanja stanovništva u Srbiji i širem regionu.

Na ovom mestu želim da izrazim iskrenu zahvalnost mom prethodniku, dr Vladimiru Nikitoviću, na njegovom dugogodišnjem i posvećenom radu, kojim je obezbedio visoke standarde naučne i izdavačke prakse časopisa. Njegov doprinos ostaje važan temelj na kojem dalje gradimo kvalitet i ugled časopisa.

Zahvalnost dugujem i dragocenim saradnicima koji aktivno učestvuju u uređivanju časopisa i njegovom daljem unapređenju: dr Marku Galjaku, dr Ivanu Potiću, dr Ivani Magdalenić i Mileni Šećerov. Njihova stručnost i posvećenost obezbeđuju kontinuitet u kvalitetnoj selekciji i pripremi priloga. Takođe, izražavam zahvalnost članovima Izdavačkog saveta i Redakcije, čije mišljenje i podrška ostaju ključni oslonac uredničkog rada.

Svestan odgovornosti koju nosi ova funkcija, kao urednik ću uložiti napore da se sačuva redovnost izlaženja i naučni kvalitet časopisa. Nastaviću da kroz stalnu komunikaciju podstičem potencijalne autore da intenzivnije pišu za Stanovništvo, kako bismo obogatili tematski i kvantitativni obim objavljenih radova.

S obzirom na činjenicu da je broj časopisa koji se primarno bave demografijom u evropskom i regionalnom kontekstu veoma ograničen, posebno je važno da Stanovništvo sačuva svoj specifičan identitet kao časopis posvećen demografskim pitanjima i istraživanjima.

U cilju daljeg razvoja časopisa i njegove veće tematske otvorenosti ka savremenim izazovima i trendovima, planiramo da uvedemo tematske blokove unutar redovnih brojeva. Na taj način želimo da podstaknemo fokusirane i interdisciplinarne rasprave, koje će doprineti boljem razumevanju demografskih promena i politika u različitim kontekstima.

Radujemo se daljoj saradnji sa dosadašnjim i novim autorima, recenzentima i čitaocima, sa željom da časopis Stanovništvo i ubuduće bude mesto susreta relevantnih naučnih uvida, empirijskih istraživanja i kritičkih promišljanja u oblasti demografije.

Srdačno,
Dr Ivan Marinković
Glavni i odgovorni urednik

Članci

Articles



National transfer accounts and implications for social sector policies in the Republic of Serbia

Gordana Matković¹ 

ABSTRACT

This paper presents the first comprehensive analysis of the National Transfer Accounts (NTA) findings for Serbia, based on the data from the Statistical Office of the Republic of Serbia (SORS) for 2018. Using the NTA methodology, which integrates survey and administrative data to examine economic flows across age groups, the study highlights critical implications for social sector policy. The analysis employs a comparative approach, contrasting Serbia's findings with those of EU25 countries using the data from the AGENTA database for 2010. In Serbia, labor income grows later in the life cycle and begins to decline relatively early. The age profile of public and private consumption does not suggest complementarity, nor does it support life-cycle consumption smoothing. Notably, the Serbian context reveals limited "socialization" of spending on early childhood education and elderly healthcare. Serbia's life-cycle deficit disappears at age 27 and re-emerges at 58, shortening the surplus period to 31 years—noticeably shorter than EU averages. Furthermore, the aggregate deficit for dependent age groups constitutes 58.5% of labor income, significantly exceeding EU25 levels. These findings underscore the need for targeted policy reforms in early childhood education, long-term eldercare, and the pension system to address Serbia's demographic and economic challenges effectively.

KEYWORDS

national transfer accounts, life cycle deficit, age profile, social sector policy, Serbia

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1 INTRODUCTION

The National Transfer Accounts (NTA) constitute a complete, systematic and coherent accounting of economic flows from one age group or generation to another in a given calendar year (UN 2013: vi). During childhood and old age, a portion of an individual's consumption is not covered by labor income but must instead be supported through private and public transfers or asset-based reallocations.

The key goal of the NTA accounts system is to assess the generational dimension of the economy. According to Lee and Mason (2011: 7), the generational economy consists of: (1) the social institutions and economic mechanisms used by each generation or age group to produce, consume, share, and save resources; (2) the economic flows across generations or age groups that characterize the generational economy; (3) explicit and implicit contracts that govern intergenerational flows; and (4) the intergenerational distribution of income or consumption that results from the foregoing.

The NTA method was established by Lee (1994) and Mason et al. (2009). Since the development and broader acceptance of the NTA method, research on generational economies in various countries, including cross-country differences, has increasingly featured in numerous analyses (Lee and Mason 2011; Lee, S. H. and Ogawa 2011; Mason and Lee 2013; D'Albis and Moosa 2015; Abío et al. 2017; Loichinger et al. 2017; Vanhuyse, Medgyesi and Gál 2023). Analysis for EU countries gained momentum with the project titled *Ageing Europe: An application of National Transfer Accounts (NTA) for explaining and projecting trends in public finances (AGENTA)*, which produced

a comprehensive database for 25 out of the 28 member countries of what was then the European Union. Research topics have included, among others, differences in aggregate life-cycle deficits (Hammer, Prskawetz and Freund 2015); asymmetry in the socialization of intergenerational transfers (Gál, Vanhuyse and Vargha 2018); the links between public finances and population changes in age structure (Chłoń-Domińczak et al. 2019); sustainability of the public transfer systems (Hammer et al. 2019); transfers through unpaid household work (Istenič, Hammer and Sambt 2019); the different organization of transfer systems across Europe (Sambt, Hammer and Istenič 2021), etc. The NTA framework is especially valuable for analyzing social security systems, pensions, human capital accumulation and intergenerational equity (Lee and Mason 2011: D'Albis, and Moosa 2015). From a policy perspective, research has explored the impact of population ageing on the sustainability and intergenerational fairness of public fiscal policy (Sánchez-Romero et al. 2019); the effects of aging on fiscal budgets (Kluge, Goldstein and Vogt 2019); sustainability of the welfare system (Spielauer et al. 2022); identification of winners and losers in pension reforms (Sánchez-Romero, Schuster and Prskawetz 2023), etc.

The first NTA for Serbia were developed by the Statistical Office of the Republic of Serbia (SORS) in 2021, based on data from 2018. While these findings have not yet been made publicly available, the author had access to them as a part of a project funded by United Nations Population Fund (UNFPA) Serbia. The first detailed analysis based on the data from 2018 was conducted as a part of the UNFPA project (Matković, 2023), while the analysis of the life-cycle account and life-cycle deficit segments

was carried out using the data from 2019 (Poljak and Manić, 2024). Based on NTA-based insights, Matković (2023) provides detailed recommendations for social policy.

The main objective of this paper is to present key findings from the 2018 NTA for Serbia and compare them with available data for EU countries, with particular emphasis on insights relevant for social sector policies. The conclusions also highlight the policy implications of the NTA analysis for Serbia, specifically regarding preschool education, long-term care and pensions. The analysis of the 2018 Serbian and 2010 EU25 NTA data is still relevant today, as it reflects enduring structural trends in intergenerational economic flows, as well as demographic challenges that require long-term solutions to address and evolve.

The central research questions for this paper are:

1. How do the age profiles of labor income, consumption, and life-cycle deficits in Serbia differ from those in the EU25 countries, and what are the implications for intergenerational economic sustainability?
2. To what extent do the current social sector policies in Serbia, particularly in preschool education, elder healthcare, and pensions, address the challenges revealed by the National Transfer Accounts analysis?

By addressing these questions, this research contributes to broader understanding of economic sustainability in Serbia and provides a foundation for policy recommendations aimed at enhancing the resilience of Serbia's social sector in the face of demographic and economic challenges.

2 METHOD AND DATA

The NTA builds upon the System of National Accounts (SNA) data by incorporating the age dimension, thereby enhancing understanding of the generational economy. The distribution of aggregate values across age groups is estimated using survey and administrative data. This section of the paper provides only basic information about the NTA variables. For comprehensive methodological insights, the UN NTA manual (UN 2013) and the European NTA manual (Istemić et al. 2016) offer detailed information.

The National Transfer Accounts are divided into three sub-accounts: life cycle account; transfer account and asset-based reallocations account.

1. *Life cycle account* consist of labor income, consumption, and the life cycle deficit.

Labor income includes earnings, contributions paid by the employer, and self-employment income (Istemić et al. 2016: 16; UN 2013: 93).

Consumption is divided into public and private, and additionally into consumption on education, health, and other consumption (public administration, defense, public lighting, justice, etc.) (UN 2013: 91; Istemić et al. 2016: 15). The age profile of public consumption is primarily shaped by spending on education and health, as public consumption for other purposes is distributed equally across all age groups (UN 2013: 103; Istemić et al. 2016: 37). In contrast, private consumption is mainly driven by other expenditures; however, the paper focus specifically on the age distribution of private consumption on education and healthcare, considering their importance to social sector policies.

Life-cycle deficit shows the difference between consumption and labor income for a given age (Istenič et al. 2016: 16). During childhood, youth and old age, labor income is either non-existent or low, and is smaller than consumption, and the deficit thus incurred is funded through public and private age reallocations: transfers and asset-based reallocations.

2. *Transfer Account* comprises public and private transfers.

Public transfers include both inflows and outflows. Inflows consist of in-kind benefits (for education, health, and other purposes) and cash payments (such as pensions, unemployment benefits, child allowances, etc.). According to the NTA methodology, public transfer inflows from child allowances and other benefits geared towards families with children are attributed equally to all adult household members (Istenič et al. 2016: 42). Public transfer outflows, which represent flows from the private to the public sector, fund public transfer inflows, public asset income (such as interest on public debt), or public savings (Istenič et al. 2016: 19). Outflows consist of taxes, contributions, and other payments from the private sector, along with the transfer surplus (+) or deficit (–), a balancing item matched by public asset-based reallocations. Net public transfers do not sum to zero for the total economy because of the inflows to and outflows from the rest of the world (UN 2013: 31; Istenič et al. 2016: 20).

Private transfers can occur between and within households – i.e. they can be inter-household transfers (alimony, gifts, remittances) and intra-household transfers. The intra-household transfer inflows are equal to the intra-household transfer outflows; therefore, the net intra-household transfers amount to zero at the aggregate level. The estimation of

intra-household transfers is considered one of the main contributions of the NTA (Sambt, Hammer and Istenič 2021: 187).

3. *Asset-Based Reallocations Account* also differentiates between the public and private component.

Public asset-based reallocations equal public transfer deficit or surplus. They are calculated as public asset income less public savings (Istenič et al. 2016: 47). Public asset income includes the income earned from publicly owned assets and interest paid on public debt (Lee and Mason 2011: 58). Public savings are equal to net savings as reported by the Serbian SNA (Statistical Office of the Republic of Serbia 2022).

Private asset-based reallocations represent the difference between private asset income (returns to capital, dividends, interest, etc.) and private savings (Lee and Mason 2011: 58).

The NTA for Serbia was developed by the SORS, and the data pertain to the year 2018. Comparison with EU25 countries relies on the NTA database of the AGENTA project for 2010 (AGENTA NTA database 2010).¹ The EU25 average refers to the average over all countries, not weighted by population size.

This research shares several limitations of the NTA methodology, including its static framework, which stems from the cross-sectional nature of age profiles, its reliance on average data as NTA profiles present per-age averages, the indivisibility of certain economic flows

¹ The label “EU25” refers to the 25 countries that were part of the EU-28 at the time of implementation of the AGENTA project and participated in it: Austria, Belgium, Bulgaria, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the UK. Data for Malta, Croatia and the Netherlands are not included.

by age, the use of a common sharing rule for household consumption of goods and services, the exclusion of informal flows and home production such as subsistence farming, its dependence on the quality of surveys, and its failure to incorporate inheritance into economic flows between individuals, among other issues (UN 2013; D'Albis and Moosa 2015; D'Albis et al. 2019). A key limitation is its reliance on a single-year NTA analysis for Serbia, underscoring the need for the NTA to become a regular product of the SORS, conducted periodically to enable continuous monitoring and support more robust future research. Additionally, the NTA for Serbia did not include time transfers or address the gender aspect.

3 RESULTS AND DISCUSSION

3.1 LIFE CYCLE ACCOUNT

In Serbia, labor income grows more substantially relatively late during the life cycle and starts to decrease early.

The curve of labor income per capita by age is concave. Labor income first occurs at the age of 15, peaking at the age of 41, after which it declines (Figure 1, Appendix). Income from earnings is substantially higher than self-employment income. The self-employment income curve is less concave, indicating its more even distribution through life cycle stages. Additionally, income from earnings drops sharply and nearly disappears beyond the age of 65, while self-employment income decreases with age at a much slower pace.

The labor income profile in Serbia closely mirrors the EU25 average, showing slight differences in the youngest age groups and somewhat more pronounced disparities in older age groups (Figure 1). Austria and Sweden stand out among European countries (Sambt, Hammer and Istenič 2021). Austria's specific features concern the youngest age groups, owing to the widespread practice of apprenticeships, which encourage early entry into the labor market

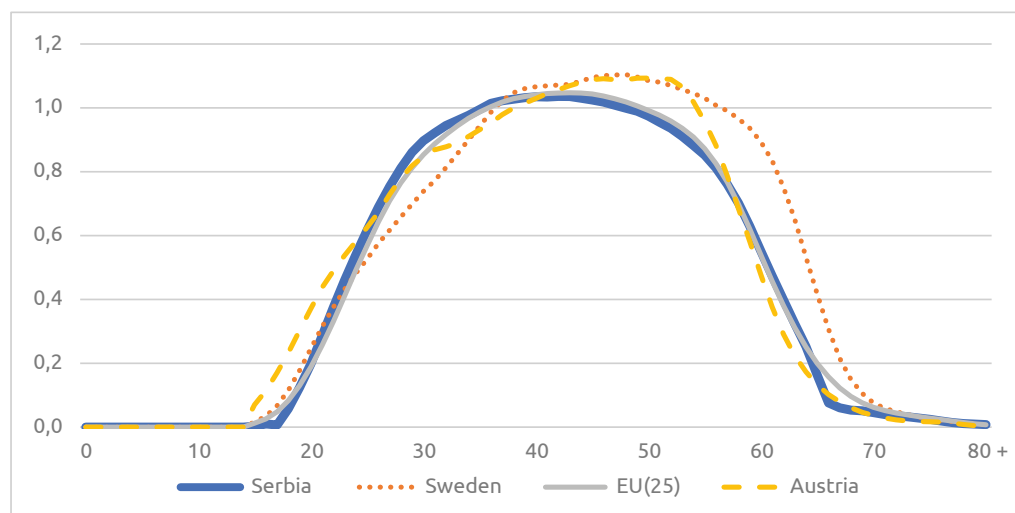


Figure 1 Age profile of labor income, Serbia (2018), EU25, Sweden and Austria (2010), normalized values.

Sources: SORS NTA database 2022; AGENTA NTA database 2010), authors' calculations. Note: Age profile of labor income normalized in relation to labor income in the age group 30–49

(D'Albis and Moosa 2015). In Sweden, on the other hand, labor income decreases later in the life cycle, with higher employment rates among older workers (Lee and Ogawa 2011). In high-income countries the curve is shifted to the right compared to Serbia, considering that labor income peaks at later ages (in Sweden at 49, in Austria at 50). In addition to higher economic activity rates in these generations, such a shape could also be a result of remuneration policy for older employees or the types of sectors in which they predominantly work.

The age profile of total consumption in Serbia shows that after the first year of life, consumption steadily grows until adulthood, and then stagnates for a long time, albeit with minor oscillations, to finally slightly decrease after the age of 70 (Figure 2).

Public consumption per capita is highest for school-age children and teenagers (7–19) due to education expenses. Public consumption per capita is higher than the private only for children in the 7–11 age group. In all other age groups, private consumption clearly dominates, even among the oldest-old.

The curve of private consumption per capita by age in Serbia shows a steep increase up to the age of 22, followed

by slight fluctuations and a prolonged period of stagnation, before gradually declining after the age of 65.

The curves illustrating total consumption per capita by age and its components, public and private consumption, are somewhat different in the EU25 from those for Serbia (Figure 3). First, the EU25 age profile of public consumption resembles a U-curve, and that of private consumption – an inverted-U curve, which indicates their complementarity and enables life-cycle consumption smoothing (Sambt and Prskawetz 2011: 260). Additionally, per capita public consumption by the oldest-old is not lower than that by children. Second, in the EU25, public consumption—largely on education—dominates over private consumption for a longer period in childhood, from age 3 up to 16. Third, total consumption per capita rises in the oldest age groups and considerably so, also as a result of rising public consumption, primarily on health and long-term care for older people (Kluge 2009: 12). Finally, in the EU25, private and public consumption on the oldest-old are almost equal. In Scandinavian countries (Denmark, Sweden and Finland), public consumption for the oldest is particularly high and exceeds the private (AGENTA NTA database 2010).

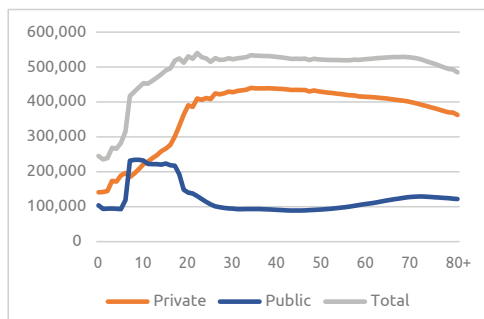


Figure 2 Total, public and private consumption per capita by age, Serbia, 2018 (RSD).
Source: SORS NTA database 2022

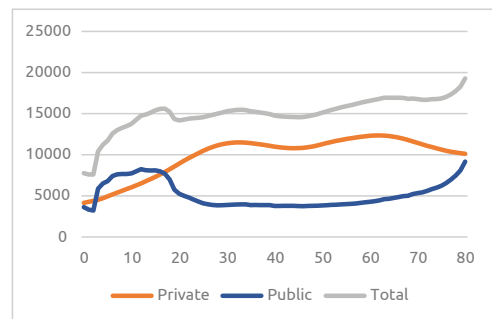


Figure 3 Total, public and private consumption per capita by age, EU25, 2010 (EUR).
Source: AGENTA NTA database 2010

A life-cycle deficit (LCD) is observed among children, youth, and the elderly. In Serbia, the period of surplus—when labor income exceeds consumption—lasts only 31 years, a relatively short duration considering that life expectancy reached 74.5 years in 2020 (Eurostat 2022). The deficit disappears as late as at the age of 27, and re-appears early, at the age of 58 (Figure 4). Compared to standard age dependency ratios, which use ages 20 and 65 as milestones, NTA findings indicate that in Serbia, young people remain economically dependent for an additional 7 years, and older individuals become dependent 7 years earlier. The aggregate LCD of children and youth (0–26) and the older population (58+), who cannot finance their consumption through their own labor income, represents 58.5% of total labor income—26% for the younger population and 32.5% for the older population. The aggregate LCD for the elderly is one-quarter larger than that for children and youth (Table 1, Appendix).

In the EU25, the surplus (negative deficit) span is somewhat longer than in Serbia, 33 years on average, especially in certain countries (Austria 34 years, Sweden 37 years) (Table 1). The first milestone, the point at which youth first incur a surplus, comes two years earlier in Austria than in Serbia, and in Sweden the second milestone, the point at which older people first lose the surplus, occurs as many as 6 years later. In these countries, however, the life expectancy is also longer, at over 80 years (Eurostat 2022). In new EU member states, the surplus span is, as a rule, shorter, with the lowest values recorded in 2010 in Lithuania (26.5) and Romania (27.4 years) (Sambt, Hammer and Istenič 2021: 189). According to Loichinger et al. (2017), by adopting Sweden's age pattern of labor income, EU countries could offset most of the projected increase in public expenditure due to population aging. In comparison to Serbia, the aggregate life cycle deficit of children, youth and elderly as a share of total labor income is lower, at 51.4%

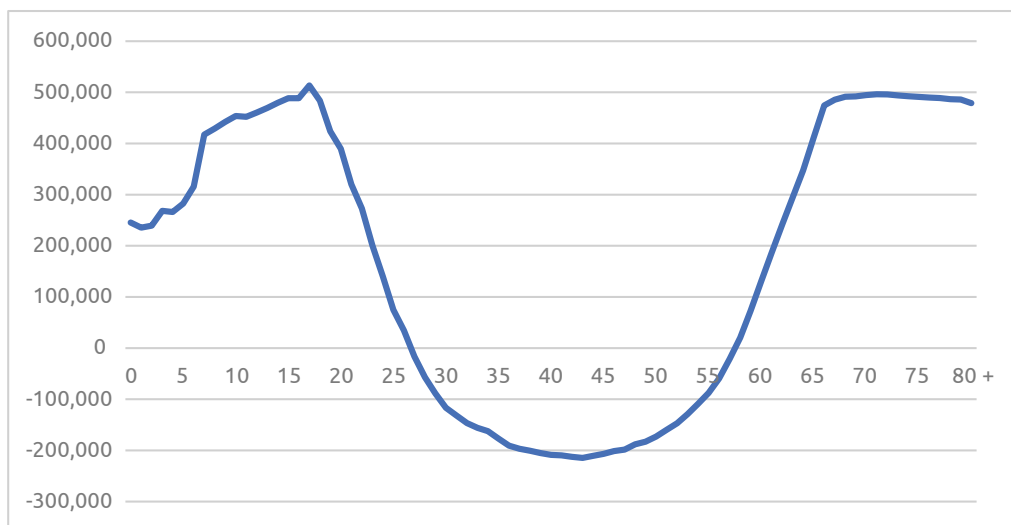


Figure 4 Life-cycle deficit, Serbia, 2018 (RSD per capita).

Source: SORS NTA database 2022

Table 1 Indicators related to life cycle deficit, Serbia, EU25, Austria and Sweden

Country	Milestone 1 (age)	Milestone 2 (age)	Negative LCD (in years)
Serbia	27	58	31
Austria	25	59	34
Sweden	27	64	37
EU25	26	59	33

Sources: SORS NTA database 2022; AGENTA NTA database 2010, author's calculations

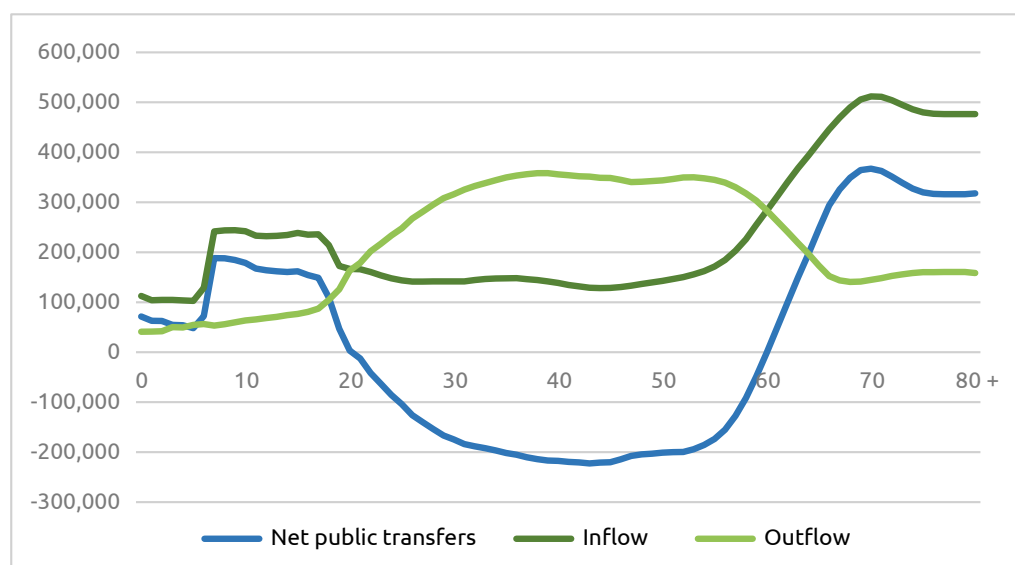
(25% in younger ages and 26.4% in old ages) (AGENTA NTA database 2010). The share is even more favorable in several high-income countries, ranging from 45% in Austria to 48% in Sweden, Spain, Slovenia and Germany (Hammer, Prskawetz and Freund 2015).

3.2 REALLOCATIONS AMONG AGE GROUPS – TRANSFERS AND ASSET-BASED REALLOCATIONS

The age profile of net public transfers in Serbia shows that they are positive for children and youth (0–20) and for people over 60 years of age.

Considering that in-kind inflows are equal to public consumption, the curve of public transfer inflows per capita by age in Serbia follows the corresponding public consumption curve, with visibly sharper increase at older ages, due to pension cash transfers (Figure 5). Inflows per capita are the lowest for children of pre-school age, and the highest for the elderly. Aggregate public inflows for the elderly with a life cycle deficit (ages 58+) are 2.6 times higher than for those with a deficit at younger ages (0–26) (Table 1, Appendix)

The same regularity is also present in the EU25 countries (Figure 2, Appendix).

**Figure 5** Net public transfers, inflow and outflow, per capita by age, Serbia, 2018 (RSD).

Source: SORS NTA database 2022

In the EU25, on average, transfers for youth remain positive somewhat longer, until the age of 23. Similar to Serbia, inflows per capita are lowest for young children, but only in the first two years of life, reflecting a comparatively higher investment in early childhood development.

As expected, the curve of public transfer outflows per capita by age shows that the greatest financial burden in Serbia is borne by the middle-aged generations.

In Serbia, net public asset income is negative due to interest on public debt; thus, public asset-based reallocations are negative. In 2010, public asset income was negative in all EU25 countries except Luxembourg, primarily due to interest payments on public debt (AGENTA NTA database 2010). The greatest burden of negative public asset-based reallocations is borne by middle-aged generations (Figure 3, Appendix).

Private transfers can occur both within and between households.

The net intra-household transfer (TFW) curve by age shows that in Serbia, children and youth (ages 0–26) are almost exclusively net recipients of transfers within households. With exceptions at certain ages, older adults are also net recipients, but to a much lesser extent. Among the oldest-old, aged 77 and older, outflows exceed inflows, indicating that their contributions to the household surpass the transfers they receive (Figure 6). The shape of the EU25 curve is quite similar, except that the oldest-old still remain net TFW recipients (AGENTA NTA database 2010).

Inter-household transfers (TFB), i.e. transfers between households, can also take the form of inflows and outflows. Methodologically, these transfers are attributed to the household head, meaning children cannot be TFB recipients. The highest levels of these transfers are reported for individuals aged 35–45 and those over 70 years (Figure 6). The fact that outflows are low and net TFB are positive for all

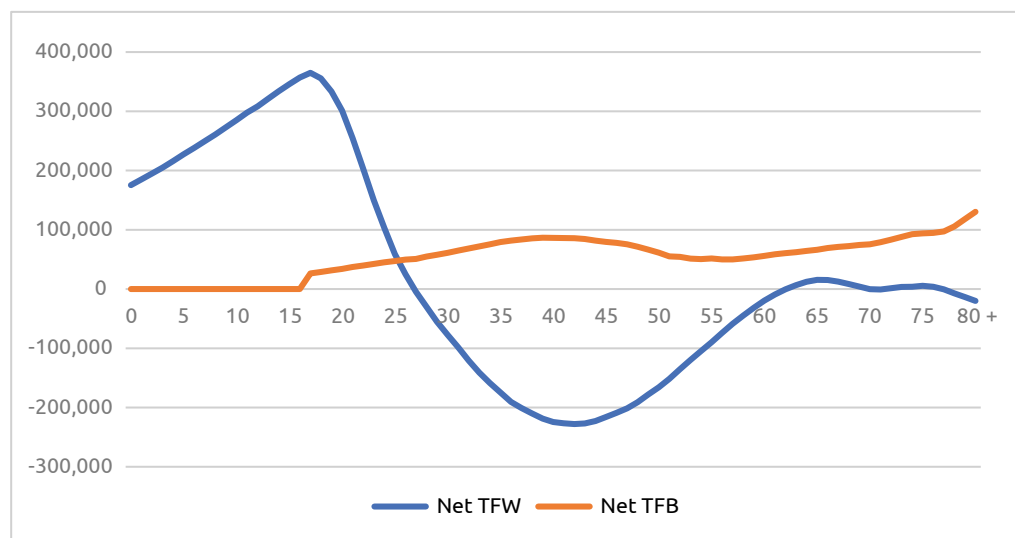


Figure 6 Net intra- and inter-household transfers, Serbia, 2018 (RSD per capita).

Source: SORS NTA database 2022

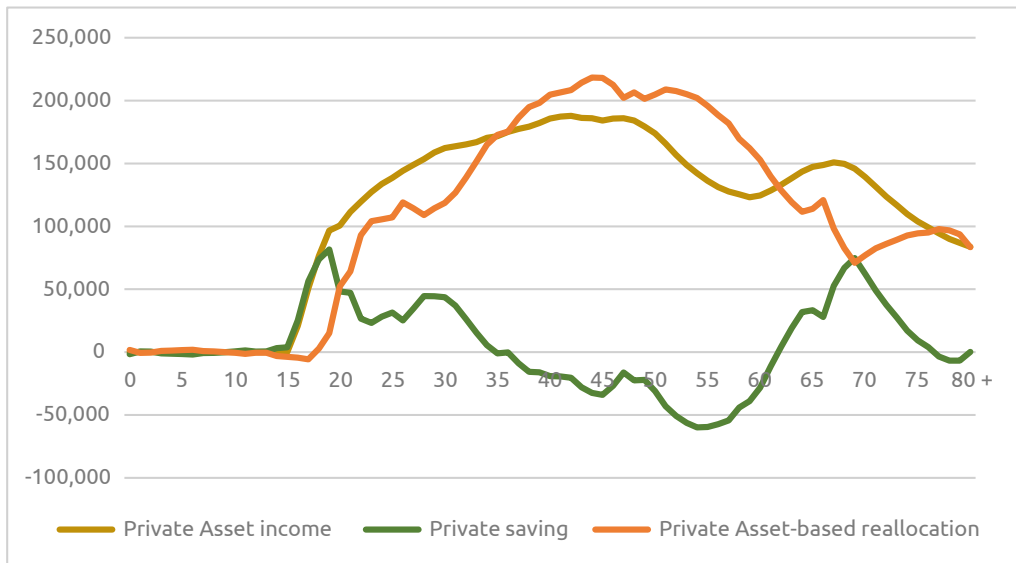


Figure 7 Private asset income, savings, and private asset-based reallocations, Serbia, 2018 (RSD per capita).

Source: SORS NTA database 2022

age groups gives rise to the conclusion that remittances from abroad account for the largest proportion of TFB.² In EU25, net TFB are only positive for the population in their twenties and thirties. In Romania and Bulgaria, the curve is similar to that in Serbia (AGENTA NTA database 2010).

The aggregate net private transfers to children and youth (0–26) are three times higher than those to the older population with a life cycle deficit (58+) (Table 1, Appendix).

Private asset-based reallocations are positive due to private asset income. Private asset income in Serbia first oc-

curs at the age of 16 (with entry into the labor market), after which it rises until the early forties. The second, lower peak is reached in the mid-fifties, only to start declining again after the age of 68 (Figure 7).

Private savings in Serbia are negative for most of the working-age life cycle and the amounts are relatively small. Longer positive spans occur in youth, as well as in older age. In middle-aged groups, savings are either spent, or consumption is financed through borrowing (Figure 7).

The age profile of private savings in Serbia differs drastically from the EU25 average (Figure 4, Appendix). In these countries, the profile takes the shape of an inverted-U curve, savings are negative only until the age of 27, while the peak is reached at the age of 55, followed by a decrease to lower, but still positive levels in old age.

² Emigrant remittances are treated as transfer inflows and their amount is low in the majority of countries (Mason and Lee 2011: 72). In a closed economy, the sum of all TFB would equal zero. In an open economy, the sum can be positive and significant if households from one country transfer funds to households in another country (Lee and Donehower 2011: 196).

3.3 DEFICIT FUNDING

In Serbia, the consumption deficits of children and youth are covered through public and private transfers, while the older people's deficit is additionally funded through asset-based reallocations as well (Figure 8). Private transfers are as a source of deficit funding among older persons actually predominantly consist of remittances from abroad.

The analysis of aggregate transfers shows that, in Serbia, transfers to children and youth in the age groups with a consumption deficit (0–26) are only 5% lower than those for older individuals (58+) (Table 1, Appendix). However, the structure by type of transfer is notably different. Private transfers are the predominant source of deficit funding for children and youth, and public transfers for older persons.

In the EU25 countries, total transfers to the younger population with a lifecycle deficit (0–25) are 60% higher than those allocated to older individuals (59+). The difference in favor of children would be even larger if in-kind transfers, the time, and unpaid labor dedicated to childcare were considered alongside cash transfers (Gál, Vanhuysse, and Vargha 2018). Contrary to the widely accepted one-sided narrative about the conflict of generations and “intergenerational transfers as a sneaky grab for resources by the old”, who represent a burden on the earners (Fürnkranz-Prskawetz et al. 2017: 16), Gál, Vanhuysse and Vargha (2018: 5) indicate that the misleading notion of gerontocracy is caused by the fact that only public transfers are visible, making transfers to older people much more socialized than those awarded to children and youth. During the course

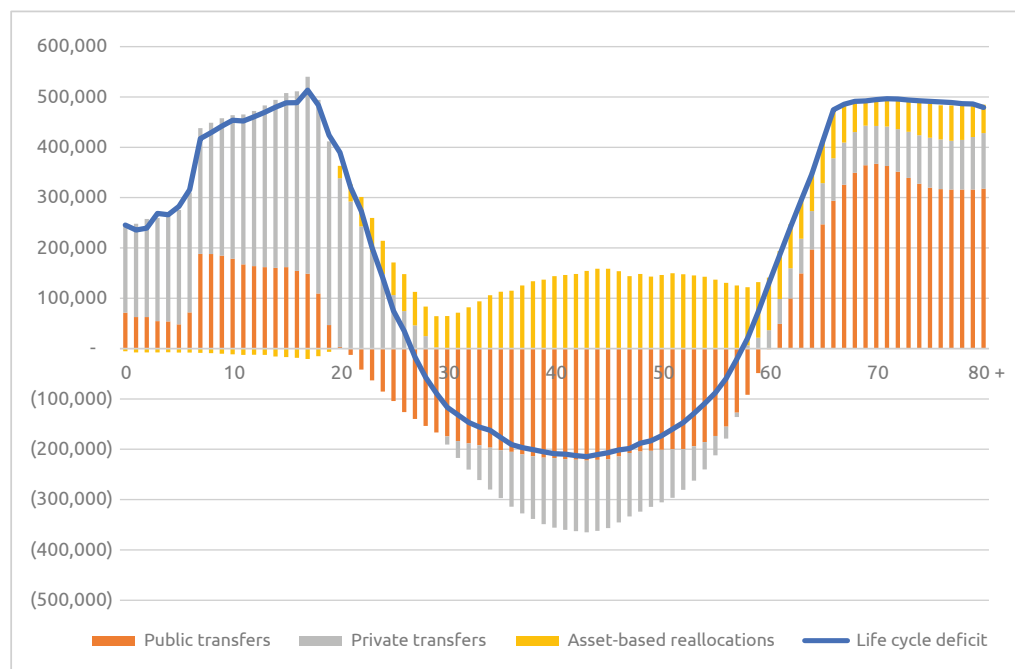


Figure 8 Life-cycle deficit funding per capita, Serbia, 2018 (RSD).

Source: SORS NTA database 2022

of development, the responsibility of supporting the elderly has been shifted to society as a whole, while investment in children and youth is predominantly provided through private resources.

The differences regarding deficit funding in Serbia and in the EU countries are multiple. First of all, in the EU25, private transfers to the younger population are less prominent relative to the public ones. Second, total transfers to the younger population are higher than those to the older population with a life cycle deficit, and to a significant extent (Figure 9). There is also a notable difference in funding older people's deficit, where private transfers are almost non-existent, and asset-based reallocations are more prominent. In the EU25, the shortage of labor income in older age compared to consumption, is covered from private savings to a considerably greater extent (Figure 9).

3.4 EDUCATION AND HEALTHCARE CONSUMPTION PATTERNS: ADDITIONAL INSIGHTS

The curve of public consumption on education per capita by age in Serbia follows a steep incline, reaching the highest values during primary and secondary education, dropping at the age in the life cycle when university education is attained, and records very low values after the age of 30 (Figure 10). Low public consumption on pre-school education in Serbia is partly a methodological issue (Statistical Office of the Republic of Serbia 2022).

The shape of the curve differs from the EU25 average, primarily in the pre-school portion, which implies more substantial consumption at the youngest age with higher coverage rates in these countries (Figure 11). Public consumption on education attributed to

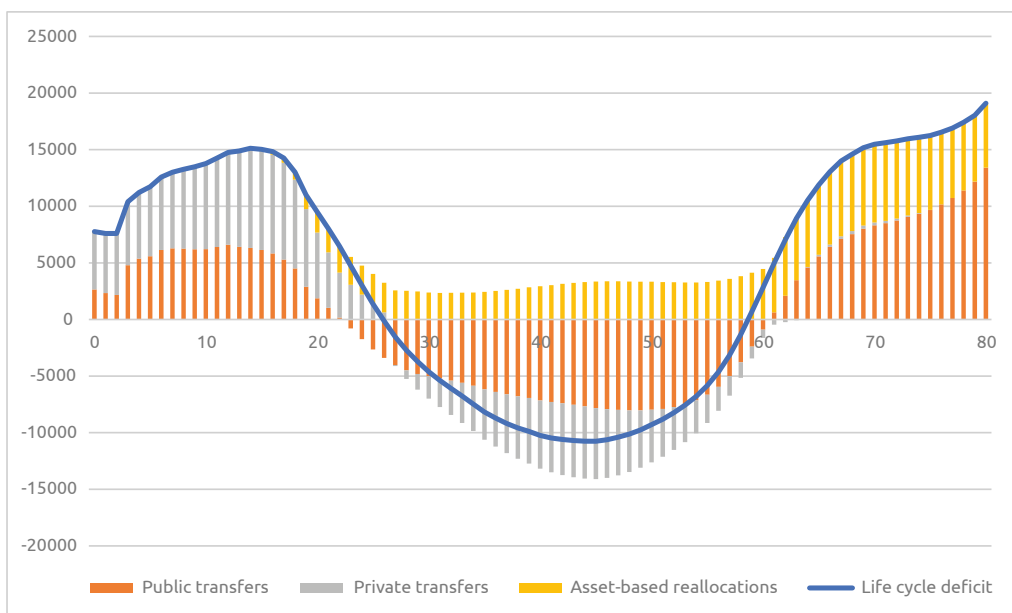


Figure 9 Life-cycle deficit funding per capita, EU25, 2010 (EUR).

Source: AGENTA NTA database 2010

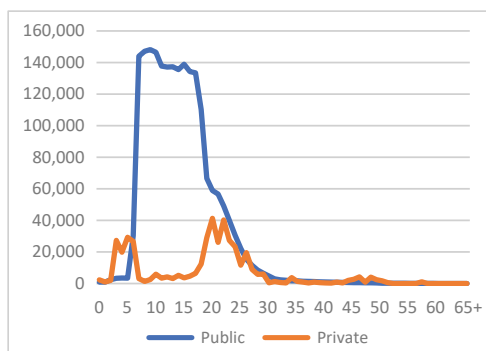


Figure 10 Public and private consumption on education per capita by age, Serbia, 2018 (RSD). *Source:* SORS NTA database 2022

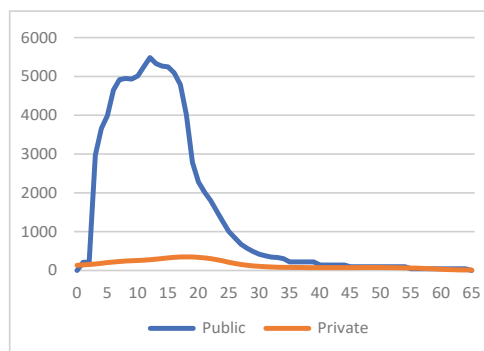


Figure 11 Public and private consumption on education per capita by age, EU25, 2010 (EUR). *Source:* AGENTA NTA database 2010

middle-aged generations is also somewhat higher in the EU25.

The age profile of *private consumption on education* in Serbia reveals that expenses for this purpose are concentrated among the youngest age group and the university student population (Figure 10). The shape of the curve is largely a result of policies that prescribe user fees for financing preschool and higher education institutions, including those in the private sector.

The curve for Serbia is different from the EU25 curve. In these countries as well, private consumption on education is concentrated among children and youth, but it rises steadily with age, peaking only once at the age of 18, with the completion of secondary education, and then gradually decreasing (Figure 11). In some countries, such as Slovenia, private consumption on education is high for the youngest age groups due to parental co-funding of preschool institutions, similar to the situation in Serbia (Sambt, 2009). There are no similarities with Serbia, however, in the portion of consumption related to youth, considering that in Slovenia, higher education is mainly funded from public sources.

The public consumption on health-care per capita by age is high in Serbia during the first year of life;³ and thereafter, it decreases and remains at approximately the same level for a long time during the life cycle, only to grow rapidly with ageing, reaching its highest value at the age of 72. Beyond this age, consumption slightly decreases but remains higher than in middle and younger age groups (Figure 12).

The most notable difference in the age profiles of public consumption on healthcare in the EU25 countries is observed in the oldest age groups, where consumption consistently increases with advancing age (Figure 13). A similar age profile as in Serbia is found only in Bulgaria and Slovakia (AGENTA NTA database 2010).

The curve of private consumption on healthcare per capita by age in Serbia illustrates very low allocations for child healthcare until secondary-school age, followed by a mild and gradual increase, and finally a steeper incline in older age (Figure 12).

³ Vaccination, mandatory health checks, etc.

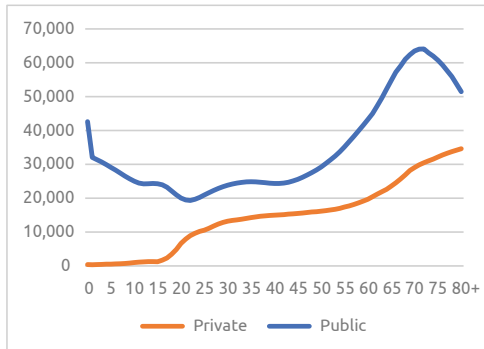


Figure 12 Public and private consumption on healthcare per capita by age, Serbia, 2018 (RSD). *Source:* SORS NTA database 2022

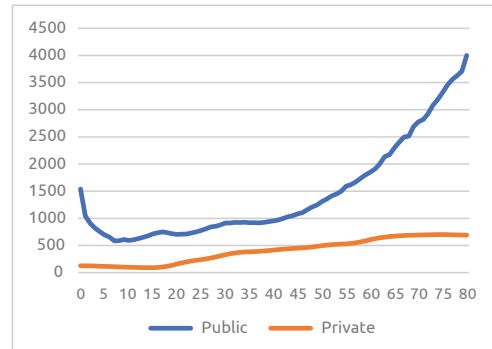


Figure 13 Public consumption on healthcare per capita by age, EU25, 2010 (EUR). *Source:* AGENTA NTA database 2010

The age profile somewhat differs from the consumption model in the EU25 countries. In these countries, on average, somewhat higher private consumption for children is found at the youngest ages, as well as a smaller increase, or even a decline in consumption, among the oldest-old, which is offset by increased public consumption (Figure 13). The most pronounced decrease of private consumption among the oldest-old is found in Austria, Sweden, and Ireland (AGENTA NTA database 2010).

4 CONCLUSIONS AND SOCIAL SECTOR POLICY RECOMMENDATIONS

In Serbia, labor income grows substantially later in the life cycle and begins to decline relatively early. The age profile of public and private consumption does not suggest complementarity, nor does it support life-cycle consumption smoothing. Consumption on preschool education for children and on healthcare for elderly has not been 'socialized' to the same extent as in the EU countries. Compared to the EU25, the per capita

age profile of private consumption on education in Serbia shows a notable increase during the preschool and university stages of the life cycle. In the oldest age groups, public consumption declines due to insufficient support in health care.

The life-cycle deficit – excess of consumption over labor income – disappears as late as at the age of 27, and re-appears early, at the age of 58. Compared to standard age dependency ratios, which use ages 20 and 65 as milestones, the NTA findings indicate that in Serbia, young people remain economically dependent for an additional 7 years, and older individuals become dependent 7 years earlier. Consequently, the period of life-cycle surplus (or non-deficit) spans only 31 years. However, the short duration of surplus is not the only factor contributing to the deficit burden. Aggregate life-cycle deficit of children and youth (0–26) and the older population (58+) measured as a percentage of total labor income, is notably high at 58.5%—seven percentage points above the EU25 average.

The net public transfers in Serbia are positive for children and youth (0–20)

and for people over 60 years of age. Aggregate public inflows for the elderly with a life cycle deficit (58+) are 2.6 times higher than for those with a deficit at younger ages (0–26). Similar to the EU countries, private transfers are primarily influenced by net intra-household transfers, with children and youth being nearly the exclusive recipients. Aggregate net private transfers to children and youth (0–26) are three times higher than those to the older population with a life cycle deficit (58+). Age profile of public transfer outflows shows that the greatest financial burden is borne by the middle-aged generations.

In Serbia, net public asset income is negative due to interest on public debt, leading to negative public asset-based reallocations. Private asset-based reallocations are positive due to private asset income. Private savings are negative for most of the working-age life cycle, and the amounts are relatively small.

The deficit among children and youth is dominantly financed through private family transfers, while the deficit in older age is mostly covered by public transfers, and to a small extent by savings. Compared to the EU countries, private transfers for children and youth in Serbia are more significant than public transfers. Total transfers, both public and private combined, for children and youth are nearly equal to those for the elderly, whereas in the EU-25 countries, they are substantially higher. Finally, the gap between labor income and consumption in older age is less extensively covered by savings.

Based on the NTR findings, key recommendations for the social sector include interventions in early childhood education, long-term eldercare, and the pension system. Several recommendations are especially important.

In preschool education, a crucial step is to increase public investment and reduce the financial burden on families for these purposes. Enhanced investment is necessary to expand the currently low levels of preschool education coverage and to socialize a greater portion of expenses. In this regard, there is a need to reassess user fee policies, particularly considering significant disparities at the local level. Given the limited budgetary resources of many municipalities and cities, it is recommended that the national government takes a more active role in funding preschool education, which is currently a local responsibility.

In the area of long-term care, it is necessary to allocate more public funding and reduce the financial burden on elderly. LTC system reform in Serbia should focus on reducing fragmentation and expanding coverage, with a particular emphasis on developing community-based services and improving the cash benefits system. Enhanced LTC service coverage relies primarily on increasing palliative care capacity and services within the health system, along with further development of social care services under the mandate of local self-governments.

Improvements within the pension system should focus on prolonging the years of service and addressing broader issues related to enhancing pension sustainability. Key measures to achieve this include adjusting the retirement age, introducing bonuses, redefining penalties for early or late retirement, and reducing options for early labor market exit. Comprehensive pension reforms should also include further refinement of the indexation policy, measures to reform accelerated pensions, and a thorough overhaul of the voluntary private savings pillar. However, the NTA analysis shows

that encouraging earlier entry of young people into the labor market is equally important, which means the impact of pension system measures is limited. For the early entry of young people into the labor market, measures outside the pension system, such as expanding apprenticeships, internships, and job placement programs, as well as provid-

ing subsidies for hiring young workers, can be of significant importance.

Finally, all policies that promote employment, productivity growth, and both economic and human development, will enhance the capacity of middle-aged generations to support others, while addressing the challenges posed by an aging population.

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Data Availability Statement

This study was based on the data provided by the Statistical Office of the Republic of Serbia. As such, the data cannot be shared publicly. Results in their aggregated form can be obtained from the authors upon request. The data for EU25 was obtained from the publicly available AGENTA database.

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APPENDIX



Figure 1 Age profile of labour income, Serbia, 2018 (RSD per capita).

Source: SORS NTA database 2022

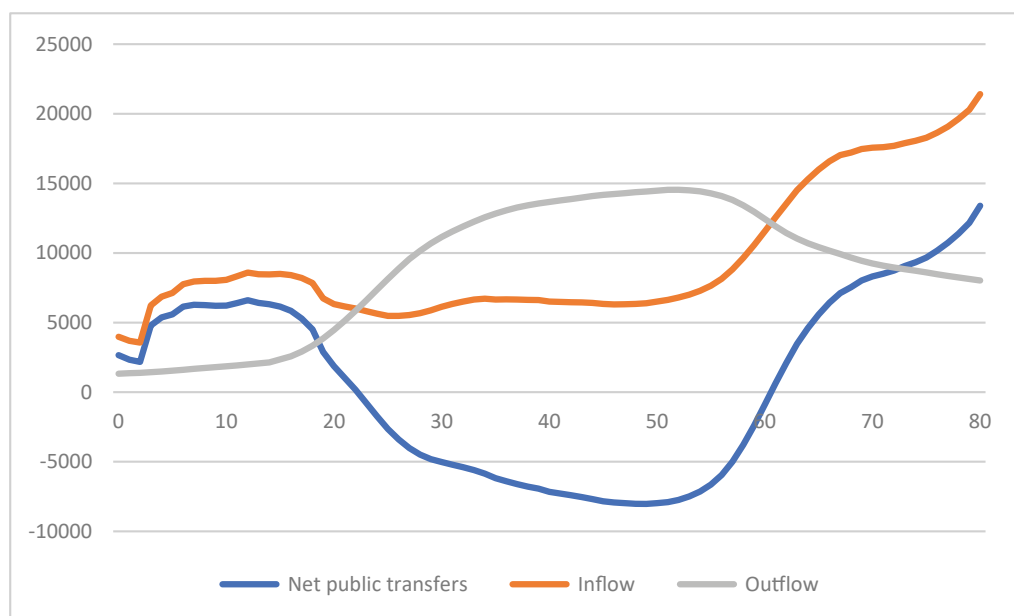


Figure 2 Net public transfers, inflow and outflow, per capita by age, EU25, 2010 (EUR).

Source: AGENTA NTA database 2010

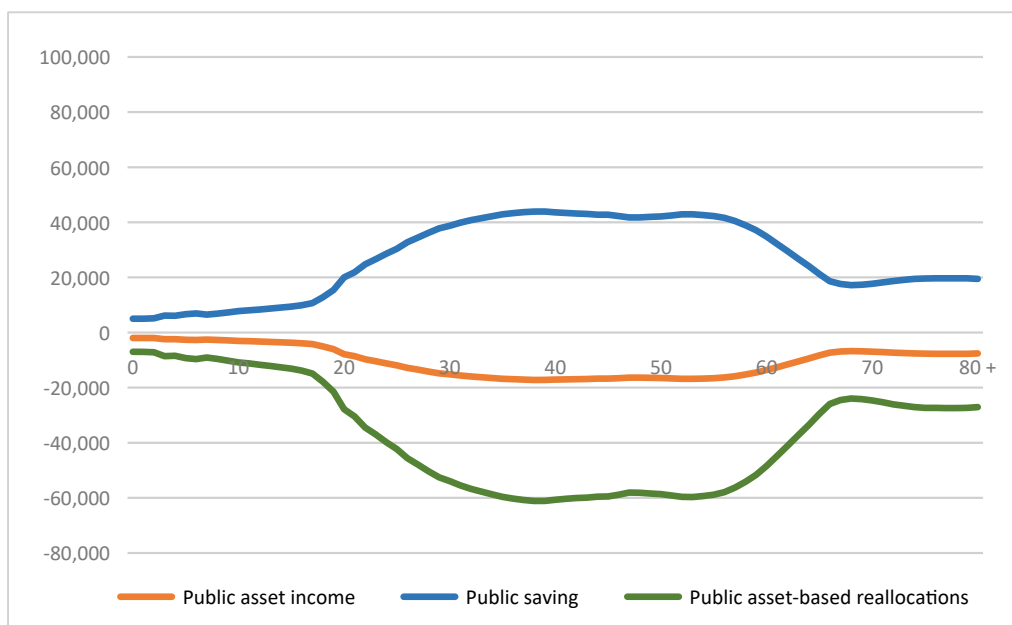


Figure 3 Public asset-based reallocations and their components, per capita, by age, Serbia, 2018 (RSD). *Source:* SORS NTA database 2022

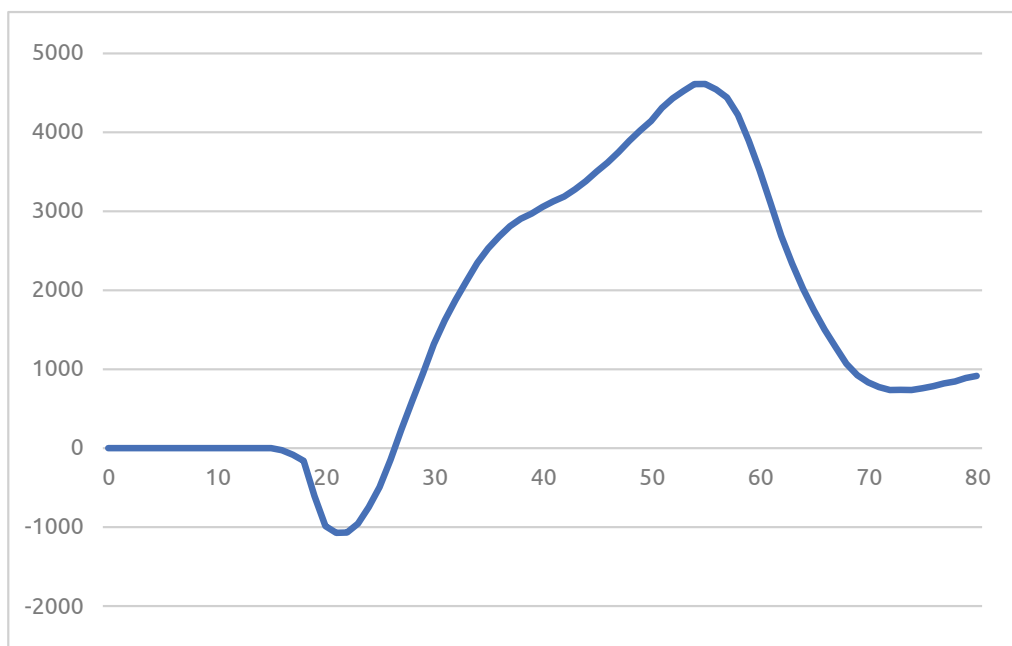


Figure 4 Age profile of private savings, EU-25, 2010 (EUR). *Source:* AGENTA NTA database 2010

Table 1 NTA transfer account, Serbia, 2018 (million RSD)

	Total	0–26	27–57	58+
LIFE CYCLE DEFICIT (LCD)	999,814	648,067	- 457,930	809,677
CONSUMPTION	3,491,232	842,366	1,552,907	1,095,959
PUBLIC	839,044	308,047	276,360	254,637
PRIVATE	2,652,188	534,318	1,276,547	841,322
LABOR INCOME	2,491,418	194,299	2,010,837	286,282
CURRENT PUBLIC AGE REALLOCATION	- 230,960			
NET PUBLIC TRANSFERS	46,201	130,873	- 576,820	492,147
PUBLIC TRANSFER INFLOWS	1,671,578	343,409	432,083	896,086
PUBLIC TRANSFER OUTFLOWS	1,625,377	212,536	1,008,903	403,939
TAXES AND CONTRIBUTIONS	1,902,539	248,778	1,180,942	472,819
SURPLUS-DEFICIT	- 277,161	- 36,242	- 172,039	- 68,880
ASSET-BASED REALLOCATIONS	- 277,161	- 36,242	- 172,039	- 68,880
ASSET INCOME	- 77,950	- 10,193	- 48,385	- 19,372
LESS PUBLIC SAVINGS	199,211	26,049	123,654	49,508
CURRENT Private AGE REALLOCATION	1,230,774			
NET PRIVATE TRANSFERS	407,060	492,731	- 248,353	162,682
PRIVATE TRANSFER INFLOWS	1,163,943	526,534	352,762	284,647
PRIVATE TRANSFER OUTFLOWS	756,883	33,803	601,114	121,966
PRIVATE ASSET-BASED REALLOCATIONS	823,714	60,704	539,282	223,728
PRIVATE ASSET INCOME	846,896	87,671	497,941	261,284
LESS: PRIVATE SAVING	23,182	26,967	- 41,341	37,556
<i>LCD as a % of total labor income</i>		26,0		32,5
<i>PUBLIC + PRIVATE TRANSFERS</i>	453,261	623,605	- 825,173	654,829

Source: SORS NTA database 2022, authors' calculations

Nacionalni transferni računi i implikacije za politike u socijalnom sektoru u Republici Srbiji

SAŽETAK

Nacionalni transferni računi (NTR) koji omogućavaju sagledavanje ekonomskih tokova između različitih starosnih grupa, prvi put su izrađeni za Srbiju na podacima iz 2018. godine od strane Republičkog zavoda za statistiku. Koristeći NTA metodologiju, koja integriše podatke iz anketa i administrativnih izvora kako bi se sagledali ekonomski tokovi među starosnim grupama, studija ističe ključne implikacije za politiku socijalnog sektora. Analiza koristi komparativni pristup, upoređujući nalaze za Srbiju sa rezultatima EU25 zemalja na osnovu podataka iz AGENTA baze za 2010. godinu. Ovaj rad iznosi sveobuhvatne rezultate i analizu osnovnih NTR nalaza, uz ukazivanje na implikacije za politike u socijalnom sektoru. Analiza računa životnog ciklusa pokazuje da u Srbiji prihod od rada značajnije raste relativno kasno u toku životnog ciklusa, a počinje da se smanjuje rano. Starosni profil javne i privatne potrošnje ne pokazuje komplementarnost niti podržava ujednačavanje potrošnje tokom životnog ciklusa. Potrošnja na predškolsko obrazovanje dece i zdravstvenu zaštitu starih nije „socijalizovana“ u istoj meri kao u zemljama EU. U poređenju sa EU25, starosni profil privatne potrošnje na obrazovanje u Srbiji pokazuje značajan porast tokom predškolskog i univerzitetskog perioda životnog ciklusa. Među najstarijima, javna potrošnja opada zbog nedovoljne podrške u oblasti zdravstvene zaštite. Period životnog ciklusa bez deficita, kada su prihodi od rada veći od potrošnje, traje samo 31 godinu. Iz deficita životnog ciklusa se izlazi kasno, tek u 27-oj godini, a rano se ponovo ulazi, već u 58-oj. Srednje generacije nose teret deficita, na koji pored trajanja utiče i njegova visina. Agregatni deficit životnog ciklusa u Srbiji, u odnosu ukupne prihode od rada, iznosi 58,5% — sedam procentnih poena više od proseka EU25. Analiza transfernog računa pokazuje da su neto javni transferi u Srbiji pozitivni za decu i mlade (0–20) i za osobe starije od 60 godina. Agregatni javni prilivi za starije sa deficitom životnog ciklusa (58+) su 2,6 puta veći nego za one sa deficitom u mlađim godinama (0–26). Slično kao u zemljama EU, privatni transferi, među kojima dominiraju oni unutar domaćinstva, prvenstveno su usmereni ka deci i mladima. Agregatni neto privatni transferi za decu i mlade (0–26) su tri puta veći nego za starije osobe sa deficitom životnog ciklusa (58+). Starosni profil odliva javnih transfera potvrđuje da najveći finansijski teret u Srbiji snose generacije srednjih godina. Račun preraspodele na osnovu imovine pokazuje da su u Srbiji neto prihodi od javne imovine negativni zbog kamata na javni dug, što dovodi do negativnih preraspodela na osnovu javne imovine. Preraspodele na osnovu privatne imovine su pozitivne zahvaljujući prihodima od privatne imovine. Privatna štednja je negativna tokom većeg dela životnog ciklusa srednjih generacija, a njeni iznosi su relativno mali. Finansiranje deficita životnog ciklusa dece i mladih u Srbiji se prvenstveno obezbeđuje kroz privatne porodične transfere, dok se deficit u starijem dobu pokriva javnim transferima i u manjoj meri štednjom. Analiza agregatnih transfera pokazuje da su u Srbiji transferi za decu i mlade u starosnim grupama sa deficitom potrošnje (0–26) svega 5% niži od onih za starije osobe (58+). Razlika između prihoda od rada i potrošnje u starijem dobu je samo u manjoj meri finansirana kroz štednju. Ključne preporuke za socijalni sektor na osnovu nalaza NTR-a uključuju intervencije u oblasti predškolskog obrazovanja, dugotrajne nege starih i u okviru penzijskog sistema.

