Romanian Journal of Population Studies

Vol. XIII, No. 2
July - December 2019

Published twice yearly by

ISSN: 1843 - 5998

Printed in Romania by Presa Universitară Clujeană

https://doi.org/10.24193/RJPS.2019.2

Printed by:
Babeş-Bolyai University
Presa Universitară Clujeană
Str. Haşdeu nr. 51
400371 Cluj-Napoca, ROMÂNIA
Tel/Fax: (+40)-264-597.401
editura@editura.ubbcluj.ro
http://www.editura.ubbcluj.ro

Contents

The Future Belongs to the Youth: Social Sciences and the Politics of Knowledge Transfers in the 1970s Romania

Mara Mărginean

George Barițiu Institute of History, Romanian Academy, Cluj-Napoca Branch, Mihail Kogălniceanu Street, 12-14, Cluj-Napoca, 400084, Romania, maramarginean@yahoo.com

Abstract. This article analyses the emergence and consolidation of an area of expertise on youth in the late 1960s Romania in order to unveil how a semi-peripheric state understood to employ social sciences to develop. It looks at how scientific knowledge about youth fostered the coagulation of new local epistemic communities and institutional arrangements. It also examines the relevance of this expertise for domestic programs of modernization and how such programs increased the country's international visibility. Based on a corpus of social sciences texts authored by Western and Eastern European specialists and translated into Romanian since the mid-1960s and on a vast collection of archival sources, my contribution considers three interconnected questions: What were the sources of expertise accepted in Romania? To what extent did knowledge have ideological stakes? How did these transfers adjust the specialists' visibility in the decision-making processes of the socialist state?

Keywords: youth, knowledge transfers, social science, labour, industrialization

1965 was declared by the United Nations as "The International Year of Youth". The "Declaration on the Promotion among Youth of the Ideals of Peace, Mutual Respect and Understanding between Peoples," proclaimed by the General Assembly on 7 December 1965, summed up six main principles for a new global policy on youth. It included free access to education, equality of chances, decent working and living conditions, international cooperation and the promise of long-term peace. Amply documented in the UN publications, due to the impressive mobilization and public emotion that arose around it, this moment affected the dynamic of international relations further than any other before it.

https://doi.org/10.24193/RJPS.2019.2.01

For the first time since the end of the Second World War, concerns about how generational shifts would impact mankind's prosperity brought face to face politicians, diplomats, and youth experts. Despite sharing different political backgrounds and ideological views, many of them agreed that the states' wellbeing in the future largely depended on how the interests of young people would be addressed in the present (Gildea et al. 2013). Twenty years later, in 1985, the UN proclaimed another "International Youth Year". Organized by the Vienna office of the Center for Social Development and Humanitarian Affairs, under the slogan "Participation, Development and Peace", this second event was presided by Nicu Ceausescu, the son of the Romanian leader Nicolae Ceausescu. Just like in 1965, most of the international meetings organized with that occasion addressed youth's welfare and aimed to find ways by which the nation-state could improve them. Yet, the 1985 resolution, adopted at the Barcelona summit in June, made a case for increased visibility of academics and social sciences experts in decision-making processes regarding youth: research on young people's everyday experiences and practices was crucial for a better comprehension of future social and economic dynamics worldwide. It further stressed the urgency of using international institutional infrastructure to draw policies suitable for less developed countries. In this respect, the UN's effort to promote change by mediating the dialogue between state and non-state actors led to various encounters between global hierarchies of social thinking about youth and new regional, national and local institutional contexts (Bracke et al. 2018) and problematized the role of social sciences in the process. This opened an ample negotiation space where countries like Romania not only gained access to the latest developments in research on youth but also enjoyed a unique opportunity to convey such knowledge into bridges for strategic economic cooperation outside the Socialist Bloc.

This article aims to tell such a story. It analyzes the emergence and consolidation of an area of expertise on youth in the late 1960s Romania in order to unveil how a semi-peripheric state understood to employ social sciences to develop. It looks at how scientific knowledge about youth fostered the coagulation of new local epistemic communities and institutional arrangements (Murphy 2006: 57). It also examines the relevance of this expertise for domestic programs of modernization and how such programs increased the country's international visibility. Based on a corpus of social sciences texts authored by Western and Eastern European specialists and translated into Romanian since the mid-1960s and on a vast collection of archival sources, my contribution considers three interconnected questions:

What were the sources of expertise accepted in Romania? To what extent did knowledge have ideological stakes? How did these transfers adjust the specialists' visibility in the decision-making processes of the socialist state?

Scholars have rightly pointed out that the 1970s can best be analyzed from the angle of "equivalence" (Nida 2004: 126). Both in the socialist East and the capitalist West, the technological development and the subsequent crisis of Fordist models of production by the late 1960s had caused "a transition in the regime of accumulation and its mode of social and political regulation" (Harvey 1992: 121). For the first time since WWII, improved living standards led to increased social and political visibility of youth on both sides of the Iron Curtain. The rise of new consumer cultures, and their subsequent politicization, seeded among young people "a sense of being part of a revolt that went beyond their own groups" (Cox et al. 2019: 1). More concretely, in the words of Schildt and Siegfried (2006: 1), such shifts turned youth' aspirations into an ideal for the entire society. The issue was two-folded. On one hand, it questioned how every day changed worldwide as a result of generational shifts, as well as the similarities and differences between East and West. On the other hand, it problematized the means by which the decision-making factors assembled mechanisms to aggregate a body of knowledge that could have proved itself useful to better forecast society's evolution in the future and plan accordingly.

The rising visibility of social scientists in the decision-making processes in the United States, UK, France, or Romania, which occurred in the Cold War context (Solovey and Cravens 2012), meant that cooperation between state and non-state actors would be conducted on other channels than political diplomacy, as well (Mitchell 2002). Already by the late 1960s, the decision-making factors became increasingly aware that the social was no longer a domestic concern of either capitalist or socialist states, but rather the object of regulation of supranational organizations. Behind closed doors, experts and politicians joined their efforts to better comprehend social shifts and frame strategies of growth that would address the impending needs of the industrializing societies worldwide. As meetings were succeeding, the social scientists' voices grew stronger (Hincu and Karady 2018; Doboş 2018). Their knowledge about labor, migration, gender and consumer cultures proved particularly useful when the national authorities considered paths of territorialization of production and management of the labor force. In many respects, the experts' visibility in decisional processes was quite un-extraordinary; for more than a hundred years, authorities in modern states had relied on knowledge produced by the social scientists to collect data about the

population (Lampland and Star 2009). What was significant about the specialists' involvement in policymaking since the late 1960s was a growing interest for a type of expertise that could "produce congruence between the needs of production and the motives of the [young] worker" (Miller and Rose 2008). More concretely, when faced with the issue of development, the decision-making factors acknowledged the social shifts that burst in the context of the 1968 youth movements and turned towards social scientists for solutions to convey the subjective experiences into more general strategies of growth. Or, as one scholar has recently put it, social scientists shortly became "a kind of *intellectual machinery* for the government, in the form of procedures for rendering the world thinkable, taming its intractable reality by subjecting it to the disciplined analyses of thought" (Miller and Rose 2008: 62). My contribution, therefore, builds on recent scholarship and makes a case for looking at translations for social(ist) scientists on laboring youth as very much framed not only by a glorification narrative about how ideological and trans-national border crossing adjusted local relations, but also by the subsequent hybridization of knowledge through the encounter of the global with the local (Conrad 2017).

Institutional reframing – some contextual clarifications

On 21 August 1968 Nicolae Ceausescu, president of the Socialist Republic of Romania, publicly condemned the Soviet invasion of Czechoslovakia. Regarded by the scholars of Eastern Europe as Ceausescu's golden moment, the speech delivered in Bucharest to an enthusiastic crowd announced a shift in Romania's ways of handling its international collaborations. Moreover, after years of ideological and economic subordination to the Soviet Union, the Romanian leadership was more than ever before determined to affirm the country's independence and sovereignty (Pula 2018). To this end, Ceausescu argued that a distinctive path to achieve socialism would greatly contribute to domestic development and consolidation of the state's visibility on the international arena. Economic growth through industrialization and urbanization would ground such ambitions (Murgescu 2010). However, these goals involved not only framing economic projects according to the interests and priorities of the national decision-making factors but also a complicated process of reconsidering the social order. By the late 1960s, Romania was facing impending social problems that emerged from the rising political visibility of the young people. From both universities and factories, one could hear many voices of revolt about everyday shortcomings, the working and living conditions and the lack of social or cultural facilities. Reluctant to the

regime's social and economic agenda, the young workforce proved increasingly difficult to place in the industrial communities; as some specialists pointed out, in 1968 alone, the state spent over 700 million lei on training young people in trades they later decided to abandon (ANIC, fond ASSP-Sociologie, 13/1971: 6). The youth demanded to be involved in the decision-making processes and made it clear that long-term development projects were doomed to fail unless authorities considered their specific expectations.

While social tensions were mounting, authorities had few solutions to address them. The newly established Academy of Social and Political Sciences (ASSP), a research facility that gathered sociologists, historians and economists under one roof, shortly initiating several projects that could have provided the decision-making factors with information about young workers' everyday practices on the shop floor and beyond the factory gates, and then help them to frame adequate managerial models for improved industrial labor productivity. A first step in this direction consisted in re-evaluating the scientific production of the psycho-technic centers that functioned in Bucharest, Cluj, and Iaşi during the 1930s. Disbanded by the communist regime after 1948 along with other social sciences facilities, these establishments produced some valuable contributions to the research of industrial labor force's skills and psychology. The fact that the interwar science regained its credibility by the late 1960s and was likely to produce results under a very different political context, is telling for the fluidity of knowledge's ideology in the modern world. Moreover, as one political boss stated, it was expected that later, within a fairly short time, the interwar model would be used to set up new skills research centers in the proximity of industrial ventures (ANIC, fond ASSP-Sociologie, 13/1971: 8). In this process, the Ministry of Labor (through the Methodological Center for Guidance and Professional Selection) would have coordinated the activity of several institutions including the Ministries of Education, Health or Economy, the Academy of Social and Political Sciences, The State Planning Committee, the State Committee for Economy and Local Administration (ANIC, fond ASSP-Sociologe, 13/1971: 24-28).

Nevertheless, it soon became apparent that such actions were insufficient. Although informative from a statistical stand view, these models could barely quantify the multitude of individual practices of the young population (ANIC, ASSP-Sociologie, 5/1972: 144). Both social scientists and decision-making factors shared the opinion that the long-term successful completion of the state development project within the socialist boundaries was conditioned not only by the evolutions of the global system but also by a better understanding of how the young people of the late 1960s would grow into the adults of the 1990s. At the intersection of these two plans, social sciences became a means of legitimation for the political regime (ANIC, ASSP-Sociologie, 21/1971: 29).

The establishment of the Center for the Study of Youth Problems in 1968 and the opening of several sociology laboratories in Bucharest and Cluj had already sent a strong signal regarding the experts' involvement in national public policymaking. By gaining a better sense of the social shifts emerged within the Romanian society, and how these could have impacted macro-economic processes, the experts also fleshed out a problematic image of the national professional practice. For example, Marxist sociologist Henry Stahl, who was appointed head of ASSP in 1968, drew attention to the major discrepancies between the level of professional training of Eastern and Western specialists. Decades of isolation behind the Iron Curtain would have deprived practitioners of the Socialist bloc of access to the latest social research methodologies. The increased permeability of the Iron Curtain as a result of the second wave of globalization has revealed how, unlike Romanians who used to write "one page of text, "in the US, "there are schemas, there are graphs, statistics [...] quite different" (Rostas 2000: 172). Of course, such statements were somewhat exaggerated since quantitative methods have been central to the planned economy since the late 1940s. But what Stahl meant was that in the Western academic milieu, the aggregation and interpretation of research data on social shifts involved sophisticated interdisciplinary techniques that were unavailable to Romanian social scientists. Aware of these limitations, Stahl made a case for rejoining the international scientific communities, which could be done either through various forms of "industrial espionage", or through official professional cooperation, translations, and joint projects. In fact, on different official channels, other voices have advocated for the takeover of the model patented in the United States and subsequently applied in various economic and cultural contexts, even if this meant recognizing the country's dependence on the know-how of advanced capitalist countries.

The International Congress of Sociology, which took place in Varna in 1970, provides a telling example of the efforts undertaken by the Romanian scientists to set up an international professional network in the field of youth research. Gathering several hundred delegates from around the globe, the meeting's main goal was to discuss methodologies of social forecasting and the study of social processes (ANIC, ASSP-Sociologie, 6/1972: 49-53). Such issues were central in the Marxist thinking of the moment. Despite a shared concern for the future, it was soon obvious that Western and Eastern scientists were facing difficulties to set up a common discussion ground among each other. Heavily influenced by the Marxist-Leninist principles, representatives of several socialist states, including the Soviets delegates, publicly denounced the Western models of social analysis and argued that such paths, if adopted by the socialist experts, would alter the truthfulness of the East-Europeans' scientific findings. However, the representatives of the Romanian state chose to make a separate opinion from their Eastern European colleagues, distancing themselves from the Soviets' request to avoid any individual contact with the American delegates. In fact, both the plenary sessions and the bilateral meetings between Romanian delegates and the Western experts offered good opportunities for fruitful professional discussions. They sought to establish contacts with the Western researchers, to obtain documentary materials relevant to the development priorities of the Romanian state, and to outline a realistic knowledge transfer plan to the scientific community in the country.

Returning home, specialists aimed to fructify politically this moment to the best of their ability, which problematizes the practice of sociologists in terms of agency and professional autonomy (Mikkonen and Koivunen 2015: 9). In the early 1970s, some social scientists were appointed in key positions within the state's decision-making process. Henry Stahl, Ion Matei, and Ovidiu Badina were often present at the meetings of the Central Committee when social issues were discussed. Furthermore, reports and synthesis issued by the Center for the Study of Youth Problems landed on the Central Committee of the Romanian Communist Party's table every time the national leaders debated the long-term social implications of the industrialization project. Despite their political involvement, though, many of them had previously gained international expertise in forecasting methodologies, social analysis and youth studies and enjoyed a positive reputation among the national social science community.

In 1970, in the context of the Varna congress, the Central Committee's bureau debated various means by which the regime could improve youth's integration into the new industrial communities. Bringing together representatives of both central and local political leadership and sociologists, the meeting also discussed strategies of business management and the formation of new management teams in the production units. On the occasion, Henry Stahl invoked the recent social changes and their possible implications for the industrial production as central arguments for "achieving a new system of thinking" in the Romanian social sciences. Built upon the most recent Western theoretical innovations, this new approach could have provided the Romanian practitioners with an appropriate conceptual framework for the local investigation of youth motivation, expectations, and performance. From Stahl's point of view, analyzing the social implications of industrialization from the stand view of individual experience would have been difficult in the absence of a knowledge transfer in the fields of industrial sociology and behavioral sciences. This type of know-how would have been useful for a better understanding of emerging social inequalities based on class, gender and generational analysis (Badina 1973: 19-22).

Less than a year later, in 1971, the Central Committee of the Romanian Communist Party's political bureau met to discuss the social sciences' research agenda for the following fifteen years. Concerned about the international division of labor, about the country's integration into the world economy, or about labor productivity, the leadership warned that the Romanian academics had little means to convert the multitude of social changes into valid forms of knowledge unless ample programs of professionalization began. The meeting's goals were twofold: on the one hand, it aimed to bring some clarifications regarding the institutional organization of the research field: on the other, it proposed a detailed long-term scientific calendar with precise intermediary goals and deliveries (ANIC, CC al PCR-Cancelarie, 44/1971 and 45/1971). The exceptionality of this discussion resides in how a series of ideas exogenous to a national intellectual environment have been internalized at the decision-making level and transformed into central normative knowledge for the consolidation of centralized management. Moreover, it excellently illustrates the translation of a political vocabulary in scientific techniques as a manifestation of the interplay between an agenda of the socialist state of strengthening the power in economic planning and the outlining of the intellectual project based on the increasing social and political visibility of the young working class (Konrad and Szelenyi 1978: 4).

A Research Agenda in the Making

Recent historiographical contributions made a case for looking at the 1968 events not just from the angle of generational gaps but also from the ways in which the existing social status quo was adjusted by emerging urban consumer (sub)cultures. The spread of new ideas and models of growth, many of them informed by the changing lifestyles of the workforce, raised questions about how individual practices could impact macro-economic processes and how such trends would develop in the future. Or, in the words of David Harvey, "the profound change in the structure of feelings," which occurred by the late 1960s in the context of enlarged politicization of individual choices, deepened social fragmentation and increased population flexibility in terms of buying, professional options, and socializing options. This turned subjectivity into a variable with a potential long-term impact upon development projects. Such shifts, nevertheless, while easily discernible today, were hard to comprehend when they first emerged. Moreover, in the late 1960s, a great majority of the sociologists believed that the working class was predominantly conservative and less inclined towards promoting change (Gildea et al. 2013). Such assessments were translated into a type of scientific knowledge that advocated for top-down development programs, which was easily deemed as irrelevant when the youth revolts outburst. It took quite a long time until social scientists adjusted their research methodologies to fully address the complex social shifts, a process that was informed by the critical assessments of the youth themselves. The argument that I advance here is that turning youth into an autonomous category of research in Romania, though knowledge transfers and translations, illustrated this international professional uncertainty. It also reflected various facets of the process of local reconsideration of trans-national shifts in the field of social research and policymaking and what this tells us about the socialist nature of the regime.

Since the late 1960s, social science magazines in Romania have regularly published translations of foreign scientific productions on the working and living conditions of young people. After a rather timid debut, the first signals of change in the attitude of the Romanian state towards the international sociological knowledge surfaced in the context of the 1968 global youth movements. At the time, professional journals started to publish massively foreign scientific literature. For example, the Center for Documentation in the Social Sciences, a structure affiliated with the Academy of Social and Political Sciences, has regularly published *Colectia de referate, sinteze si rapoarte* [Collection of reports, summaries, and reviews]. Containing translations of social science output, interviews with Western researchers, and book reviews, this magazine

provided youth specialists with a diverse and informative body of knowledge on industrial sociology, demography, cybernetics, statistics, work, feminism, human rights, population policies, and consumption. In addition, information on international scientific meetings, congresses or research internships could be found in the journal. Translations have also been published in the periodicals of the Center for the Study of Youth Problems and of the Centers for Sociological Research from Bucharest and Cluj. By the late 1960s, the Romanian publishing houses began translating sociology and political sciences books. In this context, specialists were given the opportunity to familiarize themselves with the works of Henry Lefebvre, Miller, Daniel Bell, or David Harvey among others.

The translations were done either by remobilizing the interwar professional networks or by creating new ones. On the one hand, the older contacts with the French and German academics were resumed. Romanian specialists preferred this path because many of them had been trained during the interwar period in Western universities, and cultural affinities, especially with French sociology, made such connections natural. The German School of Sociology' s long tradition in youth research also proved useful to Romanian specialists. On the other hand, since the mid-1960s, academic exchanges with the Anglo-Saxon research establishments increased; sociologists, economists, and demographers traveled abroad and participated in various professional meetings on economic and social issues. Financially supported by the Ministry of Foreign Affairs and by the Central Committee of the Romanian Communist Party, these exchanges played an important role in the translation of texts into Romanian (Marginean 2018).

Of course, in the socialist state, not all science was translated, and not all science was considered good. The criteria according to which these texts were selected, the decision to publish, the channels for the dissemination of intellectual productions among the local scientists summed up multiple motivations and political stakes. Moreover, the fact that the translations were published through the ASSP or the Center for the Study of Youth Problems, both institutions being subordinated to the Romanian Communist Party, is telling about the political restrictions imposed on the professional body. More concretely, most of the time, a successful career depended on the specialist's ability to maintain cordial relations with the political structures of the state, as professionalization internships, trips abroad or career promotions were always conditioned by political clearance. However, the amount of foreign literature introduced in Romania during the 1970s is significant, both in comparison with the first two decades after World War II and with the realities of the 1980s. For

example, in 1983, in the context of the revival of the national communism initiated by the Ceausescu regime, a representative of the party intelligentsia remarked acidly that until that moment four of the books authored by the French anthropologist Claude Levy-Strauss had been translated and none of the Romanian authors from abroad (Verdery 1991: 2).

From the perspective of the 1970s, however, the trans-national (and trans-ideological) transfer of scientific output regarding youth and industrial work was not a mere cultural act. On the contrary, as I have already mentioned in the previous section, the Romanian state's intellectual project of political operationalization of a set of exogenous ideas outlines the levers of a pragmatic agenda by which authorities aimed to accumulate know-how for the newly formulated development project. Moreover, while the breadth of knowledge was quite ample, ranging from theoretical models to telling empirical case-studies, I argue that this selection had the means to inform a critique of a socialist society in relation to various global hegemonies in social thinking only to a limited extent.

Initially, the intertwining between the local and the global was addressed through cybernetics. The system analysis would have been fruitful for shaping transnational connections and for forecasting possible medium- and long-term social and economic evolutions. Numerous debates, meetings, and exchanges of knowledge, which brought together a growing number of socialist and capitalist specialists, have shown an interest in researching generational shifts through computer applications and mathematical modeling. These channels of production and circulation of prospective knowledge permitted Romanian researchers to become acquainted with a wide range of sophisticated methodologies of statistical interpretation and economic planning. For example, national magazines have regularly published translations of the scientific articles of Western researchers. The main topics under scrutiny were industrialization, population dynamics, technological models or urban growth. The accumulation of know-how in this area, however, also had major strategic stakes for the socialist state. Increasingly aware of the interdependencies between the national economy and global developments, Romanian officials were looking for solutions to improve centralized economic planning methodologies, particularly in terms of labor productivity and quality of life.

Then, the range of domains covered by these transfers was extended steadily. By the early 1970s, already, a significant number of sociology and economy texts translated into Romanian brought to the fore a type of knowledge that problematized how the interconnections between industrial work, spatiality and mass culture could have underpinned much more complex public policies within the socialist state. Texts published in *Colectia*, for example, argued that the social revolt of youth was a given of the changes in the industrial society's cultural models that emerged from technological progress. To this end, knowledge should have contributed to a better understanding of the day-to-day implications of what Harvey called the "institutionalization of creative and rebellious impulses." Problematizing the emergence of a new working class, texts published in *Colectia*, brought to the fore the means by which the increasing diversity of lifestyles and the differences in the structure of income would have fragmented the society at the level of emotion, capital or urban space. Closely related to this, a quite large space was given to feminism and existentialism, an expression of increasing concern to understand the increasing alienation processes in industrial societies.

Compared to the discursive line of the social sciences of the previous period, the scientific interest for the changes in "work processes, consumption habits, geographic and geopolitical configurations of state power" was undoubtedly high. Until that moment, *Cercetari filosofice* [Philosophical Research] or *Lupta de clasa* [Class Struggle], two of the academic publications used by the communist authorities to articulate an official line in social sciences research, allocated ample space to industrial work as a tool for class construction. Even though from the mid-1950s onwards, texts by some Romanian authors traced veiled attempts of distancing from the Soviet models, ideological fragments continued to be found in the texts published even in the 1960s. To some extent, the change in the content of knowledge reflected a critical engagement with post-World War II imperialism, modernization and colonialism, which was mostly conducted from a Marxist stand view. But it has become increasingly clear that the global interest in youth research was a consequence of the penetration of different social layers and institutional structures by the 1968 student movements around the world. From this perspective, Romania was no exception from the rest of the countries. By the late 1960s, the socialist authorities saw in youth a category that had accumulated power and visibility in the public space, which opened numerous questions about the means by which sociology of youth could have informed the socialist project of industrialization.

Thus, the most consistent body of knowledge that was translated was taken from the area of industrial sociology. These texts were intended to provide scientific solutions to the errors in the industrial production management by systematically analyzing how subjectivity could have shaped national development policies and strategies. Written mainly by Anglo-Saxon researchers, these contributions argued for finding ways that would have helped scientists match the expectations of the workers and the needs of production. Or, in the words of one American scholar, as opposed to Taylorism, which framed hierarchical decision-making mechanisms around the rewards and payment systems, the post-Fordist factory became the micro-space of the industrial communities, a perimeter in which labor relations were socially built, and where all the social changes came from.

Through such channels of production and circulation of knowledge about industrial work, various ways of improving organizational management at the factory level were identified. Romanian experts rediscovered Henry Fayol's organizational management model. As a result, the five-step model - planning, organizing, staffing, managing, controlling - which would be at the center of the new approach to work, implied a shift from labor regulations to administrative leadership strategies. By transferring the managerial responsibility from the top of the state to the factory bosses, such a strategy would have increased the flexibility of decision-making processes. In this way, knowledge of social sciences facilitated the engagement of more complex centralized economic planning mechanisms sensitive to local, regional and transnational influences.

By taking ideas from other ideological contexts and transferring them to Romania, experts unveiled some structural similarities, which later laid the foundations for a more nuanced reading of the socialist reality. In this sense, an entire corpus of knowledge would have been reconsidered beyond criteria of ideological correctness, placing the rigid frameworks of Marxism-Leninism in the background. Known in Central and Eastern European historiography of social sciences as "open Marxism," appropriating various types of Western knowledge opened an ample analytical space where social issues could be discussed from the perspective of the crisis of industrial society. Or, in the words of a Polish sociologist translated into Romanian: “certain categories of the Anglo-Saxon sociology of labor and industry if properly modified, can be applied with better effects to Polish society than in their home country” (Markiewicz 1972: 223).

Breaches beyond the Iron Curtain

The research carried out by the Center for the Study of Youth Problems and published in the *Youth and the World of Tomorrow* series, a collection of extensive studies on the integration of the young workforce in the industrial communities, excellently illustrates the conversion of ideas into models of youth analysis. Yet, as the events of the mid 1970s show, the Romanian realities cannot be separated from changes which occurred in other parts of the globe. Moreover, the transformation of youth into an autonomous category of study led to changes in the structure of local epistemic communities. By the late 1960s already, the number of specialists in sociology and economy increased substantially; their expertise informed new research methodologies of the contemporary social shifts, which later backed scientifically many of the regime's economic initiatives to growth. Along that line, however, the socialist state saw in the United Nations' program of development for the third world a unique opportunity to attain strategic international visibility through export of expertise in the field of industrial growth and youth research. Likewise, for countries like Romania, located on the (semi)periphery of global markets of capital (Chirot 1989; Ban 2014), "re-signifying and appropriating" (Bracke et. al 2018: 215) the Western science opened many prospects for strengthening collaboration with non-socialist states. As I will show in this section, it was exactly this type of cooperation between the second and the third world that not only gave social science knowledge a geo-strategic meaning but it also opened the ground for Romania's rise to the forefront of UN youth initiatives.

To this end, in 1973, two UN-sponsored institutions were established in Bucharest: The Center for Training of Management Cadres in the Developing Countries and The International Center for Research on Youth (Kott 2018). At the base of the two projects was the idea that cooperation between various regions of the globe would aggregate a type of expertise on development that could have provided a better understanding of how generational shifts impacted various programs of industrialization. More concretely, the growing concern for economic growth and social integration worldwide made imperative for new institutional frameworks where issues like long-term modernization, technological advancement, or labor productivity could be problematized from the angle of how youth of the present would turn into the adults of tomorrow. The two centers had many in common. Both establishments would have received logistic and financial support from the United Nations Development Program (UNDP), and would have been jointly coordinated by the Stefan Gheorghiu Academy and the Romanian Ministry of Foreign Affairs. While the initiative belonged to the head of UN social

division, it received full support from several European states. Participants in these programs seemed to agree that the international system in which they wanted to integrate their national economies was a social construct, which had to be quantified, evaluated and understood both from the perspective of the whole and the way in which different sub-systems interacted with others - respectively from a scale perspective that allowed the corroboration of the supra-state, regional and local transformations. Accordingly, the two centers had to provide training courses for third world experts in public policies. Romania was appealing to many developing countries not only through the knowledge infrastructure available but also because it owned an IBM computer, which could have facilitated easy access to the latest technological advancements in industrial management, demographic policies, urban development and social research (ANIC, ASSP-Sociologie, 16/1971: 21).

However, the institutions served different purposes. On the one hand, the Center for Training of Management Cadres in the Developing Countries aimed to train the third world specialists in areas like industrial management, labor productivity, industrialization, urbanization, environment, etc. Although the courses' syllabus was largely set by the Romanian side, the programs built on an emerging corpus of social sciences knowledge taken from the Western academic milieu that problematized growth in terms of social and generational shifts (AMAE, Problema 217, 3388/1973 and 3390/1973). The International Center for Research on Youth, on the other hand, would have brought together social scientists from several East and Central European countries in order to conduct trans-national research projects on youth in (post)industrial societies. It would have also served as an expertise hub behind the Iron Curtain by boosting scientific cooperation with developing countries. As R. Hyden, head of UN Social Division, pointed out, the part of the research carried out by the Romanian specialists since the late 1960s justified why the international community had chosen Bucharest as host of the establishment. Furthermore, this initiative was justified by several resolutions on youth adopted by the 1973 session of the UN General Assembly as well as by the centrality of youth issues in the future European program of social development (AMAE, Problema 217, 5411/1973).

For many Romanian specialists, these actions offered real career opportunities for a professional practice beyond the inherent limitations imposed upon them by the socialist regime. Regular meetings organized both in Bucharest and in other research centers facilitated many conversations between experts. Furthermore, this cooperation led to an increased international visibility for many national experts. According to the UN's

proposal, the two centers were designed to host regularly foreign specialists. In the case of the Center for Training of Management Cadres, for instance, the program consisted of two stages. First, the Bucharest offices would have hosted short term courses on various subjects. Recruitment processes fell under the responsibility of the Romanian embassies in developing countries. Each year, the Romanian side covered both the travel and subsistence expenses for up to fifty participants from African, Latin American and Asian states. Then, upon their return to the home countries, participants were given a certain period to fructify the knowledge gained in Bucharest. Over a period of several years, the Romanian instructors were expected to travel in these countries and supervise on site the progress of their former students.

Yet, the impact of these actions was limited. This happened mostly because the lack of institutional commitment of the Romanian state, particularly in the first phase of the project. After a rather intense diplomatic effort on the Romanian part to recruit participants from those countries with which the Bucharest regime had extensive trade agreements, things got stuck when the coordinators of the programs reached the candidates' selection and classes' start. The Romanian authorities had a very clear projection on how the schooling program should function, or the number and frequency of courses to be offered. Despite the diplomatic enthusiasm, however, less than thirty-five applications were received from around the world, while some states, including Tunisia, ignored Romania's offer. This situation would lead to blockages among the representatives of the Romanian party, most probably concerned about the profitability of the project. The importance of these events, however, resided in granting international visibility and legitimacy to the Romanian approach to youth research. This proved useful later in the late 1970s and early 1980s when the Ceausescu regime initiated steady actions to secure decisional position within UN organizations.

Conclusion

This article addressed the issue of youth research in Romania by the late 1960s and early 1970s. Based on a thorough scrutiny of archival materials and published sources, I showed how the national approaches to youth and their living conditions laid at the intersection of entangled paths of transnational knowledge production, developmental drives, and ideological uncertainty. Moreover, the article aims to extract the international activism of the Romanian state in the youth field from the area of propaganda (Marin 2016), and to problematize the translations of social sciences from the 1970s as key to

the making of various global hegemonies of social thinking, which also carried geostrategic implications in the domestic policies of the nation-state.

Looking at knowledge transfers from the perspective of how Romania negotiated the meaning of senses of development both as a domestic project and as a model that could be exported later to third world countries opened an ample analytical space. Within this space, bloc concepts like labor, urbanization or territorialization of the industrial infrastructure would be conceptualized as junctures of various trans-ideological managerial cultures, models of social integration of the labor force and generational shifts. Moreover, such perspective can further help future investigations on youth's assimilation and/or marginalization into local communities, and how young men and women workers coped with their new lives. A critical reading of youth's material culture (use of Western objects, furniture) might provide some insights into how housing and industrial work contributed to youth's emancipation and their effort to achieve a social status.

Acknowledgment. This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS–UEFISCDI, project number PN-III-P1-1.1-PD-2016-1468.

References

Primary sources

Romanian National Archives (ANIC), fonds: Academia de Stiinte Sociale si Politice, Sectia Sociologie (ASSP-Sociologie); Comitetul Central al Partidului Comunist Roman, Sectia Camcelarie (CC al PCR-Cancelarie).

Archives of the Romanian Ministry of the Exterior (AMAE), fond: Problema 217-United Nations

Archives of the United Nations in Geneve (AUNG), fonds: United Nations Development Programe (UNDP).

Secondary sources

Bădina, O. (1973). "Reflecţii privind obiectul sociologiei educaţiei" [Considerations regarding sociology of education]. *Caiete de studii a Universitatii din Bucureşti* 4: 9-22.

Ban, C. (2014). *Dependență și dezvoltare: Economia politică a capitalismului românesc* [Dependency and Development: The Political Economy of Romanian Capitalism]. Cluj Napoca: Tact.

Bracke, M. A., Morris, P. and Ryder, E. (2018). "Introduction. Translating Feminism: Transfer, Transgression, Transformation (1950s–1980s)". *Gender & History* 30 (1): 214-225.

Chirot, D. (1989). *The Origins of Backwardness in Eastern Europe: Economic and Political Change from the Middle Ages until the Early Twentieth Century.* Berkeley: University of California Press.

Conrad, S. (2017). *What is Global History?* Princeton: Princeton University Press.

Cox, L., Mohandesi, S. and Risager, B. S. (2019). *Voices of 1968: Documents from the Global North*. London: Pluto Press

Dobos, C. (2018), "Global Challenges, Local Knowledges: Politics and Expertise at the World Population Conference in Bucharest, 1974". *East Central Europe* 45 (2-3): 215-244.

Gildea R., Mark, J. and Warring, A. (2013). *Europe's 1968: Voices of Revolt*. Oxford: Oxford University Press.

Harvey, D. (1992). *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. London and New York: Wiley-Blackwell.

Hincu, A. and Karady, V. (Eds). (2018). *Social Sciences in the "Other Europe" since 1945*. Budapest: CEU Press.

Konrad G. and Szelenyi I. (1978). *The Intellectuals on the Road to Class Power*. Brighton: Harvester Press.

Kott, S. (2018). "The Social Engineering Project. Exportation of Capitalist Management Culture to Eastern Europe (1950-1980)". In Michel Christian, Sandrine Kott, Ondrej Matejka (Eds). *Planning in Cold War Europe*. Berlin: De Gruyter, pp. 124-141.

Lampland, M. and Star, S. L. (2009). *Standards and Their Stories: How Quantifying, Classifying, and Formalizing Practices Shape Everyday Life*. Ithaca: Cornell University Press.

Marginean, M. (2018). "Industrial Youth Housing and Socialist Expertise in Late Socialist Romania". *Studia Universitatis Babes Bolyai Sociologia* 63 (1): 99-112.

Markiewicz, W. (1972). "Sociologia în Polonia populară" [Sociology in Popular Poland]. *Viitorul social* 1: 220-227.

Marin, M. (2016). *Nicolae Ceauşescu: Omul şi Cultul* [Nicolae Ceauşescu: The Man and His Personality Cult]. Târgovişte: Editura Cetatea de Scaun.

Mikkonen, S. and Koivunen, P. (2015). "Introduction: Beyond the Divide". In Mikkonen, S. and Koivunen, P. (Eds.). *Beyond the Divide: Entangled Histories of Cold War Europe*. New York: Berghahn Books.

Miller, P. and Rose, N. (2008). *Governing the Present: Administering Economic, Social and Personal Life*. John Wiley & Sons.

Mitchell, T. (2002). *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press.

Murgescu, B. (2010). *România şi Europa: Acumularea decalajelor economice*. [Romania and Europe: The Accumulation of Economic Gaps]. Iaşi: Polirom.

Murphy, C. (2006). *The United Program Development Programe. A better way?*. Cambridge: Cambridge University Press.

Nida, E. (2004). "Principles of correspondence". In Lawrence Venuti (Ed). *The Translation Studies Reader*. London and New York: Routledge, pp. 126-140.

Pula, B. (2018). *Globalization Under and After Socialism: The Evolution of Transnational Capital in Central and Eastern Europe*. Stanford: Stanford University Press.

Rostaş, Z. (2000). *Monografia ca utopie: Interviuri cu Henry H. Stahl*. Bucureşti: Paideia.

Schildt, A. and Siegfried, D. (Ed.). (2006). *Between Marx and Coca Cola: Youth Cultures in Changing European Societies, 1960-1980*. New York: Berghahn Books.

Solovey, M. and Cravens, H. (2012). *Cold War Social Sciences: Knowledge Production, Liberal Democracy and Human Nature*. New York: Palgrave Macmillan US.

Verdery, K. (1991). *National Ideology under Socialism: Identity and Cultural Politics in Ceausescu's Romania*. Berkeley: University of California Press.

Spatial Mobility Survey Framework for Bucharest-Ilfov Metropolitan Area: A Life-course Approach

Cristian Toşa[*], Tomio Miwa[**], Takayuki Morikawa[***]

[*]School of Civil Engineering, Technical University of Cluj-Napoca, Romania, cristian.tosa@infra.utcluj.ro
[**]Institute of Materials and Systems for Sustainability, Nagoya University, Japan
[***]Institute of Innovation for Future Society, Nagoya University, Japan

Abstract. The collapse of the socialist bloc in late 1989 exposed Romania to the global economy to certain degrees, restructuring its internal economic market, as well as political and administrative structures, bringing significant changes to the structural and functional characteristics of urban areas. As the built environment and socio-economic characteristics exert significant impact on travel behavior, in order to better understand it, the field of transportation research requires longitudinal data. A methodological framework was developed to grasp biographical processes of individuals living in the metropolitan area of Bucharest-Ilfov. Data was collected by means of an online life-course retrospective survey among a representative sample within the area of interest. Our study lays out the experimental design, as well as the data collection process of the personal history dynamics between 1989 and 2016, considering locations of residence, education and employment, as well as the associated travel behavior. The framework intends to promote a multidisciplinary approach to the research of life-course events and their impact on the built environment. The findings might reveal the potential to make sound and significant forecasts when accounting for demography dynamics and assist stakeholders' cooperation toward adequate urban and regional policies.

Keywords: life-course data, experimental design, online survey, mobility biography, Bucharest-Ilfov Metropolitan Area

https://doi.org/10.24193/RJPS.2019.2.02

1. Introduction

To mitigate the negative externalities of urbanization and rising motorization, it is important to understand the link between the location of activities and individuals' travel choices.. In the context of developing and emerging countries, people face several constraints, i.e. income, real estate and transportation supply, which alter the self-selection process for housing and mobility (Tran et al. 2017). The collapse of the socialist bloc in 1990 exposed Romania, among other Central and Eastern European countries, to the global economy to varying degrees, restructuring its internal economic market and political-administrative structures, bringing significant changes in the society, such as an increase in income, a diversification of the workforce, and changes in lifestyle (Wegener 1996).

For a thorough understanding of spatial mobility, the biographical approaches have been developed almost exclusively in migration research, and more recently, in the assessment of travel demand. Several papers connect different aspects of the life course in a comprehensive way, emphasizing various aspects of biographical structures and processes as determinants of the issue to be explained, such as residential self-selection and mobility choices (Müggenburg et al. 2015; Zhang 2014, Zhang et al. 2014). Previous research acknowledged that employment, education, residential household structure, and travel choices were not independent of each other, and therefore individuals adjusted their lifestyle according to their life-course events, and land use and transportation policies (Waddell 2001; Scheiner 2007). Understanding travel behavior in connection to life-course events represents a valuable output correlated to significant events in the individual biography (such as marital status, and professional promotion), as well as to specific forms of spatial mobility (such as household, and employment biography) (Scheiner 2014; Zhang et al. 2014). Travel behavior research relies mainly on cross-sectional data, as trends are commonly analyzed periodically over time. Individual data is mostly based on repeated cross-sectional surveys and therefore does not capture the temporal trends at individual level (Scheiner 2007). Consequently, understanding the locational and behavioral decisions that people make with regards to their life-stage is a fundamental requirement to policy makers (Zhang et al. 2014).

2. Context and motivation

This paper exhibits a methodology and framework for capturing the dynamics in personal history, locations of residence, education and employment as well as the associated travel behavior for a representative sample of the Bucharest-Ilfov metropolitan area.

Bucharest lies in the extreme Southeastern part of the country, within Ilfov County, and is the largest city in Romania, having served as its capital since 1862. The examination of Bucharest's evolution and expansion began in the communist period (Turnock 1990), but was also pursued in the post-communist era (Nae and Turnock 2011). Despite authors' urging for effective improvements in the public transport system, better spatial connections between the urban core and the sprawling suburban settlements, the situation remained unchanged. As Simion and Nistor (2012) demonstrated, Bucharest was experiencing a process of uncontrolled suburbanization. Nevertheless, Bucharest benefitted from a consistent period of economic growth between 1999 and 2008 (Benedek and Veress 2013), which led to disparity between its metropolitan area and the rest of the country (Ionescu-Heroiu et al. 2013). More recently, Toşa et al. (2018) conducted a time analysis examining the structural and functional transformations that occurred within the Bucharest metropolitan area during the past quarter century and urged for more informed policy design intended to promote sustainable urban mobility and accessibility.

3. Survey Instrument

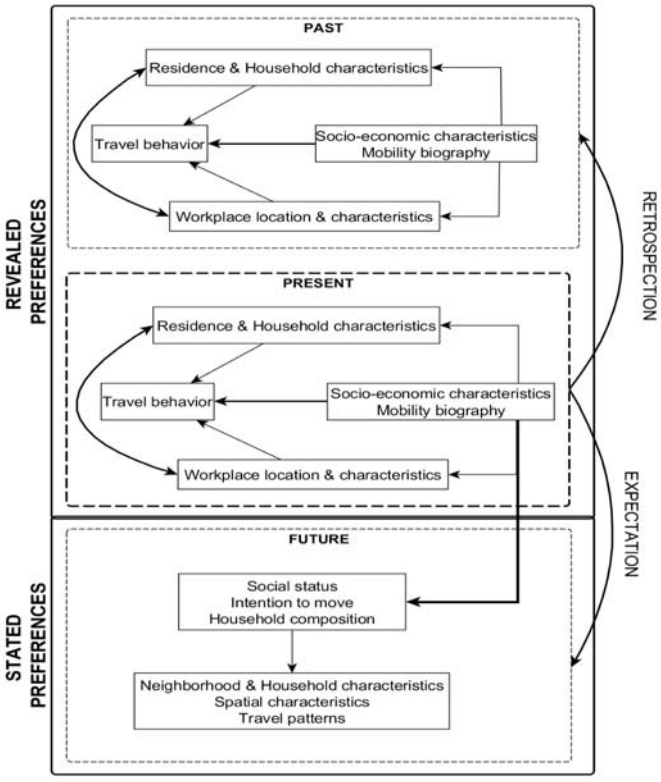
This paper proposes and details a retrospective survey methodology that was used to collect information on biographical processes, including the spatial mobility of individual residential locations and workplaces, as well as the dimension of mobility biography within a life-course framework. The most obvious and well-recognized method to collect such data is through a panel survey, where events are collected as they happen, however, such an approach is both expensive and time-consuming (Beige and Axhausen 2008). The second method is based on the retrospective approach, relying on individuals' capacity to recall events. As the recall capacity is subjected to the limitations of the human memory, experiences from Hollingworth and Miller (1996) showed that a retrospective survey is a favorable alternative to a panel survey. People tend to remember major events, such as residential moves or personal events, and therefore, those can be used as support for the recall process by further linking different dimensions of life together.

In this survey deployed in Bucharest-Ilfov Metropolitan Area, we have mostly intended to capture changes experienced by individuals at every stage in the household life cycle, in terms of residential mobility, work and study locations, household composition, and travel behavior. We targeted male and female individuals aged between 18 and 65 years old, heads of household, currently residing and working within the Bucharest municipality and both

urban and rural areas from Ilfov county. Life-course biography of the respondents was collected from 1989 until 2016, but the structure of the questionnaire allowed for synthetizing of biographical data since the early 1950s. The data was collected by means of a Web-based life-course survey among a representative sample within the area of interest.

The basic framework informing data collection regarding trajectory and travel behavior using retrospection is revealed in Figure 1. Both present and past delivered rich information on the preferences revealed by the respondents, while the future section tackled the stated preferences while taking into account patterns of development and household characteristics. Revealed preferences were based on real-life choices and describe actual behavior. In data-based choice experiment involving stated preferences (Louviere et al. 2000; Hensher 1994), researchers usually set hypothetical situations for individuals and consider their preferences.