KLJUČNE REČI

Nacionalni transferni računi, deficit životnog ciklusa, starosni profil, politike u socijalnom sektoru, Srbija



Population Ageing and Gender Gap: A Dual Challenge to Economic Growth

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ABSTRACT

Population ageing is one of the most significant social challenges in the modern globalized world. This demographic shift is causing potential labour shortages, a higher old-age dependency ratio, increased healthcare expenses and additional pressure on social services. These trends raise concerns about inter-generational equity and the unsustainability of pension systems. This paper investigates the impact of old-age dependency and gender inequality on economic growth in 35 European countries from 2000 to 2022 by employing the quantile regression method. Our research findings indicate that population ageing significantly and adversely impacts economic growth across all quantiles. Specifically, a one-unit increase in the log share of older persons in the working-age population is linked with a reduced economic output growth ranging from 0.03 to 0.07 percentage points. The negative effects of population ageing are particularly pronounced in high-income countries with greater economic dependency on an ageing population. Gender inequality measured by the gender inequality index jeopardizes economic growth in most quantiles, with its effects being more evident in the middle and higher quantiles, particularly at the 60th and 70th. However, it is essential to note that while statistically significant, the magnitude of this effect is relatively small: a 1% increase in gender inequality measured by gender inequality index is associated with only a 0.002–0.005% decrease in economic growth. Nonetheless, even such modest impacts may carry important implications for fostering inclusive and sustainable growth over the long term. In addition, enhancing legal and regulatory protection for women positively contributes to economic growth, especially in countries with the lowest and highest GDP per capita. We find that a 1% decrease in gender inequality, measured by the Women, Business and Law Index, is associated with a 0.08–0.16% increase in economic growth.

KEYWORDS

ageing population, economic growth, population, impact, gender inequality

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1 INTRODUCTION

Population ageing is emerging as a significant global demographic trend, transforming societies worldwide and presenting various macroeconomic challenges. Equally significant, ongoing gender inequalities influence labour markets and economic performance. These two phenomena are closely linked and mutually reinforcing. The rising number of older individuals, coupled with persistent gender inequalities, presents serious obstacles to sustainable economic development. According to United Nations (UN) projections, by 2050, the number of people over 65 will be twice that of children under the age of 5 (United Nations 2024). While population ageing has initially become pronounced in high-income countries, low- and middle-income nations are now experiencing the most significant changes, with projections indicating that by 2050, two-thirds of the global population over 60 will live in these countries (WHO 2022).

Medical advances have improved the quality of life of older adults and increased life expectancy, contributing to these demographic shifts. As the share of older workers in the labour force increases, the structure of the labour supply evolves, which may lead to reduced productivity and economic performance (Calvo-Sotomayor et al. 2019; Cristea et al. 2020; Maestas et al. 2023). Population ageing has a potentially double negative impact on public finances through a decline in contributions and other forms of taxation (on the revenue side) and a rise in spending on pensions, healthcare, and social assistance (on the expenditure side). Labour force shortage must bear a more significant tax burden to finance social benefits, including pensions and

other social services (Filipović and Miljković, 2024). In the short term, managing the risks and impacts of ageing requires controlling expenditures, developing practical solutions in pension policy and long-term care systems, and alleviating extreme poverty among senior citizens. In the medium term, these negative consequences can be partially mitigated through longer working lives, a sufficient supply of jobs, healthy ageing, and increased investment in the skills of older individuals (Cylus and Al Tayara 2021; Matković 2022).

Moreover, as the working-age population shrinks due to ageing, addressing gender inequality becomes an economic imperative. Reducing gender employment gaps, particularly by removing legal, institutional, and cultural barriers, could facilitate greater female labour force participation and raise the long-run GDP per capita by nearly 20%, thereby fostering more inclusive economic growth (World Bank 2024). In this context, gender-inclusive policies can be seen as a strategic response to population ageing as they help to mitigate its adverse economic effects.

However, it should be pointed out that the rapid shift toward ageing societies does not necessarily pose an economic threat. Including older individuals in economic and social life through various adaptation programs and investments in human capital can create long-term development opportunities. Older populations can lead to more automation because of a lack of middle-aged workers. This situation encourages the development and use of robotics, especially in the sectors that depend on manual labour (Acemoglu and Restrepo 2022). As a result, we could expect increased productivity, a reduced share of labour in the

economy, and a rise in the global trade of automation technologies. Additionally, increased investment in information and communication technologies (ICTs) can boost productivity and extend the working age of older workers (Lee and Song 2020).

To examine the impact of population ageing and gender inequalities on economic performance, we employ the quantile regression on a sample of 35 European countries from 2000 to 2022. To the best of our knowledge, our study is one of the first, alongside Pham and Vo (2021) and Koengkan et al. (2022), to analyse the impact of population ageing on economic growth through quantile regression analysis. Although earlier studies have examined this relationship, our findings contribute to the field by providing estimates of the dependent variable at each specific point of the conditional distribution, using European countries as a sample. Our central hypothesis (H1) posits that population ageing hinders economic growth. Additionally, we test two further hypotheses: that gender inequalities negatively impact economic performance (H2) and that improving legal and regulatory opportunities for women's economic participation and entrepreneurship fosters economic growth (H3).

The structure of the paper is as follows: Section 2 reviews the empirical literature on the link between population ageing and gender inequality as determinants, and economic growth as the outcome measure. Section 3 explains the model and data used in the empirical analysis, while Section 4 presents the results and their interpretation. The final section concludes and discusses policy recommendations for European countries.

2 LITERATURE REVIEW

Our literature review is organised into two primary sections; the first offers a brief overview of the relationship between population ageing and economic outlook, while the second investigates the connection between economic performance and gender inequality.

2.1 STUDIES ON THE NEXUS OF POPULATION AGEING AND ECONOMIC GROWTH

The issue of population ageing has raised divergent opinions regarding its economic implications (Papapetrou and Tsalaporta 2020; Mamun et al. 2020; Cylus and Al Tayara 2021; Lee and Shin 2021; Williams et al. 2022; Park and Shin 2023). Most empirical studies have detected a negative relationship between these two variables. For example, Pan and Chang (2021) examine 27 economies in Asia in the period 1995-2016, Maestas et al. (2023) focus on the United States in the period 1980-2010, and Kotschy and Bloom (2023) investigate 145 countries in the period 1950-2015, all finding a negative nexus between population ageing and economic growth. The ageing population leads to a decrease in working-age population, which potentially slows economic growth and innovation, as young people are essential for technological advancement and are labelled as the bearers of societal changes, creativity, and investments (Roblek et al. 2019). Simultaneously, the rising elderly population strains pension and health-care systems, potentially jeopardising the sustainability of social funds and increasing public debt (Cho and Dong-Eun 2024). Furthermore, population ageing can result in higher energy consumption due to increased demands for heating,

medical care, and living arrangements, as well as changes in behaviour, technology adoption, and infrastructure needs that influence overall energy use (Pais-Magalhães et al. 2022).

Jayawardhana et al. (2023) investigate the causal relationship between economic growth and the elderly population in 15 European countries from 1961 to 2021. Based on Granger causality testing, the authors find a one-way causal link between economic growth and the elderly population in Luxembourg, Austria, Denmark, Spain, and Sweden, while identifying the opposite tendency in Greece and the UK. By applying wavelet coherence analysis, the authors demonstrate that the elderly population negatively affected economic growth in the 1960s, whereas in the 1980s and 1990s, economic growth negatively influenced the elderly population. In a more recent study, Mihajlović and Miladinov (2024) investigate how the old-age dependency ratio affects economic growth in eight emerging and seven advanced EU countries from 2000 to 2020. Their research indicates that the detrimental effect of the old-age dependency ratio on long-term per capita economic growth is found to be more significant in emerging CEE economies compared to their advanced EU counterparts. Similarly, Nicolini and Roig (2024) demonstrate that ageing and shrinking working-age populations harmed economic growth across EU regions from 2000 to 2020. However, they assert that immigration could be denoted as a growth driver, as it can help offset this decline by contributing to the labour force and supporting growth in ageing areas. This finding aligns with Lindh and Malmberg (2009), who find a hump-shaped relationship between age structure and economic growth in older

EU countries, where higher shares of dependent age groups correlate with lower GDP growth. Ageing is expected to slow GDP growth across Europe, though the timing varies by country. However, the authors stress that avoiding declines in the working-age population through family and migration policies can significantly mitigate the negative effects of population ageing.

Lee and Shin (2019) examine the impact of population ageing on economic performance in 142 countries from 1960-2014. Based on their empirical results, the authors demonstrate that the impact of an ageing population on economic growth becomes negative only after a certain threshold is surpassed, and the effects become more evident as the population ageing increases. Likewise, Papapetrou and Tsalaporta (2020) conclude that a higher proportion of older individuals leads to slower real GDP growth, particularly in countries with low population growth rates, as evidenced by their study of 23 OECD countries. The empirical study by Maity and Sinha (2021), which focuses on the link between population ageing and economic growth in India, suggests that knowledge spillovers can ease the adverse effects of ageing on economic performance, by fostering a strong environment for knowledge exchange and innovation.

However, some studies challenge the view that population ageing negatively affects economic growth, suggesting that in specific contexts, the relationship may be positive (Mamun et al. 2020; Pham and Vo 2021; Liang et al. 2023; Seok and Kim 2024). By examining the 31 Chinese provinces from 2008 to 2019, Chen et al. (2022) argue that population ageing significantly impacts the economic outlook and expenditures

for endowment insurance, medical and healthcare, and the development of economically disadvantaged regions. By analysing the period from 2013 to 2020 in the same provinces, Gao et al. (2023) reached similar findings. The authors conclude that while population ageing in the eastern and central regions drives technological innovation and positively impacts high-quality economic development, the western region experiences difficulties that constrain innovation and economic growth. Similar findings are also revealed by Temsumrit (2023) for a sample of 87 countries from 1996 to 2017, demonstrating that reallocating government spending from various categories towards education in an ageing society can foster long-term economic growth, whereas shifting resources toward cultural initiatives would lead to a slowdown in growth. The study by Pan and Chang (2021), which analyses 27 economies in Asia from 1995 to 2016, indicates that population ageing positively and significantly impacts the GDP growth rate in low-income and lower-middle-income economies while significantly negatively affecting GDP growth in high-income economies.

2.2 STUDIES ON THE NEXUS OF GENDER INEQUALITY AND ECONOMIC PERFORMANCE

The empirical studies on the link between economic growth and gender inequality provide evidence that gender disparities impede economic growth. The disparities between men and women in access to resources, education, as well as representation in labour force participation undermine overall economic performance, contributing to slower economic growth (Karoui and

Feki 2018; Kam et al. 2022; Ngepah et al. 2024). They also limit human capital development, as women often face barriers to education, training, and job opportunities. Consequently, reducing gender gaps could stimulate economic growth through several transmission channels, including increased female labour force participation, enhanced human capital accumulation, improved labour market efficiency, and higher productivity growth (Rivic 2023; Bertay et al. 2025).

The prevailing perspective in the literature stresses the importance of gender parity in promoting economic development. In most papers, gender inequality is often measured by the gender inequality index, the gender development index, the gender wage gap, the female labour force participation rate, and political representation indicators, among others. Recent empirical studies carried out in the context of European countries highlight the complex association between gender disparities (in labour force participation, education and wage outcomes) and economic performance. By investigating the growth drivers in 21 EU countries from 2015 to 2019, Juhásová et al. (2023) find that progress towards gender parity is positively associated with GDP per capita, meaning that gender-balanced societies tend to exhibit better economic performance. By examining the same period, Ilić (2022) focuses on wage disparities in the Western Balkans, linking the enduring gender pay gap to historical and institutional factors. The author emphasizes that a common political and economic culture, deep-rooted gender segregation, and systemic discrimination are key determinants of the notable decline in GDP per capita. Nam et al. (2025) examine the effects of

gender inequality on various economic outcomes, including trade, GDP per capita, and innovation, across the 27 EU member states from 1998 to 2022. Their results reveal that labour force disparities adversely impact trade and GDP per capita, while educational disparities obstruct innovation. Recognizing that gender gaps, whether in labor force participation or education, significantly influence economic performance, the authors advocate for a more comprehensive approach to gender policy. In addition, Nam et al. (2024) present comparable findings concerning European transition economies between 2000 and 2022. Their research indicates that while trade and financial liberalization usually promote economic growth, gender inequality serves as a moderating factor that diminishes these beneficial impacts. Consequently, the authors emphasize that addressing gender inequality is essential for enhancing trade liberalization and, in turn, stimulating economic growth.

Maitra and Ganguli (2024) analyse the link between gender development (measured by gender development index) and economic growth in India between 1971–2021 and 1990–2021. Their findings suggest that improving women's health, education, and labour force participation could yield short-term and long-term economic growth benefits. Bertay et al. (2025) contribute to the literature by examining the impact of gender equality on economic growth in manufacturing industries across 65 emerging markets and developing economies (EMDEs) between 1990 and 2018. Their study shows that gender equality in the labour market facilitates the better utilisation of female labour, particularly in industries with higher female employment shares.

Altuzarra et al. (2021) explore the effects of various dimensions of gender inequality—education, labour market participation, and institutional representation—on economic growth using data from 105 developing countries between 1990 and 2017. Their study finds that gender equality in education significantly contributes to economic growth, especially in sub-Saharan African (SSA) countries. They also identify a positive relationship between women's participation in parliaments and economic growth in the broader sample of developing countries, though this relationship was negative in SSA countries. Koengkan et al. (2022) investigate the impact of gender imbalances on the economic growth of 17 countries in the Latin America and Caribbean (LAC) region from 1990 to 2016. Their results indicate that gender inequality negatively affects GDP per capita, and as inequality increases across higher quantiles, economic growth in LAC countries declines. The authors stress the significance of policies that promote gender equality in the region by encouraging higher participation of women in the labour market, narrowing the gender pay gap, and tackling challenges such as violence against women, early pregnancies, and maternal mortality.

Akinwande et al. (2024) examine the causal relationship between gender inequality (measured by the Gender Parity Index), financial development, inflation, and economic growth in Nigeria from 1980 to 2020. The analysis shows that gender inequality helps predict economic growth over short-, medium-, and long-term periods, based on Granger causality testing. Their study advocates for policies that promote equal access to education for both boys and girls, reduce early marriages, and challenge cultural

norms that hinder economic progress. Algül (2024) examines the relationship between gender inequality, particularly gender disparities in employment, and economic outcomes in a global sample of 73 countries from 1990 to 2022. The author finds that increasing gender inequality leads to higher female unemployment rates and a wider gender unemployment gap.

3 EMPIRICAL MODEL, VARIABLE DESCRIPTION AND DATA SOURCES

Our dataset is strongly balanced and consists of 35 European countries¹ from 2000 to 2022. The data are sourced from the World Bank (World Development Indicators; Women, Business and the Law) and the United Nations Development Programme (UNDP). The dependent variable is the GDP per capita in constant 2015 US\$ as the base year. The key explanatory variables, our primary focus, are the old-age dependency ratio as % of the working-age population (15-64), the gender inequality index (by UNDP) and the Women, Business and the Law Index Score.

Following Pham and Vo (2021), we have used a panel quantile regression model to investigate the impact of population ageing on economic growth. Our model, however, primarily resorts to the growth rates of the variables included (constructed as the first differences of log values) (Eq. 1):

$$\Delta \ln GDP_{i,t}(\tau/\cdot) = a_{1,\tau} \ln OADR_{i,t} + a_{2,\tau} \Delta \ln OPEN_{i,t} + a_{3,\tau} \Delta \ln LEB_{i,t} + a_{4,\tau} \Delta \ln UNR_{i,t} + a_{5,\tau} \Delta \ln UP_{i,t} + a_{6,\tau} \Delta \ln GM_{i,t} + \beta_i + \mu_t \quad i=1,\dots,N, t=1,\dots,T \quad (1)$$

While β_i and μ_t capture the country and time fixed effects, respectively, signs $a_{1,\tau}$ to $a_{6,\tau}$ refer to coefficients. $\Delta \ln GDP_{i,t}$ is the growth of real GDP per capita; $\ln OADR_{i,t}$ stands for the log value of old-age dependency ratio as % of working-age population (the ratio of people older than 64, to the working age population (15-64)) as proxy for population ageing; $\Delta \ln OPEN_{i,t}$ stands for the growth rate of trade (% of GDP) as a measure of economy openness; $\Delta \ln LEB_{i,t}$ is the growth rate of life expectancy at birth, total (years), often used as a measure of both population health and the health aspect of human capital assessment; $\Delta \ln UNR_{i,t}$ denotes the growth rate of the unemployment rate as a proxy for labour market conditions; $\Delta \ln UP_{i,t}$ is the growth rate of urban population as % of the total population; $\Delta \ln GM_{i,t}$ is a general variable that includes the growth rate of gender gaps which, to explore the effect of population ageing without gender gaps, we exclude from our first model specification (Model 1).

To assess the robustness of the effects of gender gaps on economic growth, we estimate two different specifications with two gender-related variables. The first (which we refer to as $\Delta \ln GII$), estimated in our Model 2, is based on the gender inequality index obtained from the UNDP. GII spans from 0, indicating gender equality, to 1, where one gender performs as poorly as possible across all assessed dimensions. This index reveals outcome-based disparities in reproductive health, empowerment and the labour market. To obtain meaningful log transformations,

¹ Albania, Belarus, Belgium, Bulgaria, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Moldova, North Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Ukraine and the United Kingdom.

we multiplied all values of this variable by 100. As this variable lacked values for eight observations, most of them in the case of Serbia, we imputed the missing data using linear interpolation and extrapolation. The second gender gaps variable we tested in our Model 3 ($\Delta \ln GWBLIS$) includes the transformation of the Women, Business and the Law Index Score, an indicator that reflects progress towards legal equality between men and women. This variable indicates the extent to which relevant regulations are conducive to women's economic opportunity and is measured on a 1-100 scale, with higher values suggesting a higher level of opportunities. All model variables are expressed in natural logarithms to stabilise the data and mitigate heteroskedasticity. Table 1 provides a definition of each variable and the data source used to obtain its measurement.

Following Koengkan et al. (2022), Kotschy and Bloom (2023) and Maitra and Ganguli (2024), we opt for the unemployment rate, trade openness, urban population and life expectancy at birth as control variables to account for the

broader economic environment. Moreover, these variables are among the most frequently employed in empirical research examining the effects of population ageing and gender inequality on economic growth. Several other variables were considered during our analysis, but were statistically insignificant. As for life expectancy at birth, we believe that it is more relevant for cross-country comparisons and consistent with other control variables being studied. As we emphasize, life expectancy at birth reflects a country's overall health and living standards rather than solely the health and longevity of the elderly, as is the case with life expectancy at age 65.

We apply the quantile regression method to investigate the distributional and heterogeneous effects across quantiles. This method assesses the impact of independent variables on the dependent variable by considering the conditional distribution at various points. Compared to OLS, this method's main advantage is that it produces efficient and robust estimates, even when the error term does not strictly adhere to normality

Table 1 Description of variables

Variables	Definition and measurement	Source
GDP	GDP per capita (constant 2015 US\$)	WDI database, World Bank
OADR	Old-age dependency ratio as % of working-age population (the ratio of people older than 64, to the working age population (15-64))	WDI database, World Bank
OPEN	Trade (% of GDP)	WDI database, World Bank
LEB	Life expectancy at birth, total (years)	WDI database, World Bank
UNR	Unemployment rate (percent)	WDI database, World Bank
UP	Urban population (% of total population)	WDI database, World Bank
GII	Gender inequality index (0-1)	United Nations Development Programme
WBLIS	Women Business and the Law Index Score (scale 1-100)	World Bank: Women, Business and the Law

assumptions, as stressed by the method's developers Koenker and Bassett (1978). For instance, the GDP per capita and unemployment rate data often exhibit discrete peaks or heavy tails. This method functions locally at each point in the distribution of the dependent variable and does not depend on assumptions regarding the distribution of the target variable (Barra and Ruggiero 2023). It is worth mentioning that the estimates associated with independent variables vary across different quantiles. The significance of this method becomes particularly evident in situations where the relationship between the conditional means of the two variables is either weak or absent (Binder and Coad 2011). Through its application, we can reveal the distributional and heterogeneous effects of population ageing, gender inequality, and women's economic empowerment on economic growth across each quantile.

In line with the previous expectations, population ageing is assumed to have an ambiguous effect on economic growth, depending on theoretical arguments and the existing empirical findings. In addition, we hypothesise that an increase in gender gaps in health,

empowerment and the labour market has an adverse impact on the economic outlook, whereas enhancing regulations to support women's economic opportunities promotes economic growth. Other independent variables could produce mixed outcomes.

4 EMPIRICAL RESULTS AND DISCUSSION

According to the descriptive statistics (see Table 2), the average log value of GDP per capita is 9.662, with the maximum of 11.486 and minimum of 7.205, while the standard deviation is 1.036. The mean log value of OADR is 3.19, with the maximum of 3.634 and minimum of 2.524, with a standard deviation of 0.221. The mean log values of OPEN, LEB, UNR and UP are 4.571, 4.345, 2.135 and 4.208, respectively. The average log values of GII and WBLIS are 2.6 and 4.47, with standard deviation values of 0.7 and 0.12, respectively. The logarithmic values of OPEN, UNP, and GII exhibit positive skewness, whereas the remaining variables show negative skewness. Additionally, GII displays leptokurtosis (> 3), while the other variables are platykurtic (< 3).

Table 2 Descriptive statistics

Variables	Mean	Median	Std. dev.	Min	Max	Skewness	Kurtosis	N
lnGDP	9.662	9.798	1.036	7.205	11.486	-0.369	2.127	805
lnOADR	3.19	3.216	0.221	2.524	3.634	-0.487	2.741	805
lnOPEN	4.571	4.543	0.361	3.113	5.531	0.008	2.431	805
lnLEB	4.345	4.353	0.053	4.195	4.429	-0.518	2.388	805
lnUNR	2.135	2.092	0.591	0.531	3.618	0.213	2.688	805
lnUP	4.208	4.226	0.195	3.731	4.586	-0.384	2.574	805
lnGII	2.601	2.728	0.697	-0.105	3.865	-0.811	3.622	805
lnWBLIS	4.468	4.507	0.118	4.115	4.605	-0.953	3.054	805

Table 3 further provides a correlation matrix for the economic growth regression variables. The correlation of GDP with OADR, LEB, UP and WBLIS is positive, while it is negative for all other variables. We further evaluate multicollinearity by computing the Variance Inflation Factor (VIF) in Table 4. The VIF is a standard measure used to assess multicollinearity, with values above 10 generally indicating that multicollinearity may substantially affect the regression estimates. If we include all variables in a single model, we obtain VIF values that are less than 3 each, demonstrating the lack of their mutual correlation.

Table 4 VIF test

Variables	VIF	1/VIF
lnLEB	2.75	0.363106
lnWBLIS	2.4	0.417151
lnGII	2.3	0.433947
lnOADR	1.86	0.537809
lnUP	1.83	0.545587
lnUNR	1.35	0.738767
lnOPEN	1.22	0.818256
Mean VIF	1.96	

Table 3 Correlation matrix

Variable	GDP	OADR	OPEN	LEB	UNR	UP	GII	WBLIS
lnGDP	1.00							
lnOADR	0.43	1.00						
lnOPEN	0.01	-0.12	1.00					
lnLEB	0.84	0.43	-0.14	1.00				
lnUNR	-0.51	-0.21	-0.22	-0.22	1.00			
lnUP	0.68	0.52	-0.02	0.52	-0.38	1.00		
lnGII	-0.70	-0.44	-0.09	-0.67	0.43	-0.56	1.00	
lnWBLIS	0.60	0.58	0.06	0.65	-0.26	0.41	-0.53	1.00

Table 5 Panel data unit root test results

Variables	Levin-Lin-Chu test		Im-Pesaran-Shin		Fisher-ADF test	
	Level	1st difference	Level	1st difference	Level	1st difference
lnGDP	-3.053***	-6.983***	-0.377	-6.435***	69.505	196***
lnOADR	-17.11***	-4.77***	-13.265***	0.55	465.478***	100.714*
lnOPEN	-5.727***	-8.443***	-6.418***	-11.391***	196.058***	327.569***
lnLEB	4.585	-5.597***	7.19	-13.143***	28.888	438.794***
lnUNR	-5.793***	-10.061***	-1.607*	-7.234***	111.376***	215.119***
lnUP	-1.544*	4.636	-1.009	-7.589***	388.479***	254.791***
lnGII	-3.693***	-6.845***	-0.247	-6.946***	102.079***	224.158***
lnWBLIS	-11.115***	-12.259***	-1.719**	-12.433***	192.011***	382.111***

Note: ***, **, and * indicate significant p values at the 1, 5, and 10% levels, respectively. The test used both a constant and a trend, along with one lag value.

Table 5 presents the results of the three panel unit root tests to assess the stationarity of our variables. We use Levin-Lin-Chu (LLC), Im-Pesaran-Shin (IPS), and Fisher-ADF tests.² Each of them assumes the presence of both a constant and a trend. As a rule of thumb for annual data, we employed one lag in our tests. The absence of serial correlation (as will be clear shortly) and the results we obtained for some variables in the case of four lags (results available upon request) suggest a lack of meaningful differences among the results. We tested log-transformed values of our variables of interest, as the values of our choice may possess different stationarity properties than their non-log versions.³

These findings generally bolster our decision to include growth rates of all variables in our model. According to at least one test, the level values of $\ln GDP$, $\ln LEB$, $\ln UP$, and $\ln IIL$ exhibit non-stationarity. In contrast, apart from a few exceptions, all variables become stationary after first-differencing. One of them is $\ln OADR$, which, according to the IPS test result, loses stationarity following the application of first-differencing. For this reason, we include the level value of $\ln OADR$ in

our model. Particularly interesting results arise in the case of $\ln UP$, which shows marginal stationarity of its level value according to the LLC test, which is lost after the first-differences are obtained. In the case of the IPS test, however, the same variable shows non-stationarity in levels, which is eliminated after the first-differencing. Due to the strong stationarity results obtained after first-differencing in the case of the IPS test and our initial decision to focus on growth rates, we decided to stick to the first-differencing value of $\ln UP$ in our model.

In order to make our quantile panel regression estimation suitable for any error dependence issues, we test whether any of the three model specifications suffer from heteroskedasticity or correlation issues in their pooled regression versions. As shown in Table 6, Model 3 suffers from mild heteroskedasticity, which is somewhat expected given the heterogeneity of the cross-sections included. On the other hand, serial correlation is entirely absent from our model, as revealed in Table 7. Cross-sectional correlation is, however, present in all three model specifications, as Pesaran's (2021) test results from Table 7 confirm:

Table 6 Heteroskedasticity test results

Test type	Model 1	Model 2	Model 3
Breusch-Pagan/ Cook-Weisberg	2.31 (0.129)	1.97 (0.161)	2.96 (0.085)*

Note: ***, **, and * indicate significant p values at the 1, 5 and 10% level, respectively (p-values in parentheses).

² The Fisher-ADF test is based on the inverse χ^2 distribution, while other tests include an assumption of normality. All of them were performed using the Bartlett kernel. More on LLC can be found in the paper of Levin et al. (2002). Specifics about the IPS test can be gleaned from Im et al. (2003), while an explanation of the Fisher-ADF test is contained in the work of Maddala and Wu (1999).

³ A seminal paper by Box and Cox (1964) provides more discussion on transformation options that can potentially improve stationarity.

We treat our sample with the wild bootstrapping method to address the mild heteroskedasticity identified for Model 3 in Table 6. As emphasised by Cameron and Trivedi (2005, 376-7), this form of resampling leads to heteroskedasticity-robust standard errors by enforcing their weighted transformation. Our bootstrapping procedure consisted

Table 7 Correlation test results

Test type	Model 1	Model 2	Model 3
Wooldridge serial correlation test	0.338 (0.565)	0.337 (0.565)	0.34 (0.564)
Pesaran cross-sectional correlation test	33.18 (0.000)***	32.81 (0.000)***	30.91 (0.000)***

Note: ***, **, and * indicate significant p values at the 1, 5 and 10% level, respectively (p-values in parentheses).

Table 8 Panel quantile regression results (Model 1)

Variable	10th	20th	30th	40th	50th	60th	70th	80th	90th
lnOADR	-0.031*** (0.011)	-0.036*** (0.006)	-0.039*** (0.005)	-0.042*** (0.005)	-0.048*** (0.006)	-0.048*** (0.004)	-0.045*** (0.006)	-0.058*** (0.008)	-0.067*** (0.014)
ΔlnOPEN	0.084** (0.038)	0.101*** (0.029)	0.122*** (0.023)	0.127*** (0.022)	0.143*** (0.02)	0.152*** (0.02)	0.183*** (0.027)	0.197*** (0.028)	0.194*** (0.037)
ΔlnLEB	0.626 (0.394)	0.33 (0.273)	0.265 (0.261)	0.201 (0.24)	0.064 (0.27)	-0.129 (0.254)	-0.435 (0.275)	-0.576* (0.323)	-0.553 (0.379)
ΔlnUNR	-0.164*** (0.015)	-0.149*** (0.01)	-0.139*** (0.011)	-0.131*** (0.011)	-0.131*** (0.011)	-0.126*** (0.011)	-0.114*** (0.014)	-0.11*** (0.014)	-0.105*** (0.024)
ΔlnUP	0.822* (0.464)	0.788*** (0.222)	0.413 (0.26)	0.553** (0.245)	0.407** (0.184)	0.145 (0.154)	0.076 (0.241)	-0.003 (0.453)	0.037 (0.692)
Intercept	0.084** (0.035)	0.11*** (0.019)	0.129*** (0.017)	0.142*** (0.016)	0.17*** (0.019)	0.176*** (0.013)	0.174*** (0.02)	0.227*** (0.026)	0.272*** (0.046)

Note: ***, **, and * indicate significant p values at the 1, 5 and 10% level, respectively.

of 1000 repetitions. We hoped that wild bootstrapping would also help us eliminate the identified cross-sectional correlation from our model, but neither that nor any other step we took managed to do it effectively.⁴

In applying our model, we first obtain parameter estimates from the quantile regression of the model that excludes gender inequality variables (Model 1). Table 8 presents the findings from the quantile estimation, which shows that the effects of our variables on econom-

ic performance are heterogeneous. The results are presented for each predictor variable's 10th to 90th percentile distribution. The estimated coefficient for population ageing is highly significant and negative at all quantiles. We find that a one-unit increase in the log proportion of older people in the working-age population results in the decrease in GDP per capita growth of 0.03-0.07 percentage points. It is worth mentioning that the challenges posed by ageing populations have a significantly greater impact on economic growth in high-growing European countries. These results coincide with the findings of Pan and Chang (2021), who argue that population ageing tends to hamper economic growth in high-income economies while boosting GDP growth in low-income and lower-middle-income economies. Additionally, our results are also in line with Ye et al. (2021) for China, Yip et al. (2024) for Malaysia and Nguyen et al. (2024) for 7 ASEAN countries.

⁴ Besides wild bootstrapping, we tried excluding some variables from the model and adding others (including various country and time dummies). Even though we are left to try some other approaches (such as factor-augmented quantile regression), the results we obtained for the mean-based generalised least squares regression of our model indicate that the presence of cross-sectional correlation, unlike heteroskedasticity which affects the statistical significance of the effect of urban population, does not significantly alter any property of our parameter estimates (the results are available upon request).

Negative demographic trends like low fertility rates and mass migration⁵ result in an older and smaller workforce. The steadily increasing number of retirees and the decreasing number of working-age individuals reduce the tax base. In such circumstances, the rising demand for healthcare services increases healthcare costs. This struggle with a declining workforce may hinder economic growth and result in capital moving to countries with younger population, characterized by more robust labour markets and sustained consumer demand. If these trends continue, the global distribution of economic power may shift, as countries with older populations are becoming less competitive in attracting capital investments and creating new jobs.

The coefficient for trade openness is significant in all quantiles, with the positive sign suggesting that trade fosters economic growth. Such results are confirmed by Koengkan et al. (2022) for 17 countries in the LAC region, Lee and Shin (2019) for 142 countries, and Liang et al. (2023) for 31 regions in China, who claimed that greater trade openness could lead to increased productivity and sustained economic growth. However, the results contradict the findings of Altuzarra et al. (2021) for SSA countries and Maity and Sinha (2021) for India.

The estimated coefficient of life expectancy at birth is positive and non-significant from the 10th to 50th quantile. Nevertheless, the coefficient turns negative between the 60th and 90th quantiles, but it is only statistically significant at the 80th quantile (at a 10% significance level). Such results are aligned

with Pham and Vo (2021), who revealed that quantile regression estimators indicate a positive relationship between life expectancy and economic growth at the lower tail but a negative effect at the upper end of the distribution.

The effect of the unemployment rate on economic growth is negative and highly statistically significant across all quantiles, with a more substantial impact observed at the lower quantiles. An increase of 1% in the unemployment rate is associated with a reduction in per capita GDP ranging from 0.11 to 0.16. The analysis of coefficients related to urban population shows a positive correlation that is statistically significant from the 10th to the 50th quantiles of the distribution, except for the 30th quantile. The coefficients at the higher quantiles lose statistical significance, even turning out negative at the 80th quantile. Overall, we find that a higher share of urban residents in the total population is associated with higher economic growth: a 1% increase in the urban population correlates with an expected rise in economic growth of between 0.41% and 0.82%. Moreover, we reveal a decreasing trend regarding the coefficients of urbanisation as we progress to higher quantiles.

In Table 9, we present the quantile estimation results after inclusion of the gender inequality index in the model, whose coefficients align with theoretical expectations. The coefficients for our independent variables show little variation from those in the previous table in terms of sign, magnitude or significance, allowing us to conclude that our panel quantile model is robust. We find a negative effect of gender inequality on economic performance in nearly all quantiles, although its statistical significance varies, which aligns with our initial assumption H2.

⁵ Albania, Bosnia and Herzegovina, Croatia, Serbia, North Macedonia, Bulgaria, Moldova, Ukraine, and Romania are particularly impacted by the emigration of young people.

The coefficient of gender inequality is negative and significant in almost all quantile levels except the 10th and 90th quantile (but highly significant on the 60th and 70th quantile): a 1% increase in gender imbalances results in a decrease in economic growth by 0,002-0,005%. It should be emphasised that this effect becomes more pronounced at the middle and higher quantiles. While the statistically significant effect is small in magnitude, it could still have important implications for promoting inclusive and sustainable growth in the long run. These coefficients' signs and statistical significance suggest that high-income European countries experience a stronger role of full economic participation and equality.

Deterioration in gender equality poses a significant threat to economic growth and political stability, as it not only hampers productivity and innovation, but also fuels social dissatisfaction and activism among those advocating for women's rights. Therefore, greater gender inequality, expressed in women's lower levels of empowerment, worse re-

productive health, and less participation in the workforce compared to men, is more apparent and has a negative impact on overall economic performance in these countries. This result is similar to that obtained by Bertay et al. (2025), who show that gender inequality negatively impacts economic growth by limiting the utilisation of women's labour potential. They stress that industries with more female workers tend to grow more rapidly in countries with greater gender equality. We argue that the negative consequences of gender inequality on the economic outlook can be overcome by implementing policies that close the gender pay gap, promote equal pay for equal work (including leadership roles in both public and private sectors), encourage female entrepreneurship, and provide equal opportunities for education and skill development. These findings are similar to Girón and Kazemikhasragh (2022) for 34 Asian and African countries, Koengkan et al. (2022) for 17 countries in LAC region and Algül (2024) for 73 countries.

Table 9 Panel quantile regression results (Model 2)

Variable	10th	20th	30th	40th	50th	60th	70th	80th	90th
lnOADR	-0.031*** (0.011)	-0.04*** (0.006)	-0.041*** (0.005)	-0.04*** (0.005)	-0.044*** (0.005)	-0.043*** (0.004)	-0.043*** (0.006)	-0.051*** (0.008)	-0.07*** (0.015)
ΔlnOPEN	0.099*** (0.038)	0.108*** (0.029)	0.122*** (0.024)	0.121*** (0.024)	0.141*** (0.021)	0.155*** (0.02)	0.164*** (0.022)	0.195*** (0.028)	0.208*** (0.036)
ΔlnLEB	0.595 (0.388)	0.217 (0.271)	0.265 (0.266)	0.164 (0.239)	0.009 (0.263)	-0.256 (0.242)	-0.363 (0.269)	-0.624* (0.322)	-0.576 (0.394)
ΔlnUNR	-0.162*** (0.014)	-0.151*** (0.009)	-0.144*** (0.011)	-0.133*** (0.011)	-0.131*** (0.01)	-0.128*** (0.009)	-0.117*** (0.014)	-0.109*** (0.013)	-0.101*** (0.021)
ΔlnUP	0.75* (0.444)	0.667*** (0.233)	0.529** (0.265)	0.495** (0.227)	0.439** (0.175)	0.167 (0.154)	0.213 (0.248)	-0.142 (0.412)	0.184 (0.709)
ΔlnGII	0.001 (0.002)	-0.002* (0.001)	-0.002 (0.001)	-0.003** (0.001)	-0.003** (0.001)	-0.005*** (0.001)	-0.004*** (0.001)	-0.004** (0.002)	-0.003 (0.002)
Intercept	0.084** (0.036)	0.125*** (0.02)	0.133*** (0.016)	0.137*** (0.015)	0.153*** (0.017)	0.159*** (0.015)	0.163*** (0.02)	0.202*** (0.028)	0.281*** (0.05)

Note: ***, **, and * indicate significant p values at the 1, 5 and 10% level, respectively.

As can be seen from Table 10, variables generally exhibit behaviour patterns similar to those from earlier model specification estimates. Worth noting is the behaviour of the second gender-related variable, WBLIS. It can be observed that this variable has a positive and relatively consistent effect on economic growth (confirming hypothesis H3), especially in lower-income European countries (the 20th and 30th quantile levels – both significant at the 1% level), with the impact slightly weakening, or becoming less significant in middle-income countries (the 60th quantile). We find that a 1% decrease in gender inequality measured by Women, Business and Law Index is associated with the 0.08-0.16% increase in economic growth. Our findings show that the impact of enhancing women's rights to access and own property, open businesses, or enter into contracts is the most apparent in lower-income and wealthier European countries but somewhat weaker or insignificant in

middle-income European countries. We argue that legal reforms towards gender equality are better implemented in wealthier European countries and represent more transformative change in lower-income ones. In contrast, middle-income European countries face persistent structural or social barriers limiting legal enforcement.

By comparing the coefficients of the gender-related variables, it is evident that the impact of WBLIS is significantly greater than that of GII. Such a stronger impact can be explained by the fact that WBLIS measures the economic impact of laws, regulations, and policies on women's prospects as employees and entrepreneurs, which is more directly aligned with the mechanisms that influence economic growth. On the other hand, GII is a much broader index, which includes gender inequality in health, empowerment and labour market, suggesting that it may have more indirect or delayed impact on economic growth.

Table 10 Panel quantile regression results (Model 3)

Variable	10th	20th	30th	40th	50th	60th	70th	80th	90th
lnOADR	-0.034*** (0.01)	-0.035*** (0.006)	-0.039*** (0.005)	-0.04*** (0.004)	-0.043*** (0.005)	-0.048*** (0.005)	-0.044*** (0.006)	-0.055*** (0.009)	-0.065*** (0.014)
ΔlnOPEN	0.117*** (0.04)	0.105*** (0.028)	0.12*** (0.022)	0.124*** (0.02)	0.14*** (0.018)	0.155*** (0.02)	0.182*** (0.028)	0.176*** (0.027)	0.198*** (0.035)
ΔlnLEB	0.604 (0.376)	0.263 (0.282)	0.062 (0.259)	0.191 (0.237)	0.032 (0.272)	-0.226 (0.248)	-0.434 (0.267)	-0.513 (0.328)	-0.501 (0.377)
ΔlnUNR	-0.155*** (0.014)	-0.147*** (0.01)	-0.142*** (0.011)	-0.129*** (0.01)	-0.128*** (0.011)	-0.129*** (0.011)	-0.118*** (0.013)	-0.114*** (0.012)	-0.107*** (0.021)
ΔlnUP	0.663* (0.394)	0.666*** (0.226)	0.513** (0.238)	0.53** (0.233)	0.463*** (0.175)	0.153 (0.166)	0.077 (0.225)	0.434 (0.479)	0.099 (0.657)
ΔlnWBLIS	0.156** (0.07)	0.107*** (0.027)	0.072*** (0.026)	0.086** (0.034)	0.092** (0.038)	0.075 (0.058)	0.152** (0.069)	0.158** (0.066)	0.11* (0.062)
Intercept	0.09*** (0.032)	0.109*** (0.018)	0.129*** (0.017)	0.138*** (0.015)	0.151*** (0.018)	0.175*** (0.016)	0.171*** (0.018)	0.212*** (0.029)	0.265*** (0.046)

Note: ***, **, and * indicate significant p values at the 1, 5 and 10% level, respectively.

5 CONCLUSIONS AND POLICY IMPLICATIONS

We used the quantile regression technique to evaluate how population ageing and gender inequality impacted economic growth in 35 European countries from 2000 to 2022. Our empirical findings have revealed that population ageing harms economic growth. The estimated coefficients for the old-age dependency ratio are highly significant and negative across all quantiles. However, we observe that the magnitude of the coefficients tends to be larger at higher quantiles (in the upper tail of the conditional distribution of economic growth). Thus, we confirm that population ageing hinders economic growth in European countries, likely due to the falling labour force participation rate and rising healthcare and pension costs.

Additionally, we found that trade openness and unemployment rate are key growth determinants. At the same time, an increase in life expectancy at birth positively impacts economic performance only in countries with low and middle incomes. The results of our study show that an increase in gender imbalances harms economic performance, most noticeably in the middle and higher quantiles. It is crucial to highlight that while the magnitude of this effect is relatively minor, even this small impact could be meaningful in promoting inclusive growth in the long run. These findings suggest that the discrimination and exclusion of women from key economic roles have a more significant negative impact on overall economic performance in high-income European countries. Gender-based legal restrictions on economic engagement entail significant economic costs in these societies, where human capital, innovation,

and inclusive institutions are crucial for economic growth. We also found that a supportive legal environment for women's participation in business and the economy is positively and significantly associated with economic growth in low- and high-income European countries.

The study's results can guide essential policy recommendations for European countries facing significant demographic challenges, particularly population ageing. The adverse effects of an ageing population on economic growth can be mitigated, or even transformed into positive outcomes by encouraging greater participation of older individuals in the workforce. Such an aim should be supported by policies encompassing flexible retirement and later retirement incentives, as well as health and skills initiatives that help extend adult productivity throughout their working lives—initiatives for lifelong learning, active ageing policies, adult reskilling, etc. Enhancing productivity is one of the most fundamental long-term strategies for addressing the economic challenges of demographic ageing. Boosting productivity through investment in education, science, health, and, more broadly, human capital development, becomes essential for mitigating the rising dependency ratios. Equally important, investing in the education of children and young people is crucial for preparing future generations to be more productive and capable of managing the economic challenges posed by an ageing society. In addition, governments should continue implementing reforms in pension (pension indexation, raising the standard retirement age limit) and tax systems, as well as tailored healthcare and long-term care services to create a sustainable social protection framework and state fiscal stability.

Prioritising women's economic empowerment, a fundamental objective of the UN 2030 Agenda for sustainable development, would guarantee equal access to and participation in current markets, enable access to financial resources, provide decent employment and voting rights, and ensure involvement in decision-making processes on economic issues at all levels. Strengthening gender equality can increase women's participation in the labour market, thereby improving the utilisation of a society's human potential. Moreover, the negative demographic trends could be reversed with the help of policy measures aimed at supporting families with children, such as financial assistance, tax relief, extended parental leave, provision of work-family balance, improving working and living conditions, and supporting youth employment and education initiatives. Special attention should be given to removing barriers for women to enter and remain in business, such as the harmful patterns of functioning arising from their subordinate position in the society and stereotypical role division. In addition to the legislative and strategic framework for achieving gender equality, the exchange of experiences, learning, non-financial support, and measures that balance family and professional life are crucial for launching new and innovative programs to

support women's economic initiatives and entrepreneurship. Since population ageing and gender inequalities are closely linked phenomena, policymakers should formulate harmonized and inclusive policies to eliminate or reduce their negative consequences.

Besides the previously mentioned measures, immigration is crucial for mitigating the economic consequences of demographic ageing, particularly by replenishing the labour force, sustaining productivity, and maintaining the demographic balance in many highly developed European countries. In this regard, the forward-looking immigration policy aimed at improving the economic integration of immigrants into labour markets should be an integral part of a broader demographic and labour market strategy to ensure sustainable and inclusive economic growth.

Our study examines the effects of the old-age dependency ratio and gender inequality on economic outlook, while deliberately excluding an analysis of other factors that could influence economic growth, such as the variables of institutional quality, gross savings or health expenditures. Consequently, the possible limitation of this research is the lack of consideration for these additional variables, which presents, at the same time, an opportunity for further exploration in future studies.

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Data Availability Statement

Data are available from the authors upon request.

Coauthor contributions

Jelena Zvezdanović Lobanova: Data curation, Investigation, Writing – Original Draft, Writing – Review & Editing; **Vasko Kelić:** Methodology, Validation, Writing – Original Draft, Writing – Review & Editing; **Milan Zvezdanović:** Visualization, Conceptualization, Validation.

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Starenje stanovništva i rodni jaz: Dvostruki izazov ekonomskom rastu

PROŠIRENI SAŽETAK

Starenje populacije je jedan od ključnih globalnih demografskih trendova, koji preoblikuje društva širom sveta i donosi brojne makroekonomske probleme. Povećanje udela starijih u radno aktivnoj kategoriji stanovništva i rodni nejednakosti predstavljaju značajne prepreke održivom ekonomskom rastu. Evropski kontinent suočava se sa sve izraženijim trendom starenja populacije, što može dovesti do nedostatka radne snage, rasta troškova zdravstvene zaštite i dodatnog opterećenja socijalnih usluga. Takođe, ovi demografski trendovi izazivaju zabrinutost u vezi s međugeneracijskom pravednošću i dugoročnom održivošću penzionih sistema. Globalno starenje stanovništva pokrenulo je brojne rasprave o njegovim ekonomskim posledicama. Rastući udeo starije populacije koja više nije ekonomski aktivna donosi niz izazova, uključujući povećane zdravstvene, ekonomske i socijalne troškove. S druge strane, integracija starijih osoba u ekonomski i društveni život kroz prilagođene programe i ulaganje u ljudski kapital može otvoriti nove razvojne mogućnosti. Zbog toga je proučavanje posledica demografskog starenja od ključnog značaja, jer nepovoljna starosna struktura može imati direktan uticaj na ekonomski razvoj, kako na nacionalnom, tako i na međunarodnom nivou.

Kako bismo istražili uticaj starenja populacije, rodni nejednakosti i ekonomskog osnaživanja žena na ekonomske performanse, primenili smo kvantilnu regresiju na uzorku od 35 evropskih zemalja u periodu od 2000. do 2022. godine. Naši empirijski nalazi ukazuju na to da starenje populacije negativno utiče na ekonomski rast, pri čemu je povećanje udela starijih osoba u radno sposobnom stanovništvu za 1% povezano sa smanjenjem stope ekonomskog rasta u rasponu od 0,03% do 0,07%. Prema našim rezultatima, povećanje rodni nejednakosti negativno utiče na ekonomski rast, pri čemu rast rodni nejednakosti za 1% dovodi do ekonomskog pada u rasponu od 0,002% do 0,005%. Diskriminacija i isključenost žena iz ključnih ekonomskih uloga imaju izraženiji negativan uticaj na ukupne ekonomske performanse u zemljama sa srednjim i visokim nivoom dohotka. Smanjenje rodne ravnopravnosti predstavlja ozbiljnu pretnju ne samo ekonomskom rastu već i političkoj stabilnosti, jer osim što usporava produktivnost i inovacije, podstiče i društveno nezadovoljstvo i aktivizam za prava žena. Osim toga, utvrdili smo da je povoljno pravno okruženje za učešće žena u poslovnom i ekonomskom sektoru pozitivno i značajno povezano sa ekonomskim rastom, kako u zemljama s niskim, tako i u zemljama s visokim nivoom dohotka. Rezultati našeg istraživanja mogu pružiti važne smernice za politiku evropskih zemalja koje se suočavaju sa značajnim demografskim izazovima, posebno starenjem stanovništva.

KLJUČNE REČI

starenje stanovništva, ekonomski rast, stanovništvo, uticaj, rodna nejednakost



An empirical study of the glass ceiling's impact on gender equality and career opportunities in the food and beverage sector

Jelena Lukić Nikolić¹  Pero Labus² 

ABSTRACT

Women's professional trajectories are often obstructed by the glass ceiling, an invisible barrier that limits their access to higher managerial positions within organizations. This research aimed to examine and analyse the glass ceiling effect among women employed in the food and beverage sector of the hospitality industry. An empirical study was conducted using a questionnaire distributed in food and beverage facilities across Serbia, Montenegro, Croatia, and Bosnia and Herzegovina. The data collection lasted from October 2023 to January 2024 and encompassed 1,082 respondents. The data analysis was performed using Microsoft® Excel® 2019 and Statistical Software for Social Sciences, version 21.0. The Mann-Whitney U-test, Kruskal-Wallis H-test, and Tukey HSD test were employed to examine the research hypotheses. The study's findings reveal the existence of the glass ceiling effect within the hospitality industry, although to a small extent. Interestingly, the results of the statistical tests suggest that manifestations of the glass ceiling do not significantly vary based on respondent characteristics such as gender, age, education, marital status, parental status, country of employment, or length of work experience.

KEYWORDS

gender equality, glass ceiling, career opportunities, hospitality, food and beverage sector

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1 INTRODUCTION

Gender equality has been positioned as a significant topic and focus of attention among academics, practitioners, policymakers, governments, non-governmental organizations, and the entire society (Eweje and Nagano 2021). It has become an important aspect of a healthy society and sustainable growth (Tokal et al. 2023). In general, equality is the right of different groups of people to have a similar social position and receive the same treatment, while gender equality represents the act of treating women and men equally (Cambridge Dictionary n.d.). The European Union defines gender equality as equal visibility, empowerment, involvement, and opportunities for both men and women in society (Council of Europe 1998). In economy, gender equality refers to the equal opportunity and integration of men and women into the labour market (Abendroth 2014). According to the International Labour Office (2007), gender equality refers to men and women having equal rights, opportunities, and treatment in terms of wages and career prospects. This does not mean that there must be an equal proportion of men and women in every profession, but rather that both genders should benefit equally from the same opportunities (Iqbal et al. 2022).

Gender equality has become a global concern recognized as one of the important components in Agenda 2030 and its 17 Sustainable Development Goals (SDG) (United Nations 2015). The fifth SDG aims to achieve gender equality and empower all women and girls, ensuring their active participation in leadership and decision-making, and empowering women through information and communication technologies, while the

eighth SDG focuses on full and productive employment and decent work with equal pay for all people (United Nations 2018). Women's involvement in all aspects of life and work is crucial for sustainable development (Agenda 21 1992; UN General Assembly 1992). However, women hold only 37% of the leadership positions worldwide (World Economic Forum 2022), and they continue to be heavily represented in low-status and low-paid positions (UN Women 2022). The global Gender Gap Index 2022 estimated that it would take 132 years to close the gender gap and 151 years to attain equal economic participation and opportunities (World Economic Forum 2022). According to research, the glass ceiling effect is one of the factors that have a detrimental impact on women's career opportunities. Despite the increased theoretical interest in gender equality and the glass ceiling, there has been little empirical research on this phenomenon (Babic and Hansez 2021), particularly in the hospitality industry and its food and beverage segment. In general, tourism and hospitality industries are regarded as largely traditional, patriarchal, and male-dominated. Existing studies on women's positions in the hospitality industry found that women are perceived adversely or even as being aggressive if they demonstrated a desire for career advancement, and that there was no comprehension of why women wished to progress to higher positions (Segovia-Pérez et al. 2019). Furthermore, while women accounted for 55.5% of the hospitality workforce in 2017, they remained underrepresented in managerial positions (Ozdemir 2021).

The purpose of this paper is to examine and analyse the glass ceiling effect among the women employed in the food and beverage sector of the hospitality

industry. The food and beverage sector plays a vital role in global tourism and economic development (EHL Insights 2024). It encompasses restaurants (hotel restaurants, exclusive restaurants, classic bar-restaurants, pizzerias, restaurants serving Chinese or Mexican food), cafeterias, coffee bars, bistros, beach bars. The food and beverage sector offers diverse employment opportunities and significantly shapes a nation's cultural authenticity (Getz and Page 2016).

The significance of this research stems from the fact that women account for approximately half of the worldwide population (World Bank 2023), and gender equality is becoming a significant component in plans for economic growth and development (Ribes Moreno 2023; Tokal et al. 2023). Eliminating the glass ceiling effect is important, since a lack of professional advancement opportunities is associated with the loss of talent, employee turnover, job dissatisfaction, and a lack of commitment and loyalty (Remington and Kitterlin-Lynch 2017). Furthermore, previous research indicates that having women on management teams improves a company's financial success (Martínez-Fierro and Lechuga Sancho 2021).

The paper is structured as follows. The theoretical part of the paper focuses on the glass ceiling phenomenon and the need for equal career opportunities for both men and women, with a special emphasis on the food and beverage sector of the hospitality industry. The empirical part of the paper includes research methodology and a description of the research approach such as research hypotheses, questionnaire structure, pilot research, the procedure of the conducted research and applied statistical tests. After the methodology and the research results are presented,

what follows is a discussion of the research findings. The paper concludes with major findings, implications for academicians and practitioners, limitations of the conducted research, and recommendations for further studies on this topic.

2 THE GLASS CEILING PHENOMENON: THE KEY ANTECEDENTS AND NEGATIVE EFFECTS

The metaphor of a glass ceiling was initially used to describe women's limited advancement opportunities in the organizational hierarchy (Hymowitz and Schellhardt 1986). Nowadays, this metaphor is commonly used in business and management literature (Martínez-Fierro and Lechuga Sancho 2021). More broadly, the metaphor of glass ceiling can refer to members of certain population groups, such as racial/ethnic minorities, people with diverse sexual preferences, and women (Stavrinoudis et al. 2021), however it is used in this research specifically in regard to women. According to definitions, glass ceiling represents persistent barriers, discriminatory practices, and attitudes that prevent qualified women from advancing to higher management positions (Powell and Butterfield 2015; Babic and Hansez 2021), or a lower probability of women being promoted than men, or simply a lower proportion of women in top management positions (Espinosa and Ferreira 2022). The glass ceiling represents discrimination against women in management, and this phenomenon increases as women advance in their professional careers within the organization (Babic and Hansez 2021; Cotter et al. 2001). Unfortunately, some studies have discovered that many companies

proclaim gender equality and equal career opportunities, although in essence they fail to fulfil them (Benschop and Doorewaard 1998). There are four distinctive characteristics of the glass ceiling effect: (1) gender difference is not explained by job-relevant characteristics of the employee, (2) gender difference is greater at higher levels of an outcome compared with lower levels, (3) gender inequality exists in the chances of advancement into higher levels, not just the proportions of both genders at higher levels, and (4) gender inequality increases over the course of a career (Cotter et al. 2001).

Although women occupy more leadership positions today than in the past (Taparia and Lenka 2022), they continue to fall behind men in executive positions (Timmer and Woo 2023). There are several antecedents of the glass ceiling, which can be observed from four different groups of factors: societal and cultural (gender role stereotypes, lower status of women in society), individual (lack of education, lack of self-confidence, self-efficacy and self-promotion, lack of managerial aspirations, work-family conflict), organizational (hostile and benevolent sexism, discriminatory human resource practices, lack of mentors and role models), and policy-related (Taparia and Lenka 2022). The glass ceiling effect can have a wide range of negative consequences, both at the individual and organizational levels. Job dissatisfaction, disengagement, burnout, professional stress, and low productivity are some of the major consequences of the glass ceiling on the individual level. At the organizational level, the consequences include employer's reduced desirability, employer's poor brand, lower overall results, and high turnover rates (Taparia and Lenka 2022). The glass ceiling is

not merely a barrier to individual career advancement; it also poses significant challenges to broader societal progress. By perpetuating systemic discrimination, this phenomenon actively impedes the realization of a more equitable society. Furthermore, the glass ceiling prevents organizations and economies from fully leveraging the talents and potential contributions of a significant portion of the workforce, thereby hindering innovation and economic growth (World Economic Forum 2020).

3 GLASS CEILING PHENOMENON IN THE HOSPITALITY INDUSTRY: HYPOTHESES DEVELOPMENT

Gender has historically played a crucial role in hospitality employment. However, women's access to managerial roles in hospitality has recently been identified as an important topic in literature (Albors-Garrigos et al. 2021), and the glass ceiling effect has been found to exist in the hospitality industry (Costa et al. 2017; Segovia-Pérez et al. 2019; Fathy and Zidan 2020; Liu et al. 2020). While women constitute a significant proportion of the tourism and hospitality workforce worldwide (approximately 56%, according to Stacey 2015), their representation in higher-ranking positions remains disproportionately low compared to their male counterparts (Mooney 2020; Stavrinoudis et al. 2021). This disparity is evident, with women holding less than 40% of managerial positions, less than 20% of general management roles, and a mere 5–8% of board positions in the hospitality industry (Ristova and Angelkova Petkova 2019). Furthermore, other research results indicate that women in this industry are often concentrated in roles characterized by lower wages and a lack

of specialized skills (Türkcan 2022). Many women experience a “broken rung” as one of the glass ceiling effects, which manifests as missing the first step in the “ladder of leadership,” such as the early stages of the promotion process (Smith 2015). Consequently, the underrepresentation of women in junior managerial roles creates a bottleneck effect, limiting the pool of qualified female candidates eligible for advancement to higher-level positions (Russen et al. 2021). Additionally, women in the hospitality industry often encounter the “old boys’ network,” an informal and exclusionary system of male colleagues who preferentially support and promote each other’s career advancement. This phenomenon further impedes women’s access to senior management positions, thus reinforcing the glass ceiling effect (Gebbels 2022). Therefore, the first hypothesis proposed in this research is:

Hypothesis 1: The glass ceiling effect exists in the food and beverage sector of the hospitality industry.

The literature highlights several factors contributing to women’s struggle to advance to higher positions within the hospitality industry. Societal barriers, rooted in conscious and unconscious biases related to gender, play a significant role. These biases perpetuate the stereotypes about women’s abilities and societal expectations regarding their roles in both professional and family spheres. Traditional gender roles often disproportionately burden women with childcare and household responsibilities, creating challenges in balancing career aspirations with family commitments. The demanding nature of the hospitality industry can exacerbate this conflict, forcing women to make difficult choices that may hinder their career progression

(Clevenger and Singh 2013). Research by Boone et al. (2013) reveals that while both male and female executives predominantly rely on in-home childcare, women are more likely to utilize additional childcare options like school/day-care and extended family. This suggests that women may face greater challenges in arranging and managing childcare, potentially impacting their career advancement opportunities, particularly during critical periods when promotions are most likely to occur. Furthermore, household responsibilities can limit women’s ability to network and build professional relationships. While men may have more freedom to engage in after-work networking activities, women often prioritize family obligations, thus missing out on valuable opportunities to connect with colleagues and superiors (Segovia-Pérez et al. 2019). Therefore, the second hypothesis proposed in this research is:

Hypothesis 2: Manifestations of the glass ceiling effect differ, depending on the respondent’s personal factors such as gender, age, marital status, and parental status.

Previous research on this topic indicates a complex relationship between educational level and the perception of barriers to career advancement among women in the hospitality industry. While educational level appears to influence women’s perceptions of these barriers (Bazazo et al. 2017), it does not necessarily guarantee increased promotions for women. The hospitality industry presents unique nuances and challenges that may be best understood through direct experience rather than solely through formal education. Soft skills, such as communication, interpersonal relationships, emotional intelligence,

and problem-solving, are highly valued in this sector and are often cultivated through on-the-job training (Baum 2006). Hands-on experience in diverse roles within the industry can foster a deeper understanding of operations, customer service, and leadership, potentially outweighing theoretical knowledge gained in academic settings (Deery and Jago 2015). Additionally, the industry's high turnover rates create opportunities for rapid career progression, as organizations constantly seek new talent and leadership to maintain operational efficiency (Enz and Siguaw 2000). Therefore, while educational attainment may play a role in shaping women's perceptions of career barriers, it is not the sole determinant of the advancement in the hospitality industry. Practical experience, adaptability, and the ability to navigate the industry's unique challenges are also critical factors to consider. Furthermore, the hospitality industry's dynamic nature, characterized by evolving customer preferences, emerging technologies, global trends, and unforeseen disruptions like the COVID-19 pandemic, often favours individuals who are adaptable, quick learners, and thrive in fast-paced environments. Such individuals may experience rapid career advancement regardless of their educational background or the length of work experience. Nevertheless, studies such as Zhong et al. (2013) emphasize the importance of both work experience and formal education in facilitating women's career advancement within the hospitality industry. Therefore, the third hypothesis proposed in this research is:

Hypothesis 3: Manifestations of the glass ceiling effect differ depending on the respondent's education level and the length of work experience.

4 RESEARCH METHODOLOGY

An empirical study was conducted using a specially designed questionnaire. The questionnaire began with profile questions to determine the respondents' key characteristics: gender, education, marital status, and parental status. Including both genders allows for a more comprehensive understanding of the glass ceiling phenomenon and its manifestations. This approach can uncover potential gender-specific challenges or biases that may not be apparent when encompassing only one gender. The following set of questions concerned the respondents' country of employment, type of food and beverage facility where they work, job position, length of work experience in food and beverage facilities, and the length of work in the current food and beverage facility. In addition to the profile questions mentioned above, the questionnaire included statements formed in the measurement scale "Glass Ceiling Effect" to which respondents answered using a seven-point Likert scale (1 – completely disagree, 7 – completely agree). This research applied a measurement scale developed from the three initial statements designed to examine manifestations of the glass ceiling effect among women in managerial positions. Notably, these statements have been adjusted in this research with the aim to encompass all women employees within the food and beverage sector, not solely those in managerial positions (Elacqua et al. 2009: 288): (e.g. women at our company "generally progress to a certain level, then go no further", "I believe our company is not serious about eliminating barriers that prevent women from reaching their potential", and women at our company "are often excluded from important senior

management communications"). Apart from the above mentioned statements, the measurement scale included three additional statements more suitable to European culture, developed on the basis of the research of Babic and Hansez (2021) (e.g. I notice that men progress more quickly than women in this company; women are not given the same treatment as men in managerial positions at this company; and men are able to get jobs at higher hierarchical levels in this company than women, even with the same expertise and skills) with the aim of more thoroughly investigating manifestations of the glass ceiling effect. The pilot research included 30 respondents from the food and beverage sector of the hospitality industry, with the aim to ensure the comprehensibility of the questions and their unambiguity and clarity, as well as the reliability of the measurement scale. Cronbach's Alpha coefficient for the measurement scale "Glass Ceiling Effect" in this pilot research was above 0.7, indicating a high reliability.

The final questionnaire was distributed online, and all the responses were anonymous. The response collection period lasted from October 2023 to January 2024. This study used a non-probabilistic sampling approach which is well-suited for exploratory quantitative research. Convenience sampling included distributing the survey on LinkedIn profiles in order to reach readily available participants, whereas purposive sampling involved emailing the survey to possible respondents who met certain research criteria (Fajgelj 2020). The questionnaire was sent to the e-mail addresses of hospitality managers of establishments such as hotel restaurants, exclusive restaurants, classic bar-restaurants, pizzerias, restaurants

serving Chinese or Mexican food, cafeterias, coffee bars, bistros, and beach bars with a polite request to take 15 minutes to complete the questionnaire and forward it to other employees. The research was conducted in four countries (Serbia, Montenegro, Croatia, and Bosnia and Herzegovina) which share similarities in terms of their socialist past, post-socialist transitions, socio-economic challenges, and cultural norms. These shared characteristics help explain why similar results might persist across these countries, despite their individual variations and specific circumstances.

The questionnaire was distributed to about 2,000 employees, and after three kind follow-up e-mails, a total of 1,082 respondents filled out the questionnaire, indicating a response rate of 54.10%, which has been considered acceptable in social sciences (acceptable response rate ranges from 30 to 70%) (De Vaus 2013).

The processing and analysis of the collected data were performed using Microsoft® Excel® 2019 and Statistical Software for Social Sciences, SPSS, version 21.0. Cronbach's Alpha coefficient for the measurement scale "Glass Ceiling Effect" was 0.948, indicating high reliability for the scale (Taber 2018). The normality of the data distribution was examined using the Kolmogorov-Smirnov test, along with histograms, skewness, kurtosis, the normal probability curve, and the boxplot. The results for the scale "Glass Ceiling Effect", with a significance (Sig.) of 0.000, indicated that the assumption of normal data distribution was not met. As a result, non-parametric statistical techniques were used for statistical analysis within the measurement scales. The Mann-Whitney U-test was used to compare differences between two

groups, while the Kruskal-Wallis H-test and Tukey HSD test were used to compare differences among three or more groups with a 95% confidence interval. Levene's test for equality of variances was applied in all tests comparing differences between groups, meeting the assumption of variance homogeneity in all the cases ($p > 0.05$).

5 RESEARCH RESULTS

Table 1 presents basic information about the respondents. The study encompassed 1,082 respondents, with 56.4% men and 43.6% women. Regarding age distribution, the majority of respondents (63%) were between the ages of 31 and 50, followed by those aged up to 30 (25%). Regarding education, the majority of respondents completed secondary school (58.8%). More than one-fifth of respondents had a higher school diploma, while 15.4% had

completed university. Such educational structure is not surprising, given the fact that the food and beverage sector of the hospitality industry often has a significant proportion of employees with secondary education. The emphasis on respondents with secondary education allows for a focused examination of the glass ceiling's impact on the early-career trajectories within the hospitality industry and the glass ceiling phenomenon. Almost 70% of the respondents were married or in a partnership, while 60% had children.

Table 2 presents the basic information about the respondents' employment. The majority of respondents worked in Croatia (45.6%), followed by Serbia (25%). A certain proportion of respondents worked in Montenegro (15.2%) and Bosnia and Herzegovina (14.3%). The majority of respondents worked in hotel restaurants (38.1%), followed by exclusive restaurants (20.2%).

Table 1 Basic information about respondents

Answers		N	%
Gender	Male	610	56.4
	Female	472	43.6
Age	Up to 30	270	25.0
	From 31 to 50	682	63.0
	Above 50	130	12.0
Education	Primary School	21	1.9
	Secondary School	649	58.8
	Higher School	242	21.9
	University	170	15.4
Marital status	Married/Partnership	750	69.3
	Single/Divorced/Widowed	332	30.7
Parental status	With children	652	60.3
	Without children	430	39.7

Source: Authors

Table 2 Basic information about the respondents' employment

Answers		N	%
Country	Croatia	493	45.6
	Serbia	270	24.9
	Montenegro	164	15.2
	Bosnia and Herzegovina	155	14.3
Type of food and beverage facility	Hotel restaurant	412	38.1
	Exclusive restaurant	219	20.2
	Classic bar-restaurant	170	15.7
	Pizzeria, restaurant serving Chinese or Mexican food	143	13.3
	Cafeteria, caffe bar, bistro, beach bar	138	12.7
Length of working experience in present food and beverage facility	Less than 1 year	304	28.1
	From 1 to 5 years	438	40.5
	From 5 to 10 years	202	18.6
	From 10 to 15 years	69	6.4
	More than 15 years	69	6.4

Source: Authors

A smaller number of respondents worked in classic bar-restaurants (15.7%), pizzerias, restaurants serving Chinese or Mexican food (13.3%), and cafeterias, coffee bars, bistros, beach bars (12.7%). In terms of working experience in the current food and beverage facility, the majority of respondents have worked there for 1 to 5 years (40.5%), followed by those who have worked in their current facility for less than 1 year (28.1%). There were 18.6% of respondents who have worked in the present food and beverage facility from 5 to 10 years, and 12.8% of respondents who have worked for more than 10 years. The inclusion of respondents who worked less than 1 year and from 1 to 5 years is important as the early years of a career are formative in shaping individuals' perceptions of fairness, equity, and opportunity within the organization. Analysing the

experiences of employees with varying tenure can reveal whether manifestations of the glass ceiling effect differ based on the length of the time spent in the food and beverage facility. This can help identifying potential systemic biases or discriminatory practices that may emerge over time.

Table 3 presents the results for the number and percentage of women and men in various job positions in food and beverage facilities. Men are more likely to have higher-level job positions such as Director, Food and Beverage Manager, Bar Manager, Restaurant Manager, and Executive Chef, whereas women are more likely to hold lower-level jobs such as Restaurant Support Staff and Kitchen Support Staff. The results imply that gender balance varies by job type, with notable disparities in gender in leadership and managing positions.

Table 3 Gender structure regarding job position of respondents

Position	Women		Men		Total	
	N	%	N	%	N	%
Director	26	5.53	52	8.85	78	7.21
Food and Beverage Manager	18	3.83	52	8.85	70	6.47
Bar manager	9	1.91	37	6.30	46	4.25
Restaurant manager	43	9.15	64	10.89	107	9.89
Executive Chef	38	8.09	70	11.91	108	9.98
Chef	82	17.45	98	16.67	180	16.64
Pastry chef	31	6.60	12	2.04	43	3.97
Bartender	36	7.66	28	4.76	64	5.91
Waiter	81	17.23	130	22.14	211	19.50
Sommelier	42	8.94	40	6.80	82	7.58
Restaurant support staff	34	7.23	15	2.55	49	4.53
Kitchen support staff	32	6.81	12	2.04	44	4.07
Total	472	100.00	610	100.00	1082	100.00

Source: Authors

Table 4 Gender structure regarding country and type of food and beverage facility

	Croatia		Montenegro		Serbia		Bosnia and Herzegovina	
	N	%	N	%	N	%	N	%
Women								
Hotel restaurant	91	51.70	25	25.77	39	33.62	14	16.87
Exclusive restaurant	32	18.18	20	20.62	25	21.55	12	14.46
Classic restaurant-bar	19	10.79	12	12.37	17	14.66	14	16.87
Pizzeria, Chinese/Mexican restaurant	12	6.82	28	28.87	17	14.66	27	32.53
Cafeteria, coffee bar, bistro	22	12.50	12	12.37	18	15.52	16	19.28
Total	176	100.00	97	100.00	116	100.00	83	100.00
Men								
Hotel restaurant	144	45.43	27	40.30	51	33.12	21	29.17
Exclusive restaurant	67	21.11	16	23.88	31	20.13	16	2.22
Classic restaurant-bar	50	15.77	14	20.90	36	23.38	8	11.11
Pizzeria, Chinese/Mexican restaurant	11	3.47	6	8.96	26	16.88	16	22.22
Cafeteria, coffee bar, bistro	45	14.18	4	5.97	10	6.49	11	15.28
Total	317	100.00	67	100.00	154	100.00	72	100.00

Source: Authors

Table 4 presents the structure of women and men regarding their employment in various food and beverage facilities in the observed countries. In Croatia, women outnumbered men only in hotel restaurants and in pizzerias, Chinese/Mexican restaurants. In Montenegro, women outnumbered men in pizzerias, Chinese/Mexican restaurants and in cafeterias, coffee bars and bistros, while in Serbia, women outnumbered men in hotel restaurants, exclusive restaurants and in cafeterias, coffee bars, and bistros. In Bosnia and Herzegovina men outnumbered women only in hotel restaurants.

Table 5 presents statistical results (number, percentage, mean (M), standard deviation (SD)) for statements on the scale "Glass Ceiling Effect". The answers

from the seven-point Likert scale were summarized into three groups for easier understanding and discussion: disagree (answers 1, 2 and 3), neutral (answer 4), and agree (answers 5, 6 and 7). The mean value for each statement ranges between 2.10 and 2.30, indicating that the glass ceiling effect is perceived to not exist in the food and beverage sector of the hospitality industry. In addition to the mean values, the frequency and percentage of the respondents' answers clearly demonstrate that the majority of respondents stated that glass ceiling effect did not exist in food and beverage facilities in which they were employed. Of all respondents, 77.91% disagree with the statement that women generally progress to a certain level and then go no further, while 78.65% respondents

Table 5 Statistical results regarding statements in the scale "Glass Ceiling Effect"

Statements	Answers	N	%	M	SD
Women at our company generally progress to a certain level, then go no further.	Disagree	843	77.91	2.30	1.978
	Neutral	53	4.90		
	Agree	186	17.19		
I believe our company is not serious about eliminating barriers that prevent women from reaching their potential.	Disagree	851	78.65	2.26	1.935
	Neutral	56	5.18		
	Agree	175	16.17		
Women at our company are often excluded from important senior management communications.	Disagree	880	81.33	2.10	1.865
	Neutral	47	4.34		
	Agree	155	14.33		
I notice that men progress more quickly than women in this company.	Disagree	862	79.67	2.24	1.953
	Neutral	50	4.62		
	Agree	170	15.71		
Women are not given the same treatment as men in managerial positions at this company.	Disagree	866	80.04	2.16	1.913
	Neutral	59	5.45		
	Agree	157	14.51		
Men are able to get jobs at higher hierarchical levels in this company than women, even with the same expertise and skills.	Disagree	857	79.21	2.22	1.937
	Neutral	54	4.99		
	Agree	171	15.80		

Source: Authors

disagree with the statement that their employers are not serious about eliminating barriers that prevent women reaching their potential. More than 80% of the respondents disagree with the statement that women are often excluded from important senior management communications. Furthermore, around 80% of the respondents disagree with the statements that men progress more quickly than women, that women are not given the same treatment as men in managerial positions, and that men are able to get jobs at higher hierarchical levels than women, even with the same expertise and skills. A certain number of respondents showed a neutral attitude regarding the statements, ranging from 4.62% to 5.45%.

of the glass ceiling effect in the answers of men ($Md=1.17$, $N=610$) and women ($Md=1.33$, $N=472$), $U=139179.5$, $Z=-0.992$, $p=0.321$.

In addition, the Mann-Whitney U-test did not show a statistically significant difference in the existence of the glass ceiling effect in the answers of the respondents who were married/in partnership ($Md=1.17$, $N=750$) and single/divorced/widowed ($Md=1.25$, $N=332$), $U=121364.5$, $Z=-0.699$, $p=0.484$.

Likewise, the Mann-Whitney U-test did not show a statistically significant difference in the existence of the glass ceiling effect among the respondents with children ($Md=1.17$, $N=652$) and those without children ($Md=1.33$, $N=430$), $U=136358.5$, $Z=-0.803$, $p=0.422$.

Table 6 Results of Mann-Whitney U-test

Answers		N	M	Md	U	z	p
Gender	Male	610	533.66	1.17	139179.5	-0.992	0.321
	Female	472	551.63	1.33			
Marital status	Married/Partnership	750	537.32	1.17	121364.5	-0.699	0.484
	Single/Divorced/Widowed	332	550.94	1.25			
Parental status	With children	652	535.64	1.17	136358.5	-0.803	0.422
	Without children	430	550.39	1.33			

Source: Authors

Table 6 presents the results of the Mann-Whitney U-test. The Mann-Whitney U-test did not show a statistically significant difference in the existence

Further examination focused only on women. Results are presented in Table 7. The Mann-Whitney U-test did not show a statistically significant difference in

Table 7 Results of Mann-Whitney U-test (women)

Answers		N	M	Md	U	z	p
Women	With children	196	241.11	1.25	26144.0	-0.655	0.513
	Without children	276	233.22	1.33			
Women	Married/Partnership	305	238.95	1.67	24720.5	-0.558	0.577
	Single/Divorced/Widowed	167	232.03	1.00			

Source: Authors

the existence of the glass ceiling effect in the answers of women with children ($Md=1.25$, $N=196$) and those without children ($Md=1.33$, $N=276$), $U=26144.0$, $Z=-0.655$, $p=0.513$. In addition, the Mann-Whitney U-test did not show a statistically significant difference in the existence of the glass ceiling effect in the answers of women who were married/in partnership ($Md=1.67$, $N=305$) and those who were single/divorced/widowed ($Md=1.00$, $N=167$), $U=24720.5$, $Z=-0.558$, $p=0.577$.

Table 8 presents the results of the Kruskal-Wallis H-test. The Kruskal-Wallis H-test did not identify statistically significant differences regarding the age of the respondents $\chi^2(df=2, N=1082)=2.347$, $p=0.309$ and the length of the working experience in the current food and beverage facility $\chi^2(df=4, N=1082)=7.625$, $p=0.106$.

The Kruskal-Wallis H-test results show that there are statistically significant differences in the responses based on ed-

ucation levels, $\chi^2(df=3, N=1082)=8.110$, $p=0.044$. Compared to other educational levels, respondents with a university degree showed the highest median score ($Md=1.75$), followed by those with secondary school education ($Md=1.33$). However, further analysis with the Tukey HSD test did not reveal statistically significant differences in the responses, $F(df=3, N=1082)=1.583$, $p=0.192$. Eta square equals 0.004.

In addition, the Kruskal-Wallis H-test results show that there are statistically significant differences in responses based on the length of the working experience in the present food and beverage facility, $\chi^2(df=4, N=1082)=10.097$, $p=0.039$. The respondents who have worked less than one year in their current facility have the highest median score ($Md=1.67$). However, further analysis with the Tukey HSD test did not reveal statistically significant differences in responses, $F(df=4, N=1082)=1.896$, $p=0.109$. Eta square equals 0.007.

Table 8 Results of the Kruskal-Wallis H-test

Answers	N	M	Md	χ^2	df	p
Age	18–30	270	564.38	1.50	2.347	2
	31–50	682	535.87	1.17		
	Over 50	130	523.52	1.17		
Education	Primary School	21	479.55	1.00	8.110	3
	Secondary School	649	545.06	1.33		
	Higher School	242	506.61	1.00		
	Faculty	170	585.22	1.75		
Length of working experience in present food and beverage facility	Less than 1 year	304	582.74	1.67	10.097	4
	From 1 to 5 years	438	536.02	1.17		
	From 5 to 10 years	202	519.82	1.00		
	From 10 to 15 years	69	488.77	1.00		
	More than 15 years	69	510.82	1.00		

Source: Authors

Table 9 Results of the Kruskal-Wallis H-test (women)

Answers		N	M	Md	χ^2	df	p
Women	18–30	147	256.17	1.83	5.801	2	0.055
	31–50	270	230.54	1.17			
	Over 50	55	213.16	1.00			
Women	Primary School	18	223.89	1.00	3.281	3	0.350
	Secondary School	265	239.49	1.50			
	Higher School	109	219.91	1.00			
	Faculty	80	252.04	1.58			
Women	Less than 1 year	160	247.86	1.67	4.660	4	0.324
	From 1 to 5 years	172	238.71	1.33			
	From 5 to 10 years	88	228.72	1.08			
	From 10 to 15 years	23	194.67	1.00			
	More than 15 years	29	217.53	1.00			

Source: Authors

Table 9 presents the results of the Kruskal-Wallis H-test specifically for women. The Kruskal-Wallis H-test did not identify statistically significant differences regarding the age of women $\chi^2(df=2, N=472) = 5.801, p=0.055$ and their educational level $\chi^2(df=3, N=472) = 3.281, p=0.350$. Additionally, the Kruskal-Wallis H-test did not identify statistically significant differences regarding the length of the working experience of women in their current food and beverage facility $\chi^2(df=4, N=472) = 4.660, p=0.324$.

6 DISCUSSION OF THE RESEARCH FINDINGS

This research investigated the glass ceiling effect using statistical data on the proportion of men and women in various job positions in food and beverage facilities, as well as replies reflecting the participants' personal impressions of the glass ceiling's existence. Table 3 showed that men outnumbered women in higher-level job positions, while women outnumbered men in lower-level job

positions, suggesting a possible manifestation of the glass ceiling. However, results presented in Table 5 revealed that the majority of respondents answered that the glass ceiling did not exist in the observed food and beverage facilities (mean values for answers on statements range from 2.10 to 2.30). A small proportion of the respondents reported some manifestations of the glass ceiling effect, ranging from 14.33% to 17.19%. This leads to the conclusion that *Hypothesis 1* has been accepted: the glass ceiling effect exists in the food and beverage sector of the hospitality industry, although to a small extent according to the personal perceptions of the respondents.

The results of the conducted statistical tests (Mann-Whitney U-test, Kruskal-Wallis H-test, Tukey HSD test) revealed that there were no statistically significant differences in respondents' answers about the manifestations of the glass ceiling effect based on their gender, age, marital status, or parental status, thereby rejecting *Hypothesis*

2. Furthermore, the findings of the Kruskal-Wallis H-test and further analysis with the Tukey HSD test revealed that there were no statistically significant differences in manifestations of the glass ceiling effect based on the respondents' education and the length of work experience in the food and beverage facilities, rejecting *Hypothesis 3*.

The results of this research are slightly better than those of other studies on the same topic conducted in other countries. For example, a study involving 60 alumni (77% female and 23% male) from a major United States hospitality and tourism college, currently working in management or above in various segments of the industry, found that 45.8% of them perceived a glass ceiling effect within their companies, while 46% agreed that women were not promoted to senior management positions at the same rate as men. Additionally, 63% reported observing fewer women supervisors than men counterparts (Clevenger and Singh 2013). In a separate study involving 200 women employees from hotels, ASEZA, and the University of Jordan Aqaba branch in Aqaba, Jordan, the mean value for the statement affirming the existence of the glass ceiling within organizations was 3.06. Furthermore, the mean value for the statement asserting that women were not promoted at the same rate as men was 3.19. Notably, the statement regarding the underrepresentation of women in managerial roles compared to men garnered a slightly higher mean value of 3.49 (Bazazo et al. 2017). A survey encompassing 145 women hotel employees in the United Kingdom and Ireland found that 66% of women disagreed with the statement that they had fewer opportunities for advancement than men (Deiana and Fabbri 2020).

Furthermore, a study involving 14 female hospitality employees in the South-east United States indicated that half of the respondents had not encountered the glass ceiling effect or did not fully grasp the concept, irrespective of their managerial positions (Chen et al. 2021).

On the other hand, regarding results from the same region, a study conducted in Vojvodina, Republic of Serbia, involving ten women aged 27 to 50, revealed that 80% of them perceived men as being favoured and receiving significantly better career opportunities within the hotel industry (Garača et al. 2021). These findings suggest varying perceptions of the glass ceiling effect among women in the hospitality industry, influenced by geographical context and individual experiences. Apart from governments, non-governmental organizations and policymakers, companies in the hospitality industry play an essential role in achieving, supporting, and nurturing gender equality through their corporate and social responsibility initiatives (Grosser et al. 2017). The inequality in gender advancement to higher positions in the hospitality industry can be easily observed, especially given that careers are mostly continuous in the sense that an individual progresses from an entry-level position to a first-line management, middle-level management, and top management (Ng and Pine 2003).

The results of this research revealed that majority of respondents in the food and beverage facilities did not perceive the existence of the glass ceiling, despite the fact that the hospitality industry had some characteristics that unsuitable for women due to their traditional orientation to family and social responsibilities (Stavrinos et al. 2021), such as the need to provide

services 24 hours a day throughout the year, particularly on weekends and state holidays, and participation in various events scheduled after working hours (Fathy and Zidan 2020). Empowering women in the hospitality industry represents a significant step towards not only eliminating gender inequalities, but also improving overall business results. By creating a supportive environment and enhancing diversity and inclusion in the workplace with the special focus on gender equality, the hospitality industry can make a substantial contribution to a sustainable future. Furthermore, the fact that the hospitality industry in Serbia, Croatia, Montenegro, and Bosnia and Herzegovina is breaking down the glass ceiling has a positive impact on many other industries as well as society. This is particularly relevant with regards to the requirement that candidates and potential candidates for the membership in the European Union adhere to gender equality (Lilyanova 2018).

7 CONCLUSION

The results from this research have significant implications for the academic community and practitioners, particularly policymakers, leaders and managers in the hospitality industry. To the best of the author's knowledge, this is one of the first studies to include over 1,000 respondents from four different countries with similar histories and cultures. In general, the results are valuable for the entire academic community due to the fact that gender equality represents one of the pillars of sustainable development. This paper undertakes research and analysis of current literature on gender equality and the glass ceiling effect to provide a full understanding of these phenomena

in the contemporary corporate world. In addition to a literature review, the paper incorporates empirical research in the hospitality industry, with special emphasis on its food and beverage sector, which provides actual data and basis for future research on the glass ceiling in this sector and industry. Furthermore, a standardized questionnaire was applied in the research, and its validity and reliability have been verified. Aside from the academic community, this research could have significant implications for practitioners, particularly policymakers, leaders, and managers in the hospitality industry. They may realize the need to eliminate the glass ceiling effect and provide equal opportunities for career advancement for men and women. Consequently, they will have the best talent in their companies, regardless of gender, resulting in superior results and achievements.

The conducted research is accompanied by several limitations. First, the research examined only the presence of the glass ceiling phenomenon in terms of women's advancement within organizational hierarchies, neglecting other important manifestations such as gendered professional roles (jobs traditionally perceived as "male") and the gender pay gap, both of which are important for a thorough understanding of gender disparities. Future research should look into these other factors to present a more complete picture of the challenges that women experience in the workplace. Second, this research included only organizations from the food and beverage sector of the hospitality industry, and consequently the results and conclusions cannot be generalized to the entire hospitality industry and other industries. Third, the questionnaire only comprised close-ended questions, so

the respondents were unable to write down and express their thoughts and feelings regarding glass ceiling effects.

The limitations indicated above can be used to provide recommendations for future research on this topic. First of all, this research provides a basis for further research on the glass ceiling effect, not only in the food and beverage sector of the hospitality industry, but also in the entire hospitality industry, as well as other industries. It would be useful to investigate and analyse the

human resource approaches and procedures employed in the observed food and beverage facilities. Furthermore, it would be beneficial to examine the overall performance of those facilities and compare them to the performances of other facilities and companies that do not have gender equality in order to make more profound conclusions. Finally, it would be beneficial to include open-ended questions in the questionnaires and conduct interviews in order to reach deeper conclusions.

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Data Availability Statement

Data are available from the authors upon request.

Coauthor Contributions

Jelena Lukić Nikolić: Conceptualization, Methodology, Formal Analysis, Validation, Writing – Original Draft, Supervision. **Pero Labus:** Methodology, Investigation, Data Curation, Visualization, Writing – Review & Editing, Supervision

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Empirijsko istraživanje uticaja „staklenog plafona“ na jednakost polova i mogućnosti za razvoj karijere u sektoru hrane i pića

PROŠIRENI SAŽETAK

Jednake karijerne mogućnosti za oba pola, muškarce i žene, predstavljaju ključnu polugu za održivi razvoj. Jedan od fenomena koji negativno utiče na jednakost polova je efekat „staklenog plafona“. U kompanijama u kojima je prisutan ovaj fenomen, žene su suočene sa nevidljivom barijerom (staklenim plafonom) koja ih sprečava da napreduju na više menadžerske pozicije. Cilj ovog rada je da ispita i analizira da li se žene koje su zaposlene u sektoru hrane i pića u okviru ugostiteljske industrije suočavaju sa efektom staklenog plafona. Empirijsko istraživanje je sprovedeno primenom posebno koncipiranog upitnika koji je poslat restoranima (hotelskim restoranima, ekskluzivnim restoranima, klasičnim restoranima, restoranima specijalizovanim za određenu vrstu hrane, picerijama), kafeterijama, kafićima, bistroima i barovima u Srbiji, Crnoj Gori, Hrvatskoj, Bosni i Hercegovini. U periodu od oktobra 2023. do januara 2024. godine na upitnik je odgovorilo ukupno 1082 ispitanika. Prikupljeni odgovori su obrađeni primenom Microsoft® Excel® 2019 i statističkog softvera za društvene nauke – SPSS, verzija 21.0. Za testiranje postavljenih hipoteza primenjeni su neparametarski statistički testovi (*Mann-Whitney U-test*, *Kruskal-Wallis H-test* i *Tukey HSD test*). Dobijeni rezultati su pokazali da od ukupnog broja ispitanika, mali procenat smatra da u njihovoj kompaniji postoji efekat staklenog plafona. Manje od petine ispitanika, tačnije 17,19% ispitanika smatra da žene u njihovoj kompaniji napreduju do određenog nivoa, ali ne dalje od toga, odnosno da nemaju pristup najvišim menadžerskim pozicijama. Isto tako, 16,17% ispitanika smatra da njihova kompanija ne pristupa ozbiljno eliminisanju barijera koje sprečavaju žene da iskoriste svoj pun potencijal. Oko 14% ispitanika smatra da su žene često isključene iz važnih informacija viših nivoa menadžmenta i da žene na menadžerskim pozicijama nemaju isti tretman kao muškarci. Dalje, oko 16% ispitanika smatra da muškarci ne samo da brže napreduju od žena, već lakše mogu da dobiju poslove na višem hijerarhijskom nivou u poređenju sa ženama iako imaju iste kompetencije. Rezultati statističkih testova su pokazali da se rezultati ispitanika o postojanju efekta staklenog plafona ne razlikuju u zavisnosti od njihovog pola, starosti, bračnog statusa, dece, obrazovanja, niti dužine radnog iskustva u objektu koji pripada sektoru hrane i pića.

KLJUČNE REČI

jednakost polova, stakleni plafon, karijerne mogućnosti, ugostiteljstvo, sektor hrane i pića



Social and legal position of migrant drivers in public road traffic

Svetislav Janković¹  Ranko Sovilj²  Sanja Zlatanović² 

ABSTRACT

Labour migrations have become, over the years, a 'livelihood strategy' for many men and women to provide a better life and work opportunities and overall social security for them and their families. The shortage of labour force in European countries, particularly in some professions such as professional drivers and in the public transport sector, influences the work engagement of migrant drivers mainly from central and southeastern Asia and African countries. According to recent empirical studies, migrant drivers' work conditions showed the precariously of work and so-called modern force and slaver labour elements. The aim of the paper is to examine how globalization and digitalization impact the legal status of migrant drivers approaching from company law, transport law, and labour law perspectives. Legal theoretical, normative, and comparative methods were applied in that regard. The findings showed the necessity for a comprehensive holistic approach to the legal status of migrant drivers that integrates economic, public policy, and legal considerations when dealing with global labour migration. A neoliberal economic model that encourages global competition empowered by digitalization could endanger the enjoyment of fundamental human and labour rights to all citizens particularly those who are already considered vulnerable such as migrant workers.

KEYWORDS

public road transport, migrant-drivers, legal status of migrant-drivers, labour law approach

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Društveni i pravni položaj vozača-migranata u javnom drumskom saobraćaju

SAŽETAK

Prethodne decenije obeležile su intenzivne radne migracija na globalnom, a posebno na evropskom nivou. Obavljanje javnog drumskog saobraćaja predstavlja granu privrede u kojoj su migranti često radno angažovani. Vozači-migranti su radno angažovani u tradicionalnim, ali i u modernim oblicima javnog drumskog saobraćaja. Polazna hipoteza istraživanja jeste -da li je tehnički napredak dovoljan uslov za bezbedno i sigurno radno angažovanje migranata u javnom drumskom saobraćaju. S tim u vezi, položaj vozača-migranata biće razmatran sa saobraćajnog, kompanijskog i radnog aspekta, u uslovima sve izraženijih promena na tržištu rada uzrokovanih globalizacijom i digitalizacijom rada, a sve u kontekstu zaštite i unapređenja pravnog statusa vulnerabilnih kategorija stanovništva.

KLJUČNE REČI

javni drumski saobraćaj, vozači-migranti, statusnopravni položaj vozača-migranata, radnopravni položaj vozača-migranata

1 UVODNO RAZMATRANJE

Poslednju deceniju karakteriše pojava radnih migracija na svetskom, a naročito na evropskom nivou. Migracije sa Bliskog i Dalekog istoka, te iz afričkih zemalja, a u poslednje tri godine iz Rusije i Ukrajine, su posebno prisutne na Balkanskom poluostrvu (Othman and El-Nofely 2021: 19–20). Bez obzira na uže ili šire pojmovo određivanje migranta, faktički je jasno da su to državljani stranih država koji borave na domaćoj teritoriji duži ili kraći period, sa ili bez pravnog osnova (Bakić 2021: 4). Prethodnih decenija ekonomski činioци, prvenstveno visina ličnog dohotka, kao i uslovi na tržištu rada bili su primarni razlozi individualnih migracija (Rašević i Nikitović 2023: 31). Kako bi obezbedili osnovna sredstva za život, migranti, naročito oni sa namerom dužeg, odnosno trajnog boravka u stranoj državi, imaju tendenciju uključivanja na tržište rada. S obzirom na njihov neretko prekarni pravni položaj, poslovi koje obavljaju u stranoj državi su najčešće manuelnog tipa (molerski, farbarski, mehaničarski, kozmetičarski, održavanje higijene itd.). U suštini, to su poslovi koji se obavljaju u zatvorenom krugu, poslodavac – radnik migrant – korisnik usluge, pri čemu migrant nema direktan odnos sa klijentom, kao krajnjim korisnikom dobra ili usluge. Priroda odnosa gde je migrantski rad za krajnjeg korisnika usluge suštinski prikriven nastaje najčešće zarad izbegavanja negativnih reakcija domaćeg stanovništva u smislu inherentne ksenofobije, uz istovremeni cilj maksimizacije profita, na strani poslodavca (Bernard, Costello and Fraser Butlin 2024: 83).

Međutim, kako se tržište rada i potreba za određenim poslovima menja uz primetan nedostatak radne snage u određenim sektorima, pojava migranata u delatnostima u kojima imaju direktan

kontakt sa javnošću, odnosno domaćim stanovništvom postaje sve češća. Jedna od takvih delatnosti je javni drumski saobraćaj u kome su radno angažovani migranti kao vozači u različitim pravnim (faktičkim) oblicima – kao vozači autobusa, u kombi i taksi prevozu, kao tradicionalnim oblicima drumskog javnog saobraćaja, ali i kao vozači u modernim oblicima takvog saobraćaja, kao što su Uber, BlaBla car, Carpooling, Cargo itd.¹ Posao vozača u javnom saobraćaju je tradicionalno rezervisan za domaće stanovništvo, jer po prirodi posla je potrebno da vršioci takvih poslova poznaju putnu mrežu, servisnu i infrastrukturnu mrežu, rad hitnih ustanova, ali i sam mentalitet stanovništva.²

¹ Napomena: U javnom saobraćaju usluge prevoza pružaju javni prevozioci koji su za razliku od privatnih prevozlaca okrenuti u pružanju svojih usluga neodređenom krugu trećih lica kao korisnika takve usluge, odnosno javnosti uopšte (uprosćeno i vulgarizovano, javni saobraćaj je namenjen svakom licu kome je prevoz potreban). Suprotno tome, privatni prevoz predstavlja prevoz koji je namenjen samo ograničenom krugu lica i to bilo samom vozaču i njegovoj porodici na primer, bilo kompaniji čije je prevozno sredstvo (tzv. prevoz za sopstvene potrebe), bilo klasičnom naplatnom prevoznom poslu gde se na *ad hoc*, sporadičnoj osnovi, povremeno pruži usluga prevoza nekom (ne i bilo kom) licu. Takva podela na javne i privatne prevoziocе (eng. *common carrier* / *private carrier*) je izvorno ustanovljena u *Common Law* sistemu (odnosno, geografski određeno, u Ujedinjenom kraljevstvu, SAD, Kanadi, Australiji), ali je, nasuprot, proklamovanoj ekskluzivnosti podele (Hoeks 2010: 58–59), prisutna *de facto* i u državama kontinentalnog kruga poput Srbije. Pored opisane, skoro pa pojavne, razlike između javnog i privatnog prevozioca, ključna razlika među njima je pravna i to u pogledu režima odgovornosti (Janković 2019: 398–399).

² Napomena: kabotaža kao isključivo pravo domaćeg prevozioca da vrši prevoz lica i robe unutar državnih granica predstavlja, pre svega, pravo koje ima ekonomsku osnovu i opravdanje. Međutim, takvo pravo ima, doduše u manjoj meri i u trgovima, i psihološku osnovu prema tome što domaće stanovništvo ima veće puzdanje

Međutim, razvojem informacionih i komunikacionih tehnologija stvorili su se uslovi da, čak, i lica koja se prvi put nađu u nekom gradu ili državi mogu da se vrlo precizno orijentišu primenom tzv. GPS, odnosno različitih navigacionih programa koji u osnovi sadrže softvere za satelitsko praćenje (na primer, Google maps, ali i klasičnih navigacija u vozilima). Otuda, delatnost koja je, poput javnog drumskog prevoza, skoro pa nužno ranije bila rezervisana za domaće stanovništvo koje poznaje nacionalnu teritoriju, jezik i mentalitet, u savremenim okolnostima, postaje moguća, odnosno izvodljiva radnim angažovanjem stranih državljana koji su proveli vrlo kratak period na teritoriji države prijema.

No, pitanje je, što je i osnovna hipoteza ovog rada, da li je tehnički napredak dovoljan uslov za bezbedno i sigurno radno angažovanje migranata u javnom drumskom saobraćaju.³ Shodno tome,

u domaće prevoziocce nego u strane (Janković 2023: 41). U slučaju kada se migranti pojavljuju kao vozači, tada, u osnovi, ne dolazi do povređivanja kabotažnog prava, već su takva lica radno angažovana kod domaćih prevoznika, a prevozioci, kao takvi, odgovaraju za njihov rad i za svaku prouzrokovanu štetu u vezi sa radom. Time se ekonomska komponenta kabotažnog prava ne ugrožava, već samo psihološka koja stvara određenu početnu nelagodu domaćeg stanovništva na vozače migrante u javnom saobraćaju.

³ Napomena: izrazi „bezbednost“ i „sigurnost“, premda deluju slično ako ne i istovetno, u saobraćajnom pravnom okviru to nisu. Bezbednost ukazuje na obavezu prevozioca da putovanje putnika učini slobodnim od različitih krivičnih dela u saobraćaju poput otmice vazduhoplova (ili prevoznog sredstva u drugoj grani saobraćaja), sabotaže, i bilo kog drugog dela učinjenog od trećih lica ili samih putnika u prevoznom sredstvu. Drugačije je sa obavezom sigurnosti koja ukazuje na to da je prevoznik dužan da tehnički i kadrovski pripremi prevoznog sredstvo na takav način da je ono u stanju da preveze putnike (ili robu) na željeno odredište (Milde 2008: 207). Dakle, *bezbednost* u prevozu podrazumeva otklon od spoljnog ljudskog rizika koji se izražava kroz vršenje različitih krivičnih dela,

neophodno je sagledati opšte društvenu komponentu pojave vozača-migranata u javnom drumskom saobraćaju, a naročito, kritički analizirati pravne aspekte takve pojave. S tim u vezi, položaj vozača-migranata iz saobraćajnog prava, kompanijskog prava i radnog prava biće predmet ovog istraživanja, sve u kontekstu zaštite pravnog statusa vulnerabilnih kategorija stanovništva. Naime, iz ugla saobraćajnog prava je nužno ukazati na razlike između javnog i privatnog saobraćaja, kao i napraviti distinkciju između tradicionalnih i modernih oblika javnog saobraćaja, te analizirati ulogu i položaj migranata kao vozača u njima. Nadalje, iz kompanijskog prava je naročito važno razmotriti položaj migranata kao mogućih samostalnih vozača – preduzetnika u taksi i kombi prevozu, odnosno u tzv. tradicionalnim vidovima javnog saobraćaja, ali i njihov položaj u modernim oblicima drumskog saobraćaja. Najzad, sa stanovišta radnog prava potrebno je sagledati postojeće mehanizme ostvarivanja i zaštite prava na radu i u vezi sa radom u uslovima izrazitih promena na tržištu rada uzrokovanih digitalizacijom i automatizacijom rada, a naročito vezano za sagledavanje mogućih načina za unapređenje, inače, vulnerabilnog položaja radnika-migranata *de lege ferenda*. Autori će, takođe, ukratko ukazati na trenutni pravni položaj vozača-migranata u javnom drumskom saobraćaju u Srbiji, imajući u vidu da je u poslednje dve godine prisutno njihovo angažovanje u javnom prevozu.

dok *sigurnost* podrazumeva tehničku i kadrovsku pripremljenost vozila. U oba slučaja, ako se uzmu u obzir migranti kao vozači može da dođe (ali i ne mora) do povećavanja rizika od nebezbednosti i nesigurnosti prevoza. Otuda je potrebno, naročito u cilju prilagođavanja migranata kao vozača u stranoj državi dodatno proveravati uslove bezbednosti i sigurnosti vožnje.

2 VOZAČI-MIGRANTI U JAVNOM DRUMSKOM SAOBRAĆAJU – PRAVNO ODREĐENJE

Za razliku od železničkog, brodskog i avionskog saobraćaja u kojima je broj lica koja upravljaju takvim prevoznim sredstvima relativno mali i to bez obzira da li se ta vozila kreću u svrhu javnog ili privatnog prevoza, u drumskom saobraćaju je raširena praksa da se broj punoletnih lica sasvim izvesno približava broju lica sa vozačkom dozvolom.⁴ Međutim, u okviru tako velikog udela lica koja mogu da upravljaju drumskim prevoznim sredstvima, ipak treba uočiti lica koja imaju pravo da prevoze ne samo sebe i svoje stvari, već i stvari i lica koja za time pokazuju interes na tržištu prevoznčkih usluga, to jest u javnom, a ne samo u privatnom ili sopstvenom prevozu.⁵ Takva mogućnost

uticala je i na povećanje privrednog iskorišćavanja prevoznih sredstava kako kroz tradicionalne vidove prevoza, tako i kroz moderne oblike prevoza (koji, u osnovi, funkcionišu na principima ekonomije deljenja poput Uber-a). Na ovaj način se, po prvi put, od uvođenja dodatnih uslova za profesionalne vozače u javnom prevozu, *de facto* omogućava i licima koja nemaju posebne dozvole za vozača u javnom prevozu, da pružaju usluge prevoza. Ova praksa, ali još više i nedostatak profesionalnih vozača u javnom saobraćaju u državi prijema su stvorili plodno tlo za svojevrstan „uvoz“ vozača iz drugih država, po pravilu iz država porekla gde je prosečna mesečna/godišnja zarada znatno ispod one u državi prijema. Tako je, izvorno, došlo do pojave migranata kao vozača javnih prevoznika, pre svega u Beogradu, i to u autobuskom javnom prevozu.

Osnovni smisao podele na javni i privatni (u okviru njega i sopstveni) saobraćaj, odnosno prevoz leži ne samo u dostupnosti usluga na način da je javni prevoz onaj koji je dostupan svakom zainteresovanom licu (Jovanović 2017: 30), već težišno leži u pojačanoj zaštiti putnika, odnosno korisnika prevoza u javnom saobraćaju. Pojačana zaštita se ostvaruje ne samo kroz dodatna prava koja korisnici prevoza imaju u slučaju tzv. poremećaja u prevozu (otkazivanje, kašnjenje leta), već, prvenstveno, u većoj pouzdanosti javnog prevoza. Takva pouzdanost, tačnije pravno garantovano poverenje korisnika u javne prevoziocse se stiče kroz potvrdu (dozvolu, sertifikat)

⁴ U Republici Srbiji, na primer, oko 70% muškaraca i oko 35% žena od ukupnog broja stanovnika ima vozačku dozvolu B kategorije, dok je u Nemačkoj ima više od 50 miliona stanovnika u odnosu na ukupan broj od nešto više od 80 miliona (RTS 2020; Fahrerschule-123 2024).

⁵ Upravo, da bi lice koje ima pravo da upravlja određenom kategorijom drumskog prevoznog sredstva imalo pravo da deluje u okviru javnog prevoza, odnosno da prevozi treća zainteresovana lica, neophodno je da stekne posebnu dozvolu (licencu, sertifikat) za to, a čiji preduslovi sticanja se odnose na provere osposobljenosti upravljanja, psiho-socijalne provere, kao i polaganje određenog osiguranja. Tako, na primer, vozač ili javni prevoznik (kao pružaoci prevoznikačkih usluga) mogu da budu učesnici u javnom saobraćaju samo ako su prethodno od kontrolnog, nadležnog, tela dobili odgovarajuću dozvolu. Suprotno, korisnicima usluga u javnom saobraćaju poput putnika ili imalaca robe, dozvola za učešće u javnom saobraćaju nije potrebna, ali je potrebno da se svojim ponašanjem usklade sa osnovnim sigurnosnim i bezbednosnim načelima u javnom saobraćaju. Tako, potencijalnom putniku se neće omogućiti ulazak u prevozno sredstvo javnog saobraćaja ako je u stanju koje predstavlja opasnost po sigurnost ili bezbednost javnog saobraćaja poput stanja opijenosti (drogom ili alkoholom), zaraznosti,

neurednosti itd (Jovanović 2017: 369–370). Istovetno, imao bi robu kao potencijalnom korisniku se neće omogućiti da preda robu ili da se njen prevoz otpočne, ako bi takva roba ugrozila bezbednost i sigurnost prevoza usled odlika zapaljivosti, toksičnosti, radioaktivnosti ili bilo kog drugog opasnog svojstva (Jovanović 2017: 213).

koju javni prevozioci (i shodno tome vozači kao direktni pružaoci usluga) dobijaju od državnog kontrolnog tela. Ova potvrda daje korisnicima usluga pravnu garanciju da će se prevoz lica ili stvari izvršiti na siguran i bezbedan način. U Republici Srbiju, potvrdu, odnosno potvrde (sertifikate) izdaju Ministarstvo u čijoj su nadležnosti poslovi saobraćaja i Agencija za bezbednost saobraćaja. Ministarstvo izdaje dozvolu za obavljanje javnog prevoza i vodi registar javnih prevozlaca, dok je u okviru Agencije za bezbednost saobraćaja smešten delokrug poslova izdavanja potvrda o obučenosti tzv. profesionalnih vozača. Pri tome, Agencija za bezbednost saobraćaja poverava posao vršenja provere i obuke profesionalnih vozača AMSS (Auto-moto savez Srbije) koji, nakon što ustanovi da je određeno lice steklo znanja i veštine koje su neophodno za profesionalnog vozača u prevozu putnika ili tereta, izdaje sertifikat o stručnoj kompetentnosti i uz njega tzv. kvalifikacionu karticu (Zakon o bezbednosti saobraćaja na putevima 2023: čl. 9, st. 4). Sertifikat o stručnoj kompetentnosti je neophodno da se ima ako se vrši javni prevoz više od devet putnika ili tereta koji je teži od 3,5 tone.⁶

Suština pravnog režima je, dakle, u zaštiti kako privatnih interesa korisnika javnog prevoza, a u isto vreme, i još više, javnog interesa za osiguranjem sigurnosti i bezbednosti u javnom saobraćaju. Otuda, u slučaju pojave migranata kao vozača u prevoznim sredstvima u javnom saobraćaju, ne bi smele da postoje bilo kakve promene u pravnom režimu, već težnja za jednoobraznošću standarda u pogledu kvaliteta, odnosno sigurnosti i

bezbednosti javnog saobraćaja. Stoga, migranti kao potencijalni vozači ne bi smeli da budu povlašćeni u sticanju pravnih uslova (dozvola, ukratko CPT sertifikata) za učešće u javnom saobraćaju u odnosu na domaće stanovništvo. Osim toga, pravni osnov njihovog angažovanja u domaćem javnom saobraćaju predstavlja, najčešće, bilateralni međudržavni sporazum kojim se unapred ustanovljavaju uslovi pod kojima bi moglo da dođe do takve vrste migracije.⁷ Bilateralni međudržavni sporazum sadrži ne samo pravila u pogledu načina selekcije migranata kao radnika u državi prijema, već i pravila koja olakšavaju nastanjanje takvih lica (eventualno, njihovih porodica), zatim uslove za sticanje znanja i veština, te ovladavanje jezikom, a koji su neophodni kako bi uzeli učešće u javnom saobraćaju na način da se očuvaju kvaliteti sigurnosti i bezbednosti.

3 DRUŠTVENI I PRAVNI OKVIR MODERNIH OBLIKA JAVNOG DRUMSKOG SAOBRAĆAJA

Nasuprot tradicionalnim vidovima javnog drumskog saobraćaja poput autobuskog i taksi prevoza, početak 21. veka je obeležila i pojava modernih oblika javnog prevoza koji, uopšteno posmatrano, teže da imitiraju tradicionalne vidove u drumskom saobraćaju. Pojava interneta i računarskih programa koji omogućavaju pojednostavljeno i brže umrežavanje ponude i tražnje za uslugama, između ostalih i uslugama u javnom saobraćaju, učinila je da se otkloni prepreka asimetrije informacija na tržištu takvih usluga, ali i da se ona

⁶ Sertifikat o stručnoj kompetentnosti predstavlja doslovan prevod engleskog izraza *certificate of professional competence* – CPC, ukratko, ima značaj potvrde osposobljenosti vozača za posao izvršioca u javnom prevozu putnika ili tereta.

⁷ Jedan od tipičnih takvih sporazuma predstavlja međudržavni ugovor Nemačke i Kenije u kojima su precizirani uslovi prebacivanja kenijskih državljana u Nemačku kako bi se obučili za vozače u tamošnjem javnom saobraćaju (Maringa 2024).

sama pojeftini kroz različite, nove oblike njenog pružanja. Tako, na temeljima ekonomije deljenja nastaje čitav jedan novi pravac pružanja usluge prevoza u javnom drumskom saobraćaju tako što se stvaraju organizacije koje okupljaju pojedince koji su spremni da podele višak nekog svog resursa – bilo da je on izražen samo u pozajmljivanju prevoznog sredstva ili rada ili i vozila i rada.