Figure 1. Data collection framework



The questionnaire structure is somewhat different from the one revealed in the figure, as it was built in such a way as to allow the respondent to report their retrospective biographical events as accurately as possible. After collecting information on the present situation, the questionnaire addressed the question of previous residential locations (i.e. were there any in the past?). The past events were collected in the same manner as the present ones, following the next steps. The questionnaire consecutively collects the following information: the approximate location, the reason for relocation, if any, the type of ownership, the building type, the household structure and its composition, the household income, as well as changes in the size of the household during their stay at the residential location. The data collection was limited by two dimensions: the maximum number of previous residential locations was capped at 3; the starting year of residence at a certain location was reported as prior to 1989. Current and previous workplace locations were collected in a similar manner.

Travel demand over the life course of individuals was collected in a subsequent section, and mostly covered modes of transport. Similarly to residential addresses, travel behavior covered current transport mode, as well as past used transport modes and their approximate period of use. Lastly, the main transport mode used for educational purposes was included in the questionnaire in order to obtain the dynamics of travel behavior along different stages of the life-course.

4. Experimental Design

In the last section of the questionnaire we collected future expectations with regards to migration, by means of stated preferences on spatial characteristics, as well as neighborhood and household characteristics. Discrete methods are increasingly integrated into choice models designed to estimate the probability of an individual to choose one alternative from a hypothetical set of choices (Koppelman and Bhat 2006). Disaggregate models provide rich behavioral predictions, by treating each person independently, and relate individual characteristics to behavior of choice (Ashalatha et al. 2012). Before building a stated preference model, one must identify the attributes of interest, meaning the ones that influence the consumer choice behavior. The present study identified attributes on the basis of previous research efforts (Molin et al. 1996). Once the attributes and their levels are set as the most appropriate to resemble choice situations in real housing markets (Table 1), an experimental design is set to systematically vary the attributes across constructed cases of choice. We allowed for convenient coding of the levels of the attributes, in order to provide the cases in a compact manner (Table 2).

Table 1. Attributes and levels for the experimental design

Attributes	Levels	Code
Type of ownership (TNR)	Rented	RNT
	Owned	OWN
Cost of rent/ mortgage (CST) (EUR per month)	200	200
	350	350
	500	500
Type of buildings in the neighborhood (BIN)	Apartments	APT
	Houses	IND
	Mixed	MIX
Walking Accessibility to Subway or Rail Station (WAS) (in min)	5	5
	10	10
	20	20
Travel time to work (TTW) (in min)	15	15
	30	30
	45	45
Type of car parking (CPK)	Large neighborhood parking	NHP
	In the street	STP
	Private property/Garage	PRV
Type of Shopping Amenities (DSN)	Few small in the neighborhood	FSM
	Big one in the neighborhood	BNH
	In another neighborhood	ONH

Attribute levels were combined using a fractional factorial design ensuring that the correlation structure between the attributes is orthogonal (Molin et al., 1996). Fractional factorial designs are a subset of the full factorial design, and anticipate unbiased estimates of the main effects of the attributes of interest. Within the stated preferences section, respondents were presented 3 randomly selected cases, drawn consecutively from the pool of the reduced factorial design set (Table 3). The respondents were given the option to move, or not to move to the neighborhood and household with those characteristics.

Table 3. Fractional factorial design and the resulting cases

Case	TNR	CST	BIN	WAS	TTW	CPK	DSN
1	OWN	200	IND	20	15	STP	ONH
2	OWN	200	MIX	20	30	NHP	BNH
3	RNT	200	IND	5	45	PRV	BNH
4	RNT	200	APT	10	30	PRV	ONH
5	RNT	500	MIX	20	45	PRV	ONH
6	OWN	500	APT	10	45	NHP	BNH
7	RNT	350	MIX	10	15	NHP	ONH
8	OWN	350	APT	20	15	PRV	BNH
9	RNT	200	APT	5	15	NHP	FSM
10	OWN	500	IND	5	30	NHP	ONH
11	OWN	350	APT	5	45	STP	ONH
12	OWN	200	MIX	10	45	STP	FSM
13	OWN	350	MIX	5	30	PRV	FSM
14	RNT	350	IND	20	45	NHP	FSM
15	RNT	500	MIX	5	15	STP	BNH
16	RNT	350	IND	10	30	STP	BNH
17	OWN	500	IND	10	15	PRV	FSM
18	RNT	500	APT	20	30	STP	FSM

5. Data Collection

For reaching out to the representative sample, we used an online panel portal, maintained by ResearchRomania, a research portal that centralizes market information from various industries. ResearchRomania has emerged to meet the need for centralized market access to industry in the country. The online panel for Bucharest-Ilfov area is home to over 12,000 registered Internet users who have agreed to regularly take part in market research, both scientific and market research. After building the survey structure and logics, iSenseSolutions, the contracted company, shared the link to the respondents in the online panel and administered the survey. The survey was closed when the spatial and demographic representativity was reached. In conclusion, the questionnaire lasted for approximately 15 minutes, with 100% incidence rate, and collected a sample of 1004 individuals, among which 630 were from Bucharest municipality, and 374 from both urban or rural areas in Ilfov County. The occupational status of the individuals is representative for the metropolitan area, with a total of 902 employees and 102 pensioners.

6. Conclusions

This paper described a methodological framework developed to grasp biographical processes of individuals living in the metropolitan area of Bucharest-Ilfov. The guiding principles were laid out and the experimental design was described thoroughly. The data collected aim to contribute to a methodology of assessing residential migration at individual level, and to forecast residential, as well as travel demand, by considering socio-demographic and economic characteristics of individuals.

Several paths of approaching the modelling methodologies were shortly presented. We anticipate that respondents are likely to reject the existing housing stock configuration and prefer moving towards new housing districts, which are further away from the city center and most probably located in Ilfov County, around Bucharest municipality. This leads to increased sprawl and lengthens the distance travelled for different purposes. We also anticipate preference for low density residential areas, correlated with the neglection of sustainable travel demand management by the authorities, rising levels of population mobility and accessibility to private motorized modes.

As Romania is subject to population ageing and contraction, we raise the question of the suitability, or even lack of urban planning strategies with regards to the needs of accessibility and mobility of active populations, as well those of vulnerable groups, such as the elderly. In order to provide sound and directed land use and transportation policies for emerging urban areas in Romania, this paper has provided a valuable approach to life-course data collection using revealed and stated preference experimental designs.

Disclosure

Part of the data collection process was previously mentioned in the extended abstract published in RSA Conference Proceedings "A World of Flows: Labour Mobility, Capital and Knowledge in an Age of Global Reversal and Regional Revival" held at Lugano, Switzerland, in June 2018. No ISBN or DOI provided.

Acknowledgments

The author acknowledges financial support for data collection from the KAKENHI Grant-in-Aid for Scientific Research (number 2604707 and 15F14707) received from the Japan Society for the Promotion of Science (JSPS). The publication of this research was partially supported by the project 21 PFE in the framework of the PDI-PFE-CDI 2018 programme.

References

Ashalatha, R., Manju, V. S., and Zacharia, A. B. (2012). "Mode choice behavior of commuters in Thiruvananthapuram City". *Journal of Transportation Engineering* 139(5): 494-502.

Beige, S. and Axhausen, K.W. (2012). "Interdependencies between turning points in life and long-term mobility decisions". *Transportation* 39(4): 857-872.

Benedek, J., and Veress, N. C. (2013). "Economic disparities and changes in the convergence of the Romanian NUTS 2 and NUTS 3 Regions". *Romanian Review of Regional Studies* 9(1): 85–90.

Hensher, D. A. (1994). "Stated preference analysis of travel choices: the state of practice". *Transportation* 21(2): 107-13.

Hollingworth, B., and Miller, E. (1996). "Retrospective interviewing and its application in study of residential mobility". *Transportation Research Record: Journal of the Transportation Research Board* 1551: 74-81.

Ionescu-Heroiu, M., Neagu, M., Taralunga, N., Ortiz, P., Petrovici, N., Moldovan, C., and Panescu, E. (2013). "Romania-enhanced spatial planning as a precondition for sustainable urban development". Washington DC: *World Bank Group.* http://documents.worldbank.org/curated/en/2013/12/19151611/romania-enhanced-spatial-planning-precondition-sustainable-urbandevelopment-vol-1-2-raport-complet.

Koppelman, F. S., and Bhat, C. (2006). "A self instructing course in mode choice modeling: multinomial and nested logit models". https://pdfs.semanticscholar.org/ac45/ea6feed53705e7a6fcc1d16c5ab84d1b688e.pdf.

Louviere, J. J., Hensher, D. A., and Swait, J. D. (2000). *Stated choice methods: analysis and applications*. Cambridge: Cambridge University Press.

Molin, E., Oppewal, H., and Timmermans, H. (1996). "Predicting consumer response to new housing: A stated choice experiment". *Netherlands Journal of Housing and the Built Environment* 11(3): 297-311.

Müggenburg, H., Busch-Geertsema, A., and Lanzendorf, M. (2015). "Mobility biographies: A review of achievements and challenges of the mobility biographies approach and a framework for further research". *Journal of Transport Geography* 46: 151-163.

Nae, M., and Turnock, D. (2011). "The new Bucharest: Two decades of restructuring". *Cities* 28(2): 206–219.

Scheiner, J. (2007). "Mobility biographies: elements of a biographical theory of travel demand (Mobilitätsbiographien: Bausteine zu einer biographischen Theorie der Verkehrsnachfrage)". *Erdkunde* 61(2):161-173.

Scheiner, J. (2014). "Gendered key events in the life course: effects on changes in travel mode choice over time". *Journal of Transport Geography* 37: 47-60.

Simion, G., and Nistor, C. (2012). "Spatial structure changes inside post-communist capital city of Bucharest". *Human Geographies* 6(1): 79–89.

Toşa, C., Mitrea, A., Sato, H., Miwa, T., and Morikawa, T. (2018). "Economic growth and urban metamorphosis: A quarter century of transformations within the metropolitan area of Bucharest". *Journal of Transport and Land Use* 11(1): 273-295.

Tran, M. T., Zhang, J., and Fujiwara, A. (2017). "Interdependences between current choices and future expectations in the context of Hanoians' residential location choices". *Transportmetrica B: Transport Dynamics* 5(1): 38-55.

Turnock, D. (1990). "City profile: Bucharest". *Cities* 7(2): 107–118.

Waddell, P. (2001). "Towards a Behavioral Integration of Land Use and Transportation Modeling". 9th International Association for Travel Behavior Research Conference. Queensland, Australia. https://pdfs.semanticscholar.org/2125/68de098a8a37f179d81b4ecd58fff48161fb.pdf.

Wegener, M. (1996). "Reduction of CO2 emissions of transport by reorganisation of urban activities". In Hayashi, Y., Roy, J. (eds). *Transport, land-use and the environment*. Berlin: Springer, pp. 103-124.

Zhang, J., Yu, B., and Chikaraishi, M. (2014). "Interdependences between household residential and car ownership behavior: a life history analysis". *Journal of Transport Geography* 34: 165-174.

Zhang, J. (2014). "Revisiting residential self-selection issues: A life-oriented approach". *Journal of Transport and Land use* 7(3): 29-45.

Men's First Partnership Formation in Four Former State-socialist Countries during the Transition Period

Cornelia Mureşan[*], Livia Sz. Oláh[**]

[*]Babeş-Bolyai University, Faculty of Sociology and Social Work, 128, 21 Decembrie 1989 Bvd, Cluj-Napoca, Romania, cornelia.muresan@ubbcluj.ro
[**] Stockholm University, Department of Sociology, 106 91 Stockholm, Sweden, livia.olah@sociology.su.se

Abstract. Non-marital cohabitation has become increasingly common in advanced societies, although somewhat less so in Central-Eastern Europe in the period immediately following the fall of state socialism. In this paper we focus on changes in men's first partnership patterns in Bulgaria, Hungary, Poland and Romania between the 1980s and the early 2000s, specifically addressing gender differences with respect to the effects of educational attainment. Data on men and women extracted from the first round of Generations and Gender Programme in these countries are analysed, relying on proportional hazards event history models with piecewise constant baseline intensity for entering a first union (cohabitation or direct marriage – as competing risks). We find a positive educational gradient for marriage formation among men in all countries analysed, but only in Hungary for women. No such gradient is seen for cohabitation among men, with the exception of Poland. The popularity of cohabitation increased over time while the trend for marriage entry declined, resulting in non-marital unions replacing marriage as the main form of first partnerships by the late 1990s-early 2000s, except for Romania. Declining marriage trends paralleled by women's growing educational advantage are likely to be related to the limited (and decreasing) supply of highly educated men as most attractive marriage partners in the region. The main contribution of this study is to fill the knowledge gap on changes in family formation patterns with emphasis on men's first co-residential unions in Central-Eastern Europe in the period of major societal transition. The results point to the importance of gendered effects of educational attainment with respect to the type of first union formed.

Keywords: first union, marriage, cohabitation, educational attainment, Generations and Gender Survey, Bulgaria, Hungary, Poland, Romania

https://doi.org/10.24193/RJPS.2019.2.03

1. Rationale

The supremacy of marriage has weakened substantially in Europe since the late 1960s. Marriage propensities decreased first in Scandinavia, followed by Western Europe and Anglo-Saxon countries, and more recently by Southern Europe (Sobotka and Toulemon 2008). In parallel, the mean age at first marriage increased, reaching ages of late twenties-early thirties in the 2000s. High marriage rates prevailed in Central-Eastern Europe up until the early 1990s, when a rapid decline took place, followed by a levelling off, and a moderate increase in recent years. However, early marriages prevailed there until the end of the 20th century, when the mean age at marriage increased steeply, to age 28-29 in recent years. Throughout Europe, men have entered marriage at even higher ages than women (Council of Europe, 2004; Eurostat 2019). However, delayed marriage does not necessarily mean that young people refrain from establishing couple relationships. In fact, the prevalence of non-marital cohabitation has increased across Europe (Perelli-Harris and Lyons-Amos 2015). In the Central-Eastern region cohabitation is still quite rare in some societies (particularly Poland, Slovakia and the Czech Republic), but less so in other countries (Kasearu MA and Kutsar 2011). The choice between a consensual union and direct marriage as first partnership is likely to be related to educational attainment, as highlighted in previous research (Kalmijn 2013; Perelli-Harris and Lyons-Amos 2016). Also, the effect of education may differ for women and men (see e.g. Becker 1991; Oppenheimer 1988, 1997, 2003).

This study seeks to provide a better understanding of changes in partnership formation patterns in the former state-socialist countries focusing on the period from the 1980s to the early 2000s when the transition to a market economy took place (see also Philipov and Dorbritz, 2003), with special attention to tendencies exhibited by male individuals. High marriage rates until the early 1990s notwithstanding, there were variations across Central-East European countries with respect to cohabitation becoming a viable option at first union formation (Hoem et al. 2009a,b; Puur et al. 2012). However, we know relatively little about men with respect to changes in family patterns as previous studies have mainly focused on women (but see Katus et al. 2007 on Baltic countries, as exception). We intend to fill the gap and address changes in first co-residential living arrangements, with emphasis on men, in four countries in the region in the period of major societal transition.

2. Data and methods

2.1. Data

In this study on first union formation, we consider non-marital cohabitation as a competitor to conventional marriage. We included neither LAT relationships, nor partnerships which lasted for less than three months, the latter not being considered a "union" in GGS. We analyse data extracted from the first round of the Gender and Generations Surveys (GGS) for four countries in Central-Eastern Europe: Bulgaria, Hungary, Poland and Romania. A random sample of women and men aged 18-79 years were interviewed in each country. In our analyses, we rely on country subsamples of persons of relevant ages for partnership formation in 1980-2004/05. Our subsample contains unpartnered men and women who were in the age-range 15- 40 years in the period of interest given early partnership patterns in the region. See Table 1 for information on when the surveys were conducted, the country subsample sizes and the distribution of respondents by union type in the period of interest.

Table 1. National sub-sample sizes, number of events and percent distribution of events by union type

	Sample size	Number of 1st unions	Percent cohabitations	Percent direct marriages
Bulgaria (interview date: Oct-Dec 2004)				
men	3644	2129	66%	34%
women	4423	3156	66%	34%
Hungary (interview date: Nov 2004-May 2005)				
men	3539	2101	42%	58%
women	3516	2504	38%	62%
Poland (interview date: Jan 2010-Dec 2011)				
men	5173	2995	26%	74%
women	6070	4024	26%	74%
Romania (interview date: Nov-Dec 2005)				
men	3354	2371	25%	75%
women	2679	2176	27%	73%

We seek to gain better insight into whether and how the major societal transformation elicited by the fall of state-socialism (dated to late 1989-early 1990) influenced first partnership formation patterns in the countries studied.

We analyse the entrance into first union between January 1980 and the end of 2005 (or somewhat earlier, depending on the date of interview). All individuals aged 15-40 during the period of interest (1980-2004/05), without previous coresidential partnership experience were included in our working-sample. The vast majority formed a first union, but the proportions in a particular type of partnership varied across countries. With focus on the entire period, only Bulgarians are seen to display a clear preference for cohabitation (66%) compared to direct marriage, whereas the percentages of marital unions are higher than those of cohabitations in the other three countries (Table 1).

2.2. Method and covariates

We employ intensity regression as our analytical tool. We study entries into marriage and to a non-marital union jointly as competing risks in a manner that permits direct comparison between the two types of union formation in each country and for each sex (the same way as Hoem et al. 2009a). Based on data in a monthly format for the years 1980-2005, proportional-hazards event-history models with piecewise constant baseline intensity are applied. In different steps, we interacted the union type with age-group, calendar period, pregnancy and parity status, educational attainment (all time-varying covariates; see Appendix). Additionally, we fit a simple (i.e. not competing risks) proportional-hazard model to illuminate general effects of considered determinants on first union formation.

We divided age into five-year age-groups, and the period between 1980 and 2004/5 into five-year periods in which the risk to form a union is considered constant but (may) vary across intervals. As for pregnancy-and-parity status, we differentiate between (i) childless non-pregnant, (ii) childless pregnant, and (iii) parent (fathers / mothers at parities 1 and above). For male respondents, the pregnancy status applies to the partner. Information on pregnancy is derived from the children's birthdates reported by the respondents. We consider a non-partnered respondent childless and non-pregnant if the first child (if any) was born at least 7 months after the date of first union formation. If the first child was born after the formation of first union, but within 7 months of that date, the respondent is considered childless pregnant. Parents are respondents who have at least one child born before the formation of their first union.

The effect of educational attainment for first union formation is of key interest for this study, even if we do not have exhaustive information for a genuine time-varying covariate. We have information on the respondents' highest level of education at the interview, and on the date that level of

education was acquired (according to respondents' own reports). Hence, we have had to impute information for a non-fixed covariate relying on a method developed by Hoem and Kreyenfeld (2006). As we aim to shed more light on the changing trends in union formation, we display below the interactions between union type and each of the covariates of interest, separately by sex and country, without showing the relative risks for the other covariates controlled for in the models.

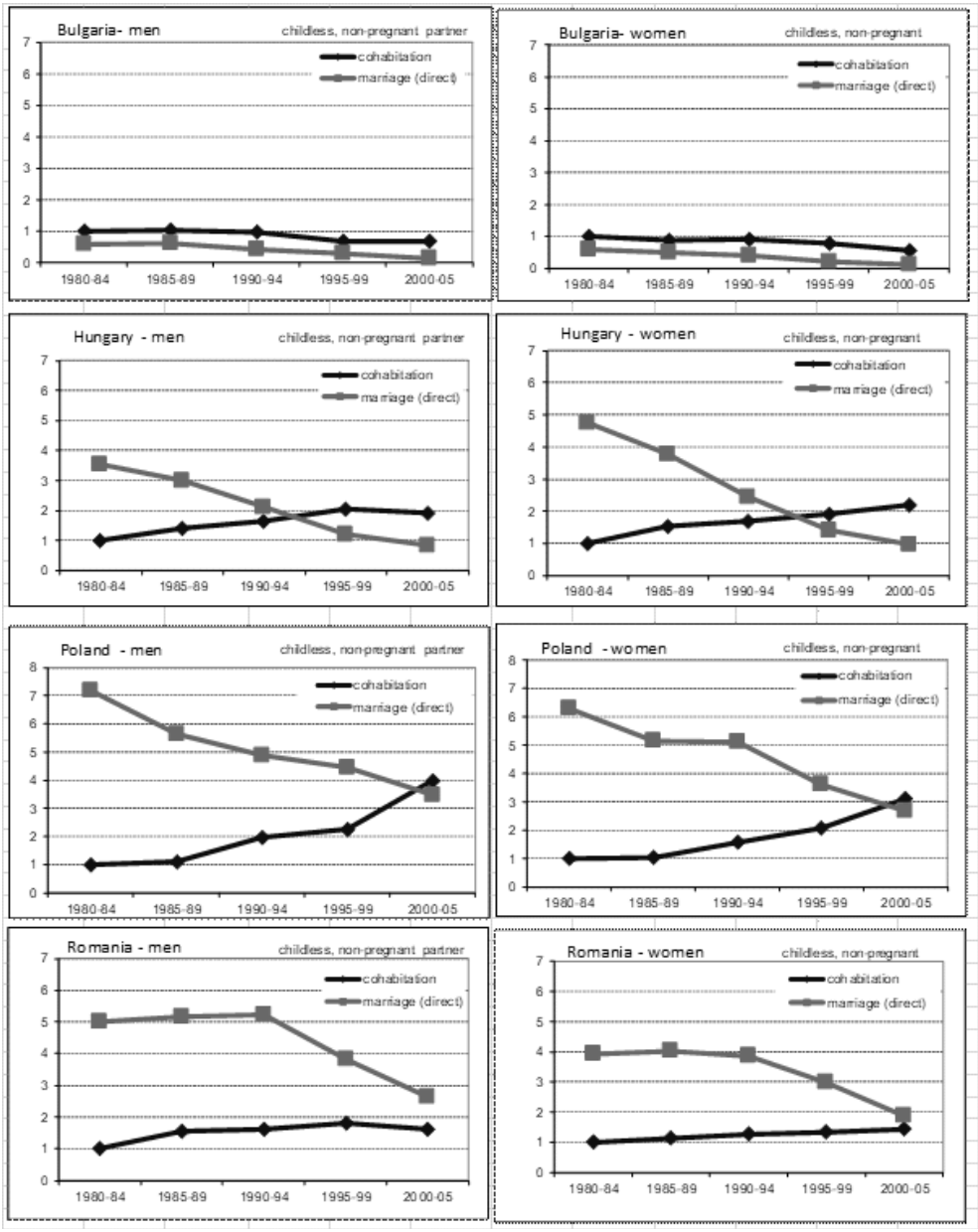
3. Results

3.1. Trends over the years 1980-2005

First, we study trends in first union formation for childless male respondents whose partner is not expecting a child, and for childless non-pregnant female respondents (Figure 1). The group of childless non-pregnant dominates the exposures to the risk of first-union formation (see Appendix), hence we report these results for this group alone.