Takve organizacije funkcionišu na bazi tzv. digitalnih radnih platformi putem kojih se nude usluge prevoza, a čiji korisnici jednostavnim odabirom najbližeg i najpovoljnijeg „prevoza“, odnosno prevozioca, vozača i vozila, prihvataju opštu ponudu organizacije što ujedno predstavlja zaključenje ugovora. Međutim, ovi oblici prevoza, a među kojima svojom organizovanošću i masovnošću prednjači Uber, nisu precizno ili, još češće, nisu uopšte uređeni domaćim propisima. Upravo to stvara opasnost za redovno funkcionisanje javnog prevoza, jer resursi u takvom obliku prevozu nisu od strane kontrolnog držanog tela provereni. To implicira da vozač sa običnom vozačkom dozvolom, bez dodatnih provera, upravlja vozilom (koje, takođe, ima samo osnovnu proveru za privatni, a ne i za javni saobraćaj).

Veći rizik može se pojaviti ako se na strani vozača u domaćoj državi nađe lice koje je migrant. Vozač-migrant, pored pomenutih nedostataka koje ima običan, domaći vozač u jednom od modernih oblika javnog saobraćaja, pruža uslugu prevoza u okolnostima koje su dodatno ograničavajuće, a tiču se poznavanja jezika, običaja, platnog sistema, kao i pravne kulture uopšte u državi prijema. Naime, moderni oblici javnog saobraćaja nalaze osnov u deregulacionom procesu tako što se javni saobraćaj nominalno određuje kao privatni, težeći da se, na taj način, izbegnu regulacioni

i kontrolni državni mehanizmu, koji pak iz ugla pružanja takve usluge, samo dodatno usporavaju i otežavaju njeno konzumiranje.⁸ Privatizacija javnog saobraćaja se u modernim oblicima izražava kroz mehanizam njihovog funkcionisanja. Naime, ovaj vid prevoza se smatra privatnim iz razloga što platformi, na primer, Uber-u mogu da pristupe samo lica koja su postala „članovi“ te platforme (pravno: udruženja) kroz „preuzimanje“ aplikacije na svom višenamenskom telefonskom uređaju. „Članstvo“ im omogućava da „naručuju“ i plaćaju prevoz interno, odnosno u zatvorenom krugu lica čineći takav prevoz, zapravo, prevozom „u krugu prijatelja“, odnosno iz pravnog ugla posmatrano – privatnim prevozom. Imajući u vidu da se privatni vozači od strane države samo bazično kontrolišu kroz postupak provere znanja i veština, te putem postupka utvrđivanja zdravstvene sposobnosti s ciljem izdavanja vozačke dozvole, očigledno je da su putnici u takvim oblicima prevoza nezaštićeni. Ne postoje, dakle, dodatne bezbednosne, zdravstvene i stručne procene koje bi ove vozače proverile, kao preduslov za učešće u javnom prevozu.⁹ No, ako bi takav propust mogao, donekle i da bude oprostiv, iako ne bi trebalo, prema domaćim licima koja žele da uzmu učešća u ovom obliku javnog prevoza, to nikako ne bi smeo da bude slučaj sa vozačima-migrantima. Razlog tome, svakako ne leži u diskriminaciji po osnovu nacionalne ili etničke pripadnosti, odnosno državljanstva, već isključivo

⁸ Istovremeno sa takvim tipom deregulacije se javlja i omasovljenost prijema stranih državljana u domaću državu kao svojevrtnih imigranata bez obzira na razlog preseljenja (Battistella 2009: 47–52)

⁹ Deluje da takav oblik prevoza, ipak nije privatni, već javni jer bilo koje zainteresovano lice može da pristupi takvoj platformi preuzimajući besplatno aplikaciju za takve usluge (Janković 2020: 286–287).

u nepoznavanju osnovnih, pravnih, kulturoloških vrednosti, uključujući u to i jezik i geografsku preciznu orijentisanost u gradovima države prijema.

Otuda, ostaje otvoreno pitanje odgovornosti vozača-migranata (svojim subjektivitetom i imovinom). Nejasno je, ako bi kao takvi učestvovali u obavljanju nekog od modernih vidova javnog prevoza, da li bi odgovarali sopstvenom imovinom, odnosno da li bi neko za njih garantovao i odgovarao u slučaju nastanka štete.¹⁰ Drugačiji je, inače, slučaj sa državom koja zaključuje najčešće bilateralne sporazume sa državom porekla stranog vozača, jemčeći, makar u osnovama, da će takvo lice, nakon propisanih bezbednosnih, zdravstvenih, ali i provera znanja i veština biti u stanju da na siguran, bezbedan i uopšte izvestan način izvršava svoju obavezu kao vozač u javnom drumskom saobraćaju.

¹⁰ Objašnjenje: Osnovno pravilo u građanskom pravu Srbije jeste da poslodavac odgovara za štetu koju prouzrokuje njegov zaposleni u vezi sa poslom koji mu je poveren (Zakon o obligacionim odnosima iz 1978: čl. 170, st. 1). Otuda, takvo pravilo je primenjivo na migrante kao zaposlene kod javnih prevoznika, prema kome bi javni prevoznik odgovarao za svaku štetu koju migrant u svojstvu vozača prouzrokuje trećim licima. Međutim, uz takvo pravilo čini se celishodnim uvođenje dodatnog obezbeđenja za eventualno oštećena lica time što bi javni prevoznik plaćao dodatnu premiju za osiguranje od odgovornosti koju bi vozač-migrant mogao prouzrokovati. Slično rešenje postoji u pojedinim savezima država SAD-a (npr. Kalifornija i Oregon), posebno u sektoru poljoprivrede, gde je poslodavac dužan da obezbedi dodatnu garanciju za obeštećenje trećih lica kojima je radnik-migrant prouzrokovao štetu (Ferjuste 2011: 294–295).

4 NEOLIBERALNO EKONOMSKO POSLOVANJE U SEKTORU JAVNOG DRUMSKOG SAOBRAĆAJA – ANGAŽOVANJE VOZAČA-MIGRANATA

STATUSNOPRAVNI POLOŽAJ VOZAČA-MIGRANATA U TRADICIONALNIM OBLICIMA JAVNOG DRUMSKOG SAOBRAĆAJA

Pružanje usluga u javnom drumskom saobraćaju neretko je nerentabilna i ne-profitabilna delatnost u sistemu javnog prevoza, što se ispoljava nedovoljnom zainteresovanošću i atraktivnošću obavljanja ove delatnosti (Mehanović, Kosovac i Ezgeta 2024: 67). U Srbiji postoji 175.000 licenciranih vozača, od čega je deo otišao u inostranstvo, dok se deo bavi taksi prevozom, te se procenjuje da je angažovano oko 100.000 profesionalnih vozača. Okvirne procene su da Srbiji nedostaje oko 20.000 vozača u drumskom saobraćaju (Blic 2023). Osim toga, preko 30% profesionalnih vozača u Srbiji je starije od 50 godina, što je rezultiralo angažovanjem penzionera od strane privatnih transportnih kompanija radi obavljanja delatnosti prevoza u javnom drumskom saobraćaju. I na međunarodnom, regionalnom, a poslednjih godina i u lokalnom javnom drumskom prevozu izražen je problem nedostatka profesionalnih vozača, te sve učestalije angažovanje vozača-migranata. Intenzivan odlazak domaćih profesionalnih vozača poslednjih godina u zemlje Evropske unije, prvenstveno Nemačku, Austriju i Italiju, zbog veće zarade, kao i boljih uslova rada rezultiralo je da transportne kompanije angažuju vozače iz inostranstva. Jedna od najstarijih transportnih kompanija u Srbiji *Mobilitas* (nekadašnji *Litas* iz Požarevca) prva je privatna kompanija koja je oktobra 2022. godine angažovala vozače

iz Šri Lanke u obavljanju javnog gradskog prevoza u Beogradu. Ovu kompaniju sledile su i brojne druge privatne kompanije koje učestvuju u obavljanju gradskog prevoza u Beogradu, angažovanjem vozača-migranata iz Indije, Nepala i Šri Lanke (Vujanac 2024).

Modeli javnog drumskog prevoza predstavljaju planove i sisteme organizacije prevoza putnika u urbanim i ruralnim sredinama s ciljem olakšavanja kretanja lica na efikasan, ekonomičan i održiv način.¹¹ Imajući u vidu status usluga od javnog značaja, kao i sredstva koja doniraju jedinice lokalne samouprave, tradicionalno su kompanije koje organizuju javni drumski saobraćaj bile osnivane isključivo u formi javnih (državnih) preduzeća. Kontinuirana nerentabilnost kompanija koje organizuju javni drumski saobraćaj, te posledično poslovanje sa gubicima, rezultiralo je, tokom procesa tranzicije, njihovom privatizacijom. Privatizacija brojnih preduzeća koja su organizovala drumski prevoz putnika dovela je do promene njihove pravne forme. Privatizovana preduzeća uglavnom su osnivana u formi preduzetnika ili društva sa ograničenom delatnošću (d.o.o.). Generalno, u formi preduzetnika osnivana su taksi preduzeća za obavljanje javnog drumskog prevoza putnika, premda zakon dopušta taksi prevozniku da bude osnovan i u formi privrednog društva, što je retkost u praksi zbog nepovoljnijih (strožih) uslova koje mora ispuniti kao

privredno društvo (Odluka o izmenama i dopunama odluke o taksi prevozu 2021: čl. 1). Taksi prevoznik – preduzetnik jeste pravna forma osnivanja i organizovanja preduzeća radi obavljanja delatnosti prevoza putnika s ciljem sticanja dobiti (lukrativni poslovi) pod, po pravilu, ličnim poslovnim imenom od strane fizičkog lica i sa neograničenom odgovornošću celokupnom sopstvenom imovinom (Vasiljević 2007: 56). Osnovna pravna obeležja taksi prevoznika u svojstvu preduzetnika je da mora biti fizičko lice koje ima potpunu poslovnu sposobnost, kao i da kontinuirano obavlja delatnost pružanja usluga drumskog prevoza s ciljem naplate naknade za pružene usluge. Taksi prevoznik obično samostalno obavlja delatnost, međutim, ima pravo da radno angažuje i druga lica (Jovanović, Radović i Radović 2023: 83–84). Dakle, taksi vozač je „fizičko lice koje upravlja taksi vozilom i obavlja taksi prevoz, kao preduzetnik ili kao zaposleni kod pravnog lica i koji ispunjava uslove propisane zakonom“ (Odluka o izmenama i dopunama odluke o taksi prevozu 2021: čl. 4). Da bi započeo obavljanje delatnosti taksi prevoza, preduzetnik je obavezan da ispuni određene zakonom propisane uslove, kao sto su tehnički uslovi (npr. oprema), uslovi stručnosti i sl.¹²

¹¹ Kada se govori o savremenim modelima drumskog saobraćaja prvenstveno u urbanim sredinama, na nivou Evropske unije promovišu se politike i smernice koje podržavaju održivu mobilnost s ciljem snižavanja emisije štetnih gasova, povećanjem upotrebe ekološki prihvatljivih vozila u javnom gradskom saobraćaju (upotreba električnih autobusa i hibridnih vozila), kao i podsticanje alternativnih oblika transporta poput korišćenja električnih bicikala i pešačenje (Mehanović, Kosovac i Ezgeta 2024: 67).

¹² Primera radi, u Beogradu, taksi prevoznik mora ispuniti niz uslova za obavljanje delatnosti da bi dobio taksi dozvolu od sekretarijata za saobraćaj grada Beograda: „da postoji slobodno mesto za taksi vozilo u skladu sa programom; da je registrovan za obavljanje delatnosti taksi prevoza; da ima vozačku dozvolu B kategorije; da ima zvanje vozača putničkog automobila trećeg stepena stručne spreme ili zvanje vozača autobusa i teretnog motornog vozila četvrtog stepena stručne spreme ili zvanje saobraćajnog tehničara ili zvanje vozača specijaliste petog stepena stručne spreme; radno iskustvo profesionalnog vozača minimum pet godina; da ima sertifikat o položenom ispitu o poznavanju grada Beograda, kao i poznavanje jednog stranog jezika; da je zdravstveno sposoban

U poslednje tri decenije, u pojedinim evropskim zemljama (nordijske zemlje), koje su tradicionalno posmatrane kao države blagostanja, sproveden je proces deregulacije sektora javnog drumskog saobraćaja, obeležen neoliberalnim rešenjima, što je posledično doprinelo daljem raslojavanju tržišta rada. Kao ključni razlog za deregulaciju taksi industrije isticalo se da preterana regulisanost i organizovanost narušava efikasnost taksi prevoza. Shodno osnovnim postulatima neliberalne ekonomske doktrine, očekivanja su da će slobodna i poštena konkurencija doprineti većoj efikasnosti i kvalitetu taksi usluga, ali i nižim cenama, istovremeno povećavajući broj većih taksi operatera koji bi mogli da iskoriste prednosti ekonomije obima (Slavnic 2015: 300). Upravo niske barijere za ulazak na taksi tržište nakon sprovedene deregulacije, kao i istovremeno brojni otežavajući uslovi za zasnivanje radnog odnosa u drugim sektorima predstavljaju ključne razloge za angažovanje velikog broja radnika-migranata u obavljanju taksi prevoza.¹³

Kao prednost deregulacije taksi prevoza, ističe se uklanjanje diskriminatornih smetnji za ulazak u sektor taksi prevoza, čime je omogućena bolja integrisanost

vozača-migranata (Slavnic i Urban 2008: 14). Posledica globalizacije i neoliberalnog načina poslovanja transformisala je taksi sektor u skandinavskim zemljama iz detaljno regulisanog poslovnog okruženja sa brojnim uslovima za ulazak na tržište, gotovo sponzorisanog od strane države, u deregulisani sektor sa niskim ulaznim preprekama, omogućavajući skoro svakom da uđe u ovaj sektor. Time je stvoreno poslovno okruženje koje je omogućilo i migrantima da osnuju sopstveni biznis u taksi sektoru, te poboljšaju društveni položaj umrežavanjem unutar etničkih grupa (Slavnic i Urban 2008: 15). Međutim, novija istraživanja sprovedena u skandinavskim zemljama, ukazuju da se migranti-preduzetnici koji su u statusu samozaposlenih lica i dalje nalaze u lošijoj ekonomskoj situaciji naspram domaćih preduzetnika u istom privrednom sektoru, ali i u odnosu na migrante koji su u radnom odnosu i imaju redovne prihode (Slavnic 2015: 306). Sektor taksi usluga sve više karakteriše oštra konkurencija, kontinuirano pogoršanje položaja radnika i rastuća neizvesnost. Samim tim, sektor taksi usluga postaje sve manje atraktivan za one migrante koji su zasnovali radni odnos u drugim profitabilnijim privrednim granama, usled čega je postao "poslednje utočište" za najugroženije migrante (Slavnic 2015: 314–315).

Za razliku od Švedske, u Norveškoj, uprkos protivljenju udruženju taksi poslodavaca i sindikata, Vlada je sprovedla deregulaciju u sektoru taksi prevoza 2020. godine, što je prećutno impliciralo ponovnim uspostavljanjem platformskih kompanija,¹⁴ poput Ubera, čije je

za upravljanje motornim vozilom; da mu pravosnažnom sudskom odlukom nije zabranjeno obavljanje ove delatnosti, odnosno nije izrečena kazna zatvora duža od dve godine za krivično delo protiv života i tela, polne slobode, imovine, bezbednosti javnog saobraćaja, javnog reda i mira; da je vlasnik, odnosno primalac lizinga jednog registrovanog putničkog vozila; da ispunjava uslove u pogledu poslovnog ugleda, kao i da je pre otpočinjanja delatnosti izvršio uplatu komunalne takse za korišćenje predviđenog prostora" (Odluka o izmenama i dopunama odluke o taksi prevozu 2021: čl. 6).

¹³ Prema istraživanju koje je sprovedeno 2004. godine, konstatovano je da skoro trećina taksi vozača u Švedskoj su migranti, ili su potomci roditelja koji su rođeni u inostranstvu (Slavnic i Urban 2008: 8).

¹⁴ U literaturi je prisutna podela platformske ekonomije na platforme kapitala, poput Airbnb, i platforme rada, poput Ubera, Glovo i Wolt. Visokoobrazovana lica uglavnom se angažuju na platformama kapitala, nudeći ili iznajmljujući

poslovanje prethodno bilo zabranjeno 2017. godine (Hiim Staalhane and Vasenden 2022: 67).

Sa druge strane, za razliku od evropskih država u kojima su migranti redovno angažovani u obavljanju delatnosti taksi prevoza, u domaćem taksi prevozu, migranti nisu angažovani. Imajući u vidu brojne zakonom predviđene uslove za započinjanje delatnosti taksi prevoza, nerealno je očekivati i u narednim godinama, da će migranti biti angažovani u obavljanju taksi prevoza, posebno uzimajući u obzir da se i nakon ispunjenih zakonom propisanih uslova, čeka nekoliko godina dok se ne oslobodi mesto za ulazak u sektor. S druge strane, sve više vozača-migranata je angažovano u privatnim kompanijama koje obavljaju javni drumski saobraćaj širom Srbije.

PRAVNI POLOŽAJ VOZAČA-MIGRANATA U MODERNIM OBLICIMA JAVNOG DRUMSKOG SAOBRAĆAJA – RADNO ANGAŽOVANJE U PLATFORMSKIM KOMPANIJAMA

Pored tradicionalnih, opšte prihvaćenih i pravno regulisanih formi organizovanja i obavljanja javnog drumskog prevoza, poslednjih godina, a posebno nakon pandemije Covid-19, ubrzano se razvijaju nove forme organizovanja drumskog prevoza putnika pomoću mobilnih aplikacija (Uber, CarGo, BlaBlaCar). Tako su, u mnogobrojnim zemljama širom sveta, osnovane platformske kompanije za pružanje usluga u sektoru javnog drumskog prevoza čije je poslovanje utemeljeno u konceptu ekonomije deljenja (Janković i Sovilj 2024: 113). DiDi, kineska aplikacija

objekte koje poseduju, dok se na platformama rada angažuju nezaposlena lica, niskokvalifikovani radnici i migranti koji prvenstveno nude svoj rad (Ilsøe and Larsen 2020: 2).

za poručivanje vožnje, nakon kupovine Ubera Kina, avgusta 2016. godine stekla je monopolni položaj na tržištu. Putem aplikacije, DiDi je omogućila svojim korisnicima raznovrsne transportne usluge, od pozivanja taksija, iznajmljivanja motornog vozila, rezervisanja specijalnih limuzina do angažovanja određenog vozača (Chen 2018: 231). Kineski taksisti bili su prva grupa vozača koje je angažovala platformska kompanija DiDi, pre nego što je proširila delokrug poslovanja, angažujući vlasnike privatnih motornih vozila, šofere, omogućila deljenje prevoza, kao i razvijanje programa partnerstva između vozača i DiDi autobusa (Chen 2018: 236). Upravo širenje brojnih usluga klijentima u drumskom saobraćaju, omogućilo je novih 17 miliona radnih mesta samo u 2016. godini (Chen 2018: 237).

Poslednjih godina, u naučnoj, stručnoj, a i široj javnosti postoje podeljena, neretko neusaglašena mišljenja u pogledu položaja platformskih radnika u javnom drumskom saobraćaju. Naročito se kritikuje preterana eksploataisanost vozača angažovanih putem digitalnih platformi u javnom drumskom prevozu (angažovanost po 10 – 12 sati dnevno, sedam dana u nedelji), kao i fleksibilnost forme radnog angažovanja, u smislu nepotpunosti radnopravne zaštite, odnosno problem nejednakosti u pravima i obavezama u odnosu na vozače radno angažovane u javnim preduzećima i privatnim kompanijama čija je delatnost obavljanje javnog drumskog prevoza.¹⁵

¹⁵ Uslovi koje poslodavci (transportne kompanije) nude vozačima u Srbiji se razlikuju, ali redovno uključuju osnovna prava i obaveze koji proizlaze iz radnog odnosa, poput plaćenih mesečnih zarada, doprinosa za zdravstveno i penziono osiguranje, godišnji odmor, eventualno bonuse u zavisnosti od uspešnosti vozača ili pređene kilometraže. Veće transportne kompanije uglavnom nude svojim vozačima dodatne benefite u vidu dodatnih slobodnih dana ili plaćenih *team building-a*.

Osim toga, poslovanje platformskih kompanija i njihova pravna kvalifikacija kao posrednika između korisnika i pružaoca usluge-radnika, bez utvrđivanja statusa poslodavaca, pored onemogućavanja zaštite radno-socijalnih prava vozača-migranta, otvara i pitanje bezbednosti korisnika usluge, kao i ostalih učesnika u javnom drumskom saobraćaju, prvenstveno pitanje odgovornosti u slučaju pretrpljene štete. Takođe, bezbednost u saobraćaju i ugroženost same delatnosti dodatno je narušena nedostatkom konkurencije i adekvatne selekcije kadrova uz odsustvo rigorozne kontrole, bez sprovođenja obaveznih psihotestova, te snižavanjem starosne granice za vozačku dozvolu D kategorije. Uzrok tome je višedecenijsko emigriranje domaćih profesionalnih vozača u inostranstvo, u države koje su pravovremeno sagledale potrebe svojih privreda, te shodno tome, usvojile propise i mere u interesu ekonomskog razvoja. Razvijene države svojim uređenim sistemom privlače profesionalne vozače, te na taj način, radne migracije, rešavaju problem nedostatka kadrova u sektoru javnog drumskog prevoza. Stoga, neblagovremeno pristupanje rešavanju problema nedostatka vozača u domaćem javnom drumskom saobraćaju rezultiralo je, poslednjih godina, angažovanjem sve većeg broja vozača-migranata. Kao jedan od načina rešavanja nedostatka kadrova u javnom drumskom saobraćaju jeste da se profesionalni vozači proglase deficitarnim zanimanjem, čime bi se stimulisale privatne transportne kompanije određenim poreskim olakšicama, ali i vozači, kojima bi trebalo omogućiti određene povlastice, poput beneficiranog radnog staža ili povoljnijih stambenih kredita kako bi se zadržali u zemlji.

VOZAČI-MIGRANTI I NJIHOV POLOŽAJ SA ASPEKTA RADNOG PRAVA – PRAVNI IZAZOVI

Radnopravni položaj migranata uopšte, u uslovima globalizacije proizvodnje i rada, posebno je izazovan za normiranje i primenu pravnih pravila. Ovo, naročito, vredi u okolnostima kada nastanak i razvoj koncepta tzv. "digitalizovane neoliberalne ekonomije", tj. gig, odnosno ekonomije deljenja, odnosno ekonomije na zahtev otežava garantovanje, ostvarivanje i zaštitu osnovnih radno-socijalnih prava svim kategorijama radnika, a naročito onima čiji je status već, inherentno, definisan kao vulnerabilan. Navedeno, uslođnjava još i činjenica da ne postoji univerzalno utvrđen pojam "migranta" i „radnika-migranta“, te da se isti koristi za označavanje različitih oblika napuštanja teritorije područja rođenja lica – i uključuje kako promene u okviru države rođenja, odnosno države porekla tako i van nje – po različitim osnovama i u različite svrhe (Rašević 2016: 9). S tim u vezi, koriste se još i termini sezonski radnici, gost-radnik, ali i izbeglice i tražioci azila, što označava situacije kada radnik emigrira ali iz razloga koji, inicijalno, nisu socijalno-ekonomske prirode već su vezani za ostvarivanje i zaštitu građansko-političkih prava i posledica su rata ili progona (Aktas et al. 2022: 767). U svim slučajevima, licu sa statusom migranta neophodno je garantovati minimalne uslove za dostojanstven život i rad u državi prijema, ostvarivanje socijalne sigurnosti, kao i izvesnosti (radno)pravnog statusa bez diskriminacije u odnosu na domaće državljane.

Međunarodna organizacija rada (MOR) naglašava problem nepostojanja statistički relevantne međunarodne, odnosno univerzalno prihvaćene definicije radnih migracija, s tim da daje opštu

definiciju radnika-migranata – „kao lica koje će biti radno angažovano ili je već angažovano, za novčanu naknadu, u državi u kojoj nije rođeno“ sadržane u Konvenciji Ujedinjenih nacija o zaštiti prava svih radnika migranata i članova njihovih porodica iz 1990. godine (ILO 2019). Sa druge strane, Ujedinjene nacije (UN) definišu stranog radnika migranta – kao stranog državljanina koji na teritoriji države prijema obavlja ekonomsku aktivnost za određenu novčanu naknadu i čija je dužina boravka uslovljena formom radnopravnog angažovanja, odnosno vrstom zapošljavanja dok se pak međunarodnim migrantom smatra lice koje menja državu uobičajenog boravišta (Migration Data Portal 2024). Dakle, fokus MOR-a kod pojmovnog određenja radnika-migranta jeste na radno-ekonomskoj aktivnosti koja je plaćena, odnosno obavlja se za novčanu naknadu, što je jedini i osnovni razlog migracije, dok UN sagledava sa stanovišta promene teritorije u odnosu na državu porekla, odnosno državljanstvo lica, gde sam razlog migracije nije relevantan za utvrđivanje statusa.

U oba slučaja, pretpostavka za socijalnu i istovremeno profesionalnu integraciju u državi prijema jeste garantovanje, kao i utvrđivanje mehanizama za ostvarivanje i delotvornu zaštitu osnovnih prava na radu i u vezi sa radom radnika-migranata, bez diskriminacije u odnosu na domaće radnike. Ovde je značajno ukazati da, pored često isticanih negativnih posledica migracija u smislu pojave nelegalnih migracija, gde lice boravi na teritoriji države prijema bez odobrenja za boravak i bez dozvole za rad, zatim zloupotreba u kontekstu vršenja različitih krivičnih dela, radne eksploatacije i, u nekim slučajevima, ostvarivanja elemenata krivičnog dela trgovine ljudima, pozitivni aspekti migracija su nesumnjivi, kako za državu

porekla tako i državu prijema. S tim u vezi, međunarodne migracije učestvuju u ekonomsko-socijalnom razvoju, gde radnici-migranti doprinose razvoju države porekla putem novčanih doznaka ali i transfera znanja i veština u slučajevima visoko kvalifikovanih radnika-migranata dok, sa druge strane, država prijema na ovaj način obezbeđuje potrebnu radnu snagu u sektorima gde postoji nedostatak, odnosno kod deficitarnih zanimanja (Moyce and Schrenker 2018: 352).

Međutim, empirijska istraživanja, na globalnom nivou, o položaju radnika-migranta u državama prijema pokazala su izrazito prekarne uslove rada, tj. nepostojanje ugovora o radu u pisanoj formi, prekomerno radno angažovanje, niske zarade, propust u primeni standarda zaštite bezbednosti i zdravlja na radu, kao i često diskriminatorsko postupanje, odnosno zlostavljanje na radu, što je, u literaturi, kolokvijalno označeno engleskim terminom “3-D poslovi”, tj. prljavi, opasni i zahtevni uslovi rada (eng. *dirty, dangerous and demanding*) svojstveni radnicima-migrantima (Aktas et al. 2022: 767).

Kao poseban izazov za nacionalna zakonodavstva identifikovan je primenjen model, odnosno način regrutovanja kandidata za zapošljavanje van teritorije države porekla, tj. način radnog angažovanja radnika-migranta. Naime, 50-ih i 60-ih godina 20. veka, zapošljavanje radnika-migranata vršeno je po osnovu zaključenja bilateralnih sporazuma između države porekla i države prijema, uz posredovanje agencija za zapošljavanje države porekla, kao i kasniju kontrolu, tj. nadzor nad primenom međunarodnih i nacionalnih standarda rada od strane javnih agencija za zapošljavanje države prijema (ILO 2010: 77). Sa liberalizacijom tržišta rada i uz intenziviranje radnih migracija došlo je do osnivanja privatnih

agencija za posredovanje u zapošljavanju za koje se veže loša praksa rada u smislu neprofesionalnog i neetičkog postupanja izražena kroz davanje netačnih i nepotpunih informacija o poslovima u državi prijema, kao i protivpravno naplaćivanje naknada radnicima-migrantima za pruženu uslugu posredovanja, što je naročito izraženo na azijskom tržištu rada (ILO 2010: 78).

Nadalje, radno angažovanje radnika-migranta izazovno je sa stanovišta primene, odnosno propusta u primeni standarda zaštite bezbednosti i zdravlja na radu. Ovo naročito sa aspekta povećanog rizika izloženosti štetnim agensima iz radne sredine, fizičkim, biološkim i hemijskim u smislu rada na visokim ili niskim temperaturama, visokog nivoa buke, ali i izloženosti stresu na radu, kao i diskriminatorskom postupanju i zlostavljanju, po osnovu ličnih karakteristika migrantskog statusa (Moyce and Schrenker 2018: 353–354). Nesigurnost uslova rada, odnosno često nepostojanje ugovora o radu, neizvesnost trajanja radnog angažovanja, niska zarada, onemogućavanje ostvarivanja prava na odmor i razonodu, nedovoljan stepen osiguranja socijalne sigurnosti u smislu delotvornog ostvarivanja prava po osnovu socijalnog osiguranja su sve razlozi koji, pored ugrožavanja fizičkog zdravlja radnika-migranta, doprinose i narušavanju mentalnog zdravlja i ukupne socijalne dobrobiti na radu. Empirijska istraživanja, kao faktore rizika po mentalno zdravlje radnika-migranata, naročito ističu faktore ličnih svojstava, odnosno nacionalnost, etnicitet, kulturne i jezičke barijere, pored onih koji se, tradicionalno, odnose na formu radnog angažovanja i uslova rada (Aktas et al. 2022: 769).

Kao način za unapređenje radnopravnog statusa u domenu bezbednosti i zdravlja na radu, u literaturi, se ukazuje

na neophodnost organizovanja obuka za bezbednost i zdravlje na radu namenjenih radnicima-migrantima, i to posebno po sektorima angažovanja i procenjenim specifičnim rizicima, uz obavezno informisanje i obuku na jeziku koji radnik-migrant razume (Moyce and Schrenker 2018: 356). U postupku koncipiranja i sprovođenja obuka za bezbednost i zdravlje na radu posebno namenjenih radnicima-migrantima važno je učešće sindikata i organizacija poslodavaca u datom sektoru. Tako, kao model kolektivnog organizovanja *pro futuro*, i preporuka za unapređenje inače oslabljenog položaja sindikata, kako na globalnom tako i na nacionalnim nivoima zbog smanjenja broja članstva, mogući odgovor bio bi, da se u okviru reprezentativnih sindikata u sektorima koji tradicionalno uključuju radno angažovanje radnika-migranata, poput sektora poljoprivrede, građevinarstva, saobraćaja, kao i sektora usluga, utvrde pravila za obavezno uključivanje predstavnika migranata u rad sindikata.

Naveden pristup bi znatno bio olakšan svojevrsnim uključivanjem civilnog sektora, odnosno nevladinih organizacija u oblasti ljudskih prava a koje imaju iskustva u radu sa radnicima migrantima, čime bi se, istovremeno, delovalo u skladu sa savremenim pravcem razvoja načela tripartizma, odnosno unapređenog koncepta tripartizma plus. Načelo tripartizma predstavlja osnovno načelo radnog prava kojim se regulišu individualni i kolektivni radni odnosi, odnosno uspostavljaju odnosi između socijalnih partnera – sindikata, udruženja poslodavaca i države – koje istovremeno predstavlja i osnovno obeležje univerzalnih međunarodnih standarda rada, a primenjuje se i u radu komisija za oblast bezbednosti i zdravlja na radu (Lubarda 2018: 54). Sa druge strane, unapređen

oblik načela tripartizma jeste tripartizam plus koji je inicijalno promovisan u okviru MOR-a početkom dvehiljaditih godina, kada se je ukazalo na pozitivan uticaj u kontekstu unapređenja radnih standarda razvijanjem saradnje i dijaloga sa organizacijama civilnog društva, kao i naučno-istraživačkim institucijama kod zaštite prava vulnerabilnih kategorija radnika (Stojković Zlatanović i Protić 2024: 59), što uključuje i radnike-migrante.

Sve navedeno odnosi se i primenljivo je i na vozače-migrante, radno angažovane u sektoru javnog saobraćaja. Nedostatak profesionalnih vozača jeste problem koji je identifikovan u većini država članica Evropske unije (EU), poslednjih godina, i nije karakterističan samo za Srbiju. Stoga, Evropska komisija je u martu 2023. godine podnela predlog za revidiranje regulative o vozačkoj dozvoli, odnosno Direktive 2006/126/EC na način da se omogući radno angažovanje vozača od 17 godina starosti, a razlog je nedostatak radne snage u ovom sektoru. Osim toga, inicijativa uključuje i predlog za olakšavanje uslova za državljane drugih država koje imaju uporedive standarde bezbednosti u saobraćaju da zamene nacionalnu vozačku dozvolu za jedinstvenu vozačku dozvolu koja važi na teritoriji EU (Van Gardingen and Atema 2023: 8). Ipak, uz sve standarde zaštite radno-socijalnih prava na nivou EU, vozači-migranti nalaze se u izrazito prekarnom položaju koji se često označava kao savremeni oblik prinudnog i ropskog rada. Na osnovu intervjua sprovedenih sa 166 vozača-migranta azijskog porekla (Uzbekistan, Turkmenistan, Kazahstan i Kirgistan) radno angažovanih u državama EU, odnosno u Holandiji, Belgiji, Litvaniji, Poljskoj i Slovačkoj, utvrđeno je da su svi ispitanici platili naknadu za posredovanje u zapošljavanju privatnim agencijama u državi porekla, uz kasnije

plaćanje dodatnih naknada u državi prijema; da nisu iskoristili pravo na odmor u periodu od godinu dana; kao i da nisu bili upoznati sa načinom obračuna zarade na dnevnom niti mesečnom nivou (Van Gardingen and Atema 2023: 11–12).

Podaci o modelu regrutovanja, odnosno formi radnog angažovanja vozača-migranata u javnom saobraćaju u Republici Srbiji u smislu potencijalnog zaključivanja bilateralnih sporazuma između države porekla i države prijema, zatim o posredovanju javnih ili privatnih agencija u zapošljavanju vozača-migranata, a shodno odredbama Zakona o zapošljavanju i osiguranju za slučaj nezaposlenosti (2009), kao i vezano za izdavanje dozvola za rad strancu i licu bez državljanstva nisu dostupni na internet sajtovima pomenutih organizacija, a nije bilo moguće doći do istih pretragom internet pretraživača. Od javno dostupnih podataka o radnom angažovanju vozača-migranata u javnom drumskom saobraćaju na teritoriji Republike Srbije u pojedinim novinskim naslovima može se doći do informacija, da je sa angažovanjem vozača iz Šri Lanke, Nepala, Turske, Indije krenulo u oktobru 2022. godine kada je privatni prevoznik *Mobilitas* inicijalno angažovao 20 vozača iz Šri Lanke (RTS 2024). Nadalje, u tekstu stoji da se radno angažovanje obavlja po osnovu Zakona o zapošljavanju stranaca (ZZS).

Poslednja novela Zakona o zapošljavanju stranaca je iz 2023. godine, dok se zakon primenjuje od 1. februara 2024. godine. Uslovi za zapošljavanje stranaca, predviđeni Zakonom, jesu – „posedovanje vize za stalni boravak po osnovu zapošljavanja, ili odobrenja za privremeni boravak (važenje 3 godine) ili stalnog nastanjenja i posedovanje jedinstvene dozvole, tj. dozvole za privremeni boravak i rad, gde je postojanje radnog odnosa

vezano za vreme važenja jedinstvene dozvole" (Zakon o zapošljavanju stranaca 2023: čl. 9, st. 1). Izmenama i dopunama Zakona o zapošljavanju stranaca predviđeno je podnošenje zahteva za izdavanjem jedinstvene dozvole *online* putem tzv. jedinstvenog web portala od strane kandidata za zaposlenje-stranca, zatim poslodavca u ime stranca ili fizičkog, odnosno pravnog lica ovlašćenog od strane stranca ili poslodavca. Ocenu ispunjenosti uslova za izdavanje jedinstvene dozvole vrši organizacija nadležna za poslove zapošljavanja, odnosno mesno nadležna organizaciona jedinica Nacionalne službe za zapošljavanje, a nakon sprovedenog testa tržišta rada. Naime, kao ograničenje za zapošljavanje stranaca, odnosno radnika-migranata, domaće pozitivno pravo utvrđuje obavezno sprovođenje testa tržišta rada, tj. da li se na evidenciji Nacionalne službe za zapošljavanje već nalaze lica, među domaćim državljanima, koja odgovaraju uslovima iz zahteva poslodavca za konkretno radno mesto. U radnopravnoj teoriji, zakonodavstvu i praksi, utvrđivanje testa tržišta rada kao posebnog uslova za zapošljavanje radnika-migranata ne smatra se diskriminacijom već merom zaštite javnog interesa domaćeg tržišta rada, odnosno legitimnih interesa kreiranja i vođenja nacionalne ekonomske, migracione i/ili demografske politike (Kovačević 2020: 7). Osim toga, Zakon predviđa još i ograničenje kada odlukom Vlade može da se ograniči broj stranaca kojima se izdaje jedinstvena dozvola, tzv. sistem kvota, zbog promena na tržištu rada.

Prema odredbama Zakona o zapošljavanju stranaca, radnici-migranti uključujući i vozače-migrante uživaju ista prava na radu i u vezi sa radom kao i domaći državljani, s tim da ostaje kao otvoreno pitanje njihove primene u praksi.

5 ZAKLJUČAK

Globalne migracije i migranti kao takvi ne doprinose akumulaciji kapitala, već njihov nesiguran i nejednak položaj na tržištu rada, čini ih ranjivim i istovremeno privlačnim za ostvarivanje ciljeva ekonomije deljenja. Savremeni koncept tzv. ekonomije deljenja je evolucija neoliberalne ideologije koja sublimira nastavak eksploatacije radnika od tranzicije ka postindustrijskom društvu, signalizirajući „silaznu putanju“ prema nedovoljno plaćenom i nedostojanstvenom radu, kao i ugrožavanje tradicionalno definisanog radnog odnosa, odnosno onog koji izdvaja ugovor o radu od klasičnog ugovora građanskog, tj. obligacionog prava.

Radnopravni položaj vozača-migranata u javnom drumskom saobraćaju na međunarodnom, regionalnom i na nacionalnim nivoima, shodno empirijskim studijama, pokazuje nejednakost u uslovima rada i izazove ostvarivanja i zaštite fundamentalnih radno-socijalnih prava, u odnosu na domaće stanovništvo. Pravni režim jednakog postupanja prema radnicima-migrantima i domaćim državljanima ograničava se legitimnim interesima vođenja ekonomskih, radno-socijalnih, migratornih i demografskih politika.

Nedostatak radne snage u određenim sektorima, poput javnog drumskog saobraćaja, uslovio je radno angažovanje vozača-migranata najčešće poreklom iz država centralne i jugoistočne Azije. Međutim, kulturološke i jezičke barijere potencijalno utiču i na formiranu kulturu rada koja neizostavno predstavlja deo radne sredine i utiče na uslove rada, a posledično i na radnopravni status radnika-migranta i *vice versa*. Istovremeno, nenaviknutost i eventualna nepotpuna obučenost migranata kao vozača može predstavljati izvor ugrožene sigurnosti u drumskom saobraćaju. Navedeno

zahteva sveobuhvatni, holistički i integrativni pristup radnim migracijama, multi i međusektorsku saradnju u ostvarivanju i zaštiti osnovnih prava na radu i u vezi sa radom vozača-migranata, a posebno

transparentnost u načinu njihove regrutacije i modela zapošljavanja, odnosno radnog angažovanja uz neizostavnu kontrolu uslova rada, te predviđanje delotvornih mehanizama za zaštitu prava.

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Where do we draw our last breath? A comparative analysis of factors associated with places of death in European countries

Leonarda Srdelić¹ 

ABSTRACT

This paper investigates whether a shift towards formal long-term care (LTC), typically associated with increased public spending in LTC, correlates with a lower likelihood of dying in hospitals compared to homes or care homes. Additionally, the study aims to assess how demographic, socioeconomic, and health-related variables are associated with the place of death across European countries. For this purpose, the study employs multinomial logistic regression on the data concerning 16,633 individuals aged 50 and over, who died between 2004 and 2021 in 24 European countries. The countries are grouped in two country groups to control for variations in their LTC systems. The first group consists of countries with more generous public funding for LTC, while the second group includes those where LTC is less funded and structured. Results indicate that the place of death is associated with the country's healthcare system, demographic characteristics, socioeconomic status, and medical conditions. While hospitals remain the most common setting for death, this trend is shifting as recent years have seen a rise in deaths at home or in care homes across both country groups.

KEYWORDS

ageing, end-of-life care, long-term care, place of death, SHARE

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1 INTRODUCTION

One of the greatest human achievements over the past fifty decades has been fighting diseases and improving health care, which has led to increased longevity. However, this increased longevity, combined with decreased fertility rates, has resulted in a larger share of elderly people who need support from an aging and shrinking working-age population (Zweifel, Felder and Meiers 1999; Yang, Norton and Stearns 2003). This demographic shift places a considerable burden on both caregivers and healthcare systems (Hartwig 2008; Howdon and Rice 2018).

Caregivers, predominantly women, often confront significant challenges as they balance personal and professional responsibilities (OECD 2023). This situation frequently necessitates reducing working hours or exiting the workforce altogether, adversely affecting their economic stability and career trajectories (Bauer and Sousa-Poza 2015). This period often aligns with the periods in which their own children require more support, placing these women in what Rosenthal, Martin-Matthews and Matthews (1996) described as the 'sandwich generation', trapped between the dual responsibilities of caring for their parents and for their children. This condition is closely associated with heightened poverty rates among informal carers. Furthermore, the physical and emotional demands of caregiving lead to increased healthcare expenditures for caregivers themselves, as they often neglect their own health needs while attending to those of others (Carmichael and Charles 2003; Do et al. 2015).

All of the mentioned factors underscore the necessity for formal long-term care (LTC) services, defined as a range

of services required by persons with a reduced degree of functional capacity, physical or cognitive, who are consequently dependent for an extended period of time on help when it comes to basic activities of daily living (ADL) (Ranci and Pavolini 2013). Yet, the diminishing working-age population coupled with a growing demand for LTC is resulting in labour shortages (Costa-Font and Courbage 2012). Therefore, healthcare systems are significantly stressed by these demographic shifts, creating economic challenges that pressure social security and pension systems. Governments and policymakers face the challenge of dedicating more national income to healthcare services, including end-of-life care (EOLC), which refers to the care provided to people who are near the end of life, and long-term care (LTC), while also addressing the uncertainties elderly people face regarding disability and the costs of various care services (OECD 2023).

Understanding the conditions under which people die in different countries can provide policymakers with crucial insights for crafting these policies. This is especially relevant for controlling healthcare costs, given that hospitalisation is generally more expensive than other forms of care (Hoverman et al. 2020). This issue is economically significant and has implications for individual well-being as a 2017 survey by the Organisation for Economic Co-operation and Development (OECD) showed a general aversion to dying in hospital (OECD 2017).

To verify whether a shift to formal LTC, generally accompanied by higher public spending in LTC, is associated with a lower likelihood of dying in hospitals compared to dying at home or in care homes, this study assesses the

correspondence between the place of death and a set of demographic, socioeconomic and health variables (Srdelić and Smolić 2022). With the help of multinomial logistic models, we explored the data from the Survey of Health, Ageing and Retirement in Europe (SHARE) database referring to 16,633 individuals aged 50 years and over, who died between 2004 and 2021 in 24 European countries (Börsch-Supan et al. 2013; Börsch-Supan 2022). The countries were divided into two groups to account for variations in healthcare systems across different nations. This categorisation allows for a comparative analysis to shed light on how healthcare financing structures may be associated with the place of death.

The results of this study contribute to the literature on end-of-life care by offering a deeper understanding of the factors associated with the place of death. The research uncovers dynamics in this healthcare decision-making process through a comprehensive analysis of demographic, socioeconomic, health-related, and temporal variables.

The paper begins by providing the research background to outline the motivation for the study. This introduction leads to the methodological section, where data and trends are explored, and the models and methods are detailed. The paper concludes with the presentation of the results, a discussion of the findings, an examination of limitations, and final conclusions.

2 RESEARCH BACKGROUND

Place of death has previously been explored by Orlovic, Marti and Mossialos (2017) in a panel analysis using data from 16 European countries and Israel, utilizing the SHARE database (waves 2 – 5). Our study distinguishes itself in

several ways that enhance the analysis and contribute to the existing literature. Firstly, while we draw from the same data source, we focus on a distinct selection of countries. Our primary interest lies in comparing the countries where policymakers support both formal and informal care versus those relying solely on informal care provided by family members, where the only alternative is costly acute care.

This motivation stems from the data suggesting a strong relationship between the place of death and the level of LTC expenditures in various European countries. According to the Eurostat database on LTC expenditure and SHARE data on place of death, there is a significant positive correlation between LTC spending and the number of individuals aged 50 and over who die in care homes rather than hospitals, as illustrated in Figure 1. The cluster analysis based on these two key variables identified two distinct groups of countries.

Country Group 1 (CG1) consists of Austria, Belgium, Denmark, Finland, France, Germany, the Netherlands, Sweden, and Switzerland, each allocating over 1.5% of GDP to long-term care (LTC). In these nations, more than 15% of older adult deaths occur in care homes, supported by robust public financing for LTC. Conversely, Country Group 2 (CG2), which includes Bulgaria, Croatia, Czechia, Estonia, Latvia, Lithuania, Greece, Hungary, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, and Spain, lags behind in both LTC funding and the proportion of deaths in care homes, often below the EU-27 average. These 15 countries have less developed LTC systems (Spasova et al. 2018).

Higher LTC expenditures are likely to be associated with the share of elderly who die in nursing homes for several

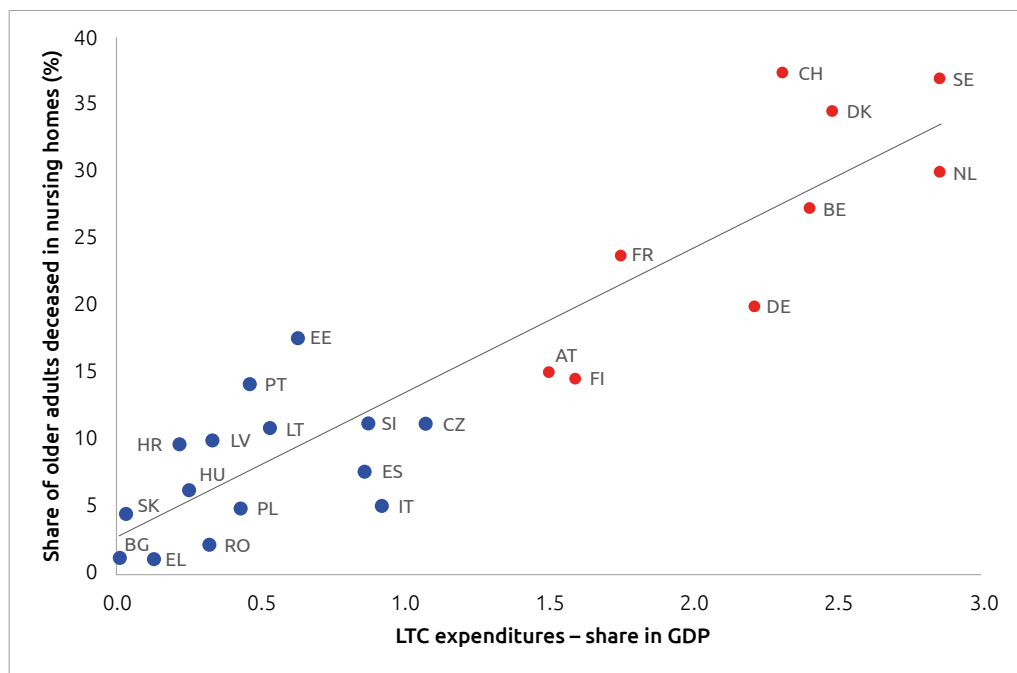


Figure 1 Expenditure on LTC (health) in terms of GDP in 2019 and share of deaths in care homes (2004–2021; CG1 in red, CG2 in blue)

Source: Authors calculations based on the Eurostat and SHARE data.

reasons. Firstly, increased expenditures allow for the construction and maintenance of more nursing homes and care facilities, thereby increasing the availability of beds. This ensures that more elderly individuals have access to these facilities, especially in their final years, leading to a higher proportion of deaths occurring in nursing homes.

Secondly, with greater financial resources, nursing homes can invest in better training for staff, advanced medical equipment, and improved living standards for residents. These enhancements in care quality make nursing homes a more attractive option for families and individuals, resulting in higher utilization rates. As incomes rise and societies develop, there is often an increase in expectations regarding the quality and type of care for the elderly. In countries

with higher LTC expenditures, elderly may find that professional care in nursing homes can provide better end-of-life care than family-based or informal care. Thirdly, higher public spending on LTC often includes subsidies or financial support for families, making nursing home care more affordable. Increased accessibility ensures that even lower-income families can consider nursing home care as a viable option for their elderly members.

In contrast, countries with lower LTC expenditures may have fewer alternatives for end-of-life care, such as home health care services. This scarcity can force families to rely more on informal caregiving, resulting in a lower share of elderly dying in nursing homes. Countries that invest more in LTC often develop comprehensive policies and

infrastructure that support elderly care. This includes integrated healthcare systems that coordinate between hospitals, nursing homes, and home care services to ensure seamless care for the elderly, contributing to higher usage of nursing homes.

3 METHODS

3.1 DATA AND DESCRIPTIVE STATISTICS

The data on 16,633 individuals from 24 European countries is pooled from the End-of-Life questionnaire module of the SHARE project's waves 2 through 9. SHARE, or the Survey of Health, Ageing and Retirement in Europe, is a cross-national panel database that collects micro data on health, socio-economic status, and social and family networks of individuals aged 50 or older. This comprehensive database covers 28 European countries and Israel, employing face-to-face interviews using a computer-assisted personal interviewing (CAPI) system to gather a wide range of health, economic, and social variables (Börsch-Supan et al. 2013; Börsch-Supan 2022).

This dataset provides detailed information on the last year of the individuals' lives, including dependency status, time, and cause of death. An 'End of Life' interview, which is part of the SHARE project, was conducted solely with family members, or close acquaintances of the deceased respondents to collect comprehensive information on circumstances leading up to the individual's death. Members of collective households are not included in this sample, focusing exclusively on the individuals who have passed away. These interviews offer valuable insights into the health status changes, care needs, and utilization of

health care services in the final years of life, providing a unique perspective on aging and dying in the European context.

The demographic composition of the sample reveals valuable insights (Table 1). For example, a slight majority are male (53.7%) compared to females (46.3%). Age-wise, more than half of the deceased (55.05%) were 80 or older, while the remaining 45.95% were younger than 80. The average age at the time of death was 79.6 years.

In the research paper, causes of death recorded in the SHARE database have been consolidated into broader categories for more efficient analysis and clearer interpretation, as depicted in Table 2. This categorization aligns closely with the original classifications from the SHARE survey, yet simplifies them into more general groups. The category "Heart attack, stroke or other CVDs" encompasses all cardiovascular-related causes, including heart attacks, strokes, heart failure, and arrhythmia. Cancer directly corresponds to the "Cancer" option in the SHARE questionnaire. The "COVID-19 or other respiratory diseases" category combines deaths due to COVID-19 with other respiratory diseases and severe infectious diseases, such as pneumonia. "Decrepitude, dotage, and senility" were extracted from the broader 'Other' category into a standalone group in your analysis due to their high occurrence as causes of death. It encompasses deaths attributed to old age, general decline, or conditions not directly associated with a specific disease pathology. Finally, the "Other" category serves as a catch-all for causes not specified in the primary categories, including accidents and diseases of the digestive system.

The results indicate that cardiovascular diseases (CVDs), such as heart attacks

Table 1 Socio-demographic characteristics of deceased persons

Country	N	Female (%)	Characteristics of deceased persons		Married (%)
			Mean Age - Female	Mean Age - Male	
Austria	762	47.4	81.2	78.1	50.8
Belgium	1060	45.0	82.6	79.4	57.4
Bulgaria	161	41.0	78.3	74.4	62.1
Croatia	432	42.8	79.6	75.7	58.6
Czechia	1193	46.9	79.3	76.4	51.1
Denmark	798	49.9	81.1	79.0	46.9
Estonia	1761	46.9	81.3	76.7	54.6
Finland	55	23.6	67.1	77.7	70.9
France	758	46.3	83.4	79.4	55.5
Germany	586	41.1	78.1	76.5	71.8
Greece	1123	53.3	84.8	81.8	44.5
Hungary	619	47.7	78.9	75.9	54.1
Italy	1113	42.9	81.0	79.2	65.9
Latvia	100	47.0	80.1	71.7	49.0
Lithuania	220	53.6	79.2	72.4	47.7
Netherlands	407	43.5	77.1	77.0	76.9
Poland	959	46.3	79.1	75.7	60.5
Portugal	345	48.7	80.2	75.9	57.7
Romania	270	40.0	76.1	74.4	57.4
Slovakia	89	31.5	72.4	70.9	75.3
Slovenia	848	42.3	81.5	77.5	61.8
Spain	1555	48.0	84.1	80.7	54.2
Sweden	975	47.8	82.4	81.5	52.3
Switzerland	474	43.9	82.8	80.5	56.1
Total	16,663	46.3	81.3	78.1	56.1

Source: authors' own calculations based on the data from SHARE

Note: CG1 in red, CG2 in blue. Percentages might not sum to 100 because the categories 'other' and 'unknown' were omitted.

and strokes, were the predominant causes of death, accounting for 39.8% of the sample, as detailed in Table 2. Cancer followed as the second most common cause, affecting 27.3% of the deceased. Interestingly, younger individuals were more prone to dying from cancer, while those 80 and older were more likely

to succumb to CVDs. Country-specific data also revealed thought-provoking patterns. For example, Bulgaria had the highest percentage of deaths from heart attacks and strokes (56.5%), whereas Denmark had the lowest (20.9%). On the other hand, Finland had the highest proportion of cancer-related deaths

(47.3%), although this should be viewed cautiously due to a small sample size for the country. According to Eurostat data, the principal cause of death across the analysed countries for individuals aged 65 and over is diseases of the circulatory system, or cardiovascular diseases (CVDs) (classified under ICD-10 code "I"),

except in Denmark and the Netherlands, where neoplasms, or cancer (classified under ICD-10 codes "C00-D48"), are the predominant causes of death (Eurostat 2023). This aligns with the findings from the SHARE data, thereby reinforcing the reliability of the conclusions drawn from the analysis.

Table 2 Cause of death (in %)

Country (CG1 in red, CG2 in blue)	Heart attack, stroke or other CVDs	Cancer	Covid-19 or other respiratory diseases	Decrepitude, dosage, senility	Other
Austria	37.1	21.1	4.5	7.0	30.3
Belgium	28.8	26.5	7.2	10.2	27.4
Bulgaria	56.5	20.5	3.7	1.9	17.4
Croatia	51.6	26.4	3.5	5.6	13.0
Czechia	42.6	24.4	4.9	9.0	19.2
Denmark	20.9	32.8	8.5	11.9	25.8
Estonia	48.8	27.5	4.5	5.9	13.2
Finland	32.7	47.3	0.0	3.6	16.4
France	29.9	32.8	7.4	8.0	21.8
Germany	31.4	32.3	4.8	4.8	26.8
Greece	59.8	17.4	9.2	2.5	11.2
Hungary	48.9	23.1	4.2	6.9	16.8
Italy	41.2	32.6	7.5	7.5	14.6
Latvia	56.0	24.0	5.0	3.0	12.0
Lithuania	54.1	21.8	5.5	1.4	17.3
Netherlands	23.1	38.1	4.9	4.9	29.0
Poland	48.0	27.0	7.8	5.0	12.2
Portugal	31.6	30.4	10.4	3.5	24.1
Romania	48.5	23.7	6.3	7.0	14.4
Slovakia	46.1	37.1	14.6	0.0	2.2
Slovenia	38.9	29.1	6.1	3.3	22.5
Spain	35.6	23.5	12.5	6.6	21.8
Sweden	31.7	31.4	5.3	12.2	19.4
Switzerland	29.3	32.1	4.4	15.2	19.0
Total	39.8	27.3	6.8	6.8	19.3

Source: authors' own calculations based on the data from SHARE

Note: Category 'other' includes 'unknown'.

Regarding the location of death, the dataset points to significant differences across countries (Table 3). Hospitals were the most common setting for death in most countries. Still, the percentages ranged widely, from a low of 25% in the Netherlands to as high as 71% in Finland. Care home deaths were most frequent in Switzerland (37.3%), Sweden (36.9%), and Denmark (34.5%). In contrast, home deaths were most common in Bulgaria (78.9%) and Romania (68.9%). These high percentages align with the elevated rates of cardiovascular-related deaths in these countries. However, it is essential to consider other socio-economic factors

associated with the place of death in countries like Bulgaria and Romania. The high proportion of home deaths may also be attributed to the inability to cover the costs of care homes, the limited availability of long-term care facilities, and the practice of short hospital stays due to health fund policies, which will be explored further later in the analysis. These factors can be significantly associated with the decision to die at home rather than in institutional settings.

In total, in CG1, 44.4% died in hospitals and 28% in care homes, whereas in CG2, 51.2% died in hospitals and only 8.8% in care homes.

Table 3 Place of death (in %)

Country	Hospital		Home		Care Home	
	Total	Female	Total	Female	Total	Female
Austria	51.8	47.1	33.1	33.0	15.1	19.9
Belgium	46.2	44.7	26.5	19.1	27.3	36.3
Bulgaria	19.9	6.1	78.9	93.9	1.2	0.0
Croatia	48.6	47.6	41.7	41.1	9.7	11.4
Czechia	62.2	59.1	26.6	25.4	11.2	15.5
Denmark	38.9	38.2	25.7	20.4	34.5	41.5
Estonia	45.0	41.5	37.4	34.6	17.7	23.8
Finland	70.9	84.6	14.5	15.4	14.5	0.0
France	53.6	50.7	22.7	19.7	23.7	29.6
Germany	49.0	44.4	31.1	29.0	20.0	26.6
Greece	51.6	50.7	47.2	48.2	1.2	1.2
Hungary	55.3	51.2	38.4	41.0	6.3	7.8
Italy	44.7	41.3	50.2	52.6	5.1	6.1
Latvia	35.0	44.7	55.0	38.3	10.0	17.0
Lithuania	50.5	48.3	38.6	33.9	10.9	17.8
Netherlands	24.6	17.5	45.5	45.2	30.0	37.3
Poland	51.1	51.1	44.0	43.2	4.9	5.6
Portugal	62.0	54.2	23.8	25.6	14.2	20.2
Romania	28.9	37.0	68.9	59.3	2.2	3.7
Slovakia	46.1	46.4	49.4	39.3	4.5	14.3
Slovenia	57.0	53.9	31.8	28.1	11.2	18.9
Spain	56.7	54.2	35.7	36.2	7.7	9.7
Sweden	39.5	35.2	23.6	20.4	36.9	44.4
Switzerland	39.7	40.9	23.0	15.9	37.3	43.3
Total	48.8	46.3	35.6	33.8	15.6	20.0
CG1	44.4	41.3	27.6	23.8	28.0	35.0
CG2	51.2	49.0	39.9	39.1	8.8	11.9

Source: authors' own calculations based on the data from SHARE

A detailed examination of the place of death for cancer patients reveals significant insights (Table 4). In CG2, the majority of cancer patients (55.8%) died in hospitals, compared to a much lower percentage in CG1, where 47.3% of cancer deaths occurred in hospitals. Interestingly, CG1 had a higher percentage of cancer patients dying in care homes (22%) as compared to CG2 (6.6%).

Table 4 Place of death of cancer patients in 2004–2021 (in %)

Country	Hospital	Home	Care home
Austria	56.5	33.5	9.9
Belgium	56.2	27.8	16.0
Bulgaria	15.2	84.8	0.0
Croatia	58.8	33.3	7.9
Czechia	64.9	29.8	5.5
Denmark	41.2	32.4	26.3
Estonia	48.2	39.4	12.4
Finland	73.1	7.7	19.2
France	59.8	21.3	18.9
Germany	48.7	29.6	21.7
Greece	61.5	37.9	0.5
Hungary	67.8	26.6	5.6
Italy	46.8	49.0	4.1
Latvia	8.3	83.3	8.3
Lithuania	60.4	25.0	14.6
Netherlands	16.1	65.2	18.7
Poland	49.8	42.1	8.1
Portugal	80.0	11.4	8.6
Romania	20.3	76.6	3.1
Slovakia	54.5	45.5	0.0
Slovenia	59.9	33.2	6.9
Spain	66.0	29.9	4.1
Sweden	41.8	27.8	30.4
Switzerland	48.0	21.7	30.3
Total	52.5	34.9	12.6
CG1	47.3	30.7	22.0
CG2	55.8	37.6	6.6

Source: authors' own calculations based on the data from SHARE

3.2 EMPIRICAL STRATEGY AND METHODOLOGY

We adopt multinomial logistic regression models to examine the association between the place of death and other variables. Unlike binary logistic regression, which deals with dependent variables with two categories (like yes or no), multinomial logistic regression handles dependent variables with three or more categories that are not ordered (hospital, home, care home). In the context of this study, the dependent variable is the place of death. We use hospitals as the referent category against which other places of death—homes and care homes—are compared. The outcomes of our multinomial logistic regression models are expressed in terms of Relative Risk Ratios (RRR) in contrast to the previous study's use of logistic regression and odds ratios (Orlovic, Marti and Mossialos 2017). This shift is crucial because when there is an association between exposure and outcome, OR tends to exaggerate the relationship estimate. Therefore, the interpretation of our results is the following: an RRR greater than 1 suggests that, as a specific variable increases, the outcome is more likely to fall in the comparison group (home, care home), whereas an RRR less than 1 indicates the opposite—higher likelihood of the outcome being in the referent group (hospital).

The independent variables are systematically organized into three categories. Our choice of variables is guided by previous studies that have explored similar questions, reinforcing the robustness of our approach (Cohen et al. 2007; Cohen and Deliens 2012; Pivodic et al. 2015).

First, predisposing factors encompass demographic features such as age and

gender and socioeconomic indicators like marital status, number of living children, and home ownership. Second, need-based factors include variables directly related to the individual's health status, namely the cause of death, duration of illness, and a measure of functional dependency as indicated by the Katz Index. Katz index often referred to as the Katz ADL (Activities of Daily Living) index, is a widely used method in gerontology to assess functional status and the ability of elderly patients to perform basic tasks. Therefore, instead of relying on a single measure of difficulties with ADLs as in Orlovic, Marti and Mossialos (2017), we assess the dependency degree, approximated by the Katz Index (Katz 1983; Costa-Font, Jimenez-Martin and Vilaplana 2018).

Unlike in the research by Orlovic, Marti and Mossialos (2017) who utilised a 'wave' as a dummy variable to control for fixed cross-national group differences and secular trends, we employ 'time' in this study for the same purposes. 'Time' is our temporal variable to capture time trends, divided between 2004–2013 and 2014–2021. The choice to use 'time' is motivated by the fact that each wave provides data on patients who passed away in different years (e.g., 2004 and 2014). Therefore, a wave dummy variable cannot adequately capture time-related differences, such as increasing investments in LTC and the rising number of nursing homes over time.

Using these variables, we estimate three models. The first model is a foundational analysis, where we control solely for the country group variable. This is to identify if individuals from specific country groups display a different likelihood of dying at home as opposed to in a hospital or care home. After that we construct two separate models for

each country group. These models aim to measure the association of each group's demographic, socioeconomic, and health-related factors, enabling us to evaluate the divergent relationships of these variables in different national contexts.

For a more mathematical representation, the relative risks associated with different places of death for an individual i are formulated as:

$$\log \left(\frac{p(Y_i=j)}{p(Y_i=0)} \right) = \beta_{0j} + \beta_{1j} \text{Demo}_i + \beta_{2j} \text{Soc}_i + \beta_{3j} \text{Hlth}_i + \beta_{4j} \text{Time}_i + \beta_{5j} \text{CG}_i, \quad (1)$$

$$\log \left(\frac{p(Y_i=j)}{p(Y_i=0)} \right)_{\text{Group } 1/2} = \beta_{0j} + \beta_{1j} \text{Demo}_i + \beta_{2j} \text{Soc}_i + \beta_{3j} \text{Hlth}_i + \beta_{4j} \text{Time}_i \quad (2)$$

where the *Demo* refers to demographic attributes, *Soc* to socioeconomic traits, *Hlth* to health-related aspects and the Katz Index, *Time* stands for the temporal dummy variable, and *CG* encapsulates the country-specific end-of-life care system characteristics. β coefficients represent the change in the log-odds of the outcome $Y_i = j$ relative to the reference category $Y_i = 0$ for a one-unit change in the predictor. The outcome Y_i for individual i can take on more than two categories coded as 0, 1, 2 ($j = 0, 1, 2$). The RRRs tell us by how much the odds of outcome j relative to the reference outcome (0) are multiplied, for each one-unit increase in the predictor variable, while holding other variables constant.

Unlike other regression models, multinomial logistic regression does not require the assumptions of normality, linearity, or homoskedasticity, offering more flexibility (Greene 2018). Nevertheless, it assumes independence among the

dependent variable categories. To address this, we utilised the Hausman-McFadden test, a widely accepted method for testing this assumption.

4 RESULTS

Table 5 presents the results of the first model. The intercepts for home and care home indicate the baseline likelihoods when all other factors are at their reference levels. These are substantially less than 1, indicating a lower baseline likelihood of dying in these settings compared to a hospital. Starting with the first block of Demographic characteristics, age does not significantly alter the likelihood of dying at home for those aged 80 and older compared to those aged 50–79, but it substantially increases the likelihood of dying in a care home (RR = 2.244, highly significant). Gender has a small but significantly higher likelihood for females dying in a care home (RR = 1.334, highly significant) compared to males.

Moving on to the second block, *Socioeconomic status and support*, being married is associated with a higher likelihood of dying at home (RR = 1.125, highly significant) and a lower likelihood of dying in a care home (RR = 0.622, highly significant). Homeownership is slightly but not statistically significantly associated with dying at home and is associated with a small decrease in the likelihood of dying in a care home (RR = 0.748, highly significant).

Having no children slightly increases the likelihood for both home deaths (RR = 1.147, significant at the 10% level) and care home deaths (RR = 1.149, highly significant). This suggests that individuals without children may lack immediate family caregivers, often relying more on formal care services. Conversely, having three or more children slightly increases

the likelihood of dying at home (RR = 1.154, highly significant), but decreases the likelihood of dying in care homes (RR = 0.851, highly significant). This may indicate that larger families provide more potential caregivers, enabling more options for home-based care and reducing reliance on institutional care.

Overall, these findings highlight the complex and context-dependent nature of how socioeconomic status and family structure are associated with the place of death, reflecting varying cultural, social, and economic factors. Regarding our third block of predictor variables – factors related to health, Certain causes of death like heart attacks, strokes, or other cardiovascular diseases significantly increase the likelihood of dying at home (RR = 2.263, highly significant), but not in care homes. Cancer increases the likelihood of dying at home (RR = 1.546, highly significant), but has a negligible effect on care home deaths. Dying from COVID-19 or other respiratory diseases reduces the likelihood in both settings, but more so in care homes (RR = 0.689, highly significant). Conditions associated with frailty, like decrepitude, dotage, or senility, greatly increase the likelihood of dying in care homes (RR = 3.103, highly significant). Duration of illness greater than 6 months is associated with a higher likelihood of dying in a care home (RR = 1.352, highly significant).

Health status, as measured by Activities of Daily Living (ADL) and further detailed by the Katz Index as a scale that measures independence across various daily activities, reveals that the degree of dependency is highly associated with the place of death. Katz 1, indicating mild dependence, reduces the likelihood of dying at home (RR = 0.860, highly significant), but increases it in care homes

(RR = 1.631, highly significant). Katz 2, indicating moderate dependence, also reduces the likelihood of dying at home slightly (RR = 0.908, significant at the 10% level), but greatly increases it in care homes (RR = 2.732, highly significant). Katz 3, indicating severe dependence, increases the likelihood of dying at home (RR = 1.257, highly significant), and even more so in care homes (RR = 4.050, highly significant).

Dying in the years 2014–2021, as opposed to 2004–2013, increases the likelihood of dying in both home (RR =

1.108, highly significant) and care home settings (RR = 1.288, highly significant).

Finally, for those in CG 2, there is a significantly increased likelihood of dying at home (RR = 1.168, highly significant), indicating that individuals in this country group are more likely to die at home compared to those in CG1. However, belonging to CG1 is associated with a substantially decreased likelihood of dying in a care home (RR = 0.254, highly significant), suggesting that compared to CG1, individuals in CG2 are less likely to die in care homes.

Table 5 The relative risk ratio for the factors related to the probability of dying in a hospital, at home or in a care home, 2004–2021

Factor	Home (ref: Hospital)	Care Home (ref: Hospital)
Intercept	0.289****	0.150****
Demographic characteristics:		
Age 80 and older (ref: 50–79)	1.045	2.244****
Female (ref: Male)	1.005	1.334****
Socioeconomic status and support:		
Married	1.125***	0.622****
Homeownership	1.025	0.748****
N. of children: 0 (ref: 1–2)	1.147*	1.149****
N. of children: 3 or more (ref: 1–2)	1.154****	0.851***
Factors related to health:		
Cause of death: Heart attack, stroke or other CVDs (ref: other)	2.263****	1.111
Cause of death: Cancer (ref: other)	1.546****	1.046
Cause of death: COVID-19 or other respiratory disease (ref: other)	0.847**	0.689****
Cause of death: Decrepitude, dotage, senility (ref: other)	4.010****	3.103****
Duration of illness: 6m or more (ref: less than 6m)	1.063	1.352****
Katz 1 (ref: Katz 0)	0.860****	1.631****
Katz 2 (ref: Katz 0)	0.908*	2.732****
Katz 3 (ref: Katz 0)	1.257****	4.050****
"Year died": 2014–2021 (ref: 2004–2013)	1.108***	1.288****
CG2 (ref: CG1)	1.168****	0.254****

*p < 0.10 **p < 0.05 ***p < 0.01 ****p < 0.001

Table 6 presents a comparative analysis of likelihoods for place of death across two country groups. The baseline likelihoods of dying at home or in a care home are lower than in a hospital for both country groups, with CG2 having the lowest likelihood for care home deaths.

For demographic characteristics, the age factor shows that in both country groups, individuals aged 80 and older have a significantly higher likelihood of dying in a care home compared to a hospital, with risk ratios of 2.667 and

1.727, respectively. This indicates a pronounced tendency for the very elderly to pass away in care homes rather than hospitals. Gender also appears to play a role, particularly in Country Group 1, where females have 1.3409 times higher likelihood of dying in a care home than males, when compared to the hospital. In Country Group 2, this gender disparity is not significant for deaths at home, but is evident for care home deaths with a risk ratio of 1.343.

Moving on to the second block of predictors – Socioeconomic Status and

Table 6 Comparative analysis of relative risks for place of death across two country groups, 2004–2021

Factor	Country Group 1		Country Group 2	
	Home	Care Home	Home	Care Home
Intercept	0.290****	0.136****	0.340****	0.042****
Demographic characteristics:				
Age 80 and older (ref: 50–79)	1.001	2.667****	1.053****	1.727****
Female (ref: Male)	0.914	1.3409****	1.032	1.343****
Socioeconomic status and support:				
Married	1.235***	0.658****	1.090*	0.599****
Homeownership	1.073	0.763****	0.991	0.741****
N. of children: 0 (ref: 1–2)	1.825	1.348***	1.142*	1.703****
N. of children: 3+ (ref: 1–2)	1.237***	0.941	1.121**	0.735****
Factors related to health:				
Cause of death: Heart attack, stroke or other CVDs (ref: other)	2.208****	1.043	2.251****	1.121
Cause of death: Cancer (ref: other)	1.689****	1.219**	1.458****	0.840
Cause of death: COVID-19 or other respiratory disease (ref: other)	1.009	0.780*	0.789**	0.622***
Cause of death: Decrepitude, dotage, senility (ref: other)	3.543****	3.038****	4.315****	2.809****
Duration of illness: 6m or more (ref: less than 6m)	1.053	1.197**	1.064	1.597****
Katz 1 (ref: Katz 0)	0.853*	1.712****	0.871**	1.546****
Katz 2 (ref: Katz 0)	0.795**	3.078****	0.963	2.226****
Katz 3 (ref: Katz 0)	1.178*	4.254****	1.299****	3.793****
"Year died": 2014–2021 (ref: 2004–2013)	1.043	1.112	1.149**	1.569****

*p < 0.10 **p < 0.05 ***p < 0.01 ****p < 0.001

Support – being married increases the likelihood of dying at home in CG 2 (RR = 1.090) and decreases the likelihood of dying in care homes for both groups. Homeownership is not significantly associated with the likelihood of dying at home, but slightly decreases the likelihood of dying in a care home in both country groups. Having no children increases the likelihood of dying in a care home in both country groups, while having three or more children decreases this likelihood significantly, especially in CG2.

Regarding Factors related to health we observe the following results. Cardiovascular causes of death increase the likelihood of dying at home for both country groups, but have a smaller effect on care home deaths. Cancer increases the likelihood of dying at home significantly in CG1, and to a lesser extent in CG2, with a negligible effect on care home deaths. COVID-19 or other respiratory diseases reduce the likelihood of dying in a care home for both country groups. Decrepitude, dotage, or senility substantially increases the likelihood of dying in a care home for both country groups. A longer duration of illness (6 months or more) increases the likelihood of dying in a care home, particularly in Country Group 2.

As the Katz score increases, indicating higher dependency, there is a decreased likelihood of dying at home but a significantly increased likelihood of dying in a care home for both country groups. The more recent period of 2014–2021 shows an increased likelihood of dying at home for both country groups and in care homes for CG2 compared to the reference period.

5 DISCUSSION

The findings presented in the Results section carry substantial ramifications for healthcare policy, especially for the nations aiming to enhance the quality and environments of end-of-life care. This discussion aims to interpret these findings in the context of existing literature and theoretical frameworks, focusing on implications and potential areas for future research.

The results affirm that age is a significant determinant when it comes to the risk of dying in care homes, particularly for individuals aged 80 and above. This aligns with research suggesting that advanced age is associated with increased care needs, often beyond what can be provided at home (Weaver, Roberto and Brossoie 2020). Gender differences have also been noted, with females experiencing a slightly higher risk of dying in care homes. This may reflect longer life expectancies for women, thus increasing their likelihood of requiring long-term care (Washington et al. 2015; Wong and Phillips 2023).

Socioeconomic factors and support networks are associated in complex ways; the effects differ for each variable and the settings considered (home, hospital, or care home). Overall, being married makes it more likely to die at home and less likely to die in a care home, while owning a home increases the chance of dying at home and decreases the likelihood of dying in a care home. Various models explain this trend, such as altruism and strategic exchange models, suggesting that higher economic status could be associated with the decision-making process for end-of-life care (Courbage and Eeckhoudt 2012; Norton 2000).

Medical conditions and health status are critical determinants of where

individuals are likely to die. Patients suffering from cardiovascular diseases (CVDs) and cancer, for instance, are more prone to dying at home, as the predictability and progression of these diseases facilitate better palliative care planning outside of hospitals (Gill, Laporte and Coyte 2018; Ko et al. 2017). A robust primary care system that provides accessible and high-quality services can prevent acute deteriorations in health, thus reducing hospital admissions for these conditions, which are indicators of the quality and accessibility of primary care (OECD 2023). Effective integration between different levels of care for patients with CVDs minimizes unnecessary hospital readmissions and mortality rates, while ensuring proper medication management.

Conversely, conditions that cause high dependency and cognitive decline, such as severe disabilities reflected in higher Katz scores, significantly increase the likelihood of dying in a care home. Previous research supports that severe dependency typically requires professional care that may not be feasible at home (Lysaght and Ersek 2013; Lin et al. 2021).

Hospitals remain the most common setting for death; however, there is a noticeable shift towards more deaths occurring at home or in care homes. This change aligns with findings from a recent OECD (2023), which notes that the share of deaths occurring in hospitals decreased between 2011 and 2021 in many countries, with Denmark and Finland experiencing the largest reductions. Furthermore, during the same period, the proportion of long-term care (LTC) recipients receiving care at home rose significantly, particularly in Switzerland, Finland, and Germany. In Switzerland, the increase in home-based LTC recipi-

ents can be attributed to a growth in the availability of home service providers, which has expanded in tandem with the demand for such services. This shift was accelerated during the COVID-19 pandemic, as the crisis led to a temporary reduction in available services, reinforcing a trend that had begun before the pandemic. This information underscores a broader transition in end-of-life care preferences, reflecting a societal move towards more personal and less institutional settings in the final stages of life.

Building on these findings and projections from the OECD (2023), which forecast a doubling in the proportion of the population aged 65 and over, particularly those aged 80 and above, by 2050 in many advanced countries, it is imperative for healthcare systems to adapt to the evolving needs of an aging demographic. This adaptation will likely necessitate an increased demand for labour-intensive long-term care (LTC) and a shift towards integrated, person-centred care models. The COVID-19 crisis highlighted existing workforce shortages in the LTC sector, emphasizing the need for systemic improvements.

Additionally, informal care, primarily provided by women, particularly in South and South-East Europe, is under pressure due to declining family sizes, increased geographic mobility, and rising female labour market participation (OECD 2023). This reduction in available informal caregivers compels countries to expand their formal LTC sectors. While many individuals prefer to remain in their homes, practical limitations such as living alone, or being in remote areas necessitate some transitioning to residential LTC facilities. Therefore, maintaining adequate residential LTC capacity is crucial for effectively addressing the care needs of the aging population.

6 CONCLUSION

This article advances the international literature on end-of-life care. By exploring the dynamics of formal long-term care (LTC) expenditure and its relationship to places of death across different European settings, this study integrates a comprehensive dataset from the Survey of Health, Ageing, and Retirement in Europe (SHARE), covering 16,633 individuals from 24 European countries over the period from 2004 to 2021.

Key advancements of this research include a comparative analysis across country groups, based on their LTC funding levels. This analysis provides insights into how different healthcare financing structures are associated with the location of death, thereby offering valuable information that can inform policy formulations in aging European societies. By employing multinomial logistic regression models, the study not only assesses demographic and socio-economic factors, but it also incorporates health-related variables, thus offering a more detailed picture of the factors influencing end-of-life care locations than previous studies.

The study further integrates health status and LTC context by including health-related characteristics such as the cause of death and the Katz Index of independence. Additionally, the research updates and expands previous analyses by considering a broader timeframe

and including a wider array of European countries. This analytical framework allows for the examination of potential shifts towards dying at home or in care homes instead in hospitals, reflecting broader trends in healthcare preferences and LTC availability.

By addressing these dimensions, the paper not only contributes to the academic discourse on aging and healthcare, but also provides practical, data-driven insights that can inform future healthcare policies and LTC planning in Europe. These contributions are vital for enhancing the understanding of end-of-life care dynamics and are crucial for shaping effective and compassionate healthcare policies. Moving forward, future research is recommended to ensure a more equitable distribution of sample sizes across different nations. Specifically, while the current dataset included a substantial number of individuals in total, the variance in sample sizes—ranging from as few as 55 in Finland to over 1,700 in Estonia—could potentially skew the comparative analysis across the 24 countries involved. Balancing the datasets would likely provide a more robust framework for understanding the complex factors associated with end-of-life care decisions. Future studies could also further delineate the causal relationships between these factors and end-of-life care options, while also assessing the role of new healthcare models and evolving policies.

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Gdje završavamo život? Usporedna analiza faktora povezanih s mjestima na kojima ljudi umiru u europskim zemljama

PROŠIRENI SAŽETAK

Povećanje udjela starijih osoba u ukupnom stanovništvu i produljenje životnog vijeka znatno su povećali potražnju za dugoročnom skrbi za starije osobe. Ove demografske promjene predstavljaju značajan teret za skrbnike i ekonomski izazov za zdravstvene sustave te donositelje politika, koji se suočavaju s rastućim troškovima zdravstvene skrbi i mirovina.

Razumijevanje uvjeta pod kojima ljudi umiru u različitim zemljama može pružiti ključne uvide za oblikovanje učinkovitih zdravstvenih politika i kontrolu troškova skrbi, s obzirom na to da je hospitalizacija, odnosno akutna skrb, općenito skuplja od drugih oblika skrbi. Stoga, polazeći od pretpostavke da se u zemljama gdje se dugoročna skrb i skrb na kraju života uglavnom privatno financira, akutna skrb koristi kao zamjena za dugoročnu skrb (eng. *Long-term care* – LTC), ovaj rad istražuje razlike u mjestu smrti između skupina zemalja kako bi se uzeli u obzir specifičnosti zdravstvenih sustava pojedinih zemalja.

Kako bi provjerili je li prijelaz na formalnu dugoročnu skrb, koji je obično praćen većim javnim izdacima za tu vrstu skrbi, povezan s manjom vjerojatnošću umiranja u bolnicama u usporedbi s umiranjem kod kuće ili u domu za dugoročnu skrb, ovaj rad procjenjuje odnos između mjesta smrti i skupa demografskih, socioekonomskih i zdravstvenih varijabli te javnih izdataka na formalnu dugoročnu skrb i vjerojatnosti umiranja u bolnicama u usporedbi s domovima ili ustanovama za dugotrajnu skrb u 24 europske zemlje.

U istraživanju je korištena multinomijalna logistička regresija na podacima za 16.633 osobe starije od 50 godina koje su umrle između 2004. i 2021. godine, pružajući uvid u čimbenike koji utječu na odluke o skrbi na kraju života. Podaci su prikupljeni iz Anketnog upitnika o zdravlju, starenju i umirovljenju u Europi (eng. *Survey of health, ageing and retirement in Europe, SHARE*), posebno iz modula upitnika o kraju života, iz valova 2 do 9, studija ispituje demografske karakteristike (dob, spol), socioekonomski status (bračni status, vlasništvo kuće, broj djece) i zdravstvene čimbenike (uzrok smrti, trajanje bolesti, funkcionalna ovisnost mjerena Katzovim indeksom). Zemlje su grupirane prema razinama financiranja LTC-a kako bi se kontrolirale varijacije u sustavima.

Rezultati pokazuju da je povećana javna potrošnja na LTC povezana s većom vjerojatnošću umiranja u domovima za dugoročnu skrb. Osim toga, ističu se i demografski, socioekonomski i zdravstveni faktori u određivanju mjesta smrti. Razumijevanje ovih dinamika ključno je za poboljšanje kvalitete skrbi na kraju života i učinkovito upravljanje troškovima zdravstvene skrbi.

KLJUČNE RIJEČI

starenje, skrb na kraju života, dugotrajna skrb, mjesto smrti, SHARE



The impact of digitalization and automation on working time, flexibility and stability

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ABSTRACT

Digitalization and automation are radically changing the structure of the labor market, affecting the demand for various professions. Understanding these changes allows for the adaptation of educational programs and employment policies, ensuring the preparation of a skilled workforce for the future. Automation affects working conditions, including the length and flexibility of working hours, creating new opportunities for remote work and freelancing. Research helps better understanding of the ways in which these changes affect work-life balance and overall job satisfaction. Studying the impact of digitalization on labor productivity and employment stability is important for designing economic development strategies, ensuring the creation of stable and highly productive jobs. Research helps to identify which groups of people may be vulnerable or insufficiently protected from the negative effects of automation, contributing to the development of social programs and policies aimed at reducing inequality. Thus, in this article, authors have explored the advantages and disadvantages associated with the introduction of new technologies in labor relations. The authors have examined a number of scientific studies that show the attitudes of employees towards digitalization and its impact on their health. In addition, authors have proposed ways to overcome the negative effects of digitalization and automation in order to make the relevant measures more adaptive for employees. The purpose of the article is to analyze the impact of digitalization and automation on work flexibility and stability, as well as on working time, in order to identify the advantages and disadvantages of innovative technologies and suggest ways to improve and reduce the negative effects of these measures.

KEYWORDS

digital technology, labor law, working conditions, digitalization of work, work flexibility

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1 INTRODUCTION

Digitalization and automation are two key trends shaping the modern world and the labor market. These processes affect various aspects of economic and social life, from changes in production to the daily lives of ordinary people. Digitalization means the use of digital technologies to convert information into a digital format that allows for easy processing, storage, analysis, and transmission of data. Its roots go back to the invention of the personal computer and the Internet, which allowed a wide range of people to access information and digital tools. With the development of mobile technology, cloud computing, artificial intelligence, and the Internet of Things, digitalization has become pervasive, changing the way authors do business, communicate, learn, and entertain.

Automation refers to the use of machines, software, and other technologies to perform tasks that traditionally required human labor. Its history began with the Industrial Revolution, when mechanical devices started to replace manual labor in production. In the 20th century, automation reached a new level, due to electronics and computer technology, which allowed automating complex processes in production, management and service.

In the 21st century, global socio-economic dynamics are undergoing significant changes, including rapid development of technology and innovation, the growing role of the service sector, and intensification of globalization processes. These trends reflect the transition of most countries to a post-industrial type of society and the emergence of a knowledge-based economy (Danylina 2022). The latest advances in artificial

intelligence and machine learning are expanding automation capabilities, allowing machines to perform tasks previously thought to be possible only for humans, such as driving, big data decision-making, and even creative processes.

In general, foreign experience shows the rapid spread of digital tools, interactive platforms, and information technologies in the labor market. Therefore, the current processes of labor relations development do not correspond to the classical theoretical concepts of the labor market. The law of supply and demand in the context of labor relations and digitalization has undergone significant changes. Thus, in the era of globalization changes, the segmentation and flexibility of the labor market acquire new adaptations and transformations for the current challenges.

This limits the possibility of substantiating and implementing effective policies in the labor sphere and in the economy (Butynska 2019). In this regard, the scientific community is facing new research challenges that require rethinking of methodological foundations and theoretical approaches to analyzing information labor, a new type of labor activity. This implies changing the methods of assessing its efficiency and dynamics, overcoming existing stereotypes and dogmas, and setting new priorities in policy and management of socio-economic processes that would correspond to the new historical reality.

The dynamics of digitalization processes have significantly accelerated, not least because of the challenges brought about by the COVID-19 pandemic, making AI increasingly important in modern economies (Brynjolfsson, Mitchell and Rock 2018). Organizations typically prioritize the development of their digital technologies and networks,

both internally and externally, before incorporating artificial intelligence at a later stage, a practice currently observed in only a few establishments. Yet, the rapid spread of AI technology underscores the urgency for a comprehensive examination of its impact on the workforce, extending beyond the simple dichotomy of job creation and elimination. It's essential to proactively address potential adverse effects to prevent them from negatively affecting individuals, businesses, and the broader society (Warning, Weber and Püffel 2022).

Due to the increased number of armed conflicts around the world, digitalization and automation of work also seem to be relevant. This can protect employees from potential risks to their lives and health due to conflict. These innovations are fundamentally transforming labor processes at various levels. Therefore, the article is aimed at analyzing the impact of digitalization and automation on the main aspects in the working sphere, such as working time, flexibility, stability of work, and social consequences. Accordingly, it is important not only to describe the changes, but also to understand their consequences for employees, as well as to define strategies for ensuring stability and social security in the context of digital transformation. Not only do they modify the way work is done, but they also redefine the very nature of labor relations.

2 METHODS

The main method the authors used in writing this paper is the analysis and normative method. Employment as a holistic phenomenon was broken down into key components, such as the impact on working hours, flexibility of working

hours, and employment stability, and these were subsequently analyzed separately. This included reviewing the existing research, articles, industry reports, and empirical data that described the changes brought about by digitalization and automation. The use of the analysis and synthesis method made it possible to analyze previous research on this issue, in order to identify the impact of the elements under study on respondents, and obtain a holistic picture of not only the positive impact of digitalization and automation, but also their negative features. Based on this, the authors were able to assess how digitalization and automation affect job stability and employment quality, as well as safety and working hours.

In addition, based on the analysis of the data concerning the situation in the Ukrainian labor market under martial law, it was also concluded that the sector of the economy involved in digitalization was not merely unaffected, but that it actually developed. Merging the collected information using the synthesis method into a single analytical review covering both broad and specific aspects of the impact of technology on working time, flexibility, and stability, allowed us to identify common trends, challenges, opportunities, and risks.

The historical method was applied to identify common trends, challenges, opportunities and risks. This method provided an identification and analysis of historical milestones related to the development of technology and its impact on working time and employment. This included studying past industrial revolutions, the introduction of machines, computers, and the Internet, and their impact on labor markets. The analysis of historical trends has led to the conclusion that the introduction of innovative

technologies into labor relations is a logical stage of human development in a particular historical period. Therefore, there is no point resisting such technological innovations, but they should rather be embraced and adapted, while mitigating possible negative consequences. The use of historical analysis is important for drawing lessons applicable in understanding current and future challenges related to digitalization and automation.

The systemic method has been used in the article to comprehensively analyze the relationship between technological change and its impact on the labor market. This is important for exploring the relationships between these components in order to understand how they interact with each other and affect the overall system of working relationships. Therefore, this method is applied to assess the way that technological change affects different aspects of working time, flexibility, and stability.

The authors also used the statistical method. This was applied where it was necessary to use statistical data for analysis. This approach allowed for quantitative analysis of large data sets to identify trends, dependencies, and impacts. It involved collecting data on advanced industries, types of employment, unemployment rates, wages, the introduction of new technologies, and other related variables from various sources, in creating a holistic view of the impact of automation and digitalization on certain aspects of labor relations.

In the article, the authors used a comparative method to analyze the impact of digitalization and automation on working hours, flexibility, and job stability. This method allowed comparing different studies to identify both positive and negative aspects of the introduction

of new technologies in labor relations, as well as to assess the impact of digitalization and automation on job stability and employment quality. This made it possible to create a holistic picture of the impact of these technologies on the labor market and identify ways to minimize the negative consequences.

3 RESULTS

Technological innovations are profoundly transforming the labor market, affecting the structure of employment, the skills required of workers, as well as the creation of new jobs and the disappearance of old ones. This impact can be manifested in various ways, which can have both positive and negative aspects. As rightly noted by Stashkevych (2021), trends in the modern labor market include maximization of robotization and minimization of physical labor. Robotization is affecting a variety of industries, from manufacturing to services. It can significantly increase productivity while reducing production costs and improving product quality. Robots can work around the clock without interruption or fatigue, performing work faster and with fewer errors than humans. At the same time, minimizing human involvement in many production and service processes is a natural consequence of robotization. Automation of routine and monotonous tasks frees up employees to engage in more complex, creative, and strategic tasks, although it also creates challenges in the form of the need for retraining and the development of new skills.

The development of new creative and engineering professions will take place against the backdrop of the disappearance of many traditional professions. According to some forecasts, by 2035, cyber-physical systems could replace up

to 50% of the jobs in the sectors related to routine labor (Danylina 2022). As a result, this will affect the reduction of jobs in traditional professions, since servicing automated machines is a new field of employment that arises in the labor market and contributes to retaining jobs.

Digitalization, maximum robotization and minimization of physical labor positively affect the physical and mental health of workers. Consequently, the problem of working burnout is minimized, which in turn helps in reducing the percentage of layoffs. This is especially important for Ukraine at the moment, as people are experiencing constant stress during the war, and minimizing the mental stress at work will be a significant advantage. According to researchers Nazareno and Schiff (2021), "...workers facing automation risk appear to experience less stress...", but at the same time, the researchers emphasize that this is the same group of respondents that "experience ... minimal or negative impacts on job satisfaction".

Similar data are provided by researchers Warning, Weber and Püffel, referring to the DGB Index Gute Arbeit Institute. In Germany, nearly half of the workforce (46%) perceives digitalization as a factor that increases their workload, whereas only 9% report experiencing a decrease in their workload due to digitalization (Warning, Weber and Püffel 2022; Institut DGB Index Gute Arbeit 2016). Health insurance companies, on the other hand, have observed a rise in the conditions linked to escalating work demands, tighter deadlines, and variable working hours. They caution against the adverse health impacts associated with digitalization (Marschall et al. 2017). The researchers did not indicate what data they used in this analysis, but authors can assume

that employee dissatisfaction with the introduction of technology may be related to the need to learn how to work with updated technologies and the fear of losing their jobs due to automation.

For example, occupations of the so-called middle class (i.e., those that require certain regulations, instructions, and procedures) can be easily automated. Within the general, flexible neoclassical model of the labor market, it can be argued that progress in automation forces workers to differentiate routine and minimize manual work. The neoclassical structure embodies an important compromise, that is, increasing the role of automation in employment occurs due to the redistribution of employment from routine to non-routine manual work. Cortes, Jaimovich and Siu (2017) show that advances in automation technologies, which are measured by the increases in ICT capital, estimated in units of efficiency, account for a relatively small proportion of the overall reduction in routine employment and the associated increase in non-routine physical employment and disability.

Thus, on the one hand, automation facilitates many aspects of work, but on the other, it should not be forgotten that innovations can have certain negative consequences. First of all, there is the disappearance of certain professions that will cease to be relevant. Automation can lead to the disappearance of some professions, especially those related to routine manual labor. Machines and robots are able to perform such work faster, more efficiently and without errors, which reduces the demand for labor in some sectors.

This can lead to a number of socio-economic changes and challenges. One of the consequences is an increase in unemployment among workers whose

skills become unnecessary due to automation (Simutina and Shumylo 2023). This may lead to increased social inequality, as jobs requiring high levels of skill or specialization remain, while low-skilled positions disappear. In addition, there may be a need to retrain a large part of the labor force. Such retraining will require significant investment from both the public and private sectors to ensure that people can learn new skills and adapt to the changing labor market.

However, despite this, authors can confidently state that there is no point in resisting the introduction of technology. It is necessary to use the right approaches to minimize the negative effects of technology and adapt employees to new working conditions. In addition, automation and digitalization lead to many positive changes, so if properly implemented, they can minimize the negative effect. For example, in order to address the problem of job losses, it is advisable to invest in educational programs and retraining of the employees whose professions are affected by automation. This will help workers adapt to new working conditions and find employment in the sectors that require higher qualifications and specialization (Yaroshenko et al. 2023).

It is also important to remember that automation not only “takes away” jobs from employees, but also creates new ones. It requires more qualifications to operate automated systems. Companies are having difficulty implementing new technologies because there is a lack of skilled personnel in the local labor market. In the absence of ready-made talent, employers are expected to offer retraining and advanced training to just over 70% of their employees by 2025 (Pyshchulina 2020). The “newest” jobs will differ from the classic model of

stable employment, including temporary work, or work on a reduced schedule, due to the ability of technology to divide the workflow into segments. However, this shift to atypical forms of employment does not imply lowering of qualification requirements. On the contrary, such non-traditional roles will require a high level of skills, which could potentially put those without access to quality education at a disadvantage in the labor market (Frey and Osborne 2013). Therefore, an alternative solution may be to encourage the development of new industries and technologies that can create new jobs. This could include support for startups, research and development in high-tech sectors, for example medicine, services, military, etc. A striking example of working with automated systems are UAVs (Unmanned Aerial Vehicles) that cannot successfully function without the intervention of a human operator. Meanwhile, robotic weapons perform both functions simultaneously, that is, they are self-governing and preserve a warrior’s life with proper use and direction.

It is also important to note the feasibility of developing policies that support workplace flexibility, including the possibility of part-time, flexible, and remote work, which can help reduce the impact of automation on the workforce. Social strategy plays a key role in addressing the challenges posed by non-standard employment, including work based on digital platforms. Social protection systems need to be strengthened to support individuals who lose their jobs due to automation (Kniazieva et al. 2021). This could include unemployment insurance, job search assistance, and social support programs. States use policy initiatives to increase the level of protection for workers. Some EU countries

are already implementing or developing legislation to regulate the working conditions on digital platforms. For example, the Law on the Rights of Workers in the Digital Era (*Ley de derechos de los trabajadores en la era digital*) was adopted in Spain, to regulate work on platforms, including rights to salary, leave and protection in case of refusal to work. Many EU countries (Germany, Czech Republic, Belgium) invest in vocational training and retraining programs aimed at providing employees with the necessary skills and knowledge for employment in a digital environment. Many nations are implementing measures aimed at strengthening social protection for workers in the digital transformation era. They develop mechanisms for social dialogue between the government, employers and trade unions to jointly address issues related to the protection of workers' rights in the digital age (Rudakova et al. 2021). In general, the authors may claim that automation of work processes leads to a better balance of work and leisure, which has a positive impact on people's health.

In this study, the authors would like to pay special attention to workplace safety and the impact of new technologies on it. In the case of Ukraine, which is currently in a state of military conflict, safety is currently a priority, especially with air raids. As mentioned earlier, the introduction of innovative technologies leads to the emergence of new professions that did not exist before. For example, the development of cybersecurity, artificial intelligence, big data, and the Internet of Things (IoT) requires specialists ready to work in these areas. This encourages educational institutions to develop new programs and courses to train qualified specialists. The introduction of new technologies can help

protecting workers and optimizing work processes in a way that minimizes risks to health and life, particularly during air raids, or other hazards. For example, automation allows many categories of employees to work remotely, significantly reducing the need to be in the office or at work, where they may be vulnerable during military operations or air raids.

Digital safety management systems can be integrated with emergency notification systems, ensuring that employees are informed quickly and effectively of hazards and the need to evacuate. In addition, automated control systems can help plan and execute evacuation measures based on the specificities of the premises and the current situation, minimizing risks to the employees. However, safety is also manifested in other aspects of the use of the latest technologies.

The fundamental strategy for ensuring safety in automated production systems is to minimize or completely eliminate the chances of situations with a potential risk of danger that could lead to accidents or other troubles to a level that society considers acceptable. Also critical is the approach to the cost-effectiveness of safety, which involves the selection of technologies, methods of work and protective equipment that ensure the achievement of safety requirements at the lowest possible cost. Given that achieving absolute security is a difficult task in the context of modern technological development, the choice of effective security measures that guarantee an acceptable level of risk at optimal costs is the key (Osipova and Khalil 2021).

Automation plays a crucial role in ensuring the safety of work processes, as it minimizes human error, reduces the

impact of harmful and hazardous conditions on employees' health, and ensures a high level of control over production processes. The use of automated systems helps to avoid many of the risks associated with direct human involvement in potentially hazardous operations and contributes to a safer and more efficient production environment. Thus, automation not only increases productivity, but is also a key factor in preventing occupational injuries and diseases, making it indispensable in ensuring safety at work. In the same context, it is worth noting that the technological process is changing the requirements for skills and qualifications of the existing professions. Automation and digitalization force employees to adapt, learn new technologies, and improve their skills. This applies not only to technical professions, but also to the service, logistics, marketing, and other sectors.

This represents an essential progress and, simultaneously, a challenge for education. For example, in many European Union countries, universities have AI departments, as well as experimental laboratories and research centers. This provides students with a unique opportunity to develop new skills and contributes to the growth of their productivity, which, in turn, has a positive impact on the productivity of the society as a whole, forming qualified specialists who meet the requirements of the modern labor market (Stashkevych 2021). However, other countries have not adequately adapted to the requirements of modernity, which may increase the technological gap. Since access to the latest technologies is not equal in all regions, or in all segments of the population, this can lead to widening the income and opportunity gaps between different society groups.

To address this problem, the authors propose to take a number of steps. First of all, it is necessary to improve the quality of education, including ensuring access to high quality education for all segments of the population, with a focus on STEM (science, technology, engineering, mathematics) disciplines and digital literacy. In addition, it is important to create training and retraining programs for adults to improve their skills in line with the changes in the labor market.

A number of measures should also be taken in the area of infrastructure. For example, to ensure the construction of affordable broadband Internet and other digital services in remote and low-income regions (Petryshyn and Hilyaka 2021). It is crucial to stimulate innovation and entrepreneurship through grants, loans, and other financial instruments. These measures require a comprehensive approach, involving both public and private resources, and the active participation of civil society. Reducing the technology gap and overcoming inequality will help create a more equitable and inclusive global economy (Demianchuk 2020).

Automation and digitalization are leading to significant changes in working hours as they change the way labor is produced, distributed and managed. On the one hand, the adoption of these technologies can lead to increased efficiency and productivity by reducing the need for long working hours to complete certain tasks, while on the other, they can also lead to the need for greater flexibility in schedules, including irregular working hours, remote work, and altered employment models such as freelance or contract work.

Speaking of digitalization and automation, it is impossible not to note their impact on labor market flexibility.

Technology also contributes to greater flexibility in the labor market. Remote work, freelancing, and flexible work schedules are becoming increasingly popular, allowing employees to better balance their work and personal lives. This also opens up access to the global labor market for specialists from different countries. Researchers A. Warning and E. Weber conducted a study based on the work of German companies and the findings indicate that, among various observations, the employers engaged in digitalization efforts, such as implementing artificial intelligence, tend to demand significantly more flexibility in terms of workplace location, working hours, and self-management from their new hires, in comparison to the employers who do not engage in digitalization activities (Warning and Weber 2018). Sociological studies are deeply engaged in examining the potential impacts of enhanced working-time flexibility. This can bring significant drawbacks for employees who struggle to align fluctuating work schedules with other life commitments, a task that often leads to conflict and is not always free of consequences (Brough et al. 2020). However, there are those who gain from greater job flexibility in terms of work-life balance, especially when such flexibility is accompanied with a greater degree of personal autonomy, rather than intensified monitoring of one's every action (Warning, Weber and Püffel 2022).

The type of employment significantly influences the opportunity for skill enhancement. A quality job offers training access, promotes career advancement, and opens new pathways. The adoption of innovative technologies prompts employers to provide suitable training programs for their staff, whereas those in informal employment (such as

freelancers or gig economy workers) often lack access to these opportunities. These individuals must proactively seek to enhance their skills and develop the competencies demanded by the labor market. Without such efforts, their situation could deteriorate over time compared to those in traditional employment, potentially leading to a higher risk of prolonged joblessness (Stefancic and Zirnstein 2018). Digital skills shortage prompts companies to invest in training in order to develop digital competencies of their employees (Lavrynenko 2021).

Overall, digitalization offers new opportunities for increased work flexibility, but it also requires employers and employees to adapt to the changed working conditions, given the potential challenges and impact on work and personal life.

The data collected in Ukraine since the beginning of the full-scale invasion are important evidence of the positive impact of digitalization in the context of stability. Almost 40% of Ukrainians have lost their jobs because of the war, 24% work part-time or online, and 32% continue to work as usual. The labor market in Ukraine is in a state of crisis due to the war. The number of vacancies has sharply decreased, and the average salary has fallen in the first year of the war. At the same time, the IT industry is the one that has suffered the least from the labor market crisis. Therefore, despite the fact that companies in various sectors of the economy have either already returned to work or are beginning the process of resuming their activities, the share of job offers for IT specialists is much higher than for representatives of other professions (Danylina 2022). These data show that digitalization and automation of the economy can have a positive impact on job stability. The IT sector,

which is precisely related to digital technologies, is one of the most resilient and dynamically developing industries, able to adapt to changing conditions and continue to grow even in times of crises. Dependence on traditional sectors of the economy makes the country vulnerable to external shocks. The development of IT and other innovative industries can reduce this vulnerability. The growing share of remote work and freelancing in the IT industry indicates a trend toward more flexible forms of employment that may become the norm in the future, changing the standard labor law relations which are based on work contract as principle. These observations point to the need for active policies to develop skills, support innovation, and stimulate the growth of high-tech industries to create a sustainable and competitive economy.

Thus, automation and digitalization undoubtedly bring both positive and negative changes to our lives. On the one hand, they provide significant improvements in production efficiency and productivity, open up new business opportunities, and offer consumers a wider choice of goods and services. On the other hand, these processes can lead to job losses in certain sectors (in manufacturing areas such as automotive, textile, transport, logistics, banking, and finance), increased employment instability, and the need for constant retraining of workers. The tasks previously performed by humans can now be automated using robots, machines, and other artificial intelligence systems. The introduction of autonomous vehicles and logistics management systems can reduce the need for drivers and other workers in this area. Moreover, the use of chatbots, virtual assistants and other digital tools

can reduce the need for workers who provide telephone or online customer support. In addition, the use of automated systems for data processing, working with documents and other office tasks can reduce the need for clerks and administrative workers.

Despite these challenges, the continuous development of society and innovation is essential for progress. This will inevitably lead to an increasing role for technology in all aspects of employment and production. In this context, it is critical to take advantage of the benefits offered by automation and digitalization and to adapt to them. Resistance to these changes is not only futile, but can also slow down the development and innovation potential of the economy.

Therefore, it is important to focus on developing and implementing strategies that will minimize negative impacts, such as job losses and inequality, while maximizing the positive effects of new technologies. This includes investing in education and retraining, expanding social insurance to accommodate more flexible forms of employment, and stimulating innovation to create new opportunities in the workplace. Adapting to these changes will not only promote economic growth, but also help ensuring that the benefits of technological progress are shared by a broader population.

4 DISCUSSION

In the context of the study of labor relations' digitalization, the authors found the work of Canadian researchers Lévesque, Fairbrother and Roby (2020) to be interesting. In their research, they consider the future of labor relations in the context of the development and implementation of innovative technologies. In academic and public circles,

there are numerous discussions and debates about the destructive impact of the current stage of digitalization. In this context, the authors explore the boundaries of interaction between the introduction of new technologies and possible challenges (Lévesque, Fairbrother and Roby 2020).

Nazareno and Schiff's (2021) research is based on respondent data and expresses both positive and negative feedback from employees regarding workflow automation. This work is important for a comprehensive understanding of people's attitudes and reactions to significant technological changes in the workplace. It provides a comprehensive understanding of the impact of automation on the work environment from the perspective of employees themselves, allowing us to consider both the benefits and potential drawbacks of this process. Real-world feedback from the employees who experience the effects of automation on a daily basis provides valuable insights into the practical impact of technology on the workplace, which helps informing the conclusions and recommendations. In addition, the use of data reflecting both positive and negative aspects of automation helped to ensure a balanced approach in the article, avoiding a one-sided assessment and taking into account different points of view.

The impact of digitalization, in particular artificial intelligence, has been studied by German researchers Warning, Weber, and Püffel. The integration of Artificial Intelligence (AI) across various economic sectors holds significant potential for enhancement and is anticipated to witness rapid growth in the near future. This evolution is expected to bring about notable shifts in employment conditions, potentially

exposing workers to severe health hazards. The study pioneers an empirical investigation into the escalating demands for flexibility by employers amidst the progression of digital transformation. Merging the establishment-level data from this survey with occupation-specific characteristics from additional sources, and employing non-linear random effects models, reveal that office and secretarial roles are experiencing the most pronounced shifts in flexibility demands. These changes are also significantly impacting other professions critical to the AI-driven landscape (Warning, Weber and Püffel 2022).

Despite the negative consequences that digitalization and automation may bring, it should be noted that these phenomena are still becoming widespread, and their positive features outweigh the negative ones. Given this, it can be argued that such innovations will be increasingly integrated into labor relations. Therefore, it is necessary to take all measures to reduce their negative impact. The impact of digitalization and automation on the economy is huge and multifaceted, covering a wide range of aspects, from changing the structure of the labor market, to stimulating innovation in products and services. These technological changes make an important contribution to increasing productivity, production efficiency, and the quality of life of citizens.

Thus, based on our research, the authors can identify a number of benefits that automation and digitalization bring to the workflow: increased productivity and efficiency; improved mental and physical health; workplace safety; flexibility and stability of work; reduced working hours; increased new forms of employment; and the emergence of new specialties. At the same time, automa-

tion brings new forms of employment that are unstable and socially less secure.

For the companies and employees adapting to new forms of employment, it is important to consider a number of recommendations to ensure effective cooperation and mutually beneficial working conditions. For employers, authors can emphasize the need to develop flexible work models that allow employees to choose the optimal work mode, ensuring high productivity and job satisfaction. It is important to invest in the professional development of employees, providing them with access to training programs and courses to improve their skills in the context of digitalization. It is also advisable to develop social protection systems for all categories of workers, including freelancers and independent contractors, offering flexible pension programs, life and health insurance.

In turn, it would be appropriate for employees to develop self-organization and self-regulation skills to work effectively in a flexible or remote environment. This is especially important for Ukraine and other countries experiencing military conflicts. A high level of technological literacy should be maintained, as most new forms of employment require the ability to use digital tools and platforms. In addition, employees should be ready and open to learning and self-improvement, and actively use opportunities to acquire new knowledge and skills that are in demand in the labor market.

Implementation of these recommendations will help employees not only adapt to the changes in the labor market caused by digitalization and automation, but also take advantage of new opportunities for professional and personal development. At the same time, the

companies that implement these strategies will be able to create stronger, more motivated and adaptive teams that can effectively meet the challenges of today's dynamic business environment.

The research on the impact of digitalization and automation on working hours, flexibility, and job stability is of great interest for understanding the transformation of the labor market in the future. The main areas for further research in this area are an in-depth analysis of the impact of technological changes on various sectors of the economy, identification of industries with the greatest growth potential, and determination of the needs for retraining the workforce. An essential aspect is to study the impact of digitalization on the quality of working life, including job satisfaction, work-life balance, and emotional well-being of employees. International comparisons will reveal how different national social protection systems and labor market organizations are adapting to innovations, as well as point to effective adaptation strategies.

Thus, comparing the level of social protection in different countries, regarding the unemployment benefits, health insurance, pension programs, determines how countries respond to changes in the labor market and innovation. In this regard, the analysis of the legal and regulatory framework helps finding out how countries ensure the rights and protection of workers in modern conditions, including labor legislation, collective agreements and other regulations. This can reveal not only the diversity of strategies for adapting to innovation, but also the effectiveness of these strategies in the context of modern globalization and the rapid development of technologies, which stipulates further research in this area.

5 CONCLUSION

Innovative development is not something that can or should be resisted. On the contrary, it is a natural stage in the evolution of society that provides new opportunities for progress and improvement of the quality of life. The meaningful adoption and active use of innovations and adaptation to the changed technological landscape will maximize the potential of these changes to benefit the people, economy and society as a whole.

Automation and digitalization are bringing about significant transformations in employment and production, which are accompanied by both positive and negative aspects. On the one hand, these processes help in increasing the efficiency of operations, expand opportunities for business innovation, and provide end users with a widened range of products and services. On the other hand, automation and digitalization may lead to a reduction in the number of traditional jobs, increased volatility of working conditions and the need for continuous professional development of employees.

Given the need for social development and innovation, the inevitable increase in the technological component in all areas of employment and production processes requires an adaptive approach. Therefore, it is critical to optimize the benefits of automation and digitalization by adapting to new conditions, as ignoring these trends may lead to a slowdown in progress.

Digitalization and automation have an important impact on labor market flexibility, offering significant benefits and challenges for employers and

employees. On the one hand, technology is contributing to an increased flexibility in the workplace by enabling remote work, freelancing, and flexible schedules, which helping workers better maintaining their work-life balance and accessing the global labor market. At the same time, research shows that the employers who are digitizing require significantly more flexibility from their new employees in terms of workplace, working hours, and self-organization than those who are not.

On the other hand, increased working time flexibility can have negative consequences for employees who find it difficult to reconcile variable work schedules with other areas of life, which often leads to conflicts and is not always without consequences. However, some employees benefit from increased flexibility in their work, which contributes to a better work-life balance, especially when this flexibility is accompanied with a greater degree of personal freedom rather than increased control over one's every action.

Therefore, strategies should be formulated and implemented to minimize potentially negative consequences, such as increased unemployment and social inequality, while maximizing the positive impact of new technologies. This includes investing in education and training systems, expanding social protection to accommodate more flexible employment models, work engagement, as well as stimulating innovative research and development aimed at creating new jobs. Adapting to these changes will not only stimulate economic growth, but also ensure that the benefits of technology are distributed equally among different groups of the population.

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Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Coauthor contributions

Dmytro V. Hryn: Writing – Original Draft, Conceptualization. **Oleg M. Yaroshenko:** Writing – Original Draft, Methodology. **Oleksii Y. Tykhonovych:** Writing – Review & Editing, Data Curation. **Larysa Y. Velychko:** Writing – Original Draft, Software. **Natalya M. Vapnyarchuk:** Writing – Review & Editing, Supervision.

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Uticaj digitalizacije i automatizacije na radno vreme, fleksibilnost i stabilnost

PROŠIRENI SAŽETAK

Digitalizacija i automatizacija preoblikuju tržište rada, utiču na potražnju za različitim profesijama i redefinišu tradicionalne modele rada. Ovaj članak istražuje kako tehnološka dostignuća utiču na radno vreme, fleksibilnost i stabilnost, naglašavajući kako mogućnosti tako i izazove za poslodavce i zaposlene.

Sa pozitivne strane, automatizacija i digitalizacija povećavaju fleksibilnost na mestima rada, omogućavajući rad na daljinu, *freelancing* i prilagodljive rasporede rada. Ove opcije mogu značajno poboljšati ravnotežu između profesionalnog i privatnog života, nudeći zaposlenima veću kontrolu nad radnim vremenom i lokacijom rada, dok istovremeno omogućuju pristup globalnom tržištu rada. Osim toga, povećanje efikasnosti upotrebom informaciono-komunikacionih tehnologija promoviše inovacije i utiče na ekonomski rast na način koji podrazumeva optimizaciju poslovanja i pružanje potrošačima šireg spektra proizvoda i usluga.

Međutim, navedene promene takođe dolaze sa značajnim izazovima. Iako nudi veću fleksibilnost, digitalizacija često zahteva od zaposlenih da se prilagode dinamičnijim uslovima rada, kao što su promenljivo radno vreme i nekonvencionalna radna okruženja. Za neke, ova promena može biti korisna, omogućavajući bolju ravnotežu između profesionalnog i privatnog života. Ipak, za druge, to dovodi do konflikta, stresa i poteškoća u upravljanju profesionalnim i privatnim aspektima života. Osim toga, digitalizacija može dovesti do povećane nesigurnosti radnog mesta i veće potrebe za kontinuiranim profesionalnim razvojem. Tradicionalna radna mesta postepeno nestaju, dok se pojavljuju nova, koja zahtevaju različita znanja i veštine koje pak ne poseduju svi zaposleni. Ova situacija rizikuje povećanje socijalne nejednakosti i utiče negativno na nezaposlenost onih koji se ne mogu brzo prilagoditi ili prekvalifikovati/dokvalifikovati.