For Bulgaria, we see stable trends for marriage and cohabitation, with a slight preference for non-marital unions among both men and women throughout the period. For the other three countries in contrast, the trends clearly indicate a declining intensity for marriage formation and an increasing intensity for cohabitation. Nevertheless, marriage remains the dominant partnership type for most of the period. Among Hungarian men (and women), cohabitation has overtaken marriage in popularity from the mid-1990s onwards. A similar change of preference appears among Polish men (and women) in the early 2000s but does not reveal itself in Romania, despite diminishing differences in the relative risks for these union types from the early-/mid 1990s onwards.

Figure 1. Relative risks of union formation for nulliparous men and women not expecting a child, by calendar-period and union type

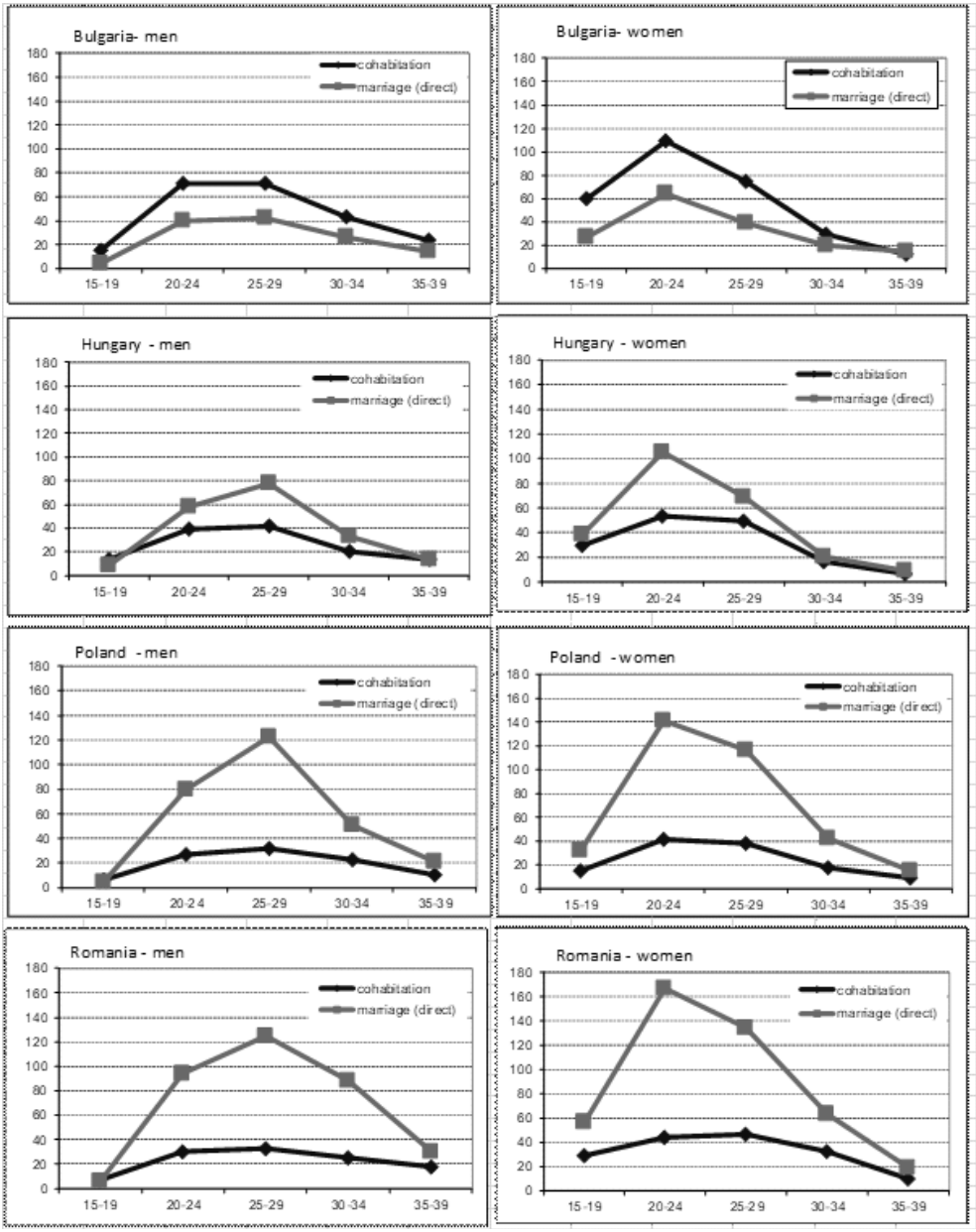


Note: All the models above control for age group and education

3.2. Age profiles

As a second step in our analysis, we address the role of age on the choice of union type. As Figure 2 shows, age matters. For very young men, that is, below age twenty, we do not find clear preferences for either cohabitation or marriage, except for Bulgaria with a slight preference for non-marital unions. Moreover, at ages of mid-/late thirties there are relatively limited differences for preferred union type, especially for Hungary, but a slight preference may be seen for marriage at those ages among Polish and Romanian men (and women). For the other age-groups we find pronounced marriage preference for both men and women in Poland and Romania and a similar but less substantial preference in Hungary. In contrast, Bulgaria displays clear a preference for non-marital cohabitation among both men and women at all ages, although the difference compared to marriage nearly disappears in mid-/late thirties (especially for women). In all countries, the highest rates for first union formation are seen for ages of late twenties for men, but the difference compared to ages of early twenties is negligible for cohabitation. For women, we find the highest rates of first union entrance at ages of early twenties, with little difference to ages of late twenties regarding cohabitation, except for Bulgaria. Thus, the findings suggest sharper contrasts for the age profile for marriage than for consensual unions for both sexes in these four countries.

Figure 2. Absolute risk of entry into first union by age group and union type (number of unions per 1000 person-years)



Note: All the models above control for calendar-period, parity-pregnancy status and education.

3.3. Gender differences in the effects of educational attainment

Next, we address the effects of educational attainment. As Table 2 shows, pregnancy speeds up first-union formation, but pre-union parenthood diminishes the intensity among women (except for Poland), and increases the intensity among men (except in Hungary). While no big differences are shown for calendar periods, we see a diminishing trend for the formation of first co-residential relationships in all countries from the early- or mid-1990s, onwards, and more so in the early 2000s, except for Poland. Educational differences are more pronounced, with students having the lowest propensity to start a first union. A positive educational gradient is seen for Hungary for both sexes, and for men in Poland and Romania.

Table 2. Transition to first union, results of hazard regressions

	Men			
	Bulgaria	**Hungary**	**Poland**	**Romania**
Age (absolute risks per 1000 person-years)				
15-19	18.95	15.20	3.62	4.62
20-24	84.42	50.41	24.69	32.50
25-29	82.41	55.26	31.81	37.10
30-34	82.41	55.26	31.81	37.10
35-39	26.19	14.86	7.64	11.43
Union type (relative risks)				
cohabitation	1	1	1	1
marriage (direct)	*0.53*	*1.41*	*2.80*	*2.95*
Parity/pregnancy status (relative risks)				
childless not pregnant p.	1	1	1	1
childless pregnant p.	*26.90*	*15.59*	*29.58*	*19.30*
father	1.12	*0.69*	*3.39*	*2.40*
Education (relative risks)				
low	*1.19*	*0.88*	*0.62*	*0.87*
middle	1	1	1	1
high	1.17	*1.18*	*1.46*	*1.35*
in education	*0.52*	*0.47*	*0.74*	*0.58*
Calendar year (relative risks)				
1980-1984	1	1	1	1
1985-1989	1.07	0.97	0.95	*1.12*
1990-1994	0.93	*0.84*	*0.91*	*1.15*
1995-1999	*0.67*	*0.77*	*0.90*	*0.99*
2000-2005	*0.57*	*0.64*	*0.95*	*0.76*

	Women			
	Bulgaria	**Hungary**	**Poland**	**Romania**
Age (absolute risks per 1000 person-years)				
15-19	120.54	58.99	18.66	42.49
20-24	182.71	94.72	45.65	72.35
25-29	111.71	67.13	35.19	55.19
30-34	111.71	67.13	35.19	55.19
35-39	27.87	11.30	5.53	9.06
Union type (relative risks)				
cohabitation	1	1	1	1
marriage (direct)	*0.52*	*1.60*	*2.86*	*2.73*
Parity/pregnancy status (relative risks)				
childless not pregnant	1	1	1	1
childless pregnant	*17.23*	*11.34*	*20.72*	*10.94*
mother	*0.56*	*0.46*	*1.60*	*0.72*
Education (relative risks)				
low	0.97	*0.83*	*0.87*	1.05
middle	1	1	1	1
high	1.00	1.25	1.06	0.94
in education	*0.36*	*0.33*	*0.47*	*0.27*
Calendar year (relative risks)				
1980-1984	1	1	1	1
1985-1989	0.94	0.94	0.95	1.07
1990-1994	*0.89*	*0.82*	1.01	1.07
1995-1999	*0.70*	*0.65*	0.96	0.92
2000-2005	*0.47*	*0.62*	0.95	*0.80*

Note: relative risks in italic are statistical significant $p < 0.05$

We also investigate the impact of educational attainment by partnership type. Figure 3 shows a pronounced positive educational gradient for marriage formation among men in Romania and especially in Poland, and a small one in Hungary and Bulgaria. The same gradient appears for cohabiting Polish men, whereas no differences are seen by education for non-marital unions among Hungarian men. In Bulgaria and Romania, men and women with the least education are the most likely to enter cohabitation as first partnership. We find little differences by educational level among women in Hungary and Poland entering cohabitation, but a slightly negative educational gradient appears for their Bulgarian and especially Romanian counterparts. In contrast, there are no

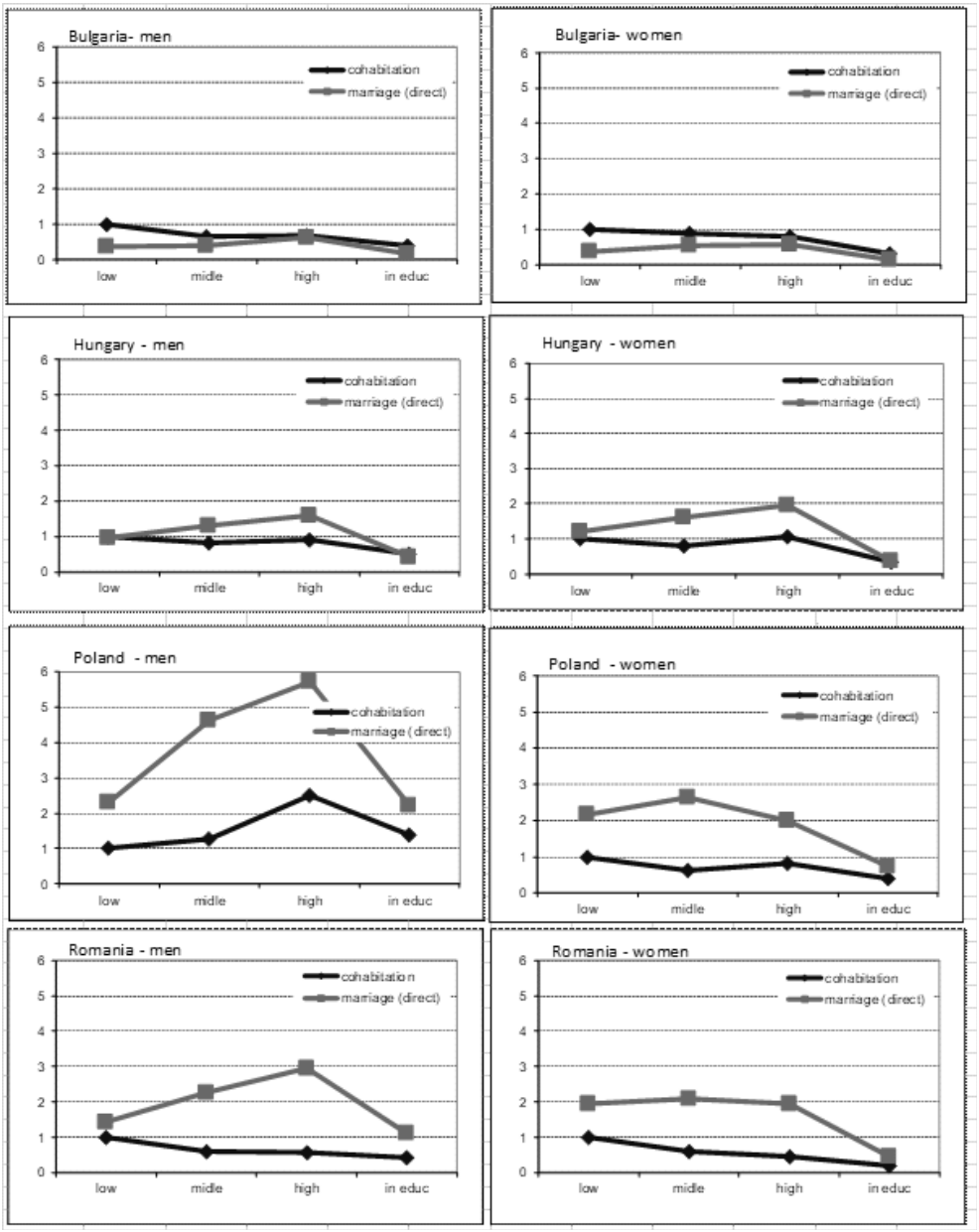
educational differences among women entering marriage in Romania. We find a positive educational gradient for marriage formation among women in Hungary, and a similar but smaller one in Bulgaria, while an inverted U-shape is seen for Polish women, with those middle-educated being most likely to enter marriage. In all countries, students have the lowest propensity to form any type of first union among both men and women, except for cohabitation among Polish men.

4. Discussion

In this study we have addressed men's first partnership patterns in selected countries in Central-Eastern Europe, mainly focusing on the transition period. Based on data of the Gender and Generations Surveys we have analyzed trends, age-profiles and gender differences in the effects of educational attainment on entering non-marital cohabitation versus direct marriage, that is marrying without cohabiting with the partner first. Despite similarities in the political and economic contexts, distinct country-specific patterns have been noted with respect to first union formation. In Bulgaria, we have seen somewhat higher propensity to enter cohabiting relationships compared to marriages from the early 1980s, a preference that has not changed. In Hungary, a preference for direct marriage characterized the 1980s, while from the mid-1990s onwards, first partnerships have been more likely to be cohabiting relationships than marriages there. Direct marriage has remained the main type of first partnerships in Poland and Romania although its popularity declined in the 1990s. By the early 2000s, it has become slightly more common in Poland to choose cohabitation instead of marriage as first union. In Romania however, preference for cohabitation increased only slightly even in the late 1990s-early 2000s, hence marriage intensity remained higher than that of entering cohabitation throughout the period.

Regarding gender differences in the age profile by first union type, the propensity to enter marriage has varied much more by age than that for cohabiting unions in three of the four countries with Bulgaria exhibiting larger variations for cohabiting relationships. The peak of first marriage formation has been at ages of late twenties for men, and early twenties for women, with limited differences between the intensities for cohabitation at these peak ages for both sexes. Gender differences also appear for educational attainment: men with higher education have been the most likely to marry in all four countries, with pronounced differences in Poland and Romania, but small differences in Hungary and especially in Bulgaria.

Figure 3. Relative risk of union formation by educational attainment and union type



Note: all the models above control for calendar-period, age group, and parity-pregnancy status

In contrast, we have found no educational variations for women's marriage entry in Romania, little differences between middle and highly educated women's marriage propensities in Bulgaria, the highest marriage propensity for the middle educated in Poland, and a positive educational gradient for marriage in Hungary. The patterns have been quite different for cohabiting relationships. In Bulgaria and Romania, the least educated men and women have had the highest propensity to enter non-marital unions. In Hungary, the low- and the highly educated among both men and women have been equally likely to form a cohabiting relationship, while the middle educated have had lower propensity. Among Polish men a positive educational gradient was also revealed for cohabitation, whereas among women the highly educated have been only slightly less likely to enter cohabitation than the least educated, with the lowest propensity seen for the middle educated.

Based on the patterns regarding the effects of educational attainment, the declining trend of marriage formation for all four countries may be related to highly educated men being the most attractive on the marriage market, whereas among women positive educational gradient has been noted only for Hungary. As women's educational attainment compared to their male counterparts has increased across Europe from the 1990s onwards, the gendered pattern with respect to education may have increased the demand for highly educated male marriage partners more than their supply, suppressing marriage formation in these four countries. Given differences in the effects of educational attainment for cohabiting unions versus marriages, the trend to enter cohabitation has increased at the same time. Thus, non-marital unions have replaced marriage as the main form of first partnerships in these countries with the exception of Romania. Nevertheless, even in Romania the propensity of marriage formation is only slightly above that of cohabitation in the early 2000s.

Acknowledgements

The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no. 320116 for the research project Families And Societies.

This paper uses data from the GGS Waves 1 (DOIs: 10.17026/dans-z5z-xn8g, 10.17026/dans-xm6-a262), see Gauthier, A. H. et al. (2018) or visit the GGP website (https://www.ggp-i.org/) for methodological details.

Also, financial support to Livia Olah via the Swedish Research Council grant to the Linneaus Center on Social Policy and Family Dynamics in Europe, SPaDE (grant number 349-2007-8701) is gratefully acknowledged.

References

Becker G. (1991). *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Council of Europe (2004). Recent Demographic Developments in Europe. Strasbourg: Council of Europe Publishing.

Eurostat (2019). Populations and social conditions database: Demography and migration: Marriages and divorces: Marriage indicators: Total first marriage rates – females, males; Mean age at first marriage – females, males (accessed 21 March 2019). https://ec.europa.eu/eurostat/data/database; http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_nind HYPERLINK "http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_nind&lang=en"& HYPERLINK "http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=demo_nind&lang=en"lang=en

Gauthier, A. H., Cabaço, S. L. F., Emery, T. (2018). "Generations and Gender Survey study profile". *Longitudinal and Life Course Studies.* 9(4): 456-465.

Hoem, J. M., Kreyenfeld M.(2006) "Anticipatory analysis and its alternatives in life-course research. Part 2: Marriage and first birth. Reflexions", *Demographic Research* 15(17): 485-498.

Hoem, J. M., Kostova, D., Jasilioniene, A., Mureşan, C. (2009a). "Traces of the Second Demographic Transition in Four Selected Countries in Central and Eastern Europe: Union Formation as a Demographic Manifestation". *European Journal of Population* 25: 239-255.

Hoem, J. M., Kostova, D., Jasilioniene, A., Mureşan, C. (2009b)."The structure of recent first-union formation in Romania". *Romanian Journal of Population Studies*, 3(1): 33-44.

Kalmijn, M. (2013). "The educational gradient in marriage: A comparison of 25 European countries". *Demography* 50(4):1499–1520.

Kasearu, MA, Kairi, K. D. (2011). "Patterns behind unmarried cohabitation trends in Europe". *European Societies* 13(2): 307-325.

Katus, K., Põldma, A., Puur, A., Sakkeus, L. (2007), "First Union Formation in Estonia, Latvia and Lithuania: Patterns across Countries and Gender". *Demographic Research* 17(10): 247-300.

Oppenheimer, V., K., (1988). "A Theory of Marriage Timing". *American Journal of Sociology* 94(3): 563–691.

Oppenheimer, V., K. (1997).“Women’s Employment and the Gain to Marriage: The Specialization and Trading Model”. *Annual Review of Sociology* 23: 431–453.

Oppenheimer, V., K. (2003).“Cohabiting and Marriage during Young Men’s Career-Development Process”. *Demography* 40(1):127–49.

Perelli-Harris, B., Lyons-Amos, M. (2015).“Changes in partnership patterns across the life course: An examination of 14 countries in Europe and the United States”. *Demographic Research* 33(6): 145-178.

Perelli-Harris, B., Lyons-Amos, M. (2016).“Partnership Patterns in the United States and across Europe: The role of education and Country Context”. *Social Forces* 95(1): 251-281.

Philipov, D., Dorbritz J. (2003). “Demographic Consequences of Economic Transition in Countries of Central and Eastern Europe”. *Population Studies* 39, Council of Europe Publishing.

Sobotka, T., Toulemon, L.(2008). “Overview Chapter 4: Changing family and partnership behaviour: Common trends and persistent diversity across Europe”. *Demographic Research* 19(6): 85-138.

Appendix

Table 1. Exposure time (person-months) and percent distribution by covariates

	Men			
	Bulgaria	**Hungary**	**Poland**	**Romania**
Person-months	**32264**	**33086**	**43544**	**29227**
% by calendar period				
1980-1984	17%	17%	18%	20%
1985-1989	19%	18%	18%	23%
1990-1994	20%	21%	19%	21%
1995-1999	22%	24%	20%	18%
2000-2005	22%	20%	24%	18%
% by age group				
15-19	43%	39%	40%	40%
20-24	32%	32%	32%	33%
25-29	14%	15%	15%	15%
30-34	7%	8%	8%	7%
35-39	4%	6%	6%	4%
% by parity/pregnancy status				
childless not pregnant p.	98%	92%	97%	85%
childless pregnant p.	0.3%	0.6%	0.7%	2.9%
father	2%	7%	2%	12%
% by education				
low	17%	12%	11%	19%
middle	43%	48%	42%	43%
high	5%	6%	3%	4%
in education	36%	34%	44%	35%
	Women			
	Bulgaria	**Hungary**	**Poland**	**Romania**
Person-months	**29333**	**26463**	**42052**	**17139**
% by calendar period				
1980-1984	18%	18%	19%	21%
1985-1989	20%	18%	18%	24%
1990-1994	21%	22%	19%	21%
1995-1999	21%	24%	20%	18%
2000-2005	20%	18%	24%	16%

% by age group				
15-19	56%	48%	49%	55%
20-24	26%	28%	28%	27%
25-29	10%	11%	11%	10%
30-34	5%	7%	7%	5%
35-39	4%	6%	6%	4%
% by parity/pregnancy status				
childless not pregnant	94%	86%	93%	95%
childless pregnant	0.6%	0.8%	1.1%	0.5%
mother	6%	13%	6%	4%
% by education				
low	10%	11%	5%	17%
middle	25%	33%	30%	29%
high	9%	8%	6%	5%
in education	56%	48%	59%	49%

Population Ageing. A Demographic Vulnerability of the European Union

Mircea Brie

University of Oradea, Department of International Relations and European Studies, 1 University Street, 410087, Oradea, Romania, mirceabrie@gmail.com

Abstract. For centuries, important geopolitical, social-economic or scientific factors have contributed to the progress of European societies. An important effect of this progress was the improvement of the perspectives and the demographic context. The positive evolution of important demographic indicators, including population growth, urbanization, decreased mortality (including infant mortality), increased life expectancy, population mobility, etc. have contributed to Europe's success worldwide. Europe proved to be an important demographic source that allowed for the golden era of colonialism when the Christian-European civilization spread across the globe.