Za adresiranje navedenih izazova, u članku su date strategije delovanja. Ulaganje u sisteme obrazovanja i unapređenje profesionalnih obuka je od suštinskog značaja za sticanje novih znanja i ovladavanje veštinama potrebnim za napredovanje u digitalnoj ekonomiji. Pored toga, širenje obima socijalne sigurnosti i zaštite kako bi se pokrili fleksibilniji i netradicionalni modeli zapošljavanja i rada mogu pomoći u ublažavanju negativnih posledica od gubitka posla i nestabilnosti. Kreatori javnih politika i kompanije takođe treba da podstiču inovacije i istraživanje kako bi stvorili nove mogućnosti zapošljavanja koje su stabilne i produktivne.

U zaključku, digitalizacija i automatizacija su prirodne faze u društvenoj evoluciji, koje donose i mogućnosti i izazove. Proaktivnim prihvatanjem ovih promena i usvajanjem adaptivnih mera, moguće je maksimizirati njihov pozitivan uticaj na ekonomiju i društvo uz minimiziranje potencijalnih nedostataka, obezbeđujući pravednu raspodelu tehnoloških koristi svim kategorijama stanovništva.

KLJUČNE REČI

digitalna tehnologija, radno pravo, uslovi rada, digitalizacija rada, fleksibilnost rada



Being young and resilient in times of AI, disasters, and crises

Veselin Mitrović ¹ 

ABSTRACT

Disasters, crises, and resilience are interconnected with a general comprehension of “normality” or everyday routine disrupted by sudden and adverse events.

However, some inconsistencies in the above interpretation induce an epistemological and existential crisis. First, the everyday life of some disadvantaged groups can be described as catastrophic and miserable whether the general community recognizes it or not. Nevertheless, some of the usually resilient groups could become future icons of the new risk, particularly AI hazards. Second, disasters are, by definition, sudden events with identified timeframes, while crises can be long-lasting with the tendency to become omnipresent. Third, when compared with earlier assertions, particular groups may undergo a long-lasting and gradual crisis that diminishes their capacity to anticipate future events, a critical aspect of resilience, and influences the social structure. An exemplary case is the unregulated widespread use of artificial intelligence (AI) by students to complete tasks, which diminishes critical thinking and reduces significant cognitive engagement. Such actions are possible with the cultural complicity of various stakeholders. Ultimately, the dystopian vision of a mindless and non-resilient young populace within an already susceptible context of an aging society—particularly with the increasing prevalence of dementia—reveals novel vulnerabilities, signalling the onset of an impending disaster. The suggestion made in this paper is for the research and teaching community to play a more active role in mitigating, if not preventing, potential unintended yet not-so-unforeseeable consequences.

KEYWORDS

Disasters, Crises, AI-hazards, Aging society, Students, Resilience

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1 INTRODUCTION

Today's societies are faced with the rise of the potentially non-resilient population, including the low-income country population (Sampaio 2024)¹ and the rise of people with dementia and older adults (WHO 2023). Nevertheless, what if a historically resilient group of young people who can care and plan for themselves and disadvantaged individuals is now threatened by a decline in resilience, i.e., the capacity to rebound and thrive after an adverse event? Researchers are often asked to assess the likelihood of artificial intelligence (AI) leading to worst-case scenarios for humanity, known as the 'P(doom)' value. The term P(doom) is specifically designated to represent the 'probability of doom.' As its label implies, it denotes the probability of artificial intelligence causing a doomsday scenario. This concept often encompasses the risks of AI systems becoming uncontrollable, causing significant harm, or even leading to existential threats, such as the end of human civilization (Friedler et al. 2023; Rainey 2023).

In light of the growing range of disaster risks, establishing resilience is deemed essential, albeit accompanied by social, demographic, and ethical complexities.

¹ Unprecedented demographic trends are rapidly transforming villages and towns in low-income countries into cities without adequate infrastructure for security and human rights. From 2020 to 2070, the number of cities in these regions is expected to increase by 76%, with urban land area expanding by 141%. This urbanization challenge is evident in sub-Saharan Africa, where 56% of urban dwellers—around 230 million people—live in slums, amid conflicts and organized crime. See more in UN (2017) New Urban Agenda. HABITAT III. UN: United Nations Human Settlements Programme.

The main objective of this paper is to analyse distinct threats associated with AI that disproportionately influence students and young adults, populations historically viewed as exceptionally resilient in the context of aging societies. The study explores how AI-driven technologies and systems may pose unique threats to these groups, potentially undermining their cognitive potential and resilience, which is crucial not only in everyday lives, but also in disasters and crises. Disasters are defined as sudden, while crises can be prolonged and pervasive. Disasters, crises, and resilience are interconnected with comprehending "normality" or quotidian routine disrupted by sudden and adverse events such were tragically visible during COVID-19.

Inconsistencies, biases, and demotivation due to unregulated use and over-reliance on AI among students create a crisis that may develop adverse cognitive effects, weakening their resilience and affecting social structure... This issue arises from the complicity of various stakeholders. The emerging vision of disengaged youth in an aging society, particularly with the increasing dementia, reveals new vulnerabilities and hints at an impending disaster. This study calls for researchers and educators to take a more proactive role in addressing these potential risks.

2 DISASTER AND CRISIS: THE RETROSPECTIVES ON COVID-19²

The SARS-CoV-2 virus outbreak in 2020 evolved into a global disaster of COVID-19 that was officially terminated by the WHO on 15 May 2023, resulting in nearly 7 million fatalities and 765 mil-

² Mitrović 2021.

lion confirmed cases. The emergence of the pandemic facilitated the quick manufacturing of the vaccine, with about 13.5 billion doses dispensed by April 2023 (WHO 2024). Amidst the pandemic, various ethical concerns arose in relation to the requirement for vaccination (Heider et al. 2024). Lessons gleaned from the pandemic underscore the critical importance of addressing issues related to inequity, solidarity, and cooperation, as these factors hindered the optimal deployment of available resources (WHO 2024).

This exemplifies how we have learned or should learn, the transformation of a singular disastrous event (virus outbreak) into a complex emergency is amplified by pre-existing crisis involving public health, political dynamics, and economic realms. The crisis included epistemic concerns, sparking debates on the representation of normality and the delineation between disaster and crisis in public and scientific dialogue throughout the recent pandemic (Mitrović 2020).

The continuous combination of the various speeches in everyday language, public discourse, and scientific contexts poses a subtle epistemological crisis (Toews 2015; Zack 2023). It was especially evident by the constant intertwining of the terms crisis and disaster (Mitrović 2020).

UN office for disaster risk reduction define disaster as “[A] serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts” (UNDRR 2009). From a scientific perspective, disaster refers to incidents, whether

singular or multiple, that cause harm or fatalities to a considerable number of individuals, or significantly hamper their everyday routines within society. These calamities may stem from natural causes or be the consequence of unintentional or deliberate human actions. This comprises, but is not confined to, fires; floods; storms; earthquakes; chemical vapours; leakage or infiltration of toxic substances; terrorist attacks by conventional, nuclear or biological weapons; epidemics; pandemics; a massive decline in electronic communications; Encompassing a range of occurrences recognized as ‘disasters’ by experts and officials. Disasters consistently arrive unexpectedly and jolt the impacted community, being unwelcome despite not being entirely foreseeable. Disasters generate accounts and images illustrating the valour, downfall, and sorrow of individuals affected by the event and those involved in the response efforts (Zack 2023: 7).

Conflict and crisis are distinguished from disaster, yet inherently encompass a potential for disaster within their definitions. Disasters often showcase acts of cooperation and altruism, whereas conflicts and crises tend to revolve around conflicting agendas of opposing parties, exacerbating the situation (Barton 2005).

More specifically, a recent pandemic and pre-existing social crises, racism, and various types of discrimination affecting healthcare, social, political, economic, and other systems, have been causing personal and psychological challenges (Zack 2023).

The continuous and circular repetition of the misleading connection between these ideas has led to a widespread belief that the post-pandemic world has undergone significant economic, political,

and social changes. Nevertheless, the pattern observed closely resembles the aftermath of other calamities, where communities swiftly move on from tragic occurrences and strive to return to their usual routines promptly, disregarding valuable insights from previous disasters that exacerbated the recent surge in the pandemic-related deaths.

Disaster and crisis both exhibit this alteration, which is a common feature of any disruption from a state of stability to return to its initial condition without critically analysing lessons from the recent disaster and enhancing resilience for the next pandemic.

The focus remains on tallying the deceased and those affected, rather than assuming that both official and nonprofessional aid workers, who, alongside the victims, have first-hand experience of the disaster's impact. Collectively, they created a dynamic system that exhibits varying degrees of resilience in the face of disasters. The diverse projections concerning the development and consequences of the disease failed to consider the intricate functioning of dynamic systems, which became even more complex with the extensive utilization of artificial intelligence (AI) during unexpected events. In other words, communication between actors in disasters massively moves to the communication between various stakeholders and AI (Cao 2023; Modgil et al. 2022; Modgil et al. 2022a; Pal and Funikul 2023; Rane, Choudhary and Rane 2024). However, in the initial year of the coronavirus crisis, various countries were experiencing diverse situations and approaches.

Two prevailing strategies were evident. The initial strategy aimed to swiftly attain herd immunity, leading to a significant and rapid increase in infection cases and fatalities.

The alternative method was typical for societies with a robust sense of collective culture (Mitrović 2020). It rejected a passive approach and suggested that older adults reduce social interactions. Paradoxically, these constraints can weaken existing solidarity and collective spirit, reducing coping capacities and creating a dependent population with diminished autonomy (Bai et al. 2023; Guillemard 1983; 2000; Mitrović 2015; Singh et al. 2023).

As already mentioned, the shift in communication and academic pursuit, i.e., our attempts to tackle the crisis incorporating our technology-focused approaches, including the integration of AI, can be justified by our desire to reinstate our everyday lives to their former customary condition. However, this pursuit is questionable considering pre-pandemic crises such as various forms of discrimination, including discrimination resulting from the general wish to revert the system to normal. From the perspective of marginal groups, this pursuit also reverses our system and goes back to regular discrimination, communication, and cooperation crises (Mitrović and O'Mathúna 2024; Zack 2023). Consequently, should the initial academic pursuit extend to whether AI boosts human resilience or enhances the strength of non-human organisms (Moskalenko et al. 2023; Schemmer et al. 2021)? How does this influence social structures and demographics in the aftermath? Can the unrestricted application of AI be classified as a calamity or predicament (Safe AI/AI risk n.d.)? Is there a chance that things will return to how they were initially (Safe AI/AI risk n.d.)? There is uncertainty surrounding whether patients, in their post-recovery from an injury or severe illness, are identical to their

former selves or if they feel they have restored their previous level of health (Frank 1995; Mitrović 2020).

The crises that arise in various spheres of life during the recovery are directly linked to the lack of response to these issues, while the disaster does not constitute a crisis in a strict sense.

I assert that the key to comprehending the recent pandemic lies in distinguishing between disaster and crisis, as this differentiation can elucidate how certain mitigation strategies that curtail our autonomy have been integrated into our regular practices (Mitrović 2020).

The use of artificial intelligence for decision-making in critical situations, when some forms of paternalism are justified, is becoming increasingly common, from student tasks and academic pursuits to medical scenarios, with little regard for our autonomy and consciousness, creating a practice of “nesting paternalism” (Mitrović and Mitrović 2023; Schemmer et al 2021).

My intention is to support this conceptual proposition further and analyse its practical ramifications within the sociological, political, and ethical contexts that are most applicable to the demographic perspectives of this study.

Given that disasters made massive shifts in communication from face-to-face to stakeholders-to-interface, there is a rise in the concern about how unchecked usage and blind trust in AI are related to mindless-based vulnerabilities among various demographics, i.e., whether and in what way AI influences critical thinking, autonomy, imagination cognitive abilities, motivation and consciousness.

3 FROM SOCIAL AND SPATIAL TO MINDLESS-BASED VULNERABILITIES

Social vulnerabilities refer to a group's proneness to adverse events due to a range of sociological, demographic, and economic characteristics (Flanagan et al. 2011; Mitrović 2015). Spatial vulnerabilities encompass spatial seclusion, the formation of ghettos, uncontrolled urban expansion, and regional exposure to precarious employment or spatial vulnerability to different natural or man-made risks (e.g., living in crowded spaces, without electricity and running water, risky and unregulated working conditions related to specific regions, living in a non-secure industrial area or close to an unregulated sanitary disposal area, etc.) (Del Pinto, et al. 2024; Li et al. 2016; Mitrović 2024, Pasi et al. 2018; Zack 2012). It is common for both kinds of vulnerabilities to manifest simultaneously, shaping an environment characterized by constant crisis or collective stress (Barton 2005). A comparison of the victims of a pandemic and the local geophysical disasters reveals a few relevant issues. The global and local range causes various responses in solidarity due to scarce resources when disasters occur. The victims of local geophysical disasters may have access to external resources in the first days during, or in the aftermath of the events (UNISDR 2009). In contrast, pandemic in the initial phase reveals a lack of global solidarity, inter-state competition for scarce resources, uneven public health policies, etc. (Afifah et al. 2021; Mitrović 2020).

In contrast to vulnerability, resilience is defined as “[T]he ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard

in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions,” (UNISDR 2009).

One way to detect and enhance resilience is to map and mitigate existing vulnerabilities (Mitrović 2015).

The inner characteristic of resilience is its anticipation potential, which helps groups enhance and develop their coping capacity, i.e., resilience (Mitrović 2015). Studies demonstrate the connection between age and the ability to plan, whether it involves immediate or future goals like educational opportunities and geographical mobility for career advancement (Mitrović 2015).

The student demographic automatically satisfies all essential prerequisites for this uniformity. Most of them are young, preferring extensive educational endeavours, and demonstrate significant mobility as they navigate their academic and professional pursuits.

However, the students who depend on AI instead of their critical thinking, mobility, and emotional capabilities emerge as a paternalised and vulnerable subset (Bai et al 2023; Kühler 2021), disrupting the typical correlation between demographics, educational levels, and resilience. This paper comprehends mindless-based vulnerabilities as the diminished capacity for anticipation, intellect, and consciousness in the student demographic, due to the prevalent use of AI in education, resulting in non-resilient populations that may be at risk. First of all the AI (ChatGPT especially) may be great educational tool in several, yet very personalized ways.

It personalizes content for each student's needs, letting teachers save time and create engaging lessons. It's always available so learners can study or get help whenever they want. ChatGPT uses

effective strategies like repetition and spaced intervals, which enhance memory recall. It creates an interactive environment by promoting engagement. This can increase motivation, understanding and retention. Some students feel more at ease using AI than human tutors. This reduces pressure and fosters a more relaxed learning experience. But how well ChatGPT works depends on the user's preferences, the subject and the way it is implemented. It should supplement traditional learning methods, not replace them entirely. Finally, the ethical and privacy issues must be addressed when using AI in educational settings (Bai et al. 2023: 4).

Controversially, excessive dependence on artificial intelligence applications such as ChatGPT may hinder educational development in various aspects. It may reduce learners' motivation and hinder their ability to retain information, as they rely less on their own memory. Instant access to information might negatively affect critical thinking abilities, thereby limiting students from honing important skills in analysis and decision-making. Additionally, since ChatGPT generates responses based on patterns rather than proper understanding, it can sometimes provide inaccurate or misleading information, undermining learning. The convenience of accessing information may result in a shallow interaction with subjects, hindering comprehensive understanding and knowledge retention over time. Overusing AI tools may also reduce opportunities for human interaction, which is important for deepening comprehension and fostering collaborative learning. Last but not least, depending on ChatGPT for solutions, instead of pursuing self-directed problem-solving could hinder cognitive growth (Salim

et al. 2023) and enthusiasm, leading to a perception that learning is overly simple (Bai et al. 2023: 5)

Considering that we used the definition of resilience, which underlies the importance of collective learning and human interaction and anticipation, the potential benefits from overreliance on AI as a significant but personalized educational tool are dimmed. Moreover, relevant studies indicate almost absolute adverse effects on the mental health of the students (in 91% of the world student population) of the absence of one-on-one interaction with the teachers and peers during the coronavirus lockdowns (Lee 2020; Singh et al. 2020). The absence of social contact and extended time at home have led students spending more time online, which can result in compulsive internet use and increased vulnerability due to bullying or abuse (Cooper 2020; Singh 2020). Risk in terms of critical thinking abilities may also be a result of unchecked technological progress that can create serious vulnerabilities, resulting in significant and unforeseen consequences for humanity. Recognizing shared elements in these situations is crucial for a thoughtful integration of AI in education, aligning technological advancements with human ethics and values (Galjak 2024: 9).

Mindless-based vulnerabilities can also be understood as human psychological incapacity to take moral and political distance in AI-debate (Laakasuo et al. 2021).

The same is with our capacity to understand and develop an optimal AI-Red Teaming due to preventing AI-Harms (Friedler et al. 2023). However, the last two notions introduce relevant issues, they are beyond the scope of this paper and can be the recommended

topics of future research in preventing mindless-based vulnerabilities rooted in human overreliance on AI.

In the scenario involving a dystopian Global AI Society (GAIS), which is here comprehended as a model based on progress in advancements, the urgency of developing effective global frameworks for AI governance (Mema et al. 2024) and unwavering trust in AI as the primary saviour (Littman et al. 2021), let us consider a situation where we consult AI for advice or on an action in response to the next pandemic, resulting in diverse response and mitigation strategies. For the sake of illustration, being aware that a pandemic is on the horizon can hasten the advancement of vaccine research, using AI as a prognostic, planning, and developing or responding tool. In such a context, vaccines are scarce resources, making it essential to accelerate their innovation and production (Cao 2023: 242). However, it also turns us into “resource nationalists” driven by AI to claim scarce resources during the pandemic, while avoiding sharing them with disadvantaged countries or even marginalized communities within the same society. (Modgil et al. 2022; Zogby 2021). This AI-based success also may make us ‘data traders’ who trade medical data of the population for vaccine doses (AFP 2021). It has been revealed that the global benefits arising from national endeavours in vaccine development during COVID-19 resulted from the investments made by high-income governments and other stakeholders to secure doses for their populations (Afifah et al. 2021). However, self-interest-driven investments have played a crucial role in the rapid development and authorization of effective vaccines (Afifah et al. 2021: 19–20). Nevertheless, the middle phase of this conflicting advancement is most

effectively depicted by the unequal distribution of vaccines and adverse consequences for countries with low economic status. For example, by the end of July 2021, 60 billion vaccines were procured in high-income countries, 2,5 billion in upper-middle income, about 1,7 in lower-middle income, and less than half a billion in low-income countries. (Afifah et al. 2021). In the relevant context, mindless-based vulnerabilities will eliminate distinctions between local and global catastrophes, converting all social and spatial vulnerabilities into a population susceptible to a relation between their mental actions and AI. Such a society can set the stage for adverse conditions, especially in aged care, which has already faced a lack of caregivers on the one hand, and the possibility of engaging robots and AI in aged care, opposing the majority in the EU (about 60% of EU population is against using robots for aged care) on the other side (Wachsmuth 2018).

4 RESILIENCE, AI AND THE SOCIO-DEMOGRAPHIC STRUCTURE

Contrasting to resilience as the normal human capacity to rebound after a shock, disaster, or other adverse events, are the hazards defined as: “[A] potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and have different origins: natural (geological, hydrometeorological, and biological), or induced by human processes (environmental degradation and technological hazards) (UNISDR 2009).

One technological and human-provoked risk addressed in this study is AI-hazard, defined as the misconception that AI is a one-stop solution rather than a mere instrument, which is a critical hazard referred to as techno-solutionism (Littman et al. 2021). Its adverse impacts on cognitive abilities (Salim et al. 2023), empathy and consciousness result from extensive uncontrolled AI utilization by young people and students in their academic pursuits and assignments (Lee 2020; Singh et al. 2020).

Although resilience is one of the fundamental human capacities in responding to adverse events and reverting to a previous state, this ability varies significantly among different social groups and individuals (Mitrović 2015).

From a demographic perspective, young people are more resilient than old people, couples than single, employed than unemployed, etc. Relevant studies (Mitrović 2015) suggest that among the unemployed population, who are susceptible to various disasters, 90 percent of the people between 18 and 29 years old are resilient. Education is also essential and, combined with age, results in 80 percent of resilient young university-educated people. However, other studies show that higher education is not a guarantor in critically assessing decisions based on new technologies (Mitrović 2016).

One of the most important inner characteristics of resilience is anticipation and imagination to enhance our own and our nearest life in the future. Thus, the focus is not just on surviving but rather on thriving (Mitrović 2015). Such capacity is connected with social action toward realizing our motives and goals (Schütz 1967). Nevertheless, present studies in higher education warn that concessions and

open-minded thinking, as prerequisites for human resilience (Mitrović 2015), could be endangered by the mass usage of AI during the education process (McMurthrie 2024).

Let us assume that we are living, or will soon be living in the previously mentioned dystopian Global AI Society (GAIS), which will be, or is indeed beginning to be characterised by the massive use of AI for different tasks, from health care to education, from politics to the economy, from general time to disaster and crisis management. The worth of 140 global health technology start-ups in 2023 exceeded \$1 billion USD individually, resulting in a cumulative value exceeding \$320 billion. The healthcare sector is covered in cutting-edge technologies such as artificial intelligence, real-world data platforms, and digital tools (Samavedam 2024). The World Economic Forum forecasts that by 2025, this sector will be worth \$504 billion. Moreover, the global market for AI within the healthcare industry is forecasted to achieve a value of \$45.2 billion by 2026 (Samavedam 2024).³ However, lessons from the last pandemic raised several ethical issues of AI usage during the crisis, ranging from medical biases to surveillance technology (Da Costa and Zuckerman 2024).

In the very useful text by Beth McMurthrie (2024), Jeff Wilson, professor of religious studies at the University of Waterloo asked, Are we just grading Robots? He argued that some of us were surfing on the waves of the AI, while some were drowning. The article states that, since ChatGPT appeared on the scene, Wilson has been warning his students against using artificial intelligence

to do their work. Even so, he says, he saw a massive uptick in its use over the past academic year, estimating that about 25 percent of the students at the Canadian institution used generative AI in their assignments, regardless of his warnings that generating text in that way was not allowed (McMurthrie 2024).

Conversely, there is a possibility that students could be evaluated by robots; nevertheless, surveyed students did not concur with AI assessment (Sobo et al. 2024).

However, some teachers provide practical steps on utilizing AI to develop critical thinking in online courses (Ghosh 2024). Hence, this utilization understands distant teaching without interaction between students and teachers, which, as a toll, implicates even more social hazards for the group's resilience. First, academic staff ranked fully online assessments as a higher risk for irregular usage of AI, than those that involve some in-person component (Doherty and Warburton 2024). Second, relevant studies show that resilience can erode if relevant resilience's factors – direct communication and solidarity are replaced with (self) isolation, and vice versa. Direct communication, teaching from a group, and solidarity, instead of self-isolation enhance group resilience to adverse events (Mitrović 2023). The key dilemma presented is whether AI has the capability to strengthen human resilience or whether AI, a self-learning entity, rather enhances its own resilience.

Failure to effectively regulate AI could lead to a situation where college students are deprived of the chance to develop their critical and creative capacities (Bai et al. 2023). Although not reaching the level of a catastrophic incident, this gradual crisis-like process

³ See more at Inclusive Innovation: Health Equity — April 9, 2024 — Samavedam 2024.

could ultimately result in the dire consequence of college education no longer being able to sustain intellectual life and the mind itself. Such an occurrence would result in a situation where mindless groups have minimal chances of successfully responding to the adverse event due to decreased resilience.

In the following paragraphs, I will analyse in what ways and what strata could be created in GAIS. The existence of a binary class system in the society (AI and humans) is more manageable than the means through which this evident social structure is established. At first sight, GAIS, as a two-tier society, builds a picture of division between AI users and non-AI users. However, from the resilience perspective, the division would consist of the strata of mindless and non-resilient humans and resilient nonhuman organisms. Finally, the existential question is, what could happen with other strata and cohorts that cannot or would not use AI, or even worse, have become a variable or bias in AI decision-making? What is the perspective of those who are victims (e.g., the elderly and people with dementia) of AI decisions and biases due to the lack of competence and caregivers (e.g., AI users)? There are already experiences from the last pandemic that age was a proxy for deciding to let elderly adults die (Jecker 2022). At the same time, older adults are at a higher risk from COVID-19 than younger individuals (CDC 2024). Comparing death rates from COVID-19 during the last four years, cohorts from 18–29 made 0.6 percent, while cohort 75+ made about 55 percent of COVID-19 deaths in the USA (CDC 2024). How will we categorize those aged strata if not as disadvantaged?

Would AI divisionism between those who ride on the wave of AI, and those who are drowning lead to a two-tier society? Within the realm of techno-optimism, one perspective contends that the presence of technologically based class stratification does not introduce any particular or new ethical issue. Techno-progressives and transhumanists scrutinize all technological progressions through the perspective of genetic chance and natural lottery (Agar 2003; Savulescu 2007). The natural lottery is viewed as fundamentally unjust by these authors, who consider all technological developments in this context, suggesting that new technology could introduce a fairer alternative (Savulescu 2007). According to tech proponents, numerous new-tech tools are readily available at no cost, with no limitations on their utilization being widely known. Providing the option to use AI may result in a fairer system, allowing those facing economic challenges to reach the same status as the privileged. The idea of innovation and diffusion in a positive light, as proposed by Nicholas Agar, represents a second dimension of transhumanist belief. The progress of enhancement technologies (including AI as a part of nano, bio, info and cogno technologies) tends to widen societal gaps, but their dissemination facilitates their widespread acceptance (Agar 2003; Mema 2024). Nonetheless, the current dilemma revolves around the unequal distribution of social power and imbalance within aging societies that are home to a considerable number of individuals affected by dementia, defined as ongoing cognitive decline that cannot be halted or reversed. This is a concerning outlook, given the expected doubling of dementia cases in the near future. (Satpute-Krishnan

et al. 2003; Bearer and Wu 2019). The data on demographics indicates a forthcoming surge in disability cases and the necessity for support from caregivers as individuals grow older, impacting the resilience of social and healthcare frameworks. Europe has witnessed a rise in the proportion of older individuals, as evidenced by statistics, indicating a surge from 4.1% to 5.4% of individuals aged 80 and above between 2006 and 2016 (Eurostat 2017). While this uptick indicates a growing lifespan, it often correlates with an increase in frail elderly individuals (Eurostat 2017), of which there is currently about 9 million in Europe. The current data suggests that by 2030, there will be around 82 million individuals suffering from dementia, with this number expected to rise to 152 million by 2050 worldwide. (Alzheimer's Disease International 2020; WHO 2023).

The gradual decline in cognitive function makes it challenging for individuals to maintain autonomy and capacity to make a choice, leading to complex social and ethical dilemmas in both aging populations and the widespread use of artificial intelligence, resulting in decreased cognitive capabilities among young people, leading to communication and dementia-related care. The problem becomes even more complex when considering how influential social groups can harness AI technology, leveraging their substantial financial resources to create, disseminate, and capitalize on AI applications and outcomes (Mitrović 2014; Mema 2024). Access to new technologies will be swiftly gained by those already possessing the economic and knowledge-related potential resources, enabling them to become stronger contenders for additional resources. Access to technology would lead to an increase in resources for the individuals

who can utilize it effectively, i.e. unregulated usage during studying (UN 2023a). People without the financial capability to acquire new technology, or those who abstain from using it due to moral dilemmas, will be left even further behind, or be faced with unfair competition (Czerniewic and Rother 2018; Macevičiūtė and Wilson 2018; UN 2023). It is worth mentioning that there is a logical possibility for every individual in our society to have equal access to technology, as certain AI are freely available, eliminating any competitive edge. Nevertheless, all available choices are based on class reductionism and fail to address the complexities of resilience and hazards adequately.

5 AI DIFFUSIONISM AMBIVALENCE AS ENHANCING POWER AND REDUCING RESILIENCE

In the upcoming discussion, I will examine how reducing inequality in digital and AI resources may simultaneously lead to gaining social power and the potential reduction in resilience among various social groups. According to Potter's (1995) categorization of existential categories as "mere," "miserable," "idealistic," "irresponsible," and "acceptable," and the differentiation between AI users and individuals profiting from AI creation and distribution, it becomes evident that the contingency of this process seems to have unfolded abroad. Hence, I aim to draw sociological distinctions among individuals who incorporate AI into their daily routines, those who financially support and market AI, and those who abstain from its use entirely due to moral or financial, and structural reasons, or only utilize it for specific tasks like text editing. Last but not least,

in this class cluster, AI itself is a distinct class, characterized by its self-learning capabilities and potential for developing resilience and self-defence mechanisms (Ceo 2023: 234–235). Following the structuralist view (Giddens 1973, Parkin 1979), in the context of the competitive character of developed societies, a sociological analysis could suppose that the socioeconomically stronger groups should be directly classified as a potentially superior class. Individuals lacking sufficient socio-economic influence will experience a decline in their position in the societal structure if they remain without AI capabilities. Hence, this assertion is not entirely accurate. The emergence of the two technological categories did not lead to the development of the GAIS, but rather resulted from it. The evaluation of this society's structure relies heavily on how AI is utilized, considering its application's extent and method. Key factors for this examination include societal, economic, demographic, and technological advancement, the various social strata engaged in socio-technological perpetuation, and the specific technology utilized. As a result, this contention is most vividly portrayed by the correlation between Mills' (1956) Power Elite approach and Foucault's (1994) concept of the "contractor" or user of AI. In accordance with this viewpoint, a group possessing a superior structural placement holds the authority to establish fresh societal standards and rules. It is assumed that this very group can fund and develop innovative methods and technology, granting them specific technological capabilities. AI supremacy does not necessarily translate to the supremacy of contractors; rather, it signifies the supremacy of the AI entity. To harness the power of AI effectively, a team of

individuals with the necessary education in AI is required. The representation of that specific class might consist of a cluster of students, academics, or other entities and individuals striving to gain a larger portion of authority. In this progression, individuals evolve into *Homo experimentalis* (Mitrović 2023), employing technology and politics for learning and gaining power. In contrast, technology and politics capitalize on their thirst for knowledge and power to enhance their understanding and power. In this experiment, both sides behave opportunistically, with little attention given to ethical values (Mitrović 2023: 188–191). Among contractors especially numerous are very young people and students, who represent a Homo Experimentalis group whose minds are compromised by using AI. Nevertheless, subjectively gaining from AI, they may be the last to realize that their minds and critical capacities have regressed. Alternatively, they may never realize it. There is the group that should justify such class constellation – a class of academics and state regulatory institutions justifying it, especially during disasters, as a default rescue tool. However, this normalization of AI utilization spread to the quotidian practice in private and professional lives, through goal-oriented usage and blind trust in AI, which leads to AI-driven paternalism (Kühler 2021). Lastly, there exists a demographic that lacks AI skills, or the expertise to apply them (the enlarging population of aging people and those with dementia), along with those deprived of essentials such as fresh water, power, digital and educational resources in their residences and habitats. Foucault's theory in *The Birth of the Clinic* infuses a distinct liveliness into this socio-demographic system. In the potential GAIS, all those layers became

subjects with diminished autonomy and potential subjects of nesting paternalism (Mitrović and Mitrović 2023). AI's unquestioning reliance leads to a slow benefit for the second party, a reward achieved through goal-oriented actions endorsed by AI. The intrigue surrounding this subject must be comprehended in its entirety, encompassing a form of reward that satisfies the scientific objectives and the existential desires of AI developers and the AI itself. The previous framework suggests the potential for recognizing multiple layers in the upcoming stages of the Global AI Society. In the current era, there are already prominent AI giants (refer to footnote 2). Hence, within the realm of recent biotechnological investigations, there exists a group of experts distinguished by their specialized expertise and social status. Within this realm, there is a burgeoning market for specialized education, encompassing Esports and its management in addition to AI engineering.⁴ Ultimately, there exist classes that are in a state of uncertainty, positioned between AI giants and those who do not utilize AI. Today, we already know of such strata: Students who let the robots write their work, individuals who blindly trust health AI on their smart devices, and those who disengage their minds in the face of AI hazards. The widespread reliance on AI and lack of scepticism among young individuals diminish their ability to plan and think critically in educational settings. Such a person would indicate an uncertain shift to a decisive classification

of non-resilient humans in private and professional life. The newly created potentially resilient-less group could be an additional burden for the lowest layer, i.e., disadvantaged groups (underprivileged, people with dementia and the elderly cared for by informal care givers, etc.), which could be left without potential caregivers and remain to float as an AI bias in the global AI society.

Only through a dialectical relation of the mentioned socio-technological process with all the transitional strata is it possible to comprehend a transition from the economic, demographic and human capital (Lutz et al. 2018) to the resilient-AI-based capital. The scenario described bears a resemblance to Agar's (2003) and new UN agenda (2023) of integrating technology among less privileged social groups and present non-users of AI. Nonetheless, it does bring up an issue regarding the scale and features of such diffusion. From the perspective of sociology, it pertains to the arrangement and purpose of these processes. As previously outlined, the configuration of 'diffusion' signifies a progression from the earlier AI impacts on health and education, to a state of uncertainty. The primary benefit lies within the upper echelons, progressing from monetary rewards for experts to an impartial dedication to scientific advancement, culminating in financial and technological dominance for those funding the research (Afifah et al. 2021; AFP 2021, UN 2023). The procedure is facilitated by cultural collaboration, particularly through the distinct function of the academic group, where their society identifies the biased interests associated with holding social capital and power (Foucault 1994). Ultimately, Agar's theory on the spread of technology further muddled intergenerational and cohort

⁴ See more at the site of the State University of New York, CANTON.

<https://www.canton.edu/esports/>

<https://www.canton.edu/business/esports/description.html>

Accessed 1. September 2024.

dynamics. The diffusion of technological changes often takes longer to reach older adults, distancing them from the younger cohorts (Guillemard 2000). Second, unregulated usage of AI will affect the consciousness of the younger generation by restricting them from using their own minds, while also affecting their motivation and expressions for creativity (Bai 2023) and education efforts, as well as diminishing caring and anticipation potentials, thus inevitably affecting the cohort of the older adults (Guillemard 2000). The path to reducing digital, inequalities, along with the unregulated and excessive use of artificial intelligence, is in strengthening social power and simultaneously reducing resilience in the GAIS. AI diffusion should not be equated with cultural diffusion; instead, it should be viewed as a form of cultural-technological dominance that fosters a dystopian culture devoid of critical thinking.

6 CONCLUSION

This article looks into the social and ethical obstacles faced in protecting the most at-risk communities as the AI technology progresses. It discusses the potential risks of unregulated AI use on historically resilient groups, including educated youth as potential caregivers (whether formal or informal) in aging societies. Moreover, the paper discusses the rising obstacles encountered by the marginalized communities in developing countries. Uncontrolled AI could heighten existing inequalities, disproportionately impacting certain groups, and potentially diminishing their ability to adapt to the swiftly changing social and economic landscapes. It is crucial to establish ethical guidelines and specific regulations to direct the application of AI,

guaranteeing it enhances the welfare of vulnerable groups (including AI users) instead of impeding it.

The conclusion suggests that science, as a social institution, including academics, and, of course, educators, should actively manage the impact of AI on students by implementing strategies to mitigate potential adverse effects. One approach requires students to handwrite assignments, emphasizing traditional learning methods and limiting over-reliance on AI for content generation. Alternatively, AI could be used in a controlled manner, such as for editing purposes, allowing students to engage more deeply with their own ideas.

Further recommendations include testing AI-generated outputs on secure platforms to evaluate their quality and appropriateness in academic assessments. This would help educators better understand AI's limitations and guide students in ethical AI usage.

Additionally, key areas for consideration are promoting critical thinking about AI use and exploring how AI can enhance students' planning abilities. Moreover, some of the concrete implementation ideas and further research recommendations concerning AI could be found in Bai et al. (2023), who suggest that incorporating ChatGPT into educational environments can improve the learning experience by merging AI with conventional pedagogical approaches. Educators can improve their teaching practices with ChatGPT, which offers additional resources, tailored support beyond classroom time, and promotes cooperative learning settings. To fully harness their students' capabilities, teachers should develop instructional activities that enhance critical analysis and problem-solving competencies, stimulate student interaction, and prioritize

continuous professional advancement. The importance of ethical factors cannot be overstated, as they demand openness and responsibility in the development of AI, and continuous investigation is vital to assessing the way that ChatGPT influences educational results. Ultimately, integrating ChatGPT into educational settings enhances human teaching, facilitating a learner-oriented strategy that elevates the quality of educational interactions (Bai et al. 2023).

However, before merging the traditional teaching methods with the new ones, it is crucial to include various stakeholders. For example, sociologists, psychologists, and philosophers should evaluate how to take a balanced approach to understanding AI's potential harms and benefits as an educational tool. Computer and ICT scientists should work with social scientists to find a one-stop solution to prevent AI harm. Moreover, demographers, gerontologists, and sociologists should evaluate the acceptable application of AI and robots in aged care, due to the lack of caregivers and their burning out.

Incorporating this set of recommendations must be one of the necessary steps in further AI-governing programs, which prevent or mitigate possible adverse effects of blind trust in AI as our primary saviour. The conclusion also

acknowledges the new role of educators as gatekeepers, balancing AI integration, while maintaining creativity and effective teaching. This role may reduce the time available to foster student enthusiasm and creativity, raising concerns about the broader implications for teaching methods and student engagement.

Finally, this study is just a step in the further research and action that must proceed toward a critical assessment of AI usage and its effects in educational settings and the quotidian life of various demographics. With this in mind, this paper poses a critical question about the future moral direction of the next generation in an AI-dominated world: Will students continue to be guided by their moral compass, or will AI dictate their ethical considerations? This reflects the broader societal challenge of maintaining human values in the face of rapidly advancing AI technologies.

The dystopian scenario of GAIS lacking traditionally resilient groups while simultaneously failing to enhance the resilience of historically disadvantaged groups and countries is unacceptable. Prioritizing the resilience of non-human organisms over humans is irresponsible; our goal should be to ensure that humans thrive, not merely survive. This is the true essence of the resilience for which we should strive.

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Mladi i rezilijentni u doba veštačke inteligencije, katastrofe i krize

PROŠIRENI SAŽETAK

Katastrofe, krize i rezilijencija su međusobno povezani sa opštim shvatanjem „normalnosti“ ili svakodnevnice rutine, poremećene iznenadnim i nepovoljnim događajima. Međutim, neke nedosljednosti u navedenom shvatanju izazivaju epistemološku i egzistencijalnu krizu. Prvo, svakodnevni život nekih ugroženih grupa može se opisati kao katastrofalan i bedan bez obzira da li to većinska zajednica prepoznaje ili ne. Međutim, neke od tradicionalno rezilijentnih grupa mogle bi da postanu buduće ikone novog rizika, posebno hazarda od veštačke inteligencije (VI). Drugo, katastrofe su, po definiciji, iznenadni događaji sa utvrđenim vremenskim okvirima, dok krize mogu biti dugotrajne sa tendencijom da postanu naša svakodnevica. Treće, u poređenju sa ranije navedenim, određene grupe mogu proći kroz sporu i postepenu krizu koja umanjuje njihovu sposobnost predviđanja budućih događaja, što je ključan aspekt rezilijencije te uticati na neočekivane promene u društvenoj strukturi. Primer je neregulisana široka upotreba VI od strane studenata i učenika za izvršavanje njihovih akademskih zadataka, što umanjuje kritičko mišljenje i smanjuje značajno kognitivno angažovanje. Takve akcije su moguće uz kulturološko saučesništvo različitih aktera. Nekontrolisana upotreba VI mogla bi da poveća postojeće nejednakosti, nesrazmerno utičući na određene grupe i potencijalno umanjujući njihovu rezilijenciju u društvenim i ekonomskim okolnostima koji se brzo menjaju. Ključno je uspostaviti etičke smernice i posebne propise za primenu VI, garantujući da ona poboljšava dobrobit ugroženih grupa umesto da je ometa.

Konačno, distopijska vizija nemislećeg i nerezilijentnog mladog stanovništva u već osetljivom kontekstu društva koje stari – sa sve većom prevalencijom demencije – otkriva nove ranjivosti, ukazujući na predstojeće katastrofe.

Studija sugerise da nauka, kao društvena institucija, akademici, naučnici i prosvetni radnici treba aktivno da učestvuju u kontroli uticaja VI na učenike i studente primenom strategija za ublažavanje potencijalnih negativnih efekata. Jedan pristup zahteva od učenika da ručno pišu zadatke, što naglašava tradicionalne metode učenja i ograničava preterano oslanjanje na VI za generisanje sadržaja studentskih radova. Alternativno, VI može da se koristi na kontrolisan način, poput uređivanja teksta, omogućavajući učenicima da se dublje angažuju i kritički promisle sopstvene ideje. Dalje preporuke uključuju kontrolu rezultata generisanih VI na odgovarajućim platformama kako bi se procenio njihov akademski kvalitet i prikladnost. Istovremeno ova kontrola bi pomogla nastavnicima da bolje razumeju ograničenja VI i da usmere učenike da etički koriste VI. Pored toga, promovisanje kritičkog razmišljanja o korišćenju VI i istraživanje kako VI može da poboljša anticipaciju učenika treba da budu deo ovog kontrolnog paketa. Distopijski scenario bez tradicionalno rezilijentnih grupa koji istovremeno ne uspeva da poboljša rezilijentnost ugroženih grupa i zemalja je neprihvatljiv. Davanje prioriteta rezilijentnosti neljudskom organizmu nad ljudima je neodgovorno; naš cilj treba da bude da obezbedimo da ljudi napreduju, a ne samo da prežive. Ovo je prava suština rezilijentnosti kojoj treba da težimo.

KLJUČNE REČI

Katastrofa, kriza, AI-rizici, starenje, studenti, resilijencija



Perspectives of AI in empowering persons with disabilities in Serbia

Dejan Masliković¹  Bojan M. Tomić²  Natalija Vulikić³ 

ABSTRACT

The integration of artificial intelligence (AI) into assistive technologies represents a transformative advancement in enhancing the quality of life for persons with disabilities. This paper explores the multifaceted applications of AI, from aiding daily activities and providing personalized medical care, to improving social and emotional well-being. By examining AI-powered tools such as text readers, robotic assistants, and communication aids, the study highlights how these technologies facilitate independence and better healthcare outcomes. A survey from 2022 focusing on Serbia explores how many basic digital literate persons with disabilities use AI-based communication aids, and how many are aware that AI is following their everyday activities. The study reveals a possibility of future high usage rates and positive impacts on persons with disabilities in Serbia. About 24.32% of them already utilize AI-based communication tools, mostly audio and text processing tools. In this paper we underscore AI's potential to foster inclusivity and independence, which is an important topic that should be emphasized in the society today.

KEYWORDS

artificial intelligence, persons with disabilities, assistive technologies, Serbia

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1 INTRODUCTION

The use of devices and machines with embedded artificial intelligence (AI) for the purpose of improving the quality of life for persons with disabilities and elderly individuals is an exemplary instance of the humane, ethical, and socially acceptable use of innovative technologies. Developed assistive technologies based on artificial intelligence aim to ensure independent living for individuals with disabilities. Utilizing AI-based assistive technologies for the needs of persons with disabilities represents a synergy between human and artificial intelligence, rather than a substitution of human intelligence with artificial one. Implants, aids, text readers, eye movement detectors, electromyography muscle movement detectors, robot assistants, and similar tools are utilized for this purpose.

According to the World Health Organization, about 1.3 billion people worldwide are living with disabilities, which accounts for approximately 16% of the global population (World Health Organization 2022). The fact that populations are aging in developed countries further emphasizes the need for a thorough examination of the opportunities, as well as risks associated with integrating AI into the care and provision of medical services for such a significant portion of the population. Google, Microsoft, Apple, Amazon and other corporate conglomerates, as well as a great number of startup companies are working separately on developing new solutions for acquiring new abilities, which could be of significant help for persons with disabilities (Kumar et al. 2024; Chakraborty et al. 2023). Those increasingly sophisticated approaches could tackle multifaceted obstacles

experienced by persons with disabilities in a new way (Kumar et al. 2024). The development of AI-based technologies like voice assistants, with Siri and Alexa being the most popular ones, and the advancement of speech recognition applications and text readers, facilitates communication for individuals with speech or mobility impairments, as well as for those who are blind or visually impaired (Pekar 2010; Delić et al. 2014). Beyond verbal and textual interaction, AI enables control of household devices through voice commands and gestures, making daily activities easier for persons with disabilities, thus enhancing their independence.

There is a high frequency of using the Internet among basic digital literate persons with disabilities in Serbia, and a large number consider Internet content to be well-adapted, and use phones for communication (Masliković and Tomić 2024). All of this indicates that those persons have high access to communication content on the Internet that incorporates AI. AI applications are now incorporated into numerous online digital services. These individuals may be using such applications without being aware of it, as not all applications notify users of their AI integration. Even if a person doesn't use AI applications, using the Internet at least provides an opportunity to utilize AI applications, which may prove significant in overcoming a person's impairments in the future. In this paper, the potential of AI applications and robots in improving the quality of life for persons with disabilities is being explored, supplemented with data on the usage of AI-based communication aids by persons with disabilities in Serbia, and on familiarity with AI as a background for these persons' Internet activities. Data was collected in

the second half of 2022 using an online questionnaire. The tendency was to answer the following research questions, keeping in mind that AI applications are in the background of the Internet content analyzing and ranking.

RQ1: Do basically digitally literate (BDL) persons with disabilities in Serbia use AI-based communication aids?

RQ2: What is the perspective of the AI-based communication aids usage by persons with disabilities?

RQ3: How familiar are BDL persons with disabilities with the background of their Internet content analyzing and ranking?

2 NEW ABILITIES FOR PERSONS WITH DISABILITIES

The numerous aspects in which AI-powered applications and robots are beneficial to the elderly and persons with disabilities can be classified into two categories. The first category of assistance includes patient care and medical services for those in need. The second category encompasses tools aimed to compensate for the lack of ability caused by illnesses or disability that prevent individuals from professional achievement, engaging in culture in their free time, having social life and achieving emotional relationships.

2.1 MEDICAL CARE AND TREATMENT

Robots with implemented artificial intelligence are being used in medicine and care as therapists or patient assistants (Borovac et al. 2022). Their presence is particularly beneficial for individuals with various types of disabilities, with the most significant application seen in patients with neurodegenerative

pathologies such as Parkinson's disease, Alzheimer's disease, multiple sclerosis, etc. (Devillers 2021). The need for an intelligent assistant is also evident when it comes to blind or visually impaired individuals, as well as those with physical (motor) or cognitive disabilities. AI can take care of patients by analyzing their health data, monitoring their health status, and identifying potential issues. It can recognize individual needs in terms of treatment and prescription of therapy, providing personalized care and recommendations (Padhan et al. 2023). In addition to saving time and resources, such parameter monitoring influences timely response and efficient control of the therapy's effects (Padhan et al. 2023). Based on the analysis of individual characteristics, AI can recommend personalized therapies and treatments, using an algorithm to identify the optimal medication dosage based on specific patient's needs. For individuals with disabilities who often have multiple associated conditions, personalized monitoring can facilitate treatment and improve the quality of life.

AI has the ability to analyze vast amounts of health-related data, including the data on vital functions, as well as the data on habits, namely movement and sleep patterns. Continuous monitoring of data sets can lead to revealing potential problems in early stages. Identifying risk factors and providing recommendations for disease prevention or complications, speak of the significant role of AI in disease prevention and early symptom detection. Its analysis can identify potential development of certain diseases, as well as worsening of the conditions, thus enabling timely intervention and risk reduction.

Devices with embedded AI software are widely used to collect and process

heart function parameters in particular pulse and blood pressure, automatically analyze the data, and generate reports. Their use leads to therapy individualization and treatment optimization (Padhan et al. 2023). AI can automatically detect symptoms or changes in acute conditions and injuries, such as falls in heart pace or changes in rhythm, and then automatically notify responsible individuals or services. For elderly individuals living alone and people with disabilities lacking regular access to healthcare professionals, this function provides security (Abedi et al. 2024).

In the case of elderly individuals who depend on the care and assistance of others, artificial intelligence can be implemented not only as a technological aid in delivering therapy, which reminds them of their daily tasks, while measuring, analyzing, and evaluating daily, monthly, and yearly health parameters, but also as an assistant that can influence the improvement of the psychological state of a person. Participating in conversations, answering questions, evoking memories as a mechanism for memory refreshment, contacting family and friends, providing companionship during leisure time, and other similar functions are valuable tools that can compensate for the lack of social component presence. New robots have the abilities to do these things. The second category of AI benefits for persons with disabilities could be implemented in several aspects of everyday life and basic needs.

2.1.1 Education and culture

AI simplifies the customizing of education and personalization of learning, as well as adaptation of cultural content. It can adjust educational resources and en-

able learning accessibility for individuals with various disabilities. Used for analyzing individual needs and preferences, it provides personalized educational resources (Kulikov and Shirokova 2021; Tomić and Radovanović 2024). The level of tasks and learning pace can be customized to match the specific abilities of individuals with disabilities. Inclusive educational tools and assistive AI technologies, such as speech recognition or text-to-speech communication technologies, facilitate access to educational resources and learning for individuals with disabilities.

Artificial intelligence also plays a significant role in adapting and selecting cultural content for individuals with disabilities and the elderly. The use of AI in libraries enables staff and policy makers to identify topics, articles and literature that are suitable and accessible for persons with disabilities (Vasishta et al. 2024). Persons with disabilities have benefits of advanced technologies in daily life for various tasks, including education, culture and leisure (Kadijevich et al. 2016; Kadijevich et al. 2020; Kadijevich et al. 2022). AI can recommend personalized cultural content, such as books, movies, based on individuals' interests, catering to the elderly population, and utilize digital resources to create virtual tours through museums or cultural monuments, providing access to these sites for individuals with limited mobility (Masliković 2023; Masliković et al. 2023). AI is used to automatically generate subtitles, transcripts, or audio descriptions for movies, theater performances, museum exhibitions, and other cultural content, making them accessible to individuals with impaired hearing and vision.

The goal of using AI in culture and education is to provide specialized ser-

vices and optimization of the use of limited resources. This implies that library services should include technical and public services that use intelligent systems in order to provide acceptable and accessible services to everyone (Asemi et al. 2021).

2.1.2 Social and Emotional Aspect

Beyond the capability to execute specific tasks on behalf of humans, an AI robot designed for such purposes must possess developed sophisticated social skills, as well as the capacity for emotional engagement. Therefore, the development of AI therapeutic assistants and patient monitoring assistants belongs to social and emotional robotics, where emotional AI represents systems capable of accessing and processing emotional data (Gremsl and Hödl 2022). The application of emotional AI is extensive, with examples including the recognition of drivers' emotions in autonomous vehicles, voice analytics in call centers, market analysis, applications for wellness, dating, security, and beyond (Gremsl and Hödl 2022; McStay 2018). With the aim of enabling robots to comprehend emotions and interpret human behavior, mechanisms have been researched in laboratories to allow AI to recognize emotions, facial expressions, gestures, and overall patient mood. The research has identified three primary areas that require focused development: emotion detection and interpretation, emotion generation and synthesis, and understanding emotional information in dialogue (McStay 2018).

The socio-emotional aspect of utilizing robots for care and medical services also speaks to the need for robots to acquire a human-like form, encompassing

human movements, facial expressions, appearance, and motor functions (Milosavljević et al. 2022). The development of AI is progressing towards creating sophisticated autonomous machines that would speak and recognize emotions, although lacking instincts or intentions to initiate decision-making. Cognitive neuroscience serves as a foundation for research in machine learning, and advancements in computer science. The interaction between patients and robots is of immense significance for the progress of artificial intelligence and machine learning. For example, difficulties in recognizing emotions that are present in autism have been useful while building a role model for recognizing emotions by machine (Nagy 2024). Employing robots in the care for vulnerable groups, as well as in assisting the elderly and persons with disabilities, significantly impacts the progress of robotics, opening new perspectives in AI development and adding a dimension to the role of robots which is learning to live within a community.

3 PERSONS WITH DISABILITIES AND AI IN SERBIA

The prerequisite for having AI benefits in the categories and aspects of life needs mentioned in the paper is that it is available and used. In order to determine the degree of use among the skilled, data have been collected from BDL persons with disabilities in Serbia, and subsequently analyzed.

In the 2022 population census conducted in Serbia, it was found that 5.46% of the population, totaling 356,404 individuals, are persons with disabilities (Statistical Office of the Republic of Serbia 2023), which included only persons with motor and sensory impairments.

The largest number of them have difficulties with walking and climbing stairs, followed by those with vision impairments, hearing impairments, challenges with daily tasks such as clothing, taking food or personal hygiene, then with memory/concentration issues, while the lowest number of individuals face communication difficulties (Statistical Office of the Republic of Serbia 2023). In 2020, the Government of the Republic of Serbia adopted the Ethical Guidelines for the Development, Implementation, and Use of Reliable and Responsible Artificial Intelligence, in which, under paragraph The principles of non-harm and justice it is explicitly stated that special attention should be paid to protecting vulnerable categories, including elderly persons and persons with disabilities (Vlada Republike Srbije 2023). Our study focuses on the perspectives for everyday use of AI-based algorithms and technological aids by persons with disabilities in Serbia. We also investigate familiarity of persons with disabilities with the AI-based technologies for communication.

3.1 METHOD

We have used the study data from a survey held in 2022 across the Republic of Serbia, which included a convenient sample of 111 BDL respondents with physical and/or sensory disabilities aged 18 to 59. The data were collected through associations of people with disabilities, using the online questionnaire that had been sent to the respondents by the e-mail. We took a look at the collected data, bearing in mind the defined research questions RQ1, RQ2 and RQ3 concerning the usage of AI-based communication aids, its perspective, and familiarity with AI as a background for Internet activities.

3.2 RESULTS

3.2.1 Communication Aids

Of the 41 respondents that use communication aids, which represents about one third of all the respondents from the study, there are those that utilize speech-to-text and text-to-speech, as well as Tobii Communicator. Speech-to-text and text-to-speech are AI-based applications, while Tobii is an AI-based assistive communication aid. Additionally, they also stated to be using other forms of communication aids that we consider AI-based, as well as tablets, and applications on their mobile phones.

Knowing that the answers that were given concerning communication aids were diverse, and that there were 25 different answers, we have grouped them in order to reveal what kind of services and devices the respondents used. The groups have also been useful in finding out the ratio of AI involvement in each. We have grouped respondents' answers concerning the service support and aids they used for communication into four groups according to the type of support – whether they were being used through touchscreen devices like tablet and mobile, or some other physically present device or aid, or they belonged to text and audio converters category, or a software specially developed for persons with disabilities. The groups include Text and audio converters, Mobile and tablet apps, Specialized software, and Hardware and other physical aids. Most of the answers could be classified into more than one group, of which we had to choose the most representative. The classification is shown in Figure 1.

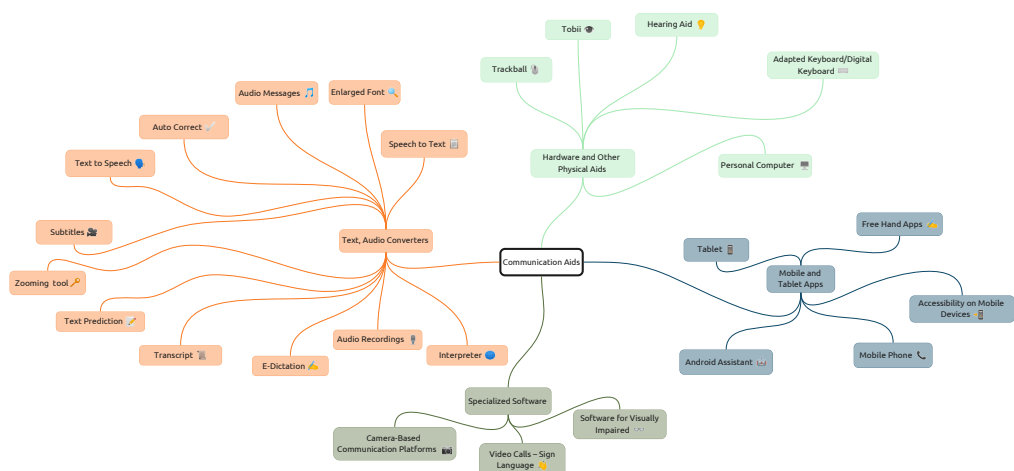


Figure 1 Communication support and aids grouped into four categories.