However, the trends have changed in the meantime. If during the period of sharp increase in the birth rate in the years after the Second World War, the European population reached up to 22.8% of the world's population, Europe subsequently experienced a reduction down to zero of the population growth. Today, the European population represents only 9.6% of the world's population. In the current geopolitical and economic context, this tendency of population decline is an important demographic vulnerability of the European space, and particularly of the European Union. The internal market, European affairs, but also social services are affected by this evolution of the population.

Methodologically, without analysing the full range of demographic vulnerabilities that the European Union is facing, we intend to monitor the main demographic indicators that refer to the age group structure of the population of the 28 EU Member States. This paper aims to capture the phenomenon of population ageing in Europe, with its various regional peculiarities. To carry out this analysis we propose to use the data provided by Eurostat for the past 10 years.

https://doi.org/10.24193/RJPS.2019.2.04

As the phenomenon of population ageing has different causes and different degrees of expression in the Western states compared to the Eastern ones, we intend to highlight the trends recorded from this regional perspective throughout this analysis.

Keywords: The European Union, population ageing, demographic vulnerability, societal security

1. Conceptual and methodological contextualization

From a historical perspective, Europe has been noted for its more balanced evolution of the population structures, compared to other geographical areas. For centuries, important geopolitical, social-economic or scientific factors have contributed to the progress of European societies. An important effect of this progress was the improvement of the perspectives and demographic context. The positive evolution of important demographic indicators, including population growth, urbanization, decreased mortality (including infant mortality), increased life expectancy, population mobility, etc. have contributed to Europe's success worldwide. Europe proved to be an important demographic source that allowed for the golden era of colonialism, during which the Christian-European civilization spread across the globe. Eurocentrism, from this perspective, is not just a philosophical current or a worldview from a European perspective, but a reality given by the demographic force of the European continent.

This demographic reality, associated with technological and economic progress, has allowed the great European states to be in a dominant position compared to the rest of the world. However, the trends have changed in the meantime. At the beginning of the twentieth century, the population of Europe made up close to 20% of the world population (Cameron 1993: 193). While in the period of sharp increase in the birth rate during the years after World War II the European population reached up to 22.8% of the world's population (*Worldometers* 2017), Europe then experienced a reduction down to zero in population growth. In the past decades, the natural growth has been negative, and the maintenance of the number of the European population has been due to the massive immigration from the Western states. Contemporary Europe has lost its precedence, compared to other geographical areas. Nowadays, the European population represents only 9.6% of the world's population (*Worldometers* 2017). Comparatively, throughout this period, Africa went from 9% in 1950, to 17.1% at present, and has the potential to exceed 25% in 2050 (*Worldometers* 2017). Quantitatively, the European population has grown from almost 550 million inhabitants to a little over 743 million to date.

At the same time, Africa has grown from 228 million to over 1.3 billion inhabitants.

In the current geopolitical and economic context, this *tendency of population decline* is an important demographic vulnerability of the European space, and particularly of the European Union. The internal market, European affairs, but also the social services are affected by this evolution of the population.

The quantitative dynamics of the population are not the only aspects in decline. The structure of the population increasingly reflects vulnerabilities that require new public policies, including in the field of social protection and social services. The increase of life expectancy in the last decades has not been corroborated with the maintenance or increase of the birth rate, leading to an increasingly visible *phenomenon of population ageing*. These imbalances create strong pressures on the pension schemes of EU member states. Conceptually and methodologically, we consider that the threshold of ageing is 65 (the EU operates with this age), despite the fact that in many UN publications and reports there are two thresholds: 60 and 65 years old. The age of 65 is more relevant from the perspective of social policies, as well, as most European states have set the retirement age around 65.

The decline in the birth rate within the EU does not even provide the hope of rebalancing the demographic deficit and reordering the age pyramid. In this context, some states have chosen to progressively open their doors to the foreign workforce. The increasingly massive *migration* is a demographic phenomenon that brings with it many problems that require a delicate approach through the rethinking of public policies. Immigrant integration has proven to be toilsome and costly.

Methodologically, without analysing the full range of demographic vulnerabilities that the European Union is facing, we intend to monitor the main demographic indicators that refer to the age group structure of the population of the 28 EU Member States. *The aim* of this paper is to capture the phenomenon of population ageing in Europe, with its various regional peculiarities. In order to carry out this analysis, we intend to use the data provided by Eurostat for a period of 10 years, starting from 2007 up to 2017. As the phenomenon of population ageing has different causes and different degrees of expression in the Western states compared to the Eastern ones, we intend to highlight the trends recorded from this regional perspective throughout this analysis.

2. Ageing of the EU population. Demographic analysis

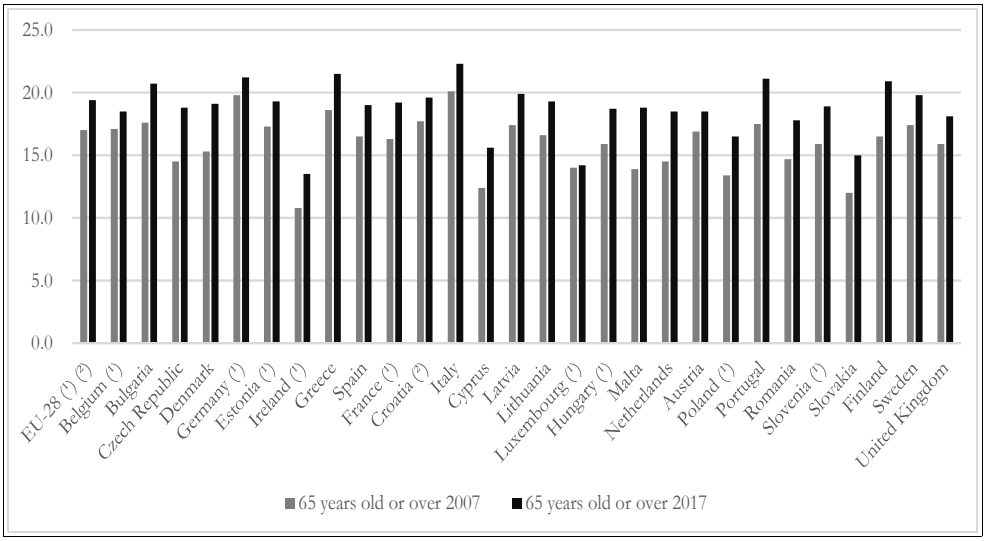
The age-related change in the population structure is one that can be observed globally. This change always has the same meaning: population ageing. According to a UN report on the analysis of changes in the age structure of the population in the years 1950-2050, the current period is characterized by a sharp increase in the ageing rate. Thus, even in countries where the birth rate continues to be high (above the reproduction rate), the share of the elderly population is increasing. Such a tendency, as long as it is associated with the increase of life expectancy, cannot be considered as a negative one. With few exceptions, however, most states are experiencing a decline in the share of other age groups, especially in the youth population. "It is estimated that Europe has already reached a critical stage: after a century of natural demographic growth, the prospect for this century is, on the contrary, a natural decline and excessive ageing of the population. Many of the Eastern European countries are already experiencing the demographic decline and many Western countries will experience it in the near future" (Bălaşa 2005: 275).

Even if differences in intensity may be noticed between different European regions, the trend is the same: population decline and ageing. In some countries which recently joined the European Union, there is still a balanced population structure, but according to the forecasts, the ageing of the population here will be even more pronounced in the coming decades. This phenomenon is largely determined by the association of an additional factor to the two already mentioned above: the massive migration, especially of the younger population of fertile age. Thus, migration contributes even more to declining birth rates. The increasingly faster improvement of socio-economic indicators (in general those related to the quality of life) contributes to a rapid increase in longevity. Therefore, there is an accumulation of factors that lead to a more obvious process of an increase in the ageing rate of the population in these Central and Eastern European states.

Throughout the European Union as a whole, the ageing tendency of the population is maintained as the average. The share of the elderly population is increasing. Thus, as Figure 1 shows, the share of population aged at least 65 increased from 17% in 2007 to 19.4% in 2017. An increase of 2.4% in just 10 years is quite large. However, we can easily note the more pronounced trends in some European states (See Figure 2).

In countries such as Germany, Italy (22.3% - the highest level in the EU), Greece, Portugal, but also Bulgaria, the share of the population over 65 has exceeded 20%. Figure 1reveals two issues: 1. "Old Europe" seems to have experienced this ageing trend much earlier; 2. "New Europe" is following the same trend at a much faster pace. In conjunction with the migration mentioned before, the population ageing in Eastern Europe will tend, in a not too distant future, to exceed in share the one in the Western and Northern states.

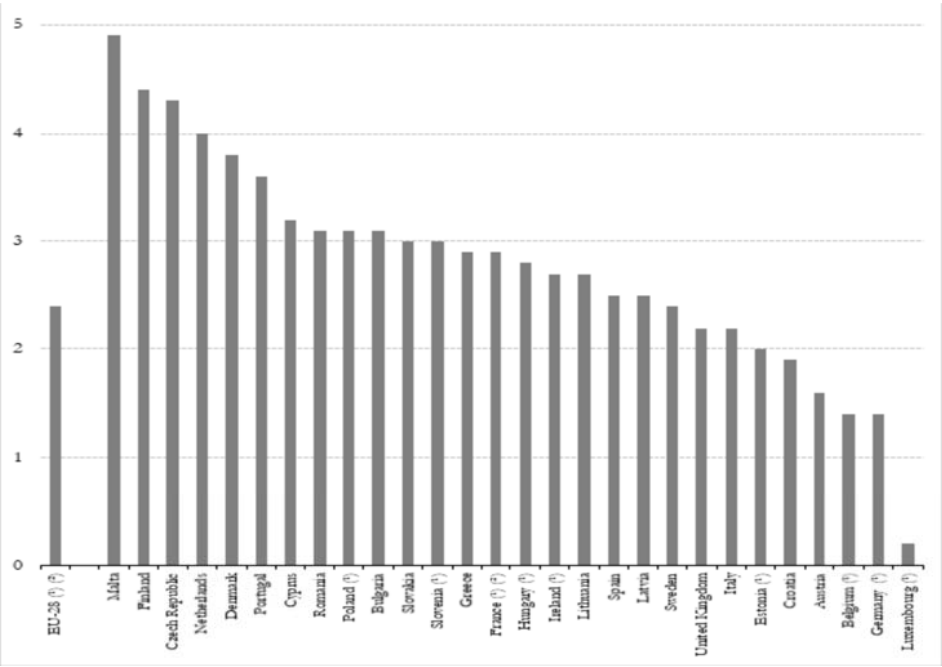
Figure 1. Population age structure, 65 years old or over, 2007 and 2017 (% of the total population)



Note: (1) Break in time series in various years between 2007 and 2017; (2) The population of unknown age is redistributed for calculating the age structure.
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed on 15.05.2019

The more pronounced tendency of ageing of some countries' populations is shown in Figure 2. Thus, compared to a 2.4% increase in the share of the population over 65 years old throughout the European Union in just 10 years, growth rates of over 4% can be noted in Malta (4.9%), Finland (4.4%) and the Czech Republic (4.3%). The only state where the growth rate of the elderly population is below 1% is Luxembourg (0.2%).

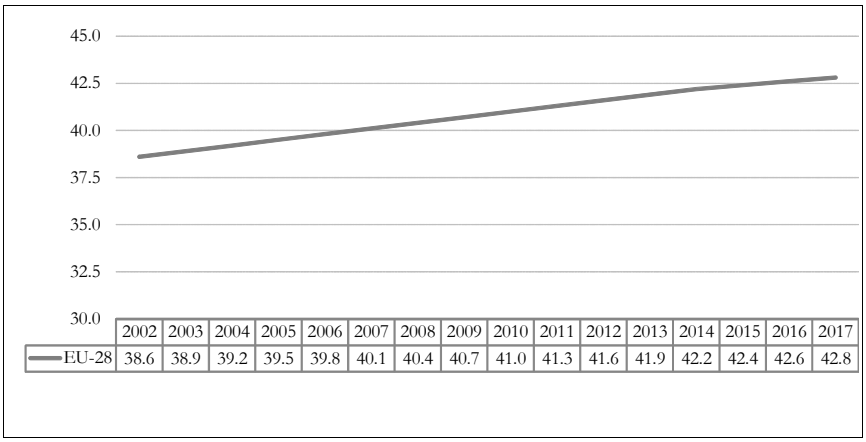
Figure 2. Increase in the share of the population aged 65 years or over between 2007 and 2017 (percentage points)



Note: (1) Break in time series in various years between 2007 and 2017; (2) Provisional.
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed on 15.05.2019

The increase in the share of the ageing population is associated with the need to reorganize public policies related to social protection, the reformation of the labour market and the development of a new institutional and legal framework in the social-demographic field. The increase in the share of the population aged 65 and over is accompanied by an obvious increase during the decade under review. Thus, in only 10 years, between 2007 and 2017, the median age of European citizens increased by 2.7 years, from 40.1 years old (2007) to 42.8 years old (2017) (See Figure 3).

Figure 3. Median age of population, EU-28, 2002-2017 (years)

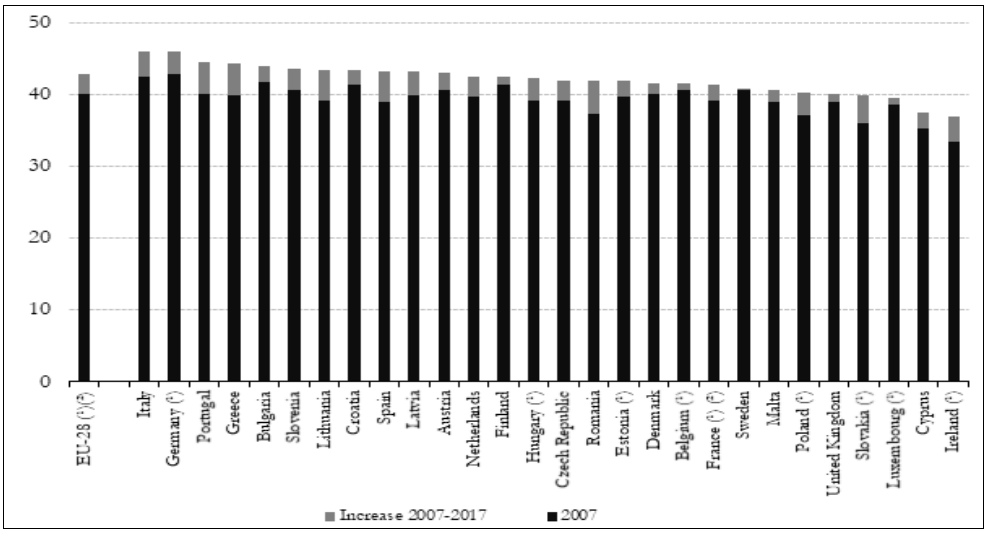


	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EU-28	38.6	38.9	39.2	39.5	39.8	40.1	40.4	40.7	41.0	41.3	41.6	41.9	42.2	42.4	42.6	42.8

Note: 2010, 2011, 2012, 2014,2015, 2016 and 2017: break in series. 2017: provisional.
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed on 15.05.2019

This evolution is not consistent throughout the European Union. In some states, the trend is more obvious, while in others it is slower. In this latter case, we are discussing states that either mitigated this trend through various policies, or previously experienced an increase in the age of the population.
Among the states with a sharp increase in the median age of the population between 2007 and 2017, we mention Romania (4.5 years), Portugal (4.4 years), Greece (4.3 years), Lithuania (4.2 years) or Latvia (4.2 years). If in some states this process is due to natural demographic trends, in Central and Eastern Europe the process is intensified by the massive migration of the younger population. In countries such as Romania (41.8 years old), even if there is a marked increase in the median age, the median age still remains below the EU average one (42.8 years old). In countries such as Italy (45.9 years old) or Germany (45.9 years old), despite the obvious ageing of the population, the process of increase in the median age is still high (an increase of 3.5 years in Italy and 3.1 years in Germany for the period under review). The only states with an increase of less than one year in the period 2007-2017 are Sweden (0.3 years) and Luxembourg (0.9 years).

Figure 4. Median age of population, 2007-2017 (years)



Note: (1) Break in time series in various years between 2007 and 2017;(2)Provisional.
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed in 15.05.2019

An analysis of the degree of dependency of the population (youth and elderly) reveals to a large extent the demographic vulnerability of many of the European states. In the table below we identify several groups of states whose trends are different from the EU average (24% youth population and 53.9% elderly population).

Table 1. Population age structure indicators, 1 January 2017 (%)

	Young-age dependency ratio	Old-age dependency ratio	Total age dependency ratio	Share of population aged 80 or over
EU-28 (1)	*24.0*	*29.9*	*53.9*	*5.5*
Belgium	26.3	28.6	54.9	5.5
Bulgaria	21.6	31.8	53.4	4.8
Czech Republic	23.7	28.6	52.4	4.0
Denmark	26.0	29.7	55.7	4.3
Germany	20.5	32.4	52.9	6.0
Estonia	25.2	30.0	55.2	5.3
Ireland	32.2	20.7	52.9	3.2
Greece	22.6	33.6	56.2	6.7

	Young-age dependency ratio	Old-age dependency ratio	Total age dependency ratio	Share of population aged 80 or over
Spain	22.8	28.7	51.6	6.2
France	29.3	30.7	60.0	5.9
Croatia	22.1	29.8	51.8	5.0
Italy	21.0	34.8	55.8	6.8
Cyprus	23.9	22.8	46.8	3.4
Latvia	24.1	30.8	54.9	5.2
Lithuania	22.5	29.3	51.8	5.5
Luxembourg (1)	23.4	20.5	43.9	3.9
Hungary	21.7	27.9	49.7	4.3
Malta	21.1	28.1	49.1	4.1
Netherlands	25.0	28.4	53.3	4.5
Austria	21.5	27.6	49.1	4.9
Poland	22.1	24.2	46.3	4.2
Portugal	21.6	32.5	54.1	6.1
Romania	23.4	26.7	50.1	4.4
Slovenia	22.6	28.6	51.1	5.1
Slovakia	22.2	21.5	43.8	3.2
Finland	25.8	33.2	59.1	5.2
Sweden	28.1	31.6	59.7	5.1
United Kingdom	27.8	28.2	56.0	4.9

Note: (1) Break in time series
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed in 15.05.2019

In our analysis, we identify 5 categories of states with a higher share than the EU average of the population dependency ratio (in total or by age group categories) (See Table 1):

1. states with a high rate of dependent population due to population ageing. The states with a high rate of dependent population due to the elderly are Greece - 56.2% (33.6% elderly population), Italy - 55.8% (33.8% elderly population) and Portugal - 54.1% (32.5% elderly population);

2. states where a high rate of dependent population due to the ageing of the population is corroborated with a high rate of the youth population - in this case, the trends can be positive in the medium and long term by a reduction in the percentage of the ageing population. In this category of states with a high rate of the dependent population, the following can be mentioned: Estonia - 55.2% (30% elderly and 25.2% youth); France - 60% (30.7% elderly

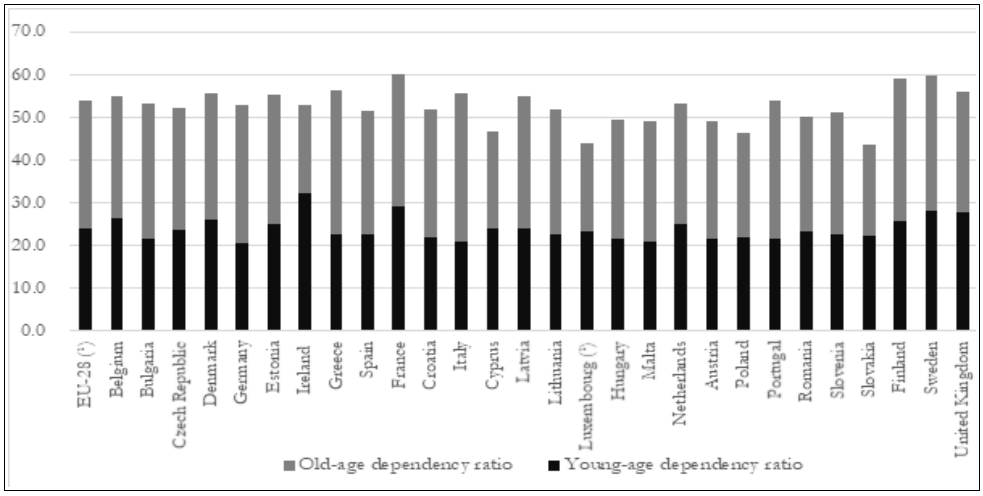
and 29.3% youth); Latvia - 54.9% (30.8% elderly and 24.1% youth); Finland 59.1% (33.2% elderly and 25.8% youth) and Sweden - 59.7% (31.6% elderly and 28.1% youth)

3. states that have succeeded through various mechanisms and policies (e.g. birth rate, positive migratory balance) to maintain a high rate of the youth population. States with a high rate of dependent population due to young people are Belgium – 54.9% (26.3% youth population), Denmark – 55.7% (26% youth population) and the United Kingdom – 56% (27.8% youth population);

4. states with a high rate of dependent population due to the ageing of the population, without yet exceeding the total average rate of the dependent population. This category includes states such as Bulgaria – 31.8% elderly population.

5. states with a high rate of dependent population due to the (still) high share of the youth population, without exceeding the total average rate of the dependent population. This category includes states such as Netherlands - 25% youth population. In this case, if the trends of growth or conservation of the percentages of the youth population are maintained, in the next period we will be able to detect a slight process of reversal in the trend of population ageing.