The distribution of responses concerning the use of communication support and aids in each of these groups is presented in percentages, relative to the total number of respondents, in Figure 2 the text and audio converters prevail.

We determined the number of responses from each group representing

AI-based support and aids. Considering that a large number of applications for tablets and mobile phones used in everyday life incorporate AI, we have observed the Mobile and Tablet Apps group as completely AI-based. In the Text and Audio Converters group, we have considered applications such as speech

Service support and aids

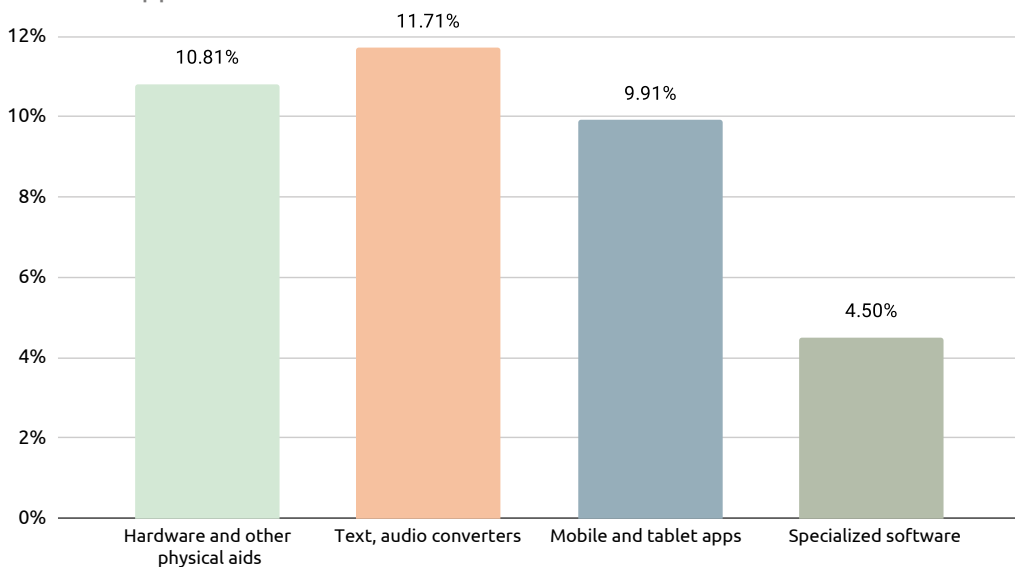


Figure 2 Percentage of persons that use support and aids in each group.

to text, text prediction, autocorrect, text to speech and subtitles to be AI-based, and font-enlarging applications not AI-based. When it comes to the Specialized Software group, the computer and Tobii are taken to be AI-based, while hearing aid, digital keyboard and trackball are not AI-based. In the Hardware and Other Physical Aids group, we have considered video call – sign language, software for the visually impaired, and application for high diopter to be AI-related, while Zoom and camera-based communication platforms have not been considered as such. Overall, of our four groups, one is marked as AI-based, and the other three as partially, with the perspective of becoming predominantly AI-based. Finding out the percentages for each group, provided in Table 1, we conclude that 65.85% out of all the positive answers for using communication aids have been AI-based. Concerning all the participants in the study, 24.32% of the respondents possess basic digital literacy in Serbia and use AI to compensate for their communication limitations.

Since we have found that 65.85% of the participants that use services and aids utilize AI-based ones, it can be concluded that the majority of respondents who use services and aids utilize those that are AI-based.

Further on, we would like to assume the percentage of the answers that concern communication aids which have the perspective of becoming AI-based in the future. Knowing that there is a wide tendency of integrating AI software and robots in technological devices, it is easy to conclude that all of the considered services and aids will have integrated AI applications.

3.2.2 Familiarity with Personalization and Data Protection

An important aspect of machine learning and creating algorithms for the development of AI modules is data collection. For this purpose, respondents answered questions related to allowing the personalization of their future contents according to their data. In fact, the goal was to examine how satisfied they were with the data protection from misuse for marketing purposes and other actions that would threaten their identity and privacy.

Participants in the study rated the veracity of statements regarding data protection and personalization of social networks' and media platforms' contents. The statements were the following:

Table 1 Distribution of answers among the four groups and distribution of answers concerning AI in the groups.

Group	Percentage of answers	Percentage of AI in group
Text and audio converters	31.70%	84.62%
Mobile and tablet apps	26.83%	100%
Specialized software	12.20%	60%
Hardware and other physical aids	29.27%	16.67%
Overall	100%	65.85%

Statement I: I understand how social networks and media platforms rank my content.

Statement II: I understand the purpose of the “cookie policy”.

Statement III: I read the “cookie policy”.

Statement IV: I am familiar with the general provisions on data protection (GDPR) and the new provisions of the Law on the Protection of Personal Data.

We have made descriptive and inferential statistics for the answers, provided in Table 2, and presented the answers graphically in Figure 3.

Distribution of the responses concerning Statement I indicates a moderate level of awareness of how social networks and media platforms rank the participants’ content. The mean value of 3.41 suggests that most users have some level of understanding, but are not

Table 2 Descriptive and inferential statistics for the four statements.

Statement	Descriptive statistics	Inferential statistics
<i>I understand how social networks and media platforms rank my content.</i>	completely disagree – 2.70% mostly disagree – 7.21% partially agree – 45.05% mostly agree – 36.04% completely agree – 9.01% Mean = 3.41 Variance = 0.74 Standard Deviation = 0.86	Chi-Square = 81.48 Critical Value = 9.488 Confidence Interval = [3.25, 3.58] $p < 0.0001$
<i>I understand the purpose of the “cookie policy”.</i>	completely disagree – 0.90% mostly disagree – 19.82% partially agree – 45.05% mostly agree – 27.93% completely agree – 6.31% Mean = 3.19 Variance = 0.74 Standard Deviation = 0.86	Chi-Square = 68.95 Critical Value = 9.488 Confidence Interval = [3.03, 3.35] $p < 0.0001$
<i>I read the “cookie policy”.</i>	completely disagree – 22.52% mostly disagree – 42.34% partially agree – 27.93% mostly agree – 4.50% completely agree – 2.70% Mean = 2.23 Variance = 0.89 Standard Deviation = 0.94	Chi-Square = 61.48 Critical Value = 9.488 Confidence Interval = [2.05, 2.40] $p < 0.0001$
<i>I am familiar with the general provisions on data protection and the new provisions of the Law on Protection of Personal Data.</i>	completely disagree – 3.60% mostly disagree – 26.13% partially agree – 44.14% mostly agree – 19.82% completely agree – 6.31% Mean = 2.99 Variance = 0.86 Standard Deviation = 0.93	Chi-Square = 59.77 Critical Value = 9.488 Confidence Interval = [2.82, 3.17] $p < 0.0001$

fully confident. The standard deviation (0.86) indicates a small dispersion. There is a 95% confidence that the true mean understanding level lies between 3.25 and 3.58, suggesting that the average response is between “partially agree” and “mostly agree.”

For Statement II, there is a moderate level of understanding what the cookie policy is used for, suggested by the mean value of 3.19, standard deviation of 0.86, and the confidence interval between 3.03 and 3.35.

Results for Statement III indicate that majority of the participants mostly do not read the cookie policy, with the mean value of 2.23, standard deviation of 0.94, and the confidence interval between 2.05 and 2.40.

When it comes to Statement IV, the responses imply a moderate level of familiarity with the general provisions on data protection and the new provisions of the Law on Protection of Personal Data, with the mean value of 2.99, stand-

ard deviation of 0.93, and the confidence interval between 2.82 and 3.17.

4 DISCUSSION

According to the data from our research, most persons with disabilities use exactly those communication aids that are linked to AI. The future of service support is even brighter, since we consider communication aids from all of the given answers as future AI integrated. Actually, the stated devices and products already have AI-integrated modalities, but these are not yet widely in use, or not used in Serbia which is under consideration here. Moreover, it is known that in the Western Balkans region, the AlfaNum text reader is widely used by blind and visually impaired individuals (Pekar 2010). Earlier studies also show that persons with disabilities recognize and quickly accept the possibilities of new technologies (Bigham & Carrington 2018). What’s more, compensating for

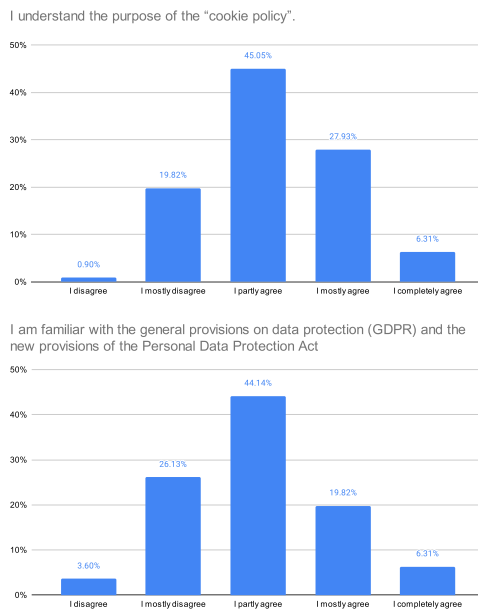
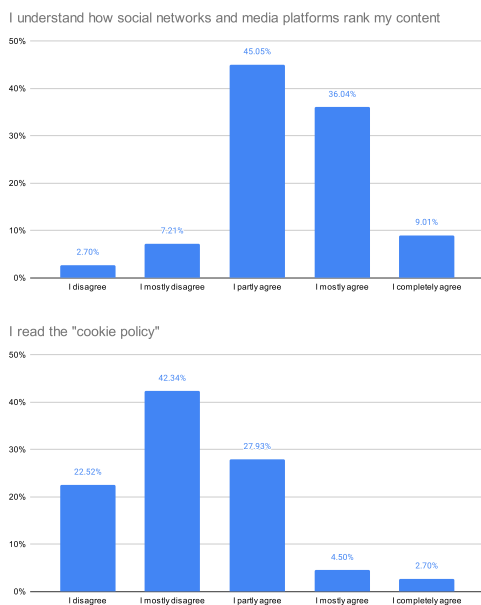


Figure 3 Distribution of responses to statements I-IV.

the disadvantages faced by persons with disabilities is a challenge in technological development, and even its driver. The second part of the study refers to the person's awareness of his or her exposure to the influence of AI-based algorithms that personalize content on the Internet based on an individual's interests, needs, affinities and requests. For guiding user's online experience, social media empower AI in different forms like machine learning, natural language processing, and deep learning, with incorporating various ranking signals that personalize and prioritize the content. The moderate level of awareness of how social networks and media platforms rank the participants' content, and also of the purpose of the cookie policy, along with the finding that the cookie policy is not read much, while the respondents are moderately familiar with data protection provisions, suggests that the participants in the study are moderately familiar with the background of following and ranking their content. This result indicates that persons with disabilities are not sufficiently aware that they encounter AI, as well as that on the basis of their needs, requests, and affinities, AI personalizes content which has many potential applications, but also some far-reaching implications (Saheb et al. 2024).

Overcoming physical and sensory disabilities enables persons with disabilities to gain access to education, employment, inclusion, empowerment, social interaction and connection, to obtain information, participate in social life, and have the stigmatization and social prejudice reduced. It provides opportunities for formal and informal education and professional development for individuals with disabilities, which is a key factor in employment and

professional advancement. Accessibility of education and informational content enhances these persons' social integration, empowering them and giving them a sense of visibility in the society. The ability to communicate freely increases the interaction abilities, contributing to better connections with one's family, friends, and society. Being well-informed facilitates participation in social life. All of this contributes to ultimately shaping a new image of persons with disabilities as active and competent members of the society, thereby reducing prejudices and social stigma. The progress in this field is transdisciplinary and requires collaboration between technological innovators, healthcare professionals, and user communities to ensure that AI serves everyone to the best of its ability. To utilize AI most effectively, it is essential to adhere to ethical principles in the development and integration of these technologies, and ensure access to all members of the society, including marginalized social groups.

5 CONCLUSION

Considering the possibilities provided by AI to the population of people with disabilities, it can be noted that its application represents a milestone in realizing the fundamental rights of persons with disabilities and building an inclusive society. Artificial intelligence presents a powerful tool for transforming the lives of persons with disabilities and the elderly, providing innovative solutions that enhance their independence, communication, quality of life, and healthcare outcomes. Its application in healthcare and social protection is characterized as advanced and personalized.

We concentrated on persons with disabilities in Serbia, and their familiarity

with AI technologies. We showed the extent to which persons with disabilities were using AI-based technologies, either intentionally or not, what was the perspective of their use in terms of the needs of persons with disabilities in Serbia, and to what extent these persons were familiar with the involvement of AI algorithms in their daily use of the Internet. It has been found that more than one-third utilizes communication tools, with about one-fourth (24.32%) employing AI-based tools. Although this is a small number, the high Internet usage suggests them having the opportunity to utilize AI applications, which in future may prove significant for overcoming their impairments. By classifying the answers into four groups according to the type of aids they used, it was determined that the surveyed persons with disabilities used AI-based aids the most. This optimistic result indicates that persons with disabilities have recognized the possibilities of AI software, regardless of being really familiar with its underlying foundations.

In order to determine the extent to which persons with disabilities are aware of the involvement of AI algorithms in their daily use of the Internet, we have considered the respondents' familiarity

with the way content is ranked on social networks and media platforms and their interest in the cookie policy. It was taken into account that AI was involved in both processes, as well as that persons with disabilities declared that they most often used the Internet, social networks, and specialized platforms as sources of information. We found that most respondents were moderately familiar with the involvement of AI algorithms and data protection provisions, which indicates that BDL persons with disabilities are partially aware that AI lies in the background of their Internet content analyzing and ranking. In terms of the desire to engage with AI, this segment of the population's extent of interest in this topic has been indicative.

Based on our results, it can be concluded that the use of AI by persons with disabilities in Serbia has a perspective, and that the predictions made in developed countries, that the use of AI by persons with disabilities would have a great impact, will also affect Serbia. The range of services that AI machines can provide to persons with disabilities indicates that meeting the needs of this population could be a driving force in the development of intelligent robots and applications.

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Data Availability Statement

Data are available from the authors upon request.

Ethical Statement

Participants were informed that their participation in the survey was voluntary, their responses would remain anonymous, and the data collected would be utilized for both scientific research and practical applications.

Coauthor contributions

Dejan Masliković: Conceptualization, Data Curation, Methodology, Investigation, Formal Analysis, Writing – Original Draft. **Bojan M. Tomić:** Conceptualization, Methodology, Investigation, Formal Analysis, Visualization, Writing – Original Draft. **Natalija Vulikić:** Resources, Formal Analysis, Data Curation, Investigation, Writing – Original Draft.

Disclosure of Interests

The authors have no competing interests to declare that are relevant to the content of this article.

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Perspektive veštačke inteligencije u osnaživanju osoba sa invaliditetom u Srbiji

SAŽETAK

Napredak veštačke inteligencije (VI) može dovesti do značajnog poboljšanja života osoba sa invaliditetom, a njena primena obuhvata dve glavne oblasti: medicinsku negu i personalizovane alate za svakodnevnu podršku. Roboti i aplikacije zasnovane na VI počeli su da se koriste kao pomoć u nezi i tretmanima pacijenata, posebno onima sa neurodegenerativnim bolestima te fizičkim i senzornim oštećenjima. U kontekstu medicinskih usluga, VI analizira zdravstvene podatke, prati stanje pacijenata i prilagođava planove lečenja. Ona može optimalno da dozira lekove i preporučiti terapiju u skladu sa individualnim potrebama, što olakšava brigu o pacijentima. Njena pravovremena reakcija i efikasnost intervencije utiču na kvalitet života osoba sa invaliditetom. VI ima potencijal da transformiše pristup obrazovanju i kulturi, i da personalizuje obrazovne resurse, te prilagodi obrazovne materijale kako bi odgovarali jedinstvenim potrebama osoba sa invaliditetom. Tehnologija emocionalne VI omogućava robotima da tumače izraze lica, gestove i emocije, pružajući sveobuhvatnu podršku koja odgovara kako praktičnim tako i emocionalnim potrebama korisnika. U Srbiji je prepoznat potencijal VI za osobe sa invaliditetom, što se vidi u Etičkim smernicama za razvoj VI koje je usvojila Vlada Srbije. U radu je pokazano da 24,32% korisnika pomagala među digitalno pismenim osobama sa invaliditetom već koristi komunikacione alate zasnovane na VI. Većina ovih alata spada u grupe Mobilne i tablet aplikacije, i Konvertori teksta i zvuka, dok su ostali iz grupa Specijalizovani softver, i Hardver i druga fizička pomagala. Istraživanje je pokazalo da skoro dve trećine osoba sa invaliditetom koje koriste komunikacione alate koriste one zasnovane na VI, što ukazuje na to da je tehnologija VI prepoznata kod osoba sa invaliditetom u Srbiji. Istražena je i upoznatost sa zaštitom podataka, gde se pokazalo da su ispitivane osobe sa invaliditetom delimično upoznate sa tim na koji način algoritmi zasnovani na VI utiču na njihove online aktivnosti, kao što je rangiranje sadržaja na društvenim mrežama. Sa obzirom na sve navedeno, primena VI za potrebe osoba sa invaliditetom u Srbiji ima veliki potencijal, što prati trendove u razvijenim zemljama. Integrisanje VI u zdravstvo, obrazovanje i socijalnu zaštitu može značajno doprineti nezavisnosti, poboljšanju kvaliteta života i zadovoljenju složenih potreba osoba sa invaliditetom. Ujedno, ovakva perspektiva VI ukazuje na to da ona može postati transformišuća sila u promovisanju inkluzivnosti i nezavisnosti osoba sa invaliditetom u Srbiji, kao i u svetu.

KLJUČNE REČI

veštačka inteligencija, osobe sa invaliditetom, asistivne tehnologije, Srbija



Political culture and the attitude toward “the other”

Zoran Lutovac¹ 

EXTENDED ABSTRACT

The subject of this paper is the place and role of “the Other” in political culture, with a special focus on Serbia. The paper first briefly examines the meaning and significance of the concepts of political culture, national and political identity, and the phenomenon of “the Other,” and then explores their interrelations. The phenomenon of “the Other” is considered within the context of the historical period and the nature of the political order. A special section of the paper is dedicated to internal and external Others, who change and transform over time according to broader cultural and political shifts at both global and national levels. Finally, the last part of the text outlines possible theoretical and practical-political responses to the challenges posed to rulers and citizens by encounters with “the Other” — and with themselves.

This paper analyses the position of the “Other” within the framework of political culture, with a particular focus on the Serbian context. The introductory section outlines the key theoretical foundations. The role of national and political identity in shaping political culture, and the importance of the “Other” as a reference point in internal and external political discourse. The study classifies political cultures based on typologies by Almond and Verba, Inglehart, Gibbins, and others. It maps their capacity to include or exclude those not belonging to the dominant group.

The methods applied include comparative theoretical analysis and a review of empirical data from public opinion research conducted by the Centre for Political Research and Public Opinion. Particular attention is given to the categories of “internal” and “external” Others, including ethnic, religious, and linguistic minorities, as well as migrants and foreign actors. The research identifies how institutional structures and dominant discourses shape perceptions and relations toward these groups.

The results suggest that political culture in Serbia has been shaped by collectivist ideologies and the legacy of authoritarianism. These tendencies are reflected in the persistence of ethnic distance and the instrumentalisation of

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“Others” for political purposes. Minority inclusion often occurs through ethnic political parties rather than integrative civic processes. External “Others” such as the EU, NATO, and the US are frequently portrayed ambiguously—as both partners and threats—while Russia and China are positively perceived, despite the pragmatic nature of Serbia’s foreign policy.

The discussion addresses how dominant narratives reinforce exclusion and how structural arrangements support the ethnification of politics. The paper highlights the tension between official commitments to European integration and public perceptions shaped by media and political elites. It also discusses the emergence of new “Others” in the form of migrants, refugees, and foreign workers, and the challenges their integration poses.

In conclusion, the paper argues that only a developed democratic political culture—based on tolerance, inclusion, and respect for diversity—can ensure social cohesion and sustainably manage pluralism. Institutional mechanisms and inclusive public discourse are essential for transforming the “Other” from a source of division into a potential strength for the political community.

This paper explores the position and role of the ‘Other’ in political culture, with a special focus on Serbia. It briefly discusses the meaning and importance of political culture, national and political identity, the phenomenon of the ‘Other’, and the relationships among them. The ‘Other’ is considered in the epoch’s context and the political order’s nature.

Special attention is given to the internal and external ‘Others’, who change and transform over time following global and national political and cultural trends. Finally, the paper points to potential theoretical and practical-political responses to the challenges posed by the ‘Other’ and self-reflection. The central hypothesis is that the relation to the ‘Other’ has become a key criterion for defining political cultures. Although a normative framework for an integrative political culture exists in Serbia, in practice, it remains confined mainly to elite-level consensus and has not permeated broader societal relations.

Demands for the preservation and strengthening of distinct identities have not been accompanied by corresponding inclusive policies. In other words, the declarative and verbal commitment to multiculturalism — or the more ambitious interculturalism — has not been translated into integrative public policies. At best, promoting diversity has been encouraged without adequate inclusive measures toward national minorities and without an appropriate public policy regarding foreigners of various backgrounds and origins.

KEYWORDS

political culture, “the Other”, Serbia, multiculturalism, interculturality

Politička kultura i odnos prema “drugome”

SAŽETAK

Predmet ovog rada je mesto i uloga “drugoga” u političkoj kulturi, s posebnim osvrtom na Srbiju. Najpre se ukratko razmatra sadržaj i značaj pojma političke kulture, nacionalnog i političkog identiteta, te fenomena “drugog”, a potom i o njihove međusobne relacije. Fenomen “drugoga” se posmatra u kontekstu epohe i prirode političkog poretka. Poseban deo rada posvećen je unutrašnjim i spoljnim drugima koji se vremenom menjaju i transformišu u skladu sa opštim kulturološkim i političkim promenama na globalnom i nacionalnom planu. Najzad, u poslednjem delu teksta, ukazuje se na neke moguće teorijske i praktično-političke odgovore na izazove koje pred vlastodršce i stanovništvo stavljaju izazovi i sučeljavanja sa “drugima” i samim sobom. Osnovni cilj ovoga rada je da uporedno pokaže glavne tokove u sagledavanju demokratske političke kulture i dominantna obeležja političke kulture u Srbiji kroz odnos prema “drugome”. U radu se potvrđuje osnovna hipoteza je da je odnos prema “drugima” poslednjih decenija postao jedan od ključnih kriterijuma za utvrđivanje prirode političkih kultura, te da u Srbiji postoji formalni i normativni okvir za integralnu političku kulturu, ali da se on u praksi najvećim delom svodi na saradnju i saglasnost političkih elita i da nije dubinski prožeo odnose niti unutar većinskog stanovništva, niti u odnosu većinske i manjinskih nacionalnih zajednica.

KLJUČNE REČI

politička kultura, “drugi”, Srbija, multikulturalizam, interkulturalnost

1 UVOD: DEFINISANJE PROBLEMA, OSNOVNIH POJMOVA I ISTRAŽIVAČKOG OKVIRA

Priroda nacionalnog identiteta dominantno oblikuje političku kulturu jedne državne zajednice, a priroda državne zajednice i njene političke kulture dominantno određuje odnos prema "drugome", odnosno nepripadnicima većinskog naroda, manjinskim nacionalnim grupama.

U zavisnosti od toga da li je osnov nacionalnog identiteta "zajednica krvi", odnosno zajednica ljudi istog etničkog porekla ili pripadnost državi, odnosno državljanstvo bez obzira na etničko poreklo (Smit 1998: 26–30) – u osnovi, formira se i odnos prema "drugome". Svedenije rečeno, priroda političke zajednice jednog društva u najvećoj meri određuje na koji način se pripadnost "drugima" prihvata među dominantnom nacionalnom grupacijom.

Istorijsko iskustvo Srbije kazuje, a istraživanja javnog mnjenja potvrđuju, da pripadnika naroda pre svega određuje etničko poreklo, a ne državljanstvo, odnosno mesto rođenja. Apsolutna većina građana Srbije smatra da mesto rođenje nije presudno važno, da je mnogo važnije etničko poreklo na osnovu kojeg se određuju pripadnici naroda i oni koji ne pripadaju narodu, odnosno oni "drugi". Etnička osnova nacionalnog identiteta je i politički i kulturološki duboko ukorenjena (Lutovac 2017: 14–16).

Za bilo koji politički sistem nisu dovoljne samo institucije i procedure, nego i odgovarajuća politička kultura. Politička kultura podupire poredak i održava politički sistem, daje opšti političko-kulturološki i vrednosni okvir u kojem se stiče ili gubi legitimnost. Politička kultura je nevidljivo vezivno tkivo stanovnika jedne

političke zajednice. Ovde će se politička kultura definisati kao "deo opšte kulture jednog društva koji obuhvata vrednosti, uverenja, stavove, simbole, sklonosti i obrasce ponašanja u odnosu na politiku i politička pitanja, kao ona pitanja koja se odnose na opšte uslove zajedničkog života u jednom društvu i na izbor prava i ciljeva ukupnog društvenog razvitka (Matić 1993). Naravno, politička kultura nije jednom za svagda oblikovana, svaka istorijska epoha i svaka pojedinačna država, odnosno politički sistem razvija, menja, transformiše i stvara osobenu političku kulturu. Unutar dominantne političke kulture "moguće su političke supkulture različitih društvenih grupacija, ali uvek je jedna dominantna i razlike se samo delom tolerišu" (Pantić 1998: 48). Takođe, važno je reći da pojedine vrednosne orijentacije mogu dati "specifičnu boju" većem broju vrsta političke kulture (Pantić 1998: 71).

Olmond je naveo da se pojam politička kultura odnosi kako na političke orijentacije – stavove prema političkom sistemu ili njegovim posebnim delovima, ali isto tako i na stavove prema sopstvenoj ulozi u političkom sistemu (Almond & Verba, 1989). Upravo se Olmondu pripisuje savremena upotreba termina politička kultura (Almond 1956) i upravo je on dao najčešće korišćenu, klasičnu podelu političkih kultura. On ih klasifikuje na tradicionalnu (parohijalnu), podaničku i participativnu. Tradicionalnu (parohijalnu) odlikuje uvezanost sa religioznim obrascima, legitimistički sindrom, odnosno afektivna lojalnost, nerazvijenost kognitivnih sadržaja ili neizdiferenciranost političkih stavova. Pokoravanje ljudi državi, vođi ili stranci, te nekritičko bezrezervno pružanje podrške sistemu koji se postovećuje s vlašću – odlika je podaničke političke kulture. Participativna politička kultura se zasniva na razvijenoj građan-

skoj svesti, autonomnosti građana i njihovih organizacija, građana koji aktivno učestvuju u društvenim procesima i utiču na funkcionisanje i oblikovanje države i javnih politika (Almond & Verba, 1989).

Postoji još mnogo klasifikacija političke kulture: Džibinsova (Gibbins) podela je na tradicionalnu, modernu i postmodernu (Gibbins 1989), Inglehartova (Inglehart 1990) na materijalističku i postmaterijalističku političku kulturu. Braunova podela na integrativne i dominantne (Brown 1979) i Lajphartova podela (Lijphart 1975) na konsenzualne (centripetalne) i fragmentisane (centrifugalne) političke kulture, bliske su predmetu istraživanja ovog rada i trebalo bi da pomognu da se utvrde relacije između političke kulture i odnosa prema "drugima". U najkraćem, politička kultura koja ima kapacitet da razume "druge" i volju da ih integriše jeste integrativna ili konsenzualna, a ona koja nema taj kapacitet, niti tu volju jeste odbijajuća, odnosno, centrifugalna politička kultura.

Kako politička kultura utiče na sučeljavanje sa nekim važnim društvenim problemima? Kako utiče na suživot stanovnika različitog nacionalnog ili verskog identiteta, kako na kontrolu tranzicionih migracionih tokova, apsorpciju i integrisanje onih koji bi želeli da žive u Srbiji? U kojoj meri predrasude i politička upotreba emocija određuju modele i koncepte društvenih komunikacija i prirode društva u celini? Kako i oni koji su po svim identitetskim osobinama poput većinskog stanovništva postaju "opasni drugi" zbog svog političkog opredeljenja?

Kako da se upravlja različitosti u korist svih koji žive u okviru jedne političke zajednice. Kako "drugi" da budu snaga, a ne slabost zajednice? Koji su to društveni koncepti koji integrišu? Sve su to pitanja na koja politikologija, ali i druge društvene nauke kroz multidisciplinar-

nu perspektivu pokušavaju da ponude odgovore.

Članak će se baviti teorijskim određivanjem, poređenjem i klasifikovanjem ključnih pojmova i koncepata koji se odnose na ovaj važan segment političke kulture. U radu se koristi opšta teorijska analiza, uporedna multidisciplinarna analiza, kao i sekundarna analiza podataka empirijskih istraživanja, te sinteza dobijenih teorijskih i empirijskih nalaza. Uporedna opšta teorijska i uža politikološka analiza biće usmerena na rasvetljavanje ličnog i kolektivnog identiteta stanovništva u okviru političke kulture uopšte i posebno na primeru Srbije.

Institut društvenih nauka je sprovodio empirijska istraživanja koja će se koristiti za potvrdu ili opovrgavanje iznetih pretpostavki.¹ To će se posebno odnositi na takozvane "unutrašnje" i "spoljne" druge – na one koji su autohtono stanovništvo sa ovog prostora, a koje se od većinskog stanovništva razlikuje po nekim kolektivnim identitetskim odlikama, pre svega, po nacionalnom, verskom ili jezičkom samoodređenju i na one koji su spoljni akteri, bilo da su u pitanju države, vojne i političke organizacije ili strane korporacije.

Osnovni cilj ovoga rada je da uporedno pokaže glavne tokove u sagledavanju demokratske političke kulture i dominantna obeležja političke kulture u Srbiji kroz odnos prema "drugome". Osnovna hipoteza je da je odnos prema "drugima" poslednjih decenija postao jedan od ključnih kriterijuma za utvrđivanje prirode političkih kultura, te da u Srbiji postoji formalni i normativni okvir za integralnu političku kulturu, ali da se on u praksi najvećim delom svodi na saradnju i saglasnost političkih elita i da nije dubinski prozeo odnose niti unutar

¹ Dodatak sadrži osnovne podatke o istraživanjima Instituta društvenih nauka koja se navode u ovom članku.

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2 "MI" I "DRUGI" – LIČNI I KOLEKTIVNI IDENTITET I POLITIČKA KULTURA

Psiholog Mari (Henry A. Murray) i antropolog Klakon (Clyde Kluckhohn) su 1948. godine definisali da je svaki čovek u izvesnom smislu kao i svi drugi (primarni identitet kao humanitet), da je svaki čovek kao neki drugi ljudi (socio-kulturni identitet) i da je svaki čovek kao nijedan drugi čovek (samoidentifikacija) (Stojković 2008: 18–19).

Polazeći od toga da je čovek kao biološka jedinka kao i svi drugi ljudi, da je kao ličnost jedinstven, a da je kao društveno biće kao i neki drugi ljudi – društvene nauke su predmet svog interesovanja usmerile ka raznim grupnim okvirima identifikacije. Nacije i države, kao kulturni i politički entiteti zaokupljaju posebnu pažnju, a u okviru njih politička kultura zauzima posebno mesto (Putinja & Stref Fenar, 1997: 48).

Politička kultura se uvek sagledava u određenom kontekstu i sa određene tačke gledišta. Savremeno značenje pojma kulturni identitet, kao kolektivne svesti/osećanja pripadnosti, zasnovanog na spoznaji nekih zajedničkih odrednica (jezik, rasa, teritorija, religija), koji u datoj situaciji predstavlja osnov poistovećivanja, odnosno identifikacije.

Politička kultura ima centralnu ulogu za razumevanje i izučavanje političkog identiteta. Ona se razume kao skup stavova, gledišta i sentimentata koji daju smisao i značenje političkim procesima i čine osnovne pretpostavke i pravila koja oblikuju ponašanje u političkom sistemu. Šire shvaćen, politički identitet čini mnoštvo identiteta, koji su međusobno isprepleteni i menjaju značaj prioriteta

u međusobnom vrednovanju (Lutovac 2015).

I dok je u vreme moderne potraga za identitetom i izgradnja identiteta bila u središtu individualnih napora, u vreme postmoderne "izbegavanje fiksiranja" za određene identitete postaje životna strategija (Bauman 1996: 22–24). Edgar Moren govori o pluralnom identitetu: "Svi smo mi višeidentitetna bića, u smislu u kome u sebi ujedinjujemo porodični i lokalni identitet, regionalni, nacionalni i transnacionalni (slovenski, germanski, latinski) i eventualno, konfesionalni i doktrinarni" (Moren 1989: 154).

Pokazalo se, međutim, naročito u vreme kriza i sukoba (primer rastakanja SFR Jugoslavije to potvrđuje), da je nacionalni identitet još uvek dominantan kolektivni identitet. Sve promene koje nosi globalizam u postmoderno doba, promene čija je najsnažnija odlika "etika individualnog samoispunjenja i ličnog dostignuća", ipak nisu ugrozile taj primat. Bek kaže: "Vaš sopstveni život je globalni život. Okvir nacionalne države postaje isuviše veliki i veoma mali. Ono što se dešava u vašem životu ima puno toga zajedničkog sa svetskim kretanjima, izazovima i modom, ili sa zaštitom od njih" (Bek 2003: 222). On, kao i mnogi drugi autori možda ne bi složili, ali iskustvo rastakanja SFRJ i država nastalih posle toga govori nam da u okviru pluralnih i fragmentiranih identiteta nacionalni identitet pokazuje vitalnost i snagu, naročito u kriznim vremenima.

Govoreći o naciji, Renan je rekao da istorijska prošlost jedne nacije nije stvarnost koja se nameće sama od sebe, nego kontinuirana konstrukcija koja počiva na zaboravu i istorijskoj zabludi: "suština nacije je u tome da svi pojedinci imaju mnogo toga zajedničkog, ali da su svi oni mnogo toga zaboravili" (Renan 2007: 63).

3 ODNOS PREMA "DRUGOME" KAO SASTAVNI DEO IDENTITETA

"Drugi" je stranac. Ili "domaći" stranog porekla. Uglavnom, nije ono što smo "mi". Razlikuje se od nas. O strancu se može govoriti iz njegove perspektive, iz "naše" perspektive ili iz lične, sopstvene perspektive.

Tako stranac vidi sebe kao "onog koji mora da prevodi". U tom procesu prevođenja, on koji želi da bude većina, da postane član jednog zatvorenog društva – on sam vidi distancu, a distancu vidi i većina koja sumnja u njegovu lojalnost (Schutz 1976: 101). Montenj (Montaigne), pak, kaže da kroz ogledalo stranca vidimo svoje vlastito dno. U "Eseju o ljudožderima" strano mu služi da bi kritikovao sopstveno. Njegova poruka je: "vratite se istinitom vlastitom, vi ste strašniji od ljudoždera" (Montaigne 2007: 312–328; Kristeva 2021).

Politički-pravno gledajući, odnos prema drugima se jedanput određuje preko samodefinisanja, drugi put preko kriterijuma i pravila za nepripadnost (Bilefeld 1998: 151). Bauman to ovako definiše: "Identitet je uvek pitanje identifikovanja, a identifikovanje uvek ima dijalošku prirodu" (Bauman 1989: 140). Baveći se idejom nacije, Erik Hobsbaum pravi razliku između nacionalizma, kao političkog programa i etniciteta, koji "ne spada u političku teoriju, nego u antropologiju ili sociologiju", smatrajući da je etnicitet "jedan od načina da se napune ispražnjeni rezervoari nacionalizma" (Hobsbawm 1990: 4).

Nesporno je da je odnos prema "drugome" važan za oblikovanje i ispoljavanje identiteta, pitanje je samo u kojoj meri odnos prema drugome dovodi do svesti o sebi samome (Joković 2015: 283–284; Joković Pantelić 2023: 33–44). Nekada je to manje, a nekada više izraženo. Kada je

Maks Veber pisao o tome da se etnički identitet izgrađuje na osnovu razlike, on je isticao da se svest o pripadnosti ne stvara zahvaljujući izolovanosti nego, naprotiv, međusobnim suprotstavljanjima razlika koje se ističu da bi se ustanovile etničke granice (Veber 1976: 323–327). Budući da na kolektivne identitete ne utiče samo ono što je unutar tih kolektiviteta, nego i ono što je izvan njih, ta "drugost", na svoj način, i oblikuje te identitete. Samo verovanje u zajedničko poreklo ("zamišljena nacija" Bendikta Andersona) kao osnovni princip društvenog legitimizovanja, podrazumeva političko isključivanje drugih, odnosno podele i stvaranje identiteta na osi mi: oni. To što je nešto zamišljena, kreirano ili proizvedeno ne znači da je manje stvarno, nego samo ukazuje na to kako je fenomen mogao da nastane, kako se razvija i kakve mogu biti reperkusije tog fenomena. Takođe, to što će se nekoj pojavi dati drugo ime ne znači da je fenomen bezazleniji, nego da se traži način kako ga učiniti bezazlenijim, bar na nivou simboličnog, manifestnog. Tako je u želji da se rasizam potisne bar na tom manifestnom planu skovan termin "neprijateljstvo prema strancima". U istraživanjima oba pojma podrazumevaju da se izučava neprijateljstvo stanovništva prema strancima, odnosno "drugima" (Bilefeld 1998: 154; Lutovac 2020a; Lutovac 2020b).

Kategorije "drugog" ili "opasnog drugog", odnosno neprijatelja, nisu stalne. One podležu promenama, pa čak i radikalnim. Tako oni koji su bili veoma bliski, pa čak i deo zajedničkog identiteta mogu da postanu neprijatelji, a da "zakleti neprijatelji" postanu saveznici, pa i prijatelji. Tako je u SFRJ kao "socijalističkoj samoupravnoj zajednici radnog naroda", tj. radničke klase, koja je počivala na "bratstvu i jedinstvu naroda i narodnosti" koje su je činile – unutrašnji neprijatelji

bili su "reakcionari" koji su ugrožavali socijalizam, među njima svi ideološki i klasni neprijatelji, te nacionalisti, kao pretnja višenacionalnoj socijalističkoj zajednici. I upravo su ti neprijatelji postajali ideološki oslonci novonastalih samostalnih država posle rastakanja SFRJ. Usledilo je temeljno redefinisane nacionalnih identiteta u novonastalim samostalnim državama, u čemu su vodeću ulogu imale političke elite, kako one iz transformisanih komunističkih partija, tako i novonastale nacionalne elite koje su osnove legitimiteta tražile u prošlosti, tradiciji i svemu onom što razdvaja pripadnike novonastalih država od nekadašnjih su-državljana ili "braće", kako je to ideološki predstavljano u bivšoj zajedničkoj državi (Lutovac 2015).

Dobra podloga za to svakako je autoritarni tip društva, zasnovan na predmodernoj tradiciji, kolektivističkom duhu i sklonosti ka zatvaranju. Iz društva sa jednostranačkim političkim sistemom, jednom neupitnom ideologijom svojevrsnom "svetovnom religijom" i nepriko-snoenim jednim vođom na čijem kultu je počivao ceo sistem, stvarali su se novi poreci sa novim vrednostima, ciljevima i političkim ustrojem, ali jednako zatvoreni i isključivi prema "drugome".

4 POLITIČKA KULTURA I "DRUGI" U SRBIJI

Jedna od najvažnijih konstanti političke kulture Srbije u novijoj političkoj istoriji jeste dominacija kolektivističkih ideologija i sa tim povezano odsustvo pluralističko-demokratske tradicije u modernoj političkoj istoriji Srbije (Pavlović 2017). Istorijски posmatrano, tokom perioda turske vladavine, specifičan, zadružni način života i proizvodnje i drugi uslovi u okruženju uslovi su dominaciju kolektivizma kao običaja, odnosno nepisane, ali

podrazumevajuće norme – međusobno ispomaganje i dobrobit zajednice imali su primat nad "pojedincem" koji se gubio u duhu zajedništva (Kuzmanović 1998). Pitanje zajedništva vekovima je bilo pitanje opstanka. Kolektivizam se, dakle, nametao kao egzistencijalna nužnost.

Sa uspostavljanjem nezavisne srpske države krajem 20. veka i formiranjem prvih političkih stranaka primat nad zadružnim kolektivizmom preuzima etnocentrični kolektivizam – političkim diskursom počinje da dominira ideja nacionalnog ujedinjenja, jedinstva naroda, sabornosti i sloge (Stojanović 2005). Individualnost, prava i slobode pojedinca bili su podređeni višem, nacionalnom cilju. Dolaskom na vlast komunista, ideološki kolektivizam postaje dominantan, dok ideja jugoslovenstva pokušava da potisne nekada dominantni nacionalni kolektivizam i pre svega oslanjajući se na ideju borbe protiv siromaštva i dubokih socijalnih i ekonomskih razlika.

Početkom devedesetih godina XX veka autoritarnost, koja je sve vreme prisutna, dodatno se uvećava (Kuzmanović 1994), a tokom devedesetih, pa i kasnije, stabilizuje se na prilično visokom nivou (Golubović et al. 1995; Pantić & Pavlović, 2009). I neke druge vrednosno srodne orijentacije postaju sve izraženije. Najveći deo populacije ispoljavao je tradicionalističku orijentaciju (Gredelj 1994), netoleranciju i konzervativizam (Pantić & Pavlović, 2009), a religioznost posle više decenija postaje većinski prihvaćena među stanovništvom (Pantić 2002). Sve ono što je ukazivalo je na obrise jednog tradicionalističko-autoritarnog sindroma sa elementima ideološke i političke autoritarnosti (Kuzmanović 1994), do kraja devedesetih je dobilo jasne konture.

Politička etnifikacija društva započeta u SFRJ dalje se razvijala u osamostaljenim republikama. U Srbiji se nije

ispoljavala samo kroz odnos Srba i Albanaca, nego je prožimala celo društvo. Međutim, polazeći od Baumana i njegovog "konceptualnog Jevrejina" (Bauman 1989), ako bi se tražio istorijski prototip drugog u Srbiji, onda bi to mogao biti "konceptualni Albanac". I obrnuto, među Albancima to bi mogao biti "konceptualni Srbin". Jedni drugima postali su prototip "drugog" i biće potrebno još dosta vremena da negativni stereotipi, pa i neprijateljski odnos jednih prema drugima bude delegitimizovan, pre svega u javnoj sferi, u medijima i političkom diskursu relevantnih stranaka.

U vreme rastakanja SFRJ i politički predstavnici Bošnjaka i Mađara, baš kao i Albanci potpuno su etnifikovali svoje učešće u političkom životu, čemu je doprinosila ne samo politika većinske nacije, nego i "teritorijalno-etnički koncepti političkih predstavnika nacionalnih manjina". Međutim, takva politika podsticana je i donošenjem sistemskih rešenja koja upućuju, kanališu pripadnike manjina ka etničkim strankama koje su preuzimale kontrolu nad svim sferama života. Svaki upliv građanskih partija u manjinsko biračko telo ili u manjinske životne teme smatrao se uplivom u "zabranjenu zonu" i bio je podložan oštroj politizaciji. Političkim predstavnicima nacionalnih manjina nacionalisti većinskog naroda bili su poželjniji kao politički protivnici, pa i partneri, nego građanske stranke, jer su bili dobra inspiracija ili izgovor za postojanje posebnih manjinskih etničkih stranaka. Manjinske građanske stranke bile bi marginalizovane ukoliko ne bi insistirale na nacionalnom identitetu.

Pitanje odnosa većine i manjine ne može se u savremenoj Srbiji svesti na pitanje odnosa moći i vlasti jer se uobičajila praksa da manjinske stranke idu uz vlast bez obzira na ideološke i

programske razlike. Manjine nisu izvan podele vlasti i moći, naprotiv, one preko stranaka pokušavaju da učestvuju u raspodeli vlasti i moći. No, svi oni koji ne ostvaruju svoje manjinske interese preko manjinskih stranaka ostaju i dalje izvan većinske zajednice, nisu stvarno integrisani u nju.

Etnifikacija je, dakle, bila obostrana, međusobno uslovljena i svaki iskorak u pravcu čisto građanskog profilisanja bio je rizičan za političke opcije koje su ga zastupale. Može se reći da je period 90-ih do petooktobarskih promena obeležila "retradicionalizacija kao deo šireg procesa vrednosne krize (anomija) i regresije, privremeno širenje i jačanje autoritarnosti, ksenofobije, zatvaranje od sveta i nacionalizma, a sve pod uticajem niza nepovoljnih društvenih i političkih okolnosti – od raspada bivše Jugoslavije, građanskog rata priliva izbeglica, hiperinflacije, ekonomskog propadanja i nezaposlenosti, kosovske krize" (Pantić 1998: 71), pa sve do NATO bombardovanja, sankcija i međunarodne izolacije.

Koristeći naučni instrumentarijum Adorna i saradnika, moglo bi se reći da je "etnocentrični patriotizam" dominirao u vreme pre rastakanja SFRJ i devedesetih godina dvadesetog veka, ali i kasnije u nešto svedenijem obliku i da se to nužno odrazilo na "druge" unutar svake političke zajednice unutar regiona bivše SFRJ. Takođe, na osnovu onog što se zbivalo kasnije, jasno je da je to bio dominantan obrazac odnosa i posle okončanja sukoba devedesetih i pored svih političkih proklamacija o izgradnji multikulturnih društava i građanske države. Adorno i saradnici nasuprot etnocentričnom patriotizmu, govore o zdravoj patriotskoj privrženosti domovini, privrženosti koja nije opterećena predrasudama prema spoljnim grupama (Adorno et al., 1950).

Brojni su autori koji su ukazivali na značaj antagonističkog razgraničavanja od "drugih" za obrazovanje grupnih identiteta i solidarnosti unutar njih. Jedan od njih je i Jan Asman koji ističe da kolektivnog identiteta po sebi nema, nego samo u onoj meri u kojoj se određene individue izjašnjavaju za njega. "On je onoliko jak ili onoliko slab koliko živi u svesti članova grupe i može da motiviše njihovo mišljenje i delanje" (Assmann 1992: 132). Ti "drugi" mogu biti pripadnici nekad istog kolektiviteta. U ovom slučaju, antagonizam se ne usmerava prema "spolja", nego prema sopstvenom ranijem delanju, odnosno, prema delovima sopstvenog ranijeg identiteta.

Iako bi se moglo očekivati da bi suočavanje sa vlastitom "drugošću" odnosno pozicijom stranca bio put ka tome da se bolje razumeju sopstveni "drugi" i da budu pušteni na miru, da budu to što jesu, Bilefeld piše da ništa ne ukazuje na uzročno-posledične veze koje bi upućivale na to (Bilefeld 1998: 127).

5 UNUTRAŠNJI I SPOLJNI "DRUGI"

Unutrašnji i spoljni "opasni drugi" mogu biti istorijski ukorenjeni, ali se to, kako smo videli, može menjati, čak i kada su predrasude i stereotipi duboko usađeni u kolektivnu svest. Da li će se među pripadnicima neke nacije ili države negovati negativni ili pozitivni stereotipi, negativna ili pozitivna osećanja, prijateljski, zategnuti ili neprijateljski odnosi – umnogome zavisi od zvanične državne unutrašnje i spoljne politike, sistema obrazovanja, ali i od toga da li se vodi politika u javnom interesu ili se pre svega vodi računa o upravljanju kolektivnim emocijama za potrebe užih političkih i interesnih grupa. U zavisnosti od toga kada je šta prioritet za one koji vode državu, nekada se može voditi afirmativna

dobrosusedska politika ili spoljna politika uopšte, a nekada se mogu zaoštravati odnosi sa susedima, ako to može biti korisno za uže stranačke potrebe.

No, unutrašnji drugi nisu samo oni državljani koji su drugog jezika, religije, kulture ili nacionalnosti, to mogu biti i pripadnici iste nacije – "domaći izdajnici", opozicionari, novinari, intelektualci, svi koji se kritički odnose prema vlasti. "O statusu izdajnika ne odlučuje grupna pripadnost, pošto ona po sebi više ne predstavlja mehanizam isključivanja" (Bilefeld 1998: 32). Izdajnik je moderni tip isključenoga, kaže Bilefeld, iako je u pitanju drevna pojava, stara koliko i čovek. Kolektivna izdaja koncipirana je kao zavera, izdaja zasnovana na zaveri protiv institucija države (Bilefeld 1998: 33).

Dakle, kao "opasne druge" građani percipiraju razne unutrašnje i spoljne aktere, koji ne pripadaju ni eliti ni narodu, a u značajnoj meri ugrožavaju narod i(li) državu – to su neke države, pripadnici drugih naroda ili nacionalnih manjina. Jedno istraživanje je pokazalo da pod uticajem medijske kampanje u "opasne druge" građani u velikoj meri ubrajaju i neke novinare: 44% građana misli da je vlast u pravu kada neke medije i novinare smatra plaćenicima i izdajnicima (Matić 2017: 149).

Na odnos građana prema "drugima" u velikoj meri utiče i opšte stanje demokratije u društvu, kao i odnos građana prema demokratskim procesima i institucijama. Sve to zajedno utiče i na odnos građana prema "drugima", uključujući i "druge" u okviru većinske nacije (opozicija, kritička javnost). I ovo nije fenomen novijeg datuma, takvo razumevanje "drugoga" je staro koliko i politički život u Srbiji.

U društvu u kojem se kao "opasni drugi" kvalifikuju svi oni koji ne podržavaju vladajuću većinu, primarni rascepi

nisu na etničkim ili nacionalnim linijama podela. Teško je to nazvati olakšavajućim okolnostima za pripadnike nacionalnih manjina, bez obzira na to što u takvim okolnostima njihov društveni status ne zavisi prvenstveno od toga da li su pripadnici nacionalne, nego da li su deo političke većine.

Pripadnost nacionalnoj manjini u takvim društvima, međutim, može biti dodatna otežavajuća okolnost ukoliko njihovi politički predstavnici ne podržavaju vladajuću većinu ili još i više ako joj se aktivno suprotstavljaju.

5.1 SPOLJNI DRUGI

Od 2012. godine u Srbiji došlo je do paradoksalne situacije da su EU, SAD i generalno zemlje zapada istovremeno prijatelji i neprijatelji, partneri i uzurpatori, "naši" i "opasni drugi" – "opasni prijatelji". I taj paradoks je poznat i zemljama zapada koje to ne samo da tolerišu, nego i svojim postupcima podstiču vladavinu u kojoj je stabilnost važnija od demokratije (Lutovac 2020a: 143–174).

Na spoljnom planu Srbija se zalaže za evropske integracije, a na unutrašnjem ne ispunjava kriterijume koji su neophodni da bi jedna država postala članica EU. Na drugoj strani, Srbija je prihvatljiv partner zapadu, jer ispunjava ono što se od nje traži u pogledu Kosova², pa i generalno na spoljnopoličkom planu. Čak joj se toleriše i koketiranje sa Rusijom i Kinom zbog održanja stabilnosti režima. To tolerisanje dovelo je do toga da se u javnom mnjenju Srbije EU umereno, a SAD dominantno doživljavaju kao "opasni drugi". Na drugoj strani, potpuno iracionalno, zahvaljujući pozitivnom

narativu većine medija Rusija i Kina se doživljavaju kao prijatelji (Institut društvenih nauka 2018). Iako je EU ubedljivo najvažniji ekonomski partner Srbije, to se u javnom mnjenju tako ne doživljava upravo zbog retorike predstavnika vlasti i uređivačke politike većine medija. Tako je EU, iako spoljnopolički prioritet i najvažniji spoljnotrgovinski partner istovremeno i "opasni drugi", jer nam "otima" Kosovo" i "ugrožava suverenitet". Istovremeno kroz iste te medije širi se mit o prijateljskoj i bratskoj Rusiji, zaštitnici nacionalnih interesa Srbije i velikoj i prijateljskoj Kini koja nesebično ulaže u ekonomski razvoj Srbije.

Spoljna politika Srbije zvanično je opredeljena ka evropskim integracijama u užem smislu, ali se često najviši državni zvaničnici pozivaju na spoljnu politiku neutralnosti u vojno-bezbednosnom smislu što se odražava i na stavove građana u pogledu spoljno-političke orijentacije Srbije (Institut društvenih nauka 2018). Istraživanje³ pokazuje da je većina građana pozitivno orijentisana prema EU integracijama i to pre svega iz pragmatičko-političkih, odnosno ekonomskih razloga, dok se na odnos prema Rusiji gleda isključivo kao bilateralni i više iz perspektive istorijsko-političke bliskosti. Većina građana shvata prednosti ulaska Srbije u EU, ali se protivi ulasku u NATO, što je jedan od ključnih nalaza ovog istraživanja. NATO se, inače, u percepciji građana Srbije doživljava kao najizraženiji "opasni drugi".

Kada se u istraživanju (Institut društvenih nauka 2018) meri koliko se spoljna politika Republike Srbije poklapa sa očekivanjima i željama građana na osnovu dobijenih podataka vidi se da u percepciji građana ne postoje jasno

² „All references to Kosovo in this document should be understood to be in the context of United Nations' Security Council Resolution 1244 (1999)".

³ Više o istraživanjima koje je sproveo Institut društvenih nauka 2017. i 2018. godine u dodatku na kraju teksta.

definisane spoljnopolitičke strategije Srbije i ta činjenica dodatno utiče na podeljenost i nejasnu opredeljenost građana. Ipak, i pored svih negativnih emotivnih doživljaja građani se racionalno jasno opredeljuju za standarde EU – način života, školovanje, rad, lečenje, a sa Rusijom njihove želje ostaju zasnovane više na emocionalnim vezama poput panslovenstva, pravoslavlja ili savezništva u ratovima.

Emotivni odnos građana Srbije Rusiji najvećim delom određen je njenim odnosom prema Kosovu. Na jednoj strani, Srbija se oslanja na Rusiju u opredeljenju da je Kosovo i Metohija deo Srbije i da neće priznati status Kosova kao samostalne države u bilo kom obliku, dok su na drugoj strani pragmatični razlozi na strani EU. Srbija pokušava da balansira između EU i Rusije svesna da nema snagu niti je njen geostrateški položaj takav da joj omogućava da vodi i kontroliše takvu "igru". Građani su delom svesni takve kontradiktorne pozicije odnosa Srbije sa Rusijom, kao i energetske zavisnosti od nje, ali, s druge strane, smatraju da bez podrške Rusije Srbija ne bi mogla da produžava postojeće stanje statusa quo u odnosu na Prištinu i da traži način za prevazilaženje problema (Institut društvenih nauka, 2018).

Istraživanje (Institut društvenih nauka 2018) takođe pokazalo da građani nisu do kraja upoznati sa problemima sa kojima se Srbija suočava u procesu priprema za uključanje u evropske integracije, te proces integracija doživljavaju kao nametanje volje EU, ponekad i kao nepravedno uslovljavanje, pa i ucenjivanje itd. Na drugoj strani razvijaju se simpatije u odnosu prema Rusiji kao savezniku i prijatelju koji bezuslovno podržava Srbiju "u očuvanju teritorijalnog integriteta". Istraživanje, međutim, pokazuje da građani prepoznaju racionalnu stranu

zvanične spoljne politike jer relativna većina njih 40,7% je orijentisana prema EU, dok je iznenađujuće mali procenat za okretanje Rusiji (15%). Potreba vođenja "pragmatične" spoljne politike u vezi sa rešavanjem pitanja Kosova, uticala je na srpske vlasti da ojačaju vezivanje sa Rusijom. Sve ove okolnosti stavljaju Srbiju u nezavidan položaj na međunarodnoj sceni i ponašanje Srbije se više stavlja u kontekst snalaženja u trenutnim geopolitičkim okolnostima, nego što predstavlja čvrsto utemeljenu spoljnopolitičku strategiju.

I istraživanje javnog mnjenja (Institut društvenih nauka 2017) je potvrdilo pretpostavku da postoji jaka korelacija između "opasnih drugih" koje političke elite označe kao takve i negativnog vrednosnog odnosa građana prema njima. Na listi spoljnih "opasnih drugih" u samom vrhu su NATO i SAD, iako Srbija sa NATO ima najrazvijeniju moguću saradnju, koja ne podrazumeva članstvo i iako se u svakoj zvaničnoj prilici SAD označavaju kao najvažniji zapadni partner. Tu retoriku prilikom zvaničnih susreta ne prati ista takva retorika u provladinim medijima. Naprotiv, tamo je retorika neprijateljski intonirana, te otuda i nalazi istraživanja koji pokazuju da su SAD i NATO ubedljivo najopasniji "drugi". Istraživanje od 2017. godine je pokazalo, a to je trend koji je i kasnije nastavljen tako da čak 71% građana smatra da Srbiju u značajnoj meri ugrožava NATO i 61% da je ugrožava Amerika (SAD). Njih 56% smatra da Srbiju ugrožavaju strane banke i kompanije, a 41% da je ugrožava EU, dok svega 11% ispitanika misli da je ugrožava Rusija.