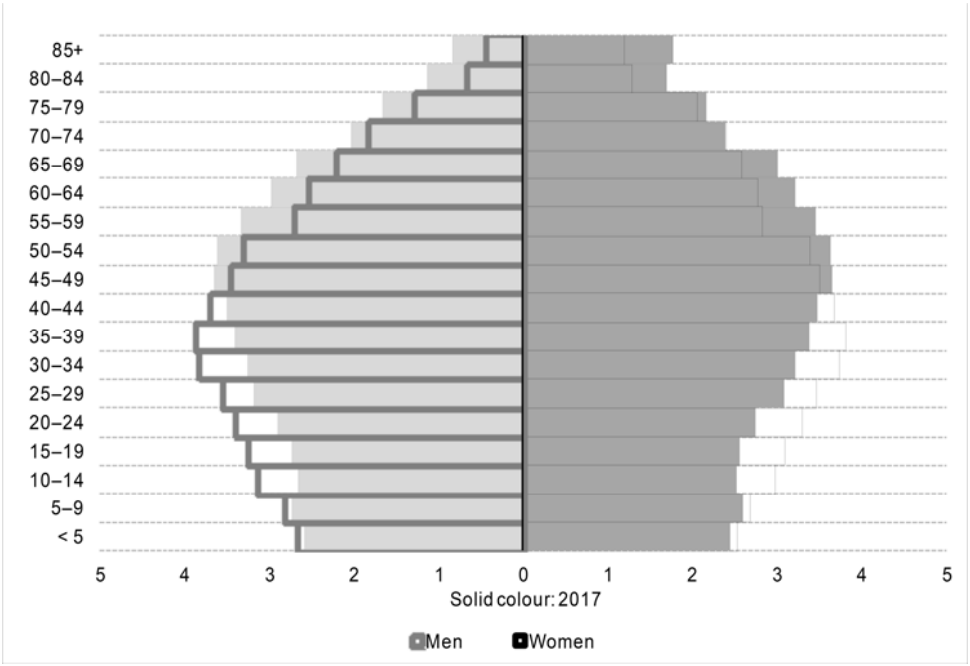
Figure 5. Young and old age dependency ratio, 1 January 2017 (%)



Note: (1) Break in time series
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed in 15.05.2019.

The age pyramid of the population of the states of the European Union between 2002 and 2017 can be seen as a fundamental conclusion of this process, which has not even remotely reached the turning point at which the trend will reverse itself. Thus, a simple visualization of the two pyramids of the population captures the high share of the elderly population which EU "has gained", particularly through the increased life expectancy as well as owing to the existence of large cohorts of the population who were born in periods with a much higher birth rate than the current one live past the age of 45. Moreover, another conclusion is given by the reduction of the share of the youth population, a phenomenon due mainly to, as was previously mentioned, the decline of the birth rate.

Figure 6. Population pyramids, EU-28, 2002 and 2017 (% of total population)

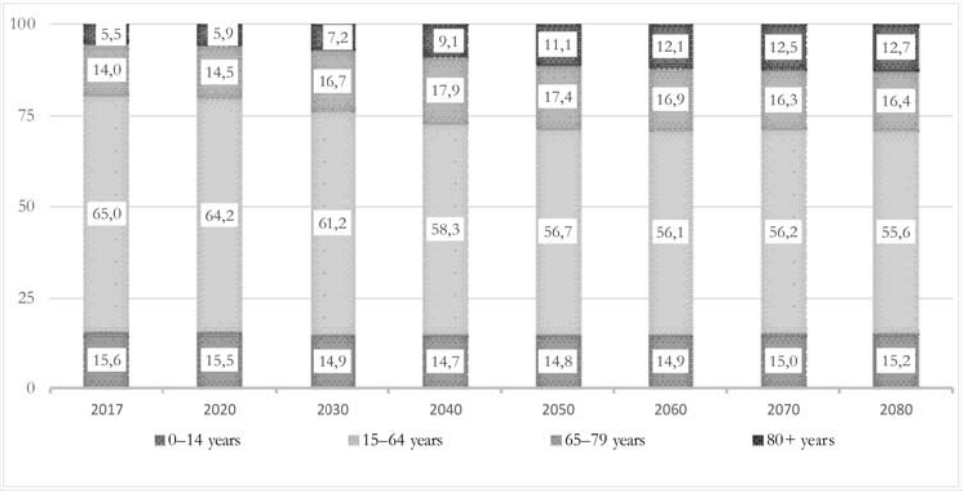


Note: Break in series. 2017: estimated, provisional.
Source: Eurostat, https://ec.europa.eu/eurostat/data/database, accessed in 15.05.2019

The demographic forecasts calculated based on Eurostat data for the near future maintain the same trend of population ageing. By 2080, if the demographic indicators taken into account will not be sharply and radically reversed compared to the observed trends, the share of the ageing population

will have increased considerably. Thus, according to the projection presented in Figure 7 below, from a share of 5.5% of the age group over 80 years old (2017) the trend will reach 5.9% in 2020, 7.2% in 2030, 9.1% in 2040, 11.1% in 2050, 12.1% in 2060, 12.5% in 2070 and 12.7% in 2080. The increase in the share of this age group is therefore expected to be sharp between 2020 and2060. After this period, the growth rate will become more moderate. The other age groups follow the same pattern. The 65-79 age group is also experiencing an increase of the share from 14% in 2017 to a maximum of 17.9% in 2040, so that after this period a reduction of the share to 16.4% will be seen in 2080. This reduction, expressed strictly in terms of percentage (not in terms of quantity) is explained, in our view, not by a reduction in the share of the elderly population but, on the contrary, by an increase in the critical mass of reference provided by a sharp increase of the population over 80 years old. The increase of the share of the ageing population (a phenomenon clearly heightened by the constant increase of life expectancy), can only be understood in the light of the steady birth rate decline. This process, which began in the second half of the twentieth century, could not be stopped as a general trend, and was therefore the reason for the incipient decrease in the mass of the "young" population compared to the total population.

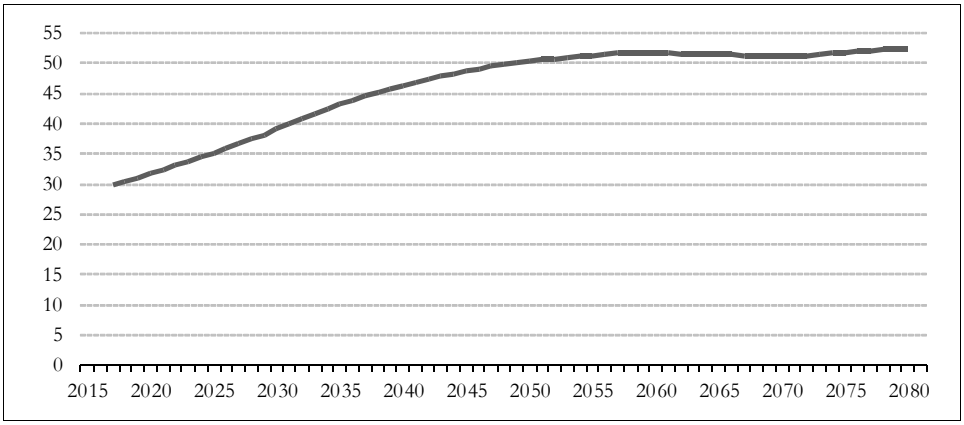
Figure 7. Population structure by major age groups, EU-28, 2017-2080 (% of total population)



Note: 2017: break in series, provisional. 2020–2080: projections (EUROPOP2015).
Source: Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=proj_15ndbims&lang=en, accessed in 15.05.2019

The active population aged between 15 and 65 will steadily decrease throughout this period, ranging from 65% in 2017 to 55.6% in 2080. A 10% reduction in the share of the population available to be employed in the EU economy leads to an even greater vulnerability of the economy/labour market. An encouraging fact is the reversing trend of the evolution of the share of the population aged between 0 and 14. The downward trend is reversed around 2040.

Figure 8. Projected old-age dependency ratio, EU-28, 2017-2080 (% of total population)



Note: 2017: break in series, provisional. 2018–2080: projections (EUROPOP2015).
Source: Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=proj_15ndbims&lang=en, accesed in 15.05.2019

From the standpoint of the active population, in relation to the dependent population (youth and elderly), the short and medium future represent critical periods. The upward trend in the dependent population is evident and sharp until 2060. After this year, there is a relative stabilization, with a reduction in growth rate of this share. This reality triggers a constant pressure on social policies and social insurance, questioning the whole architecture of the social system of the European Union. New social policies, in conjunction with preventive and associated demographic policies, will have to be taken into account by national governments, obviously supported by Brussels.

3. Conclusions

The demographic realities within the states of the European Union reveal population decline and ageing as general trends, despite certain discrepancies in intensity between different European regions. In some countries which recently joined the European Union, there is still a balanced population structure, but according to the forecasts, the ageing of the population here will be even more pronounced in the coming decades. This phenomenon is largely determined by the association of an additional factor to the two already mentioned above: the massive migration, especially of the youth population of fertile age. Thus, migration contributes even more to declining birth rates. The much faster improvement of socio-economic indicators, in general of those related to the quality of life, contributes to a rapid increase in longevity.

Therefore, there is an accumulation of factors that have the effect of a more obvious process of an increase in the ageing rate of the population in these Central and Eastern European states.

The ageing of the European population can, therefore, be associated with both a steady and consistent increase in life expectancy and a worsening of the ratio of the share of the youth and working-age population. Thus, in terms of percentage, the population over the age of 65, including over 80, is continually growing. This reality calls for increased attention from national states and European institutions, which must find sustainable solutions as quickly as possible to ensure the demographic balance and sustainability of the current European social system.

References

Bălaşa, A. (2005). "Îmbătrânirea populaţiei: provocări şi răspunsuri ale Europei". *Calitatea Vieţii* 16(3-4): 273–288.

Cameron, R. (1993). *Concise Economic History of the World.* New York: O.U.P.

Gagauz, O. (2012)."Îmbătrânirea demografică a populaţiei: tendinţe şi opţiuni". *Akademos* 4(27): 83-87.

Eurostat. http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=proj_15ndbims&lang=en.

Eurostat. https://ec.europa.eu/eurostat/data/database.

Worldometers (2017). "United Nations, Department of Economic and Social Affairs, Population Division". *World Population Prospects: The 2017 Revision*, http://www.worldometers.info/world-population/europe-population/.

Demographic Change and Labour Migration in Cluj County, Romania

Ionuț Földes

Babeș-Bolyai University, Faculty of Sociology and Social Work, Department of Sociology, 128, 21 Decembrie 1989 Bvd, Cluj-Napoca, Romania, ionutfoldes@socasis.ubbcluj.ro

Abstract. Suburbanisation of Romania's growth poles represents one of the most important demographic phenomena in the country's recent history. Cluj-Napoca, one of the growth poles of Romania, is well known for its massive ongoing suburbanization process, where adjacent rural areas become actual components of the city. However, while the centre part of the county is continuously growing, the periphery follows a different path. By approaching a descriptive manner, this paper provides insights into the growing gap between Cluj-Napoca and its areas of influence on one hand and the periphery on the other. Data shows that Cluj-Napoca and the Urban Functional Area with the highest share of commuters have the most favourable demographic conditions. The other cities and many rural settlements of the county face population decline, demographic ageing, low fertility and increased outmigration.

Keywords: demographic dynamics, suburbanisation, growth poles, Cluj county, population change, peripheralization.

Introduction

Concentration of economic development in metropolitan areas around the globe is a response to the emerging structural changes in economy and technology. The logic of financial markets and property development result in new forms of spatial development affecting not only the city itself but surrounding areas as well. These processes have considerable implications in terms of demographic changes and urban planning.

https://doi.org/10.24193/RJPS.2019.2.05

At European level, Central and Eastern Europe have become attractive destinations for foreign investments. A significant share of the Western capital outsources various services from the East (Marin 2018; Dustmann et al. 2014). For example, 64% of the German investments in Romania are outsourcing (Marin et al. 2018). Cluj is one of the most illustrative examples in this respect. After 2010, Cluj-Napoca benefited greatly from transnational operation outsourcing, playing an important role in several sectors of activity (Petrovici and Mare forthcoming). These global economic processes have contributed to the emergence of a new middle class, noticeable in Cluj as well as in other growth poles in Romania (Petrovici and Faje 2019)

Suburbanisation of Romania's growth poles represents one of the most important demographic phenomena in the country's recent history that has been highly neglected within the scientific literature. Cluj-Napoca is well known for its massive ongoing suburbanization process, where adjacent rural areas become actual components of the city. However, while the centre part of the county is continuously growing, the periphery follows a different path. Hence, through this paper I am aiming to explore recent demographic changes within Cluj county.

Population dynamic in not an independent process but a main component of an interlinked set of structures such as the economy, governance, policy and globalisation. However, in a globalised world where the framework of competitiveness is widely shared, disparities between the "fit" and the "unfit" are considered a result of the "natural" course of the economy. Far from embracing such a narrow perspective, I argue that measures associating economic growth with the economy of large cities or growth poles contribute significantly to the increasing gap between the centre and the peripheries.

This article will tackle existing demographic territorial disparities within Cluj county. By approaching it in a descriptive manner, this paper will provide insights into the growing gap between Cluj-Napoca and its areas of influence on one hand and the periphery on the other. In order to do so, I will analyse official data provided by the National Institute of Statistics, considering the level of dependence of each territorial administrative unit on the county capital.

The following section will continue with a description of the demographic changes in Romania during the socialist regime and it's first years as a market economy. Demographic dynamics will be demographic. The second part of the paper addresses the case of Cluj county. After developing on the topic and the position it holds in both the national and European

economy, the focus will move to varied analysis of the demographic dynamics in the recent history of the county. In a context of unequal economic development, Cluj county faces territorial disparities on many levels. Without declining the importance of other sensitive topics, present paper narrows the list by describing the demographic challenges the county faced in the past ten years. As it will be shown later, spatially clustered trends are observed when tackling population growth, population structure, fertility or migration.

Sociohistorical context

In Romania, the process of urbanisation is strongly related to the massive industrialisation plan which began after 1950 when 75% of the population was living in rural areas. 35 years later, the number of people living in urban area has reached parity with the number of people from rural settlements (Romanian Demographic Yearbook 2006). Along with population growth, the percentage of urban population also continued to be higher than the share of rural population. After 1991 the share of people living in cities maintained to a ferally 55-56%.

The accelerated rate of urbanisation, known as "forced urbanisation", caused the emergence of a new social profile. In Szelenyi's (1988) terms, the "urban peasant" is a new type of social actor for whom contact with the rural world sits at the heart of own social reproduction (Diminescu 2009, Petrovici 2017). For these new urban persons, the village where they were born represents a "symbolic place of belongingness" (Diminescu 2009 p. 52).

Rural to urban migration recognises three major moments during Romanian's socialist regime. High rates of internal migration were determined by a mixture of push factors, such as agricultural collectivisation, and pool factors associated with the new industrial economy (Petrovici 2017). The first considerable decline in migration started after 1981, before the implementation of a new ordinance blocking/restricting any opportunities to move to the big industrialised cities of the country (Petrovici 2017, Rotariu and Mezei 1998). The largest increase in the migration rate occurred between 1990-1992 (Romanian Demographic Yearbook 2006). A rapid increase in the number of people moving from rural to urban settlements was rapidly followed by significant decline in internal migration. This was a response for the elimination of any legal barriers to migrate to big industrialised cities (Mureşan 1999, Rotariu and Mezei 1998).

The Romanian socialist period is not only known for increased internal migration but also for high fertility rates? (after 1966). Crude birth rates continued to be above mortality rates until 1990, when fertility fell below the replacement threshold (Jemna and David 2018). Even though rural areas were confronted with massive emigration, population volumes continued to be steady. The small variability in rural population size is attributed to natural growth (Rotariu and Mezei 1998). However, this is not the case after 1978. Between 1978 and 1991, the number of people leaving their villages exceeded natural growth by more than one and a half million. (Rotariu and Mezei 1998).

During the transition period, from a socialist towards a free market economy, fertility rates continued to decline reaching lower levels than before. Moreover, the reverse migration process already under way. Right after 1995, urban to rural migration replaced the old flow, which was predominant for more than five decades. This trend continued until the beginning of the new millennium. Turbulent times forced people to move back to their native rural places (Rotariu and Mezei 1998, Sandu and Alexandru 2009, Diminescu 2009). Severe economic crisis, massive layoffs across industries, higher living costs in the cities, lack of investments in housing and the retrocession of agricultural land were contributing factors for the migration from urban to rural settlements.

Having experienced translocal migration, significant number of persons started a new journey abroad. After loosening the regulations concerning border crossing, many Romanians reoriented their migration destination towards foreign countries. In Romania, several regimes of migration can be distinguished during the post-socialist period (Horvath 2012). These regimes relate to push and pull factors as well as border crossing regulations. Increased poverty, financial insecurity and an easier? access to the European labour market accelerated outmigration, making Romania one of the most important countries of origin for migration in Europe (Horvath and Anghel 2009, Horvath 2012).

The case of Cluj makes no exception here. During the socialist regime, the county's population tripled (Petrovici 2017). Most of the immigrant population originates from counties neighbouring Cluj, especially Romanian rural people. This is the new manual labour force for the new socialist factories, a result of the massive industrialisation process (Petrovici 2017). Compared with other countries in Romania, Cluj ranks higher for the population born in another county (Mureşan 1999, Petrovici 2017, Rotariu and Mezei 1998). Cluj attracted most of the immigrant population from Bistriţa-

Năsăud, Maramureş and Mureş, while most of the emigrants from Cluj headed for Hunedoara (Sandu 1984).

Deindustrialization, out-migration and suburbanization are some of the most important facets of the socio-economic change during the transition from a centralised to a market economy (Brown et al. 2005; Benedek 2015). One of the results of these processes was reopening the gap between cores and peripheries at a regional level (Kurkó 2010). Being in a position of disadvantage and dependency in relation to heir centre, peripheries in Romania started to have limited access to occupational, educational and financial opportunities (Moldovan 2017). In order to overcome negative structural effects, such as reduced quality of life, territorial mobility was deemed the most appropriate solution for an increased number of mostly young persons (Moldovan 2017).

Romania in the new millennium

After 2000, more favourable economic conditions started to be noticed. Between 2000-2013, Romania had the highest economic growth within the EU (Cristea et al. 2017). The increase of foreign investments, remittances, export rates and domestic consumption had stimulated the performance of the Romanian economy. Braşov, Bucureşti, Cluj-Napoca, Constanţa, Craiova, Iaşi, Ploieşti and Timişoara are the main poles of national economic growth. According to the World Bank, these are the largest cities in Romania, cumulating 22% of the country's population and more the half the national GDP (Cristea et al. 2017). Moreover, the same report stresses out that these eight cities and the surrounding areas within an hour distance hold almost 50% of the whole population and generates 75% of total business revenues.

Comparing proportions of people moving within counties with intercounty migrants in the 2002 and 2011 census shows that the highest share of immigrants are originated from other administrative units within the same county (Sandu, 2018). Also based on census data, results show that the non-migrant population is increasing in urban settlements while the share of non-migrants living in rural areas hit the lowest point in 2011 (Sandu 2018). For the most economically developed regions of the country, migration towards rural areas has a specific understanding. Its specificity is different from the migratory regime of the early 1990s or the usual returning migration from cities to the rural place of origin. In this case it captures a complex process of suburbanisation (Ionescu-Heroiu 2013).

Cluj-Napoca has a dynamic economy with more and more investments in the public sector as well as a constant growth in numbers and diversity of

available jobs. Among others, these factors act as a magnet, especially for young adults in search for better life opportunities. According to a newly released report on the economy of Cluj-Napoca and Cluj Metropolitan Area, the county's capital is one of the most developed cities in European Union (Petrovici and Mare forthcoming). The same report highlights that between 2008 and 2018, the area's Gross Domestic Product pe capita (GDP per capita) has more than doubled. In terms of economic performance Cluj-Napoca is ranked second after Bucureşti (Petrovici and Mare forthcoming).

Data source and methodology

For this paper, two main data sources were used. Demographic data was retrieved from official statistics provided by the National Institute of Statistics through TEMPO online platform. Each table includes ten-year data series and granularity at LAU level. According to Nomenclature of Territorial Units for Statistics, for Romania, LAU level includes communes, municipalities and cities. The other main data source represents a classification of the territorial administrative units of Cluj county concerning the Functional Urban Area of Cluj-Napoca, the capital of the county (Cristea et al. 2017).

Considering the composition of the functional urban area of Cluj-Napoca while using LAU level demographic data, results presented in this article aim to highlight how population dynamic is spatially clustered across Cluj county's territory. For assigning the functional urban zone, the authors considered only localities with at least 15% of the working population commuting to the county capital (Cristea et al. 2017). As illustrated in Figure 1, an adjustment to the Functional Urban Area was used here to distinguish between communes with high share of commuters to Cluj-Napoca and communes with a smaller share of mobile workers. In terms of absolute values, Floreşti, Baciu and Apahida are the most important sources of commuting labour force in Cluj-Napoca. More than 134 thousand people live in these three communes and have their jobs located in Cluj-Napoca, representing 60% to 70% of the total working population.

Other communes exceeding 65% of the working population having their jobs in Cluj-Napoca are Feleacu and Chinteni. However, in absolute values, commuter numbers amount to 1375 only. On the other hand, Gilău and Aghireşu are two communes that have lower percentages of commuters but higher values in absolute terms (around one thousand persons in each administrative unit). Such differences are due to the variations in communes' population.