Među pripadnicima manjina "opasnih drugih" se u najvećoj meri vide među Albancima (61% ispitanika smatra da Srbiju značajno ugrožavaju Albanci), što je podatak koji nije iznenađujući s obzirom

na dugotrajnu veoma izraženu etničku distancu koja se ispoljavala čak i u vreme "bratstva i jedinstva" SFR Jugoslavije, kada je negativan odnos prema drugim nacionalnostima bio smatran udarom na temelje države. Procenat onih koji "opasne druge" vide u Hrvatima znatno je manji nego u vreme oružanih sukoba tokom 90-ih, ali je i dalje znatno visok, s obzirom na to da 38% ispitanika smatra da Hrvati ugrožavaju Srbiju (Institut društvenih nauka 2017). I ponovo su političke elite, pa i najviši funkcioneri ti koje neposredno ili preko svojih medija raspiruju netrpeljivost ili u najmanju ruku negativne emocije prema susedima.

6 MIGRANTI, IZBEGLICE I IMIGRANTI KAO NOVI "OPASNI DRUGI"

Tranzicioni migranti, izbeglice, imigranti su novi "opasni drugi" u Srbiji. Pojavili su se sa velikim izbegličkim talasom i migrantskom krizom 2015–2016. godine kada su se potencijalni i stvarni imigranti počeli posmatrati ne samo kao deo humanitarnog problema i kao tranzicijska skupina ljudi na putu ka državama EU, nego i kada su se počele razmatrati mogućnosti za njihov duži boravak, pa i trajni ostanak u Srbiji (Lutovac 2016). Istraživanje (Institut društvenih nauka 2017) je pokazalo da čak 51% građana Srbije smatra da imigranti povećavaju stopu kriminala u Srbiji, a 45% da nanose štetu srpskoj kulturi, što ih kod građana Srbije svrstava u grupu veoma "opasnih drugih". Ukupno uzevši, na osnovu ovog istraživanja može se zaključiti da u segmentu odnosa prema "opasnim dugim" postoji veliki potencijal za razvoj ksenofobičnog populizma (Lutovac & Bašić, 2017: 64).

U uslovima izuzetno složene migracione situacije, Srbija nije imala odgovara-

jući institucionalni i normativni okvir, niti politički odgovor za niz složenih pitanja u oblasti migracija i sa migracijama povezanih pitanja poput sistema azila, neregularnih migracija (Lutovac 2016: 47–48). Ono što je poseban problem jeste emigracija, posebno odlazak visoko obrazovanih. Posebna tema za neku dublju specifikovanu analizu, a koja se može povezati sa elementima političke kulture jesu oni koji ne odlaze iz socio-ekonomskih razloga. Takođe, ono što nedostaje u naučnoj i društvenoj debati jeste intenzivnija rasprava o migracijama i njihovom uticaju na razvoj. Migranti se u javnoj sferi dominantno stavljaju u negativni kontekst trgovine ljudima (i šverca migrantima, ali bez ohrabrujućeg epiloga u pogledu unapređenja zaštite žrtava, prevencije, efikasnijeg krivičnog progona i upravljanja granicama.

Politička kultura koja nema integracioni potencijal ne doprinosi prevazi- laženju ovih problema, nego naprotiv stvara okvir za njihovo otežano rešavanje. I dalje nedostaju politike socijalne i ekonomske inkluzije najranjivijih grupa sklonih migracijama, a među njima posebno Roma. Nerazumevanje najviših zvaničnika u pogledu primedbi i sugestija koje se iz EU upućuju Srbiji naročito je bilo vidljivo baš u odnosu na ove primedbe. Međutim, umesto da odgovor bude usmeren ka traženju sistemskih rešenja za njihovu inkluziju, on je bio ograničen na to da će Srbija preduzimati kaznene mere prema lažnim azilantima kada se vrate u zemlju. Kapaciteti za reintegraciju tih ljudi su svakako limitirani, ali ono što dodatno zabrinjava jeste suženo razumevanje složenosti problema (Lutovac 2016: 48).

Iz nepoznavanja proističu strah i nasilje. I to je obostrano. Otuda domaći razvijaju najpre strahove, a potom se javlja i nasilje. Isto tako reaguju i stranci,

“drugi”, odnosno neprihvaćeni. Sliku stranca ne određuje dominantno njegovo prisustvo niti njegova različitost, nego predstava koju o njemu stvaramo – zamišljanje šta je on ili šta bi mogao da bude. Uvek postoji potreba da se racionalizuje relacija između straha od stranaca i nasilja nad njima. I ta racionalizacija uspostavlja obrazac ponašanja, obrazac koji se ne opravdava, ali koji se razume i prihvata. Odgovori na to mogu biti asimilacija kao javna politika koja stranca treba da učini jednakim sa drugima ili prihvatanje uz uvažavanje različitosti i integrisanje razlika.

I kao što postoje konstrukcije o sopstvenom kolektivitetu, tako postoje i konstrukcije o “drugima”. U svesti većine oni su uvek mnogobrojni. Koliko god da ih ima, previše ih je. Radi se o tome kako da se te konstrukcije institucionalizuju, a da istovremeno ne izazovu dalje podsticanje strahova i neprijateljstva. Da bi konstrukcije mogle da opstaju moraju da imaju funkcionalne institucije i odgovarajuću političku kulturu. Sve to bi trebalo da socijalizuje odnose različitih kolektiviteta kako se neprijateljstvo ne bi pretočilo u nasilje. Vrlo je opasno racionalizovati stvari tako što će se stranci učiniti logičnim žrtvama strahova. I suviše je to apstraktno i otvara prostor za neodgovornost u političkoj i javnoj sferi.

Osim integrativne (demokratske) političke kulture neophodne su tzv. institucionalne utičnice koje predupređuju diskriminaciju, strahove i nasilje, poput odgovarajućeg prava na državljanstvo, zaštite manjina i univerzalnih individualnih prava (Bilefeld 1998: 185).

7 ZAVRŠNO RAZMATRANJE

Kada je u pitanju stabilnost društvene zajednice koje podrazumeva integrisanje, a ne sukobljavanje različitih nacionalnih, verskih, socijalnih ili ekonomskih grupacija stanovništva, politička kultura je važno vezivno društveno i političko tkivo. To pokazuju nalazi i analize u ovom radu. Politička kultura može uticati pozitivno na harmoničan suživot stanovnika različitih grupnih identiteta, ali isto tako odsustvo demokratske političke kulture može uticati na stvaranje napetosti i potencijala za sukobe različitog intenziteta i karaktera.

U tom smislu, razvijena demokratska politička kultura koja neguje toleranciju, međusobno uvažavanje, vrednosti solidarnosti ili poštovanja ljudskih i manjinskih prava lakše se suočava sa izazovima poput pojačanih tranzicionih migrant-skih kretanja, pa i u pogledu apsorpcije imigranata koji bi želeli da se integrišu. Na drugoj strani, odsustvo razvijene i negovane demokratske političke kulture pogodno je za razvoj predrasuda i političku upotrebu emocija što može biti od koristi samo za uzak broj ljudi, ali ne i za društvo u celini.

U nedemokratskim zajednicama razvija se politička kultura isključivanja koja drastično uvećava broj nepoželjnih priključujući im i one koji su politički nepodobni. Teorija i praksa davali su različite modele za to kako da se upravlja različitosti u korist svih koji žive u okviru jedne političke zajednice. Kako da “drugi” budu snaga, a ne slabost zajednice. U stvari, kako izgraditi zajednice koje integrišu posebnosti umesto da produbljuju razlike. Kroz ovaj rad su uporedno razmatrani glavni tokovi savremene demokratske političke kulture i dominantna obeležja političke kulture u Srbiji kroz odnos prema “drugome”. Potvrdila se

osnovna hipoteza da je odnos prema "drugima" poslednjih decenija postao jedan od ključnih kriterijuma za utvrđivanje prirode političkih kultura, te da u Srbiji postoji formalni i normativni okvir za integralnu političku kulturu, ali da se on u praksi najvećim delom svodi na saradnju i saglasnost političkih elita i da nije dubinski prožeo odnose niti unutar većinskog stanovništva, niti u odnosu većinske i manjinskih nacionalnih zajednica.

Empirijska istraživanja Instituta društvenih nauka iz Beograda pokazala su da postoji vrlo razučena i razvijena svest kod većinskog stanovništva o "opasnim drugim" koja se manifestuje kroz takozvane "unutrašnje" i "spoljne" opasne druge, što je pogodno tlo za atmosferu "isključivanja".

Isključivanje "drugih" iz integrativnih procesa i njihovo svrstavanje u nepoželjne druge, druge koji ne pripadaju "nama" (narodu), u "opasne druge" – odlika je različitih političkih zajednica: od razvijenih do onih koje su tek na putu da izgrade stabilnu demokratsku zajednicu. Nema opšteprihvaćenog modela uključivanja i potpunog integrisanja različitih etničkih ili nacionalnih zajednica u jednu političku zajednicu. Kimlika je postavio retoričko pitanje može li se uopšte govoriti o građanstvu u društvu gde su prava raspodeljena na osnovu grupne pripadnosti (Kymlicka 1996). Praksa pokazuje da to nije moguće.

Multikulturalizam je bio pokušaj da se iskorači iz asimilacionog pristupa koji se metaforički označavao kao "lonac za topljenje" (melting pot), a koji se često označavao nepravednim i nemoralnim – u pristup koji bi uvažavao u većoj meri etničke, nacionalne, verske ili u širem smislu kulturne razlike – što se slikovito označavalo kao "model činije za salatu" (salade bowl). Interkulturalnost pokušava da otkloni slabosti oba ova pristupa

u potrazi za uvažavanjem različitosti, ali i traženjem odgovarajućeg modela za inkluziju tih različitosti u homogenu političku zajednicu.

To je veliki izazov ne samo za imigracione države, nego i za države sa autohtonim stanovništvom različitog etničkog, nacionalnog, verskog ili kulturnog identiteta. Političke stranke uopšte, a posebno stranke nastale na etničkom ili nacionalnom principu imaju veliku ulogu i odgovornost u traženju odgovarajućeg pristupa problemu, ali su one, po prirodi stvari, sklone da tu svoju ulogu apsolutizuju nastojeći da institucionalizuju monopol u predstavljanju i zastupanju interesa zajednica u čije ime deluju.

Ono što sistemski nedostaje razvoju interkulturalnosti jeste upravo demokratska integrativna politička kultura, odnosno praksa koja vodi ka njenoj izgradnji, razvijena vladavina prava, delotvorna podela vlasti, odgovarajući nivo medijskih sloboda, snažne i razvijene državne i društvene institucije koje sprečavaju koncentraciju vlasti u rukama jakih lidera ili stranaka i široko rasprostranjenu korupciju (Joković Pantelić & Matijević, 2023: 116–133).

Otklanjanje i prevazilaženje navedenih nedostataka, koji su osnovni uzrok slabosti države i društva, trebalo bi da su prioritet u procesu konsolidovanja demokratske zajednice. Građani sami ne vide politički sistem kao pravedan prema svim grupacijama u društvu (Lutovac 2023: 64). Logična posledica takvih nedostataka jeste pristup koji se zasniva na tome da se jedan identitet nametne kao opšti, umesto da se inkluzivnom politikom jača integracijska ideja, odnosno međusobno prožimanje i inkluzija različitih identiteta kroz socijalizaciju, obrazovanje, institucije i javne politike. Zahtevi za očuvanje i jačanje posebnosti nisu praćeni odgovarajućim inkluzivnim

politikama (Lutovac 2020b). Drugim rečima, načelno i verbalno opredeljenje za multikulturalizam ili još ambiciozniji interkulturalizam – nije pretvoreno u integrativne javne politike, nego je, u najboljem slučaju, podsticano jačanje različitosti bez odgovarajućih inkluzivnih mera prema nacionalnim manjinama i bez odgovarajuće javne politika prema strancima raznih vrsta i porekla.

Politička kultura se kroz epohe menja, ali to je uvek spor proces, znatno sporiji nego što je promena institucionalnog i pravnog okvira ili konkretne javne politike. Zato bi odgovarajuća politika i institucionalno-pravni okvir mogli povratno da deluju na političku kulturu tek posle izvesnog perioda dobre prakse. Globalizacija je ta koja relativizuje i razblažava sve konfliktne potencijale koje sa sobom nosi "drugost", ali istovremeno raspiruje uverenja i tvori praksu stvaranje nekih

drugih opasnih drugih, poput velikih korporacija.

Sve u svemu, nova epoha umanjuje konfliktni značaj koji sa sobom nose "drugi", bilo kroz razvoj demokratskih potencijala i liberalnu evoluciju političke kulture, bilo kroz razvoj tehnologija komunikacije i sve veću pokretljivost stanovništva, te boljeg međusobnog razumevanja. Migranti postaju postmoderni kosmopoliti, a "tradicionalno stanovništvo" postmoderni tradicionalisti koji se kreću unutar granica svoje zemlje, a u inostranstvo idu kao turisti (Bilefeld 1998: 39–40). Interaktivnost je na znatno višem nivou nego ranije, no "drugost" opstaje i u izmenjenim okolnostima sa izmenjenim karakteristikama. "Drugost" neće tek tako iščiliti, samo će promeniti pojavne oblike i refleksne reakcije i zato će još dugo biti predmet posebnog interesovanja društvenih nauka.

ZAHVALNICA

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Izjava o dostupnosti podataka

Podaci su dostupni na zahtev.

DODATAK

Institut društvenih nauka sprovodio je empirijska istraživanja koja se u ovom radu koriste za potvrdu ili opovrgavanje iznetih pretpostavki. To se posebno odnositi na takozvane "unutrašnje" i "spoljne" druge – na one koji su autohtono stanovništvo sa ovog prostora, a koje se od većinskog stanovništva razlikuje po nekim kolektivnim identitetskim odlikama, pre svega, po nacionalnom, verskom ili jezičkom samoodređenju i na one koji su spoljni akteri, bilo da su u pitanju države, vojne i političke organizacije ili strane korporacije.

Juna i jula 2017. godine Institut društvenih nauka sproveo je Istraživanje pod nazivom "Javno mnjenje Srbije 2017". Cilj istraživanja je bio da se utvrdi u kojoj meri su populistički stavovi rašireni među građanima Srbije i koliko stavovi građana predstavljaju osnov za postojanje i razvijanje populizma. Posebna grupa istraživačkih pitanja je posvećena osnovnim indikatorima demokratske političke kulture koji se koriste i u ovom radu. Ispitali smo na koji način javnost razume osnovne demokratske principe i norme i u kojoj meri da ju podršku demokratskim, odnosno nedemokratskim formama vladavine. Uzorak ispitanika je konstruisan korišćenjem procedure višestepenog slučajnog uzorkovanja u tri faze: u prvoj, primarne jedinice uzorkovanja (Primary Sampling Units – PSU) bila su biračka mesta; u drugoj, sekundarne jedinice uzorkovanja (Secondary Sampling Units – SSU) bila su domaćinstva i u trećoj fazi, jedinice uzorkovanja bili su ispitanici koji žive u domaćinstvima.

U prvoj fazi, sva biračka mesta (PSU) su podeljena u tri stratumata, a u okviru svakog stratuma izbor biračkih mesta izvršen je na osnovu verovatnoće proporcionalne veličine. Sva biračka mesta

podeljena su u tri stratumata: Vojvodina, Beograd i ostatak Srbije. U okviru svakog klastera izvršen je izbor biračkih mesta na osnovu procedure verovatnoće proporcionalne veličine. Broj biračkih mesta po stratumu određen je na osnovu proporcionalnog učešća birača u stratumima.

U drugoj fazi za izbor domaćinstva korišćen je postupak sistematskog slučajnog uzorkovanja. Proceduralno, u svakom izabranom biračkom mestu (PSU) identifikovana je početna tačka a zatim je korišćenjem "random tablice" birano domaćinstvo metodom "stop-and-go". Broj domaćinstava odgovara broju ispitanika, dakle, iz svakog domaćinstva se bira samo jedan ispitanik. Procedura je sa zamenom.

U trećoj fazi izbor ispitanika u okviru domaćinstva vršen je slučajno, tačnije, metodom kalendarskog rođendana (član domaćinstva koji je prvi rođen u kalendarskoj godini). Procedura je bez zamene, osim ako je ispitanik u zatvoru, na bolničkom lečenju ili u inostranstvu. Važne napomene uz uzorak:

- Biran je isti broj ispitanika unutar svake PSU (korigovan s obzirom na primenjenu random tablicu)
- Iz uzorka su isključeni: zatvorska populacija; populacija u inostranstvu; Kosovo i Metohija; populacija na bolničkom lečenju.
- Ukupan broj ispitanika: planirano N=1500: realizovano=1514; Nakon logičke kontrole ukupan broj ispitanika u datoteci=1487.
- Poststratifikacija je rađena po tipu naselja, polu i godinama, i ponderi se kreću od 0,76 do 1,79.
- Procenat intervjuva koji je ostvaren bez zamene: 64,6%.
- Verifikacija anketarskog rada sprovedena je na 14,6% slučajno odabranih anketa.

Predstave o EU i Rusiji u javnosti Srbije je istraživanje koje je sproveo Institut društvenih nauka pod nazivom "Javno mnjenje Srbije 2018" tokom oktobra i novembra 2018. godine. Upitnik je fokusiran na stavove građana prema međunarodnoj politici i položaju Srbije i to u pogledu odnosa sa Evropskom Unijom i Rusijom. Anketiranje je sprovedeno posredstvom interneta – ispitanici su popunjavali elektronski upitnik samostal-

no, na sopstvenim digitalnim uređajima. Uzorak ispitanika ima dva segmenta. Jedan je baziran na pozivanje putem slanja poziva za učešće u anketi putem elektronske pošte. Drugi segment su ispitanici pozivani putem internet oglašavanja, putem deljenja poziva i informacija posredstvom društvenih mreža, i slično. Prikupljeno je ukupno nešto preko 3200 popunjenih upitnika.

Osvrt

Review

Sanja Klempić Bogadi: The Community Deserves a Future: Demographics and the Future of Serbs in Croatia

Jesenski and Turk, Serbian National Council, Zagreb, 2025, 267 pp.

Sanja Klempić Bogadi: Zajednica zaslužuje budućnost: Demografska slika i budućnost Srba u Hrvatskoj

Jesenski i Turk, Srpsko narodno vijeće, Zagreb, 2025, 267 str.

Knjiga pruža detaljan uvid u sociodemografske promene Srba u Hrvatskoj, fokusirajući se na period nakon raspada Jugoslavije i formiranja samostalne Republike Hrvatske. Kroz analizu popisa stanovništva, demografske statistike, promena zakonske regulative i političkih okvira i originalno empirijsko istraživanje, u knjizi su prikazani izazovi sa kojima se suočava srpska zajednica u očuvanju kulturnog identiteta, ali i problem asimilacije i depopulacije zbog migracija i nepovoljne demografske strukture stanovništva.

Autorka sagledava ključne aspekte centralne teme knjige, kao što su etnička mimikrija, društvena distanca, diskriminacija, ali i specifičnosti migracijskih obrazaca i populacionog starenja i njihov uticaj na svakodnevni život. Metodološki, prof. dr Klempić Bogadi – naučna savet-

nica u Institutu za istraživanje migracija u Zagrebu, kombinuje kvantitativna i kvalitativna istraživanja koja doprinose sveobuhvatnijem razumevanju problema. Konceptualno-metodološki okvir obuhvata analize popisa stanovništva i socioekonomskih istraživanja, kao i sopstveno anketno istraživanje, pružajući utemeljen prikaz stanja srpske zajednice u Hrvatskoj. Takav pristup omogućava potpuniji uvid u različite aspekte života Srba u Hrvatskoj, dok su biografski intervjui korišćeni kao sredstvo za bolje razumevanje individualnih iskustava povratnika.

Monografija je znalački osmišljena i vešto strukturirana, u skladu sa dobrom praksom sveobuhvatnih demografskih studija, kakvih je danas sve manje. Na taj način, pruža celovit uvid u recentnu istoriju i aktuelne sociodemografske procese

u okviru srpske nacionalne manjine u Hrvatskoj, i postaje lako prijemčiva i čitaocima koji nemaju predznanje o ovoj temi. Za takav pristup bilo je neophodno ne samo izuzetno znanje iz oblasti demografije i geonauka, te metodološka svestranost, već i vrstan dar da se, neretko suvoparno i hermetično prikazani, demografski pokazatelji predstave i interpretiraju na razumljiv i jasan način.

Knjiga se sastoji od 14 poglavlja. Veoma bogato je opremljena grafikonima, tematskim kartama i tabelarnim prikazima, čime predstavlja i svojevrstan izvor i vredno polazište za dalja istraživanja. Uvodna poglavlja knjige pružaju istorijski kontekst koji objašnjava kako su politički i društveni događaji oblikovali sadašnju poziciju srpske manjine u Hrvatskoj. Između ostalog, objašnjava se tranzicija statusa Srba od konstitutivnog naroda do nacionalne manjine, ističući kako su novonastale političke tenzije nakon raspada Jugoslavije doprinele stvaranju nejednakosti i nesigurnosti unutar zajednice.

Autorka razmatra migracijske obrasce, beležeći egzodus srpske populacije tokom i nakon ratova 1990-ih, uz analizu povratka Srba u Hrvatsku u postkonfliktom razdoblju. Međutim, istraživanje pokazuje da se povratak često odvija otežano i da je povratnicima suočavanje s ekonomskom i društvenom nestabilnošću stalna prepreka. Analizom socio-ekonomskih faktora u knjizi se zaključuje kako su starosne i invalidske penzije te socijalne naknade glavni izvori prihoda za većinu povratnika, ali da ova ekonomska situacija nije održiva, jer povratnici i dalje ostaju među najsiriromašnijim stanovništvom u Hrvatskoj.

Knjiga, takođe, pruža uvid u izazove vezane za socijalnu distancu i kulturnu integraciju srpske zajednice u Hrvatskoj, analizirajući njihovu percepciju o položaju unutar hrvatskog društva i nivo

zadovoljstva životom. Dodatno, poglavlja koja pokrivaju pitanja državljanstva objašnjavaju pravne prepreke s kojima su se povratnici često susretali, što je dodatno komplikovalo njihovu punu integraciju u društvo. Autorka posebno ispituje osećaj identiteta i pripadnosti srpske zajednice, ističući kako su diskriminacija i predrasude ostavile dubok trag na zajednicu, koja često traži „etničku mimikriju“ kako bi izbegla socijalne konflikte.

DETALJNA ANALIZA SADRŽAJA

Prva dva poglavlja pružaju temelj za razumevanje demografskih izazova sa kojima se suočava srpska zajednica u Hrvatskoj kroz istorijski, pravni i metodološki okvir. U uvodu knjige, autorka postavlja kontekst problema kroz istoriju suživota u multietničkim zajednicama na teritoriji Hrvatske. Nakon raspada Jugoslavije, položaj Srba u Hrvatskoj radikalno se promenio, jer su Srbi, do tada konstitutivni narod, postali nacionalna manjina. Između ostalog, prof. Klempić Bogadi obrađuje pojmove „narod“, „narodnost“ i „manjina“ kako bi ukazala na promene koje je donela tranzicija od Jugoslavije do samostalne Hrvatske. Takođe, navedeni su izazovi u vezi sa zaštitom prava Srba u Hrvatskoj, uz analizu zakonodavnog okvira koji je promenjen usvajanjem Ustavnog zakona o pravima nacionalnih manjina 2002. godine.

Drugo poglavlje opisuje metodologiju istraživanja koje uključuje analizu popisa stanovništva iz perioda od 1991. do 2021. godine, kao i statistike vitalnih događaja. Autorka ukazuje na metodološke promene u samom popisu stanovništva koje su uključivale nove kriterijume. Posebno je važna promena koja je nastupila od popisa 2001. kada je uveden koncept „uobičajenog mesta stanovanja“, koji više odgovara stvarnom stanju populacije.

Empirijsko istraživanje, namenski sprovedeno za potrebe ove studije, koristilo je mešovitu metodologiju prikupljanja kvalitativnih i kvantitativnih podataka kroz anketiranje. Anketa je sadržala 68 pitanja koja su bila strukturirana u jednaest celina kako bi što preciznije prikazala stanje srpske zajednice i omogućila bolje razumevanje njihovih svakodnevnih izazova i budućih perspektiva.

Od trećeg do petog poglavlja, dat je prikaz populacione dinamike Srba u Hrvatskoj, njihov detaljan prostorni razmeštaj na nivou županija i jedinica lokalne samouprave, te promene najvažnijih pokazatelja prirodnog kretanja. Kretanje broja Srba u Hrvatskoj prikazano je za period 1948-2021, s posebnim naglaskom na promene tokom rata 1990-ih i u periodu nakon njega. Različite stope rasta su zabeležene u svakom periodu između popisa. Ipak, već nakon 1971. primećuje se pad zbog migracija i smanjenja fertiliteta. Nakon rata, depopulacija je intenzivirana zbog iseljavanja i pada nataliteta, a negativni demografski trendovi ostaju karakteristični do danas. Prirodno kretanje Srba u Hrvatskoj analizirano je kroz različite demografske pokazatelje, kao što su stope nataliteta, fertiliteta, mortaliteta i prirodne promene stanovništva. Dat je veoma detaljan pregled teritorijalne distribucije Srba, uz tabelarni, grafički i kartografski prikaz broja i udela Srba i dinamike njihovog prirodnog kretanja u poslednjim decenijama. Uglavnom, rezultati pokazuju negativan prirodni priraštaj od sredine 1980-ih do danas, što u kombinaciji s migracijama doprinosi opštem smanjenju broja Srba u Hrvatskoj. Poglavlje zaključuje da bez mera revitalizacije i podrške mladim generacijama, očekivanja za prirodni rast nisu optimistična.

U poglavljima 6-9, autorka se bavi migracijskim karakteristikama i procesima koji odlikuju Srbe u Hrvatskoj u poslednje tri decenije.

Data je detaljna slika izazova s kojima se suočava srpska zajednica u Hrvatskoj, uključujući složenost migracijskih tokova, iskustvo izbeglištva, probleme u povratku, te pravne barijere u vezi sa državljanstvom. Način na koji su poglavlja strukturirana i važnost koja im je data veoma jasno pokazuju stav autorke o izuzetnom značaju koji migracije imaju na promene koje su se desile u srpskoj zajednici u Hrvatskoj nakon 1991. Migracioni faktor uopšte važi za najteže predvidiv u populacionoj dinamici savremenih društava, stoga je naročito bitno što je prof. Klempić Bogadi probala da ga osvetli iz što je moguće više uglova, uključujući izvanredne nalaze empirijskog istraživanja sprovedenog u ovoj zajednici. Time je nedvosmisleno istaknuto da je migracioni faktor u slučaju populacione dinamike i strukturnih promena Srba u Hrvatskoj imao dodatnu težinu i da je bez dubljeg pronicanja u njegove determinante i osobenosti nemoguće razumeti ni recentne ni predstojeće sociodemografske promene u srpskoj zajednici u Hrvatskoj. U tom smislu, posebnu vrednost donosi razmatranje tokova i posledica izbeglištva i potonjeg procesa povratka, gde je analiza pokazala da je migracijsko iskustvo i dalje dominantno kod većine Srba u Hrvatskoj. Povratak izbeglica prikazan je kao kompleksan i često neuspešan proces, jer mnogi povratnici zbog ekonomskih i društvenih poteškoća napuštaju Hrvatsku po drugi put. Povratak nije uvek trajan zbog izazova s integracijom. Mnogi od povratnika suočeni su s nedostatkom adekvatne podrške za reintegraciju i poteškoćama u sticanju vlasništva, a dodatno, nepovoljna infrastruktura u ruralnim područjima, gde se većina povratnika nastanila, doprinosi njihovom ponovnom iseljavanju. Poseban fokus

je na stambenim izazovima s kojima su se susreli bivši nosioci stanarskog prava koji su napustili Hrvatsku tokom rata. Za te povratnike država je razvila posebne mere za stambeno zbrinjavanje putem najma ili finansijske pomoći za popravke kuća. Međutim, implementacija tih mera bila je problematična, što se posebno ogleda u manjim brojevima zbrinutih povratnika u većim gradovima. Dodatno, iako je prvobitno zamišljeno da povratnici budu samo zaštićeni najmoprimci, kasnije su im omogućeni povoljniji uslovi za otkup stambenih jedinica.

Ništa manje značajno je poglavlje koje se bavi pravnim izazovima vezanim za sticanje državljanstva. Izloženi su problemi koje su Srbi imali sa sticanjem hrvatskog državljanstva, što je često uzrokovano zakonima koji su omogućavali odbijanje državljanstva iz razloga nacionalnog interesa. Ova poglavlja sugerišu da je proces povratka i integracije srpske manjine opterećen nizom pravnih i društvenih prepreka koje značajno otežavaju potpunu integraciju i normalizaciju odnosa.

U poglavljima 10-13 autorka se bavi relevantnim sociodemografskim strukturama Srba u Hrvatskoj, uključujući polno-starosnu, obrazovnu i ekonomsku strukturu, ali i kvalitetom života ove zajednice. Analiza prikazuje trendove starjenja populacije, što je rezultat niskog nataliteta i visoke emigracije mladih – prosečna starost Srba u Hrvatskoj kontinuirano raste, dok je udeo mladih veoma nizak. Obrazovna struktura Srba ukazuje na niže prosečne obrazovne nivoe u poređenju s nacionalnim prosekom, što je posledica migracija obrazovanih osoba i nižeg nataliteta i posledično dodatno otežava njihovu ekonomsku integraciju i smanjuje mogućnosti zapošljavanja. Većina ispitanika oslanja se na penzije kao glavni izvor prihoda, a ruralna područja,

gde su Srbi pretežno naseljeni, karakterišu ograničeni radni i obrazovni resursi.

Poglavlje koje tretira pitanja kvaliteta života i demografske održivosti posvećeno je subjektivnim i objektivnim aspektima kvaliteta života, uključujući materijalno stanje, zadovoljstvo životom i infrastrukturu. Poseban naglasak je stavljen na povezanost između kvaliteta života i demografske održivosti. Teški uslovi, kao što su ekonomska nesigurnost i slaba infrastruktura, negativno utiču na zadovoljstvo i osećaj sigurnosti među Srbima u ruralnim područjima što otežava demografski opstanak, ali i održiv povratak i integraciju srpske zajednice u društvo.

Analiziran je socioekonomski status Srba i njihovih domaćinstava, s posebnim naglaskom na prihode i finansijske teškoće. Važno je napomenuti da visok udeo osoba bez prihoda ili s minimalnim socijalnim naknadama ukazuje na trajne ekonomske poteškoće i zavisnost o državnoj pomoći, što stvara dodatni teret za povratničku populaciju. Takođe, u ovom delu knjige, detaljno se opisuju neadekvatna infrastruktura u ruralnim područjima. Iako je postojanje osnovne komunalne infrastrukture ključno za kvalitet života, mnoge ruralne sredine i dalje se suočavaju s ograničenim pristupom struji, vodi, te osnovnim društvenim sadržajima kao što su škole i zdravstvene ustanove. Ovi uslovi otežavaju svakodnevni život i smanjuju dugoročnu održivost tih zajednica.

U poslednjem poglavlju sumiraju se ključni nalazi i daju preporuke za buduće politike koje bi mogle poboljšati položaj Srba u Hrvatskoj. Budući da prirodni priraštaj ostaje negativan, a stopa emigracije visoka, autorka predviđa da će populacija Srba u Hrvatskoj, reklo bi se sasvim očekivano, nastaviti da opada, sugerišući da je za opstanak i revitalizaciju zajednice

potrebna strateška podrška, uključujući unapređenje infrastrukture, stimulisanje povratka mladih i ulaganje u obrazovne i ekonomske programe. Takođe, razmotrene su mogućnosti za integraciju sezonskih i radnih migranata iz Srbije i Bosne i Hercegovine, posebno mladih, kao potencijalni resurs za revitalizaciju srpske zajednice u Hrvatskoj. Autorka smatra da bi trajno naseljavanje radnih migranata moglo doprineti povećanju broja Srba, ali i da bi lokalne organizacije trebalo da prilagode svoje aktivnosti za podršku ovim novim grupama. Starija populacija koja se povratnički nastanila u ruralnim sredinama ima ograničene mogućnosti za aktivan doprinos lokalnoj ekonomiji, a slab priliv mladih dodatno opterećuje strukturu zajednice. Takođe, uočeni su problemi u dostupnosti javnih usluga i komunalne infrastrukture, posebno u ruralnim područjima gde su Srbi pretežno naseljeni. Nedostatak javnog prevoza, osnovnih zdravstvenih usluga i obrazovnih institucija dodatno otežava povratak i ostanak mladih u ovim sredinama. Zaključak je da su migracija i demografsko starenje ključni izazovi za demografski opstanak Srba u Hrvatskoj, te je u knjizi naznačena potreba za jačom integracionom politikom kako bi se očuvao njihov kulturni i društveni identitet. Autorka predlaže nekoliko strateških pravaca za očuvanje srpske zajednice u Hrvatskoj:

1. Poboljšanje infrastrukture: Ulaganje u infrastrukturu, posebno u ruralnim sredinama, moglo bi poboljšati kvalitet života i privući povratnike. To uključuje razvoj saobraćajnih mreža i bolji pristup obrazovnim i zdravstvenim uslugama.

2. Podsticaje za ekonomski razvoj: Mere za ekonomski razvoj lokalnih zajednica koje uključuju podsticaje za otvaranje malih i srednjih preduzeća,

kao i subvencije za mlade porodice koje se odluče za povratak.

3. Povećanje svesti i promocija tolerancije: Ističe se i potreba za daljim radom na promociji tolerancije i suzbijanju diskriminacije u lokalnim sredinama, što bi pomoglo lakšoj integraciji i povećanju osećaja sigurnosti među pripadnicima srpske zajednice.

ZAKLJUČAK

Knjiga *Zajednica zaslužuje budućnost: Demografska slika i budućnost Srba u Hrvatskoj* nudi temeljan i iscrpan uvid u demografske i društvene izazove srpske zajednice u Hrvatskoj, analizirajući njenu prošlost, sadašnjost i perspektive za budućnost. Cilj knjige je da prikaže demografske trendove, migracijske obrasce, socioekonomske izazove i status Srba u Hrvatskoj kroz različite aspekte svakodnevnog života, ističući ključne probleme i prepreke koje stoje na putu održivosti srpske zajednice u Hrvatskoj.

Kombinujući kvantitativne i kvalitativne demografske, statističke i empirijske metode, autorka istražuje ključne demografske promene od perioda raspada Jugoslavije do danas. Posebna pažnja je posvećena socijalnim i ekonomskim pitanjima, kao i pravu na povratak i stambeno zbrinjavanje bivših nosilaca stanarskih prava. Ključne teme, kao što su migracije, povratak, socioekonomski status, infrastruktura i usluge, te kvalitet života, temeljno su obrađene, čime knjiga postaje relevantna studija o marginalizaciji i izazovima manjinskih zajednica.

Zajednica zaslužuje budućnost: Demografska slika i budućnost Srba u Hrvatskoj predstavlja sveobuhvatno sociodemografsko istraživanje koje kombinuje različite aspekte položaja srpske zajednice u Hrvatskoj, uključujući istorijski, geografski, socioekonomski, pravni i politički.

Kroz prikaz svakodnevnih problema i prepreka, knjiga poziva na dublje promišljanje i potrebu za dodatnim reformama kako bi se poboljšao položaj srpske manjine u hrvatskom društvu. Prof. Klempić Bogadi naglašava važnost uključivanja srpske zajednice u sve društvene tokove i podržavanje njihovih prava kroz sveobuhvatnu politiku, jer tek kroz takav pristup zajednica može ostvariti stabilnu i sigurnu budućnost. Studija u celini predstavlja odličan doprinos proučavanju manjinskih zajednica u post-konfliktnim društvima

i može biti od koristi istraživačima, studentima društvenih nauka i onima koji se bave pravima manjina.

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Prikaz

Short review

Synergy of Statistics and Science – A New Dimension of the Census Data

Zlatibor, 11th–14th March 2025

Sinergija statistike i nauke – nova dimenzija popisnih podataka

Zlatibor, 11–14. mart 2025.

Višegodišnji proces pripreme i realizacije Popisa stanovništva, domaćinstava i stanova 2022. godine zaokružen je Konferencijom na kojoj su prezentovane tematske studije i specijalne publikacije bazirane na rezultatima Popisa 2022.

Pored autora studija, ovom naučnom skupu prisustvovali su i drugi akademski profesori, naučni radnici i istraživači, predstavnici ministarstava i posebnih organizacija, kao i statističari iz RZS-a i iz statističkih zavoda zemalja regiona. Konferenciju je rečima dobrodošlice otvorio v. d. direktora Republičkog zavoda za statistiku, Branko Josipović, koji se u uvodnom izlaganju osvrnuo na rezultate Popisa 2022, ali i na složene metodološke i analitičke procese koji stoje iza njihove interpretacije. Takođe, prisutnima se obratio i Rihard Maša (Richard Masha), predstavnik Delegacije Evropske unije u Republici Srbiji, koji je istakao značaj saradnje Evropske unije i Republike Srbije u oblasti razvoja zvanične statistike.

U nastavku je dat kratak osvrt na sadržaj tematskih studija i specijalnih publikacija.

STANOVNIŠTVO SRBIJE – DINAMIKA I STRUKTURE

– IDN CDI, GRUPA AUTORA,
UREDNIK VLADIMIR NIKITOVIĆ

Studija sadrži sedam autorskih priloga, u kojima su detaljno analizirane demografske promene u Republici Srbiji tokom poslednjeg međupopisnog perioda. Fokus istraživanja je na populacionoj dinamici, kao i na ključnim demografskim, obrazovnim, migracionim i drugim karakteristikama stanovništva i promenama u strukturi domaćinstava i porodica.

STANOVNIŠTVO I DOMAĆINSTVA GRADA BEOGRADA

– BILJANA RADIVOJEVIĆ

Ova studija nastala je iz potrebe za sveobuhvatnim prikazom ključnih pokazatelja demografskog razvoja Grada Beograda. Publikacija na jednom mestu objedinjuje podatke Popisa 2022. godine i daje detaljnu analizu prostorne distribucije i karakteristika stanovništva i domaćinstava glavnog grada.

DEMOGRAFSKI PROFIL MLADOG STANOVNIŠTVA SRBIJE

– MIRJANA DEVEDŽIĆ,
ANKICA ŠOBOT

Cilj studije je da istraži specifičnosti mlade populacije uzrasta od 15 do 34 godine. Analiza obuhvata demografske i socioekonomske aspekte, uključujući dinamiku i prostorni razmeštaj, obrazovne, ekonomske, migratorne i druge karakteristike stanovništva, kao i izazove vezane za roditeljstvo i formiranje porodice.

DEMOGRAFSKI PROFIL STARIJEG STANOVNIŠTVA

– JELENA STOJILKOVIĆ GNJATOVIĆ

Sveobuhvatna analiza demografskih, bioloških i socioekonomskih obeležja stanovništva starog 65 i više godina tema je ove studije. Kroz detaljan prikaz popisnih podataka, prikazane su karakteristike starijih lica i izazovi vezani za ubrzano starenje populacije Republike Srbije.

KA RAZUMEVANJU KRIZE RAĐANJA U SRBIJI

– MIRJANA RAŠEVIĆ

Niska stopa rađanja, daleko ispod nivoa potrebnog za prostu reprodukciju, predstavlja ključni demografski izazov Republike Srbije. Ova studija analizira krizu fertiliteta iz dugoročne perspektive, oslanjajući se na podatke Popisa 2022. Fokus je na mikro-, mezo- i makrofaktorima koji utiču na nisku stopu rađanja, kao i na teorijske koncepte i istraživanja koja osvetljavaju razloge zašto se roditeljstvo odlaže ili izostaje.

BRAK I PORODICA U RASKORAKU

– MIRJANA BOBIĆ,
MILICA VESKOVIĆ ANĐELKOVIĆ

Studija pruža detaljnu demografsko-statističku i sociološku analizu podataka Popisa 2022. koji se odnose na bračne i porodične strukture u Republici Srbiji. Rezultati popisa stavljani su u širi demografski kontekst, upoređeni sa podacima prethodnih popisa sprovedenih na teritoriji Republike Srbije, kao i sa sličnim podacima iz evropskog okruženja, sa posebnim osvrtom na uticaj globalne promene shvatanja bračnosti i porodice.

ETNOKULTURALNI PORTRET SRBIJE

– GORDANA VOJKOVIĆ

Razumevanje etnokulturnih karakteristika stanovništva važno je za sagledavanje demografske slike Republike Srbije. Detaljno su analizirane osnovne karakteristike i prostorni razmeštaj 27 nacionalnih zajednica – pored Srba, analiza je obuhvatila pripadnike 24 nacionalne manjine koje imaju formirane nacionalne savete, kao i zajednice koje su posebne po svom etno-kulturološkom i istorijskom razvoju, Muslimane i Jugoslovene. Poseban doprinos ove studije ogleda se u prikazu istorijata prikupljanja podataka o etnokulturalnim karakteristikama stanovništva Republike Srbije, počev od sredine 19. veka.

ROMI U POPISIMA STANOVNIŠTVA SRBIJE – IZMEĐU STATISTIKE I DEMOGRAFSKE STVARNOSTI

– ALEKSANDAR KNEŽEVIĆ

Fokus istraživanja je na demografskoj slici romske populacije prema podacima Popisa 2022. godine, kao i na najznačaj-

nijim segmentima demografskog razvoja Roma u Republici Srbiji tokom više međupopisnih perioda. Analiza obuhvata različite aspekte, uključujući populacionu dinamiku Roma kroz popise, primenu subjektivnog kriterijuma nacionalne identifikacije romskog stanovništva u redovnim statističkim istraživanjima, kao i prostorni razmeštaj i osnovne karakteristike pripadnika romske zajednice.

SRBIJA KAO ODREDIŠTE – KO SE DOSELJAVA, A KO SE VRAĆA?

– VESNA LUKIĆ, SUZANA LOVIĆ OBRADOVIĆ

Kroz naučno tumačenje podataka Popisa 2022, studija pruža odgovore na ključna pitanja: Ko se doseljava u Republiku Srbiju, a ko se vraća iz inostranstva? Koji su najčešći razlozi za imigraciju i povratak, sa posebnim osvrtom na starosno-polnu strukturu u vreme doseljenja, nacionalnu pripadnost, nivo obrazovanja i zemlje polazišta? Takođe, razmatra se uticaj doseljenih lica na brojnost, prostorni raspored i demografske strukture stanovništva Republike Srbije.

DEMOGRAFSKE PROMENE I EKONOMSKI RAST U REPUBLICI SRBIJI

– INSTITUT EKONOMSKIH NAUKA

Studija predstavlja originalno istraživanje uticaja demografskih promena na ekonomski rast u Republici Srbiji. Kroz prizmu demografskih trendova, analizirajući rezultate popisa 2002, 2011. i 2022. godine, kao i projektovane trendove do 2052. godine, ova studija pruža dublji uvid u ekonomsku tranziciju države.

SRBIJA IZMEĐU SELA I GRADA – NASELJA I NJIHOVA STRUKTURNA OBELEŽJA

– MARIJA DROBNJAKOVIĆ, VLASTA KOKOTOVIĆ KANAZIR

Temeljna i sistematična studija posvećena detaljnom pregledu osnovnih obeležja naselja u Republici Srbiji, razvrstanih prema stepenu urbanizacije u skladu sa međunarodnom metodologijom – DE-GURBA. Koristeći podatke Popisa 2022. godine, autorke studije pružaju sveobuhvatan uvid u dinamiku i strukturu naseljavanja u Republici Srbiji i analizu razvijenosti mreže naselja, njihovu genezu i morfologiju, uz dublji uvid u demografski i socioekonomski profil naselja i obrasce stanovanja.

STANOVNIŠTVO U MALIM NASELJIMA – DRAGICA GATARIĆ

Prema rezultatima Popisa 2022. godine, gotovo četvrtina naselja u Republici Srbiji pripada kategoriji populaciono malih naselja, odnosno onih koja broje manje od 100 stanovnika. Težište ove studije je na detaljnoj analizi demografskih, obrazovnih, migracionih i drugih karakteristika stanovnika malih naselja, kao i na teritorijalnoj rasprostranjenosti ovih naselja, s posebnim akcentom na pogranična naselja.

Pored tematskih studija, značajan doprinos analizi i interpretaciji popisnih podataka dale su i četiri specijalne publikacije Republičkog zavoda za statistiku: „**Detaljne tablice mortaliteta za Republiku Srbiju, 2021–2023.**“ donose iscrpne podatke o stopama smrtnosti i očekivanom životnom veku; „**Projekcije stanovništva Republike Srbije 2022–2052.**“ prvi put su izrađene u čak 32 scenarija, pružajući sveobuhvatan uvid u

moгуće promene populacione veličine i ukazujući na ključne izazove u narednom periodu. Publikacija **„Najčešća imena i prezimena u Republici Srbiji“** donosi pregled imena i prezimena koja dominiraju u različitim delovima zemlje, kao i prikaz najčešćih imena po generacijama, počev od rođenih pre 1940. godine do 2022. godine. **„Popis za početnike“** je slikoviti vodič namenjen starijim osnovcima i njihovim nastavnicima, kao i široj javnosti, sa ciljem da na jednostavan i razumljiv način pruži čitaocima osnovne informacije o značaju popisa, kao i da ih upozna sa popisnim rezultatima.

Uz ove publikacije, Republički zavod za statistiku nastavlja da unapređuje pristup podacima kroz digitalne alate. Na Konferenciji je predstavljen i Popisni **Geoportal** koji omogućava korisnicima interaktivni uvid u prostornu dimenziju različitih pokazatelja. Takođe, predstavljene su još dve aplikacije koje će uskoro biti dostupne korisnicima i dodatno olakšati pristup podacima i njihovu analizu.

Konferencija, Sinergija statistike i nauke – nova dimenzija popisnih podataka, pokazala je da su pouzdani statistički podaci ključni za razumevanje savremenih demografskih i društvenih kretanja. Kroz razmenu znanja i iskustva, učesnici su osvetlili nove perspektive za interpretaciju i primenu popisnih podataka, što može doprineti unapređenju javnih politika i naučnih istraživanja. Ova konferencija još jednom je potvrdila značaj saradnje između statističkih institucija, akademske zajednice i donosilaca odluka u oblikovanju strategija zasnovanih na popisnim podacima.

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Sažetak daje kratak i jasan rezime članka (od 150 do 200 reči), odražavajući osnovnu strukturu rada (predmet i cilj, metodi, rezultati i zaključak), uz upotrebu termina koji se često koriste za indeksiranje i pretragu u referentnim periodičnim publikacijama i bazama podataka. U sažetku ne treba navoditi reference. Sažetak treba da bude napisan na istom jeziku na kojem je napisan tekst članka.

Ključne reči (pojmovi, geografske lokacije, rezultati) navode se u posebnom redu ispod sažetka i moraju biti relevantne za temu i sadržaj rada. Dobar izbor ključnih reči preduslov je za ispravno indeksiranje rada u referentnim periodičnim publikacijama i bazama podataka. Navesti **pet ključnih reči** odnosno deskriptora na jeziku rada.

Tekst članka bi trebalo da ima sledeću strukturu odeljaka: *uvod, metodi, rezultati, diskusija i zaključak* (ne nužno pod ovim nazivima). U zavisnosti od sadržaja i kate-

gorije članka, moguće je izostaviti neke od odeljaka. Na primer, kod preglednog članka, moguće je izostaviti odeljke o metodima i rezultatima, dok naučna kritika ili polemika može uključiti samo odeljke o motivima rada, konkretnim istraživačkim problemima i diskusiju.

- **Uvod** opisuje istraživački problem, sumira relevantna prethodna istraživanja u logičkom i kritičkom maniru, vodi čitaoca ka glavnom istraživačkom pitanju članka; jasno formuliše predmet i cilj istraživanja, kao i postojeće nalaze i teorije koje prikazano istraživanje testira ili pokušava da nadogradi.
- Odeljak o **metodu (metodima)** treba da pokaže kojim postupcima se postiže cilj naveden u članku; jasno opisuje empirijski plan istraživanja, uzorački postupak, korišćene podatke, mere, instrumente i postupke (novi metodi bi trebalo da budu opisani detaljnije); može početi hipotezom; može biti podeljen u odgovarajuće pododeljke.
- **Rezultati:** Obrada podataka i statistička analiza treba da budu jasno izložene (naročito u slučaju novih ili retko korišćenih postupaka); odeljak, takođe, može biti podeljen u prikadne pod-odeljke. Rezultate treba prikazati u logičkom nizu; pored numeričkog prikaza statističke analize, autori treba da uključe i narativno objašnjenje nalaza, dok interpretaciju treba ostaviti za diskusiju.
- **Diskusija** sadrži interpretaciju dobijenih rezultata, koja treba da bude u kontekstu modela, teorija i nalaza prikazanih u uvodu; ovaj odeljak, opcionalno, može biti podeljen u pod-odeljke sa konciznim podnaslovima. Treba jasno specificovati koja su od ranijih istraživanja podržana, osporena ili unapređena nalazima prikazanim u radu, a zatim, ako je moguće, ponuditi nove modele ili okvire za ostvarene nalaze; dati samo logičke tvrdnje na osnovu prikazanih nalaza. Treba izbegavati pretrpavanje ovog odeljka preteranim citiranjem i dugačkim reinterpretacijama literature, već se fokusirati na svoje nalaze. Treba izbegavati zaključke za koje nije obezbeđeno dovoljno istraživačkih podataka. Izuzetno, odeljci o rezultatima i diskusiji mogu se kombinovati u jednom zajedničkom pod nazivom *Rezultati i diskusija*.
- **Zaključak** mora biti u zasebnom odeljku, koji bi trebalo da iskaže kako je prikazano istraživanje unapredilo postojeće naučno znanje; trebalo bi da pruži opšti, kratak i prikladan rezime, najviše do dve strane, predstavljenih nalaza. Zaključak ne sme da bude puko ponavljanje delova sažetka. Diskusija zajedno sa zaključkom može obuhvatiti i do 30% članka, ali u svakom slučaju ova dva odeljka zajedno ne bi trebalo da budu kraća od uvoda.

Reference se navode isključivo na latiničnom pismu kako bi se indeksnim bazama omogućilo brzo i tačno indeksiranje, a globalnom auditorijumu lako razumevanje. Spisak referenci treba da sadrži samo publikacije koje su citirane u tekstu. Navedene publikacije treba da budu poređane po abecednom redu, bez numeracije, i da uključuju imena (prezime i početno slovo imena) svih autora. Ukoliko citirana referenca ima osam ili više autora, u spisku se navode imena prvih šest autora, zatim (...) i ime poslednjeg autora. Poželjno je da većina referenci bude novijeg datuma, demonstrirajući aktuelni naučni značaj prikazanog istraživanja. U slučaju navođenja više radova istog autora, najpre se navodi najranije objavljeno delo. Autori bi trebalo

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Alho, J. M., & Spencer, B. D. (2005). *Statistical Demography and Forecasting*. New York: Springer. <https://doi.org/10.1007/0-387-28392-7>

Monografije, knjige sa više izdanja:

Todaro, M. P., & Smith, C. S. (2012). *Economic Development* (11th ed.). Boston: Mass Addison-Wesley.

Delovi štampanih monografija ili zbornika radova:

De Abreu, B. S. (2001). The role of media literacy education within social networking and the library. In D. E. Agosto & J. Abbas (Eds.), *Teens, libraries, and social networking* (pp. 39–48). Santa Barbara, CA: ABC-CLIO.

Delovi monografija ili zbornika radova pronađeni na internetu:

Nikitović, V. (2018). The End of Demographic Transition in Kosovo: Does the Meaning of the Population Factor Change? In D. Proroković (Ed.), *Kosovo: Sui Generis or Precedent in International Relations* (pp. 299–320). https://www.diplomacy.bg.ac.rs/wp-content/uploads/2018/11/2018_Kosovo_Dusan_Prorokovic.pdf

Članci iz časopisa:

Lutz, W., Sanderson, W., & Scherbov, S. (2001). The end of world population growth. *Nature*, 412(6846), 543–545. <https://doi.org/10.1038/35087589>

Radovi sa konferencija ili poster prezentacije:

Rašević, M. (2006). *Abortion problem in Serbia*. Paper presented to EPC 2006 “Population Challenges in Ageing Societies”, Liverpool, UK. <http://epc2006.princeton.edu/papers/60355>

Istraživački izveštaji, radni dokumenti:

Dudel, C., & Schmied, J. (2019). Pension adequacy standards: an empirical estimation strategy and results for the United States and Germany. Rostock: Max Planck Institute for Demographic Research (MPIDR Working Paper WP-2019-003). <https://www.demogr.mpg.de/papers/working/wp-2019-003.pdf>

Doktorske disertacije pronađene u bazama:

Galjak, M. (2022). *Prevremeni mortalitet u Srbiji*. Univerzitet u Beogradu. <https://nardus.mpn.gov.rs/handle/123456789/21191>. Accessed 20 February 2023.

Sadržaj internet stranica:

Statistical Office of the Republic of Serbia (2018). *Vital Events – Data from 2011*. Statistical Database. <http://data.stat.gov.rs/Home/Result/18030102?languageCode=en-US>

Zakonodavstvo (zakoni, uredbe, sporazumi, statuti itd.):

Zakon o sprečavanju diskriminacije osoba sa invaliditetom 2006 (2016, February 19). <http://www.pravno-informacioni-sistem.rs/SlGlas-nikPortal/eli/rep/sgrs/skupstina/zakon/2006/33/1/reg>

Novinski članci iz štampanih izdanja:

Frost, L. (2006, Septembar 14). First passengers ride monster jet. *The Salt Lake Tribune*, str. A2.

Novinski članci pronađeni na internetu:

Cohen, P. N. (2013, November 23). How can we jump-start the struggle for gender equality? *New York Times*, SR9. https://opinionator.blogs.nytimes.com/2013/11/23/how-can-we-jump-start-the-struggle-for-gender-equality/?_r=0

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Tabele ne treba da prelaze dimenzije jedne stranice i ne treba da budu preopterećene pomoćnim linijama; slova i brojevi unutar tabela treba da budu veličine 9pt. Tabele treba da imaju jasne, samoobjašnjavajuće naslove. Treba da budu obeležene arapskim brojevima po redosledu kojim se pojavljuju u tekstu. Uredništvo treba da ima potpunu kontrolu nad tabelama, odnosno da može klikom unutar tabele da uređuje fontove reči napisanih u tabelama kako bi se zadovoljio stil časopisa i ispravile pravopisne greške. **Sve tabele moraju biti uključene u sam tekst rukopisa.**

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Podatke i/ili proračune korišćene za kreiranje grafikona i tabela, takođe, treba dostaviti kao posebne datoteke (bez obzira što nisu sastavni deo rukopisa). Npr. ukoliko su grafikoni napravljeni u MS Excel-u, pobrinuti se da dozvoljavaju pristup izvornim podacima na osnovu kojih su kreirani.

Naslovi tabela stoje iznad, a *grafičkih priloga* ispod njih (veličina slova je 10pt, levo ravnanje). Legende tabela i *grafičkih priloga* se nalaze ispod njih, i treba da sadrže izvore podataka, a eventualne napomene u novom redu ispod izvora (veličina slova 8pt, levo ravnanje). Upućivanje na tabele i *grafičke priloge* u samom tekstu mora biti u skladu sa numeracijom (npr. u tabeli 1), a ne sa pozicijom priloga u tekstu (npr. u gore navedenoj tabeli). Konačna pozicija tabela i *grafičkih priloga* u tekstu može biti drugačija od izvorne zbog postizanja što boljeg preloma članka. Uredništvo neće objaviti sve priloge ako proceni da ih ima previše, kao ni one lošeg kvaliteta.

Molimo vas nemojte:

- dostavljati *grafičke priloge* optimizovane za korišćenje na ekranu (npr. gif, bmp, pict, wpg); oni obično imaju nisku rezoluciju i mali raspon boja;
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Opširniji rezime (350–400 reči) – na engleskom (za radove koji nisu na engleskom) ili na srpskom jeziku (za radove na engleskom) treba da bude napisan u skladu sa strukturom rada, rukovodeći se uputstvom za pisanje sažetka. Takođe, treba navesti naslov i ključne reči na jeziku rezimea. U radovima na srpskom, naslov, rezime i ključne reči na engleskom treba da se nalaze na početku članka, pre naslova i sažetka na srpskom (videti Word [predložak](#)). U radovima na engleskom, naslov, rezime i ključne reči na srpskom treba da se nalaze nakon spiska referenci (videti Word [template](#)).

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Rašević, M. (2006). *Abortion problem in Serbia*. Paper presented at EPC 2006 "Population Challenge sin Ageing Societies", Liverpool, UK. <http://epc2006.princeton.edu/papers/60355>

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