Figure 1. Composition of the Functional Urban Zone/Area? of Cluj-Napoca

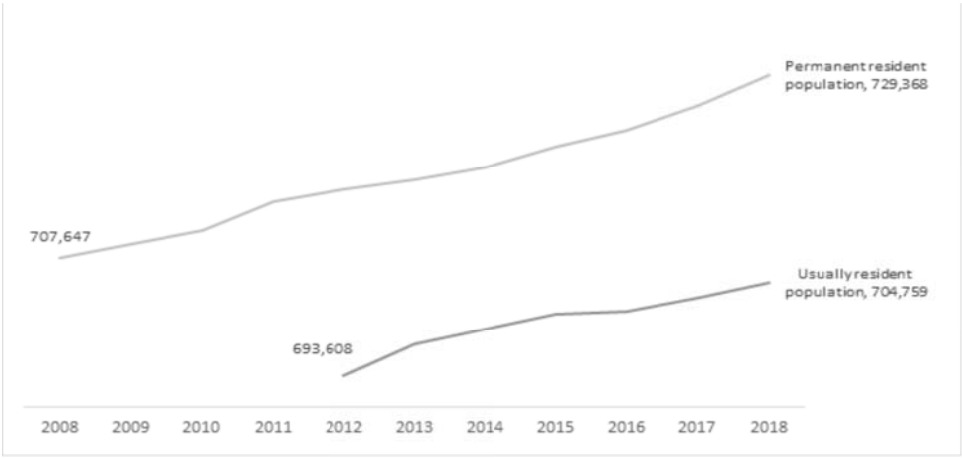
Source: Adaptation from Cristea et al. 2017

Territorial disparities concerning demographic trends in Cluj

Population change

An increase in the population of Cluj County can be noted, both in the case of persons having their official permanent residence in Cluj county and as well as in the case of resident persons in Cluj having their official address elsewhere. While Romania faces population decline, Cluj county faces an opposite trend, namely population growth. In relative terms, between 2008 and 2018, the county's population with official permanent residence grew by 3.1% whereas the resident population growth between 2012 and 2018 equals to 1.6%. Comparing the two categories, values are significantly higher for the official residents. The maximum difference can be noted at 3.37% for the last year of reference and a minimum of 2.69% in 2014.

Figure 2. Permanent resident population and usually resident population in Cluj county between 2008 and 2018

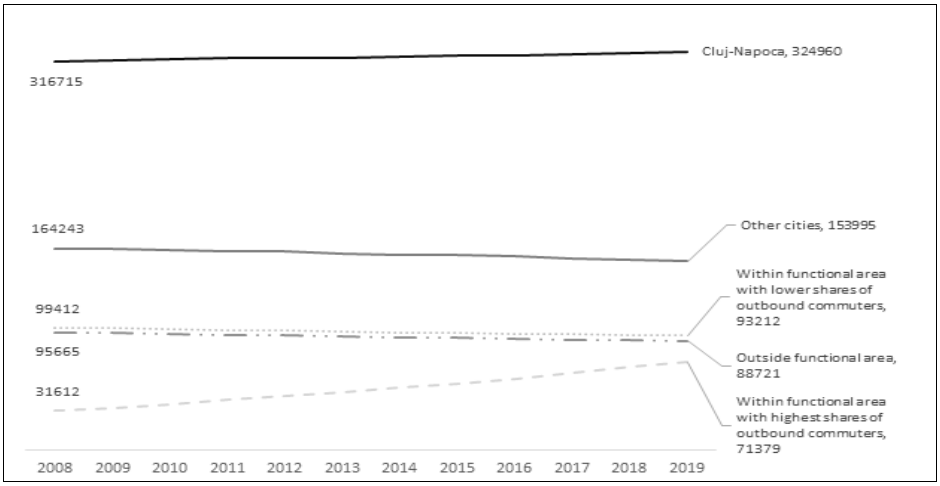


Source: National Institute of Statistics, TEMPO online platform

Figure 3 highlights the official population between 2008 and 2019 for four administrative units types in Cluj county: county seat – Cluj-Napoca, other cities (all outside the functional urban area of Cluj-Napoca), villages within the functional urban area of Cluj-Napoca and villages outside the urban functional area. Considering the administrative units within the functional area of Cluj-Napoca, a new a distinction is made. The first category includes those communes which have more than 60% of the active population working in Cluj-Napoca. The second category includes all the other communes, having lower shares of commuters.

As expected, for the last 10 years, population growth has been strongest in the county seat's peri-urban areas. A slightly ascending tendency is also noticeable in Cluj-Napoca, where the official permanent population has grown by only 3%. Most of all other administrative units are having troubles generating population growth. Increased outmigration along with low fertility and high mortality are the main factors for population decline. According to the World Population Review, Romania's population is decreasing at a rate of over 0.3% per year.

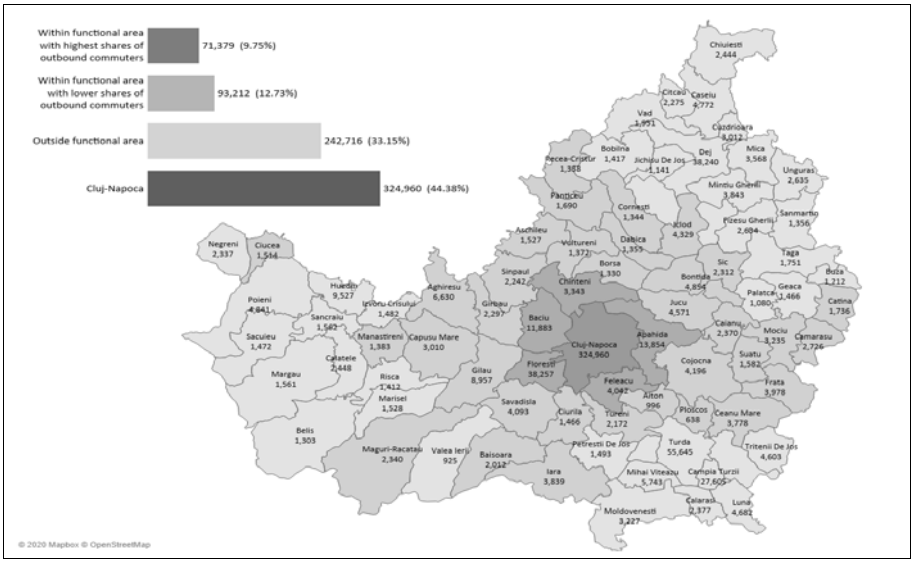
Figure 3. Evolution of Cluj county's permanent resident population by membership within the Functional Urban Area of the administrative territorial units within Cluj county



Source: National Institute of Statistics, TEMPO online platform

Following the same classification of localities by their status within the urban functional area it can be noted that half of Cluj county? population lives in the central part of the county. Population hot spots are noticeable in Cluj-Napoca and rural settlements neighbouring the county seat/city proper? Cluj-Napoca is the largest settlement in the county. Highest figures of stable residents in rural localities are found in Floreşti (38257 inhabitants), Apahida (13854 inhabitants) and Baciu (11883 inhabitants). The population of Floreşti exceeds even the population of other cities of the county. As previously mentioned, these localities also share the highest numbers of commuters towards the county seat. Since most of the employees have their jobs located in Cluj-Napoca, the first circle of the functional zone/area? represents a suburbanised territory surrounding the county capital. Considering their population dynamic and with infrastructure development that allows such large concentration of population, it is far from saying that these communes are still rural settlements. The case of Cluj county? is a powerful illustration for a reconsideration of the classic rural vs. urban comparison in demographic studies and social sciences at large.

Figure 4. Permanent resident population in 2019 for each administrative unit of Cluj county

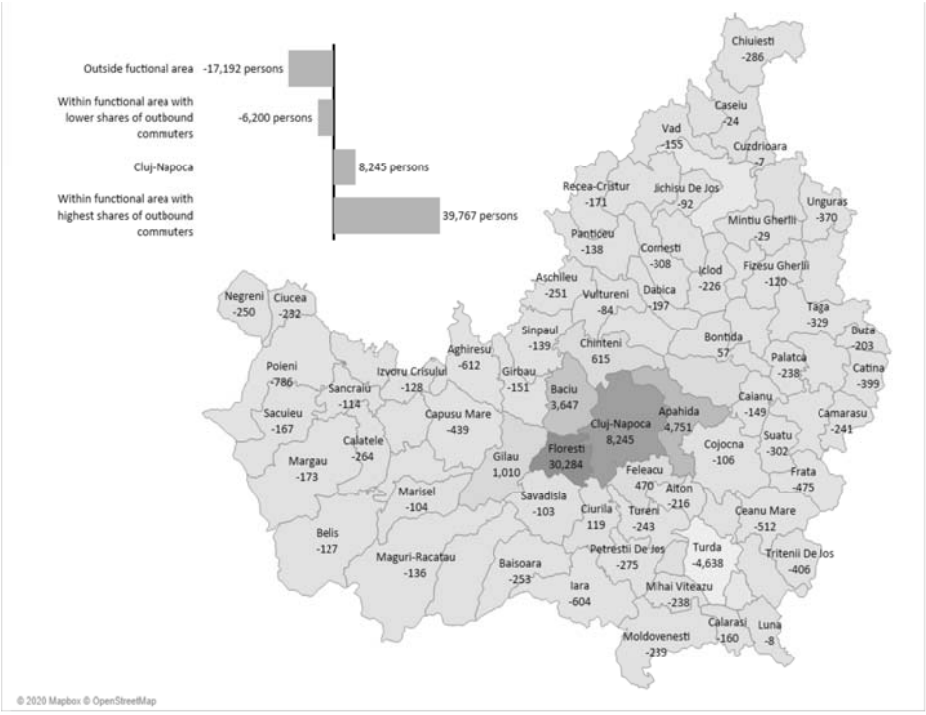


Source: National Institute of Statistics, TEMPO online platform.

When dealing with changes in population for the period between 2008 – 2019, a decline is noticeable in most of the administrative units. An exception to this negative trend is, as expected, the rural localities near Cluj-Napoca. Population growth has been strongest in Apahida, Baciu and Floreşti. In ten years, the number of people living within the functional area with a high number of commuters has more than doubled. The commune of Floreşti is found at the extremes, since its population has increased almost 4 times since 2008. At the same time, Cluj-Napoca experienced a relatively small population growth, however, the county seat hosts a large share of mobile people migration in the short to long term.

Not all administrative units within the functional area experienced population growth in the past 10 years. Most of the communes within the functional area with low shares of commuters are facing population decline. This may be due to lack of investments and outmigration. In this respect, it is worth mentioning that the county's transport infrastructure is underperforming by not easing commute between localities. The lack of means of rapid transit between localities on greater distances is adding a strain on the rental and/or real estate market which in turn can limit one's ability to choose a workplace.

Figure 5. Population change from 2008 to 2019 for each territorial administrative unit of Cluj county



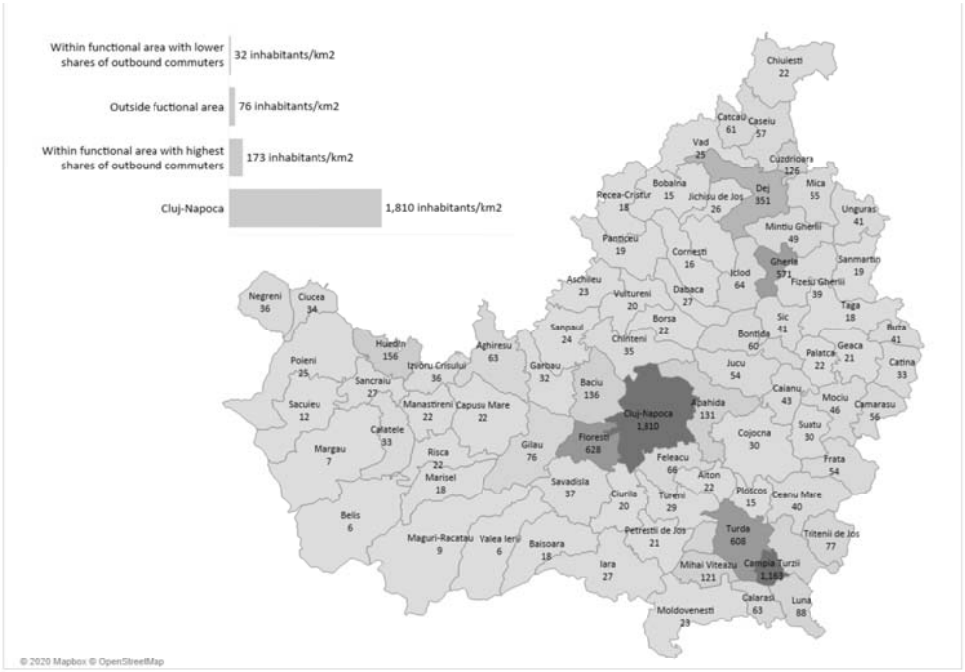
Source: National Institute of Statistics, TEMPO online platform

The increase in population observed in the central part of the county outnumbers population decline characteristic of the rest of the county. Only few localities contribute to the population growth of the entire county. This leads to several questions regarding regional development and further actions that need to be considered. Large concentrations of people in the centre along with a declining population on the county's borders highlights severe territorial disparities concerning local human development.

Areas of high population density are specific to both urban administrative units and communes in the functional area of Cluj-Napoca with the highest share of commuters. Besides Cluj-Napoca, other cities having high population density are found in the southern part of the county. Out of 81 administrative units in Cluj county, only 12 have a population density greater than the county's average density.

However, there are some striking results when taking into account the classification of the administrative units with regard to their membership/status within the Functional Urban Area. Even though all other municipalities of the county are situated outside of the functional area, the first circle of localities surrounding Cluj-Napoca has the highest population density. Furthermore, when excluding the two communes with a smaller population and fewer commuters in absolute values (Chinteni and Feleacu), the population density exceeds 250 inhabitants per square kilometre. On the other hand, the lowest density values are observed for the functional area with lower commuter numbers to Cluj-Napoca.

Figure 6. Population density for each administrative unit of Cluj county



Source: National Institute of Statistics, TEMPO online platform

Population density in Cluj-Napoca and the neighbouring rural areas closest to the city is on the rise. Again, Floreşti commune is at the extremes, being almost 4 times as dense in 2019 compared to 2008. Baciu and Apahida also experienced massive population density growth during the same time period, compared to other administrative units. Overall, communes within the functional zone with low share of commuters and administrative units outside the functional zone experienced a decrease in population density in 2019 compared to 2008.

This tendency is directly associated with population growth/decline in the same period. Population growth in some areas makes them denser as well. Positive values for density change are linked with employability and easiness to commute to Cluj-Napoca. Some of these communes are better connected to Cluj-Napoca or to other important sources of employment acting as a magnet for people looking for jobs. These results outline a much larger variance between the communes with lower shares of commuters than discrepancies between the suburban settlements of Cluj-Napoca. Some of the most

significant negative values are observed amongst the administrative units located at the periphery of the county. The county's towns, excluding the county seat, had a total population decline of 6.2%, whereas rural settlements outside of the functional urban area have seen a decline of 7.26%.

Figure 7. Changes in population density between 2008 and 2019 for each administrative unit of Cluj county

Source: National Institute of Statistics, TEMPO online platform

Figure 8 provides a detailed account over the current population's age structure in Cluj. This illustrates discrepancies between the four categories of each administrative unit of the county along with the change between 2008 and 2019 of the population age structure. All pyramids represented here take different shapes according to the differences in population dynamics for the last decade. As mentioned earlier, Cluj county is one of the most interesting case studies when analysing population change in Romania. Increased territorial disparities occur as a response to an unequal economic development.

The centre part of the county recognizes urban and suburban agglomeration while the periphery is dealing with population decline.

Territorial gaps concerning the change of the population volumes is not the only concern when tackling population dynamics. Across the functional zone of Cluj-Napoca and the areas outside of it, the age structure of the permanent residents recognises pronounced dissimilarities. In Cluj-Napoca population growth is observed for three specific age categories: persons between 0 to 14 years old, 35 to 49 years old and over 64 years old. The category that shrunk most is the population aged 15 to 29 years old. The increase in the number of active population and of elderly population can be explained by natural ageing process along with new immigration waves of labour in search for new employment opportunities. Large numbers of working age population and high employment are both contributing factors to the increase in the numbers of very young children.

Communes within functional area with highest share of commuters employed in Cluj-Napoca recognise an increase of the population for all age categories. The most visible change between 2008 and 2019 corresponds to the active age population (25 to 49 years old) and to the very young children. Therefore, Floreşti and as well Apahida and Baciu have the youngest population in the entire county. This is mostly an effect of immigration of young adults and of high fertility rates. On the other hand, communes within the functional zone with lower shares of commuters present a very different age structure. Even though the number of working populations between 40 and 49 years old has increased in 2019 compared with 2008, younger population is less numerous. Since migration is still at low levels, this is mostly a result of natural ageing, which also has negative influence on fertility. Except the very old population, which is increasing, the pyramid also shows a decline in the number of young elderly people. Despite this shrinkage of the number of old persons in 2019 compared to 2018, these communes seem to have already started a rapid process of population ageing. The situation is similar for the administrative units outside the functional area. However, this category of communes and cities, has a lower share of old people. In this case the decline of the younger generations is more intense. An increase in 2019 compared to 2008 is observed for the population between 40 and 49 years old and as well for the very old population.

Figure 8 Age structure change for official permanent resident population by membership al Urban Area of the administrative units

Source: National Institute of Statistics, TEMPO online platform.

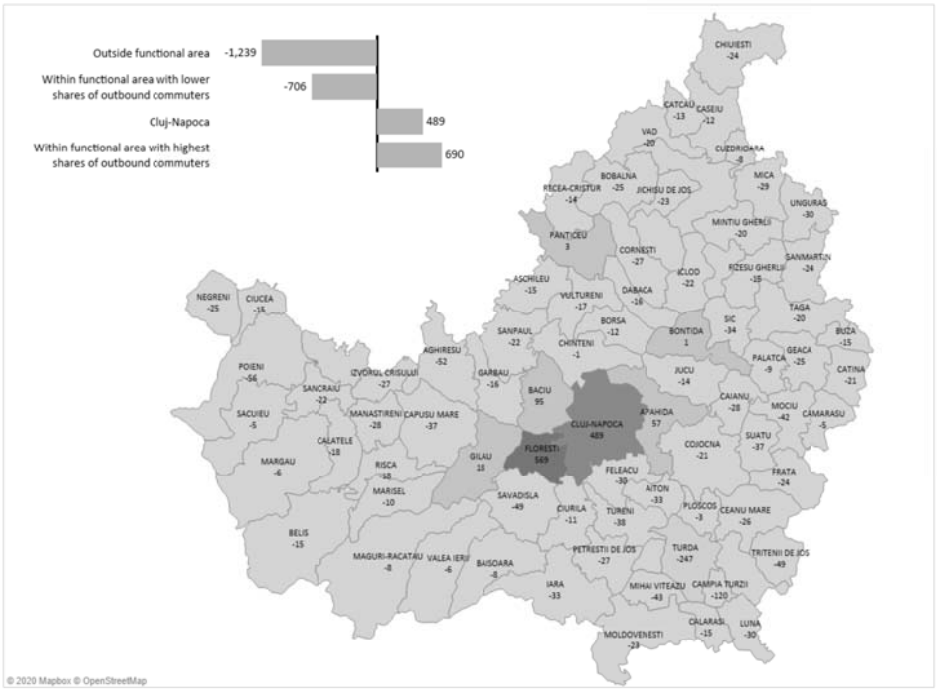
Considering both the base and the top of the age pyramid, except the sub-urban area of Cluj-Napoca, all the other administrative units are facing demographic ageing. In Cluj-Napoca, this process is slowed down by the increase in birth rate. Currently, the population of Cluj county is at its best age structure in terms of working age population numbers. Without more diverse destinations for young immigrants within the county and an increase in fertility, population ageing will follow its course, and so will the gaps increase between centre and periphery. Without further investments targeting Cluj county's at risk peripheric administrative units, there will be no radical changes of the current demographic dynamic.

Fertility

Natural growth of the population is a result of higher overall fertility compared to overall mortality. At national level, starting with 1992 natural growth rates are constantly negative, indicating higher numbers of deceased people compared to the numbers of new-born children. This has a direct effect on Romania's rapidly declining population. However, in the recent years, population decline caused by natural events at Cluj county level was lower than the overall national levels. At administrative unit level, only Cluj-Napoca and some other communes within the functional area have a positive difference between new-born numbers and deceased numbers. Floreşti, Baciu, Apahida and Gilău, all at short distance from Cluj-Napoca, have natural growth. Together, these communes contribute more to population growth than Cluj-Napoca.

The largest numbers of births within the county are in urban settlements, in Floreşti and Apahida. Even if this second ranked cities have large number of births at county level, it was previously pointed out that this is not enough for natural growth of the population. Overall, compared to the county's periphery, the centre part, which includes the county capital and the functional area, have the highest count of new-borns. A small part of this area overlaps with the county's administrative units having natural growth.

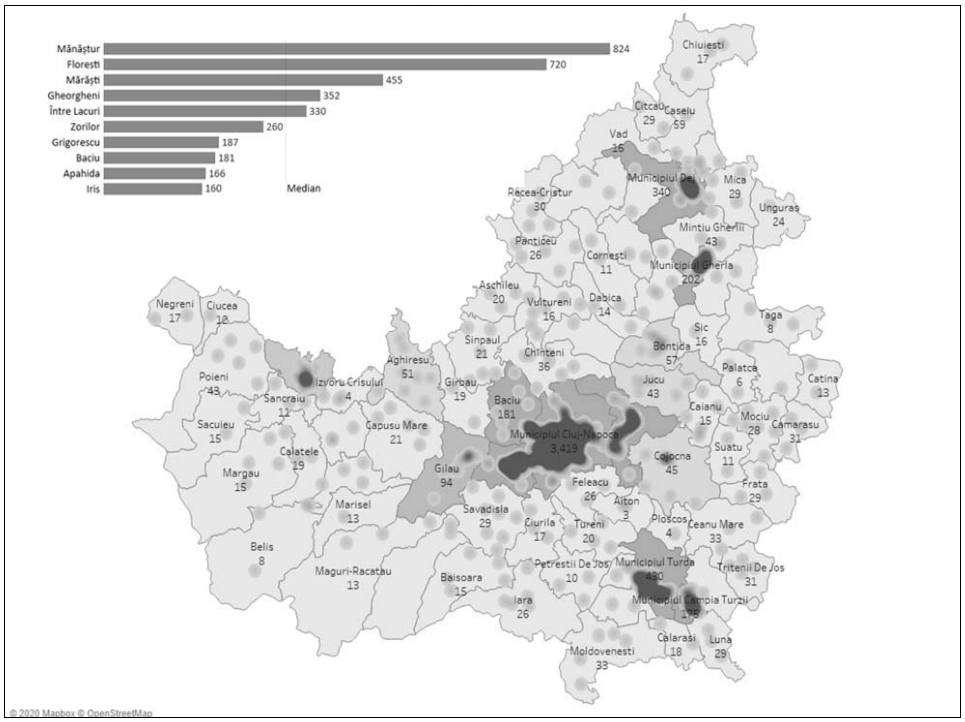
Figure 9 Natural growth for each type of administrative unit within Cluj county in 2017



Note: At the time that the analysis was made definitive, data was available only up to 2017. More recent definitive data is now available on TEMPO online platform.
Source: National Institute of Statistics, TEMPO online platform

Once again, the number of new-born children is much higher in Floreşti than any other city in Cluj county, except for the county seat. The rank after the number of births by territorial administrative units and neighbourhoods, places Floreşti on the second place after Mănăştur, the largest neighbourhood of Cluj-Napoca. The top of this rank includes Baciu and Apahida as well. Except these three rural settlements, the top of the rank contains only neighbourhoods of Cluj-Napoca.

Figure 11 Spatial distribution of births across Cluj county in 2017

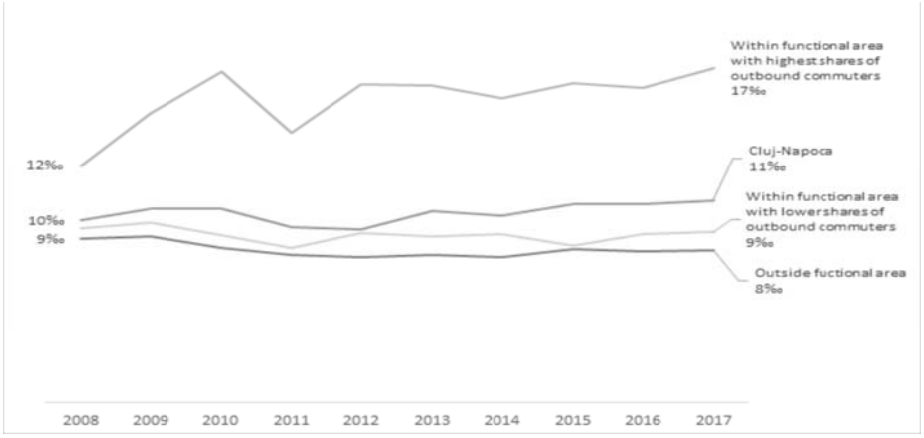


Note: First part of the figure displays top ten neighbourhoods/communes with the highest number of new-born children. The map is a spatial representation of the number of children born in each administrative unit. Densities are based on the geolocation of the mother residence. At the time that the analysis was made definitive, data was available only for 2017.
Source: National Institute of Statistics, TEMPO online platform

Between 2008 and 2017, the functional area with high shares of commuters towards Cluj-Napoca had the highest crude birth rates as well. Moreover, during the years, the rate that gaps between each category has been increasing. At the beginning of the time series analysed, the difference between crude rates ranged from 9 to 12 new-born children for an average population of one thousand inhabitants. However, communes within the first circle of localities surrounding Cluj-Napoca have known a rapid increase in the number of births relative to the population size. For a certain category of the population who had the usual residence in Cluj-Napoca, mainly graduates, the transition to

adulthood consisted in finding a job, starting a coresident partnership, buying a much more affordable home in the suburbs and having children.

Figure 10 Crude births rates between 2008 and 2017 by membership within the Functional Urban Area of the administrative territorial units



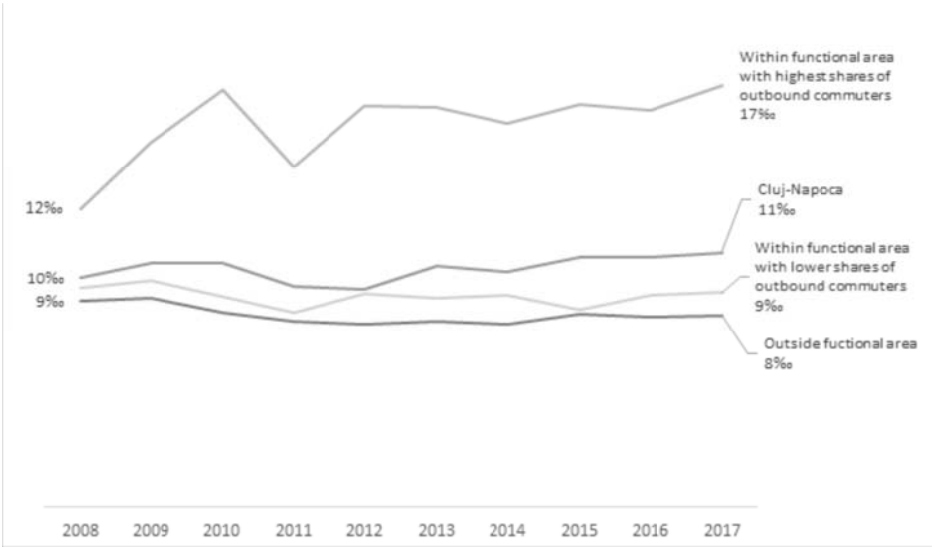
Source: National Institute of Statistics, TEMPO online platform

Internal Migration

When talking about the path that migration takes, the most visible trend is that of becoming a resident in Cluj county. The year 2004 represents for Cluj a starting point for a significant and continuous increase in the number of immigrants originating from Romania's other counties. In absolute values, the number of individuals leaving Cluj county is smaller than the ones coming to Cluj county, which indicates that partly, some administrative units are destinations for migration within Romania, intercounty migration or even international migration. It is worth mentioning that starting with 2014, domicile changes to Cluj county are greater than changes in usual residency. The decline of the usual resident population and the increase of the official population can also be explained having in mind the possibility that a significant share of the people who temporarily moved to Cluj, most probably in Cluj-Napoca and nearby communes, have changed after a period of time their official permanent residency as well.

Overall, the functional area presents a positive net settling of domicile, meaning that the number of immigrants exceeds the numbers of emigrants. Communes within the functional area with highest share of commuters also have the highest number of immigrants compared to the numbers of persons changing their official permanent residence somewhere else in the county or outside it. Bearing in mind previously presented data, this new population represents mostly young employed persons starting their own family life with or without children. The increase in population density in these communes is attributable mostly to high migration.

Figure 11. Net settling of domicile by functional area membership/status of the administrative units



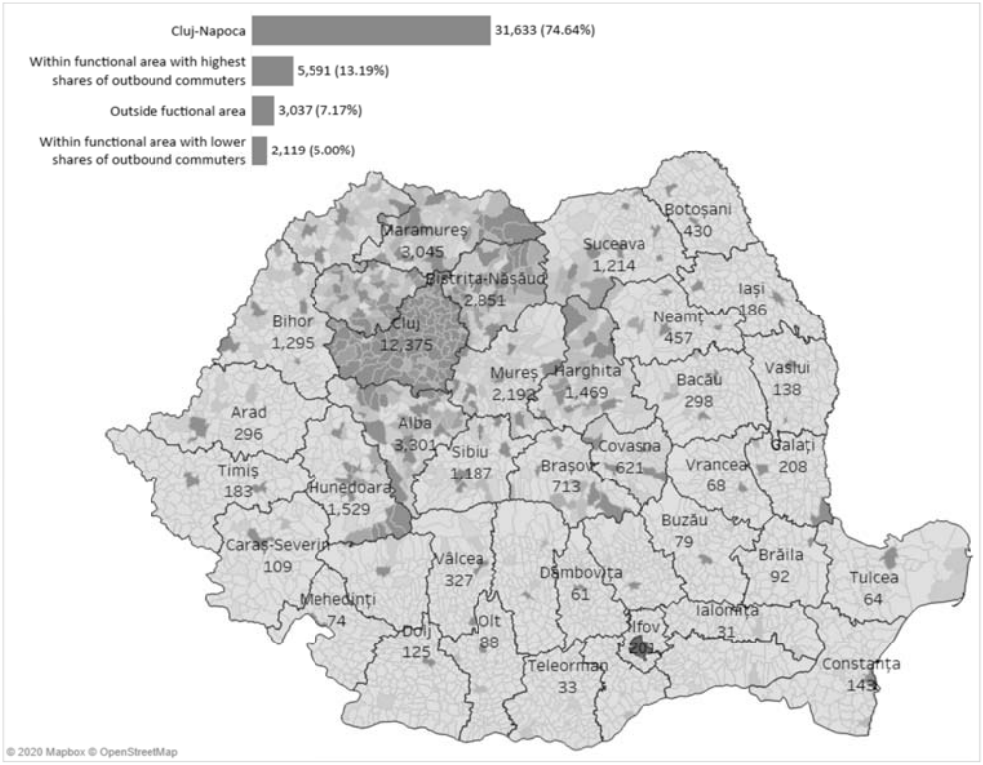
Source: National Institute of Statistics, TEMPO online platform

Based on the Population and Housing Census of 2011, last available at the time the article was made definitive, it was possible to compute and spatially represent both the origin and destination of internal migration from and to Cluj county. The largest number of temporary migrant persons live in Cluj-Napoca. By the time of the 2011 census, from a total of 42 thousand persons having a different usual residency than the official residency, 75% were living in the county capital. This represents a fair 10% of the city's entire population registered during the census.

Approximately 6 thousand temporary migrants (13%) were living within the first circle of the functional area. As previous data revealed, these areas have demographic growth, the highest fertility, and the largest positive values of net settling of domicile. Having the possibility to work in Cluj-Napoca and to pay less for housing outside the city made these communes the favourite destinations for long-term migration. However, for a fair number of persons having the usual residency different from the official residency, the suburbs are more cost-effective places to live.

At county level, it appears that migration flows are more common within the county. Cluj-Napoca and surrounding communes are a magnet for the migrants within the county. Two different waves of migration are essential here. One is the mobility from the county's periphery to the centre and the other is from county capital to the communes within the functional zone. Consequently, neighbouring counties sent to Cluj more migrants than any other counties in Romania. Sălaj, Alba, Maramureş, Bistriţa-Năsăud or Mureş are the most important places of origin among people moving to Cluj. It appears that the usual/common change of residency to Cluj is characterised by short distance mobility.

Figure 12. Spatial distribution of official permanent residence of migrant people living in Cluj

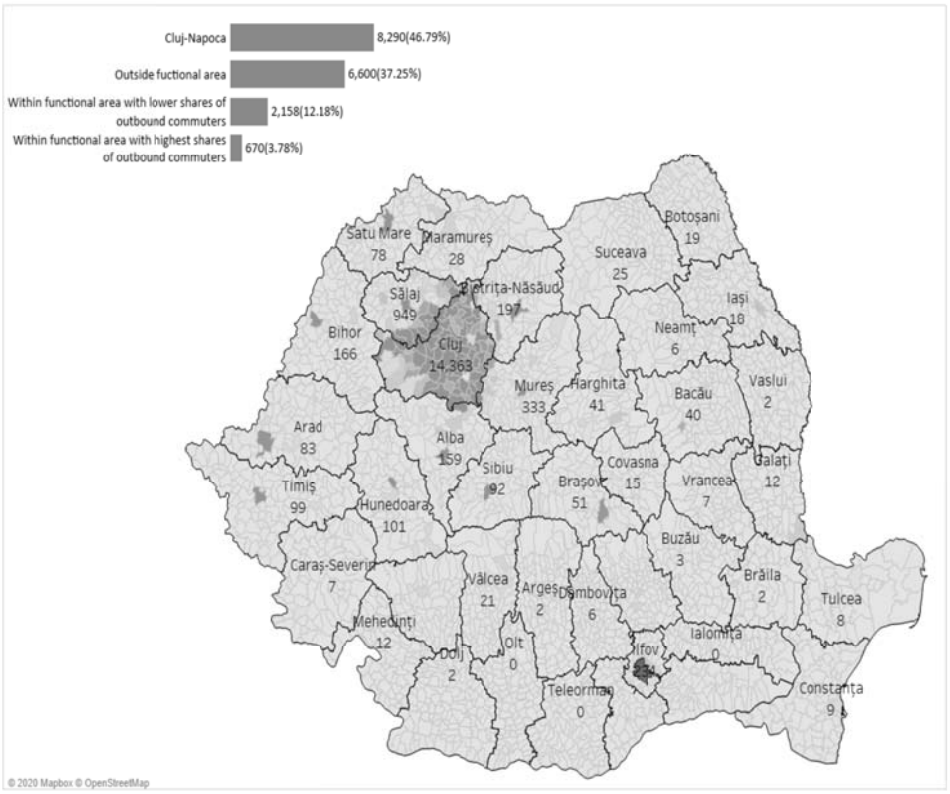


Note: The first part of the figure shows for each category of the administrative units the number of people with the usual residence different from the official residence. This information refers only to internal migration. The map represents every administrative units in Romania where migrants in Cluj have their official permanent residence. Selected cases are persons who were present in Cluj at the time of the 2011 census, who have the official residence in a different locality in Cluj county or in Romania, who were born in a different place than the current usual residence and who had a previous other residence. Tourist and visiting people are not included.
Source: National Institute of Statistics, Population and Housing Census 2011

Concerning people's/individuals' mobility from Cluj to other counties, data shows less intense migration compared to the opposite flow direction. For most of the counties, preferred destinations are the main cities or the county seat. Yet, this is not the case for Sălaj county where, for example, communes across county borders between the two show an increased exchange of population. Same is observable for other neighbouring counties.

Almost half of the departures are made from Cluj-Napoca. The top destinations list includes other countries, other important cities/county seats/growth poles in Romania or rural settlements within the functional area of the city. Administrative units outside the functional area of Cluj-Napoca have the second highest share of people migrating temporarily at least. This is all due to the lack of job opportunities and low quality of life standards. On the other extreme, functional areas' situation with high shares of commuters can be noted. Only 4% of the persons having their official residence in these areas are living in other localities of the county or outside of Cluj county. Despite that they live in the suburbs, a well-known fact is that a fair number of people declare having their usual residence in Cluj. The lack of social services in these suburbs, especially public schooling, is forcing the parents to take advantage of the loophole in current legislation about how usual residence is defined. Moreover, since most of the population living in these four communes is migrant population, there is a low chance for reversed short-term migration.

Figure 13. Destinations of migrant people having the official permanent residence in Cluj



Note: First part of the figure shows, for each category of the administrative units, the number of people having their official permanent residence in Cluj and currently living somewhere else in the county or in Romania. The map spatially displays the usual residence across Romania for people with the official permanent residence in Cluj. Departures reasoned by tourism are not included

Source: National Institute of Statistics, Population and Housing Census 2011

International migration

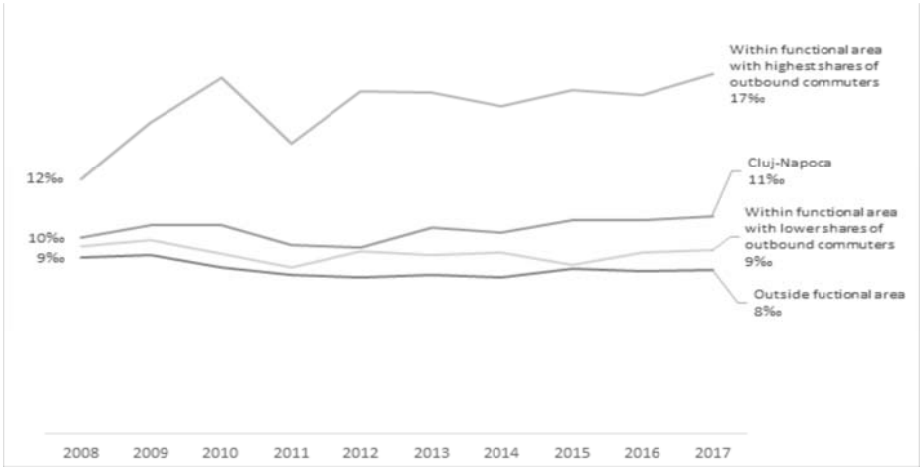
External emigration represents one of the most important factors causing population decline. According to Eurostat (2018), around 20% of the working age Romanians live in another European member state, and thus Romania has one of the largest diaspora population worldwide (UN, 2017). For the most part of the period since the change of the political and economic regime in Romania, the number of permanent migrants leaving the country was higher than the number of permanent immigrants. This relationship has reversed after 2012, when permanent immigrants to Romania outnumbered permanent emigrants.

Cluj-Napoca has the largest number of both emigrants and immigrants compared to other administrative units. Across a ten-year time span, the number of people leaving Cluj-Napoca and localities outside the functional area in favour of other countries has significantly increased . Higher values for these two categories are explained by massive emigration from urban settlements. At national level, in absolute values, most of Romania's citizens leaving the country were formerly living in the cities. Deindustrialization and the lack of employment opportunities forced people to find/look for them abroad. For the case of Cluj-Napoca and other major cities/growth poles, the explanation can also be completed/explained by considering another type of migration which addresses changes in lifestyle, self-development and career.

Communes within the functional area have fewer people moving transnationally/across country borders, but the numbers are on the rise. On one side, employment opportunities within the first circle of the functional area provide enough economic stability for the working families. Increased internal migration, the young age structure of the population, high fertility, natural growth are key indicators that pull factors are more present than push factors for migration. For the second circle of the functional zone we have also a high share of working age population, increased agricultural productivity as well a large share of elderly persons for whom migration across national borders is not an option.

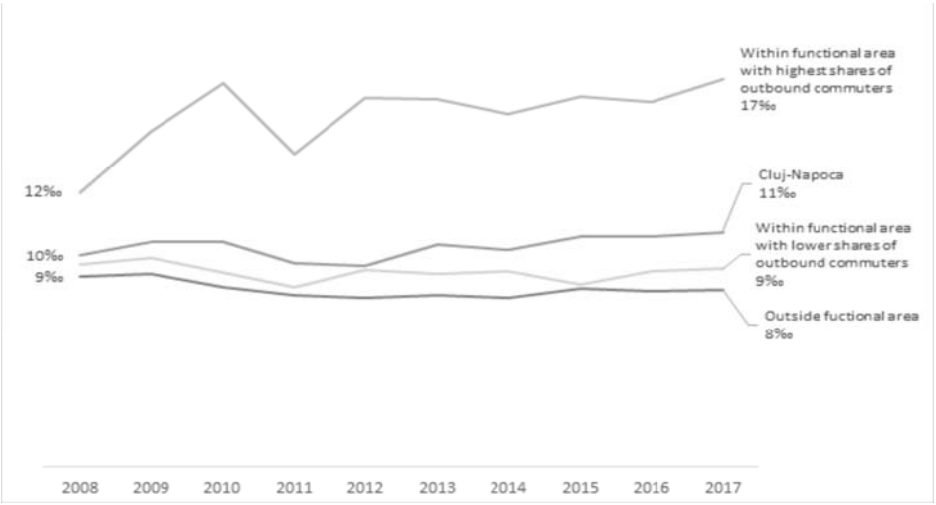
Immigration is a response of both returning migration and the migration of foreign citizens to Romania. Cluj started to be an attractive destination for the two categories of transnational mobile persons/population. Yet, the number of persons who establish their permanent official residence in Cluj is lower than the number of persons who move to other countries. On the other hand, data shows that the functional area of Cluj-Napoca with a high share of commuters is the second favourite destination for permanent immigrants. Starting with 2014, within the area, permanent immigration accounted more than permanent emigration. Besides returning migration and a new population originated from other countries, such a result could be explained by an increase in real estate investments made by Romanians living transnationally/across country borders.

Figure 14. Permanent emigrants during 2008 until 2018 by localities of departure



Source: National Institute of Statistics, TEMPO online platform

Figure 15. Permanent immigrants during 2008 until 2018 by localities of destination



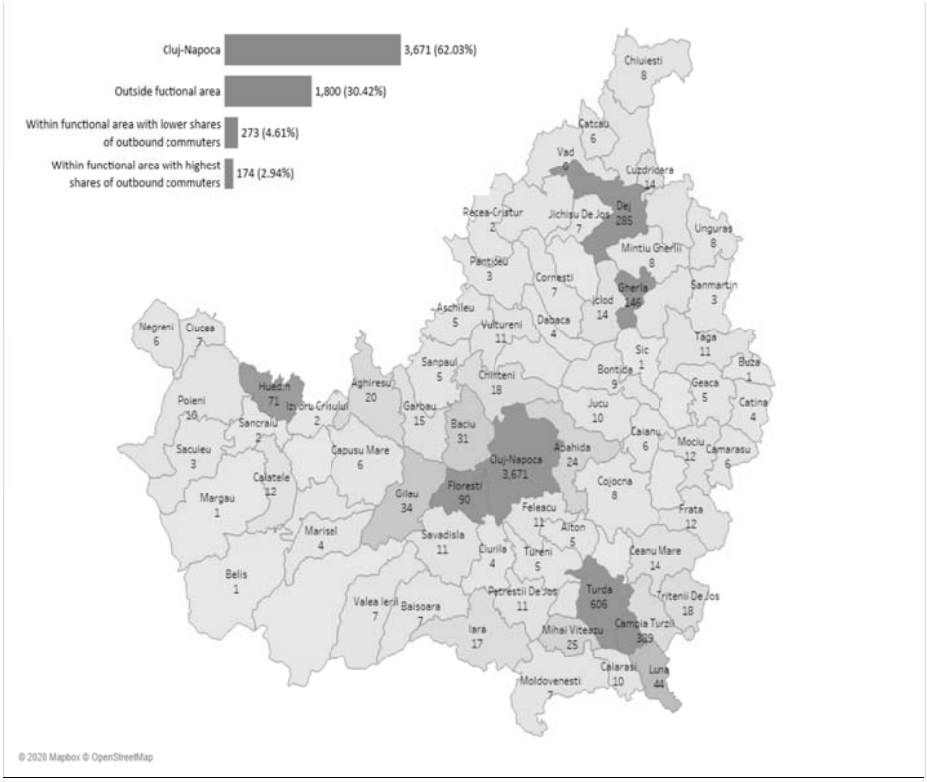
Source: National Institute of Statistics, TEMPO online platform

In the past ten years, 5918 persons left Cluj county, changing their official permanent residence outside of Romania. More than half were originated from Cluj-Napoca. On the other hand, only 7% of the permanent emigrants had their domicile within the functional area of the county seat. As previously mentioned, most of the people that left the country from localities outside the functional area were living in urban settlements. Cities in Cluj county are the most important source of population loss caused by cross border migration. Small figures representative for most of the rural settlements within the county are determined by a different pattern of migration. Within the rural area across Romania, temporary or seasonal migration is much more common among transnationally mobile persons.

The main destinations for immigration closely follow localities with high emigration. The most striking case is the one of Floreşti commune. Here, between 2008 and 2018 90 people left and more than 500 arrived. It appears that suburban Cluj-Napoca is not only a magnet for newcomers from Romania but also cross-border newcomers. Baciu and Apahida, the other two most important administrative units within the functional area have lower international migration but, the same as Floreşti, are localities of destinations rather than places of departure. Overall, the functional area with high share of commuters towards Cluj county account for 17% of the total number of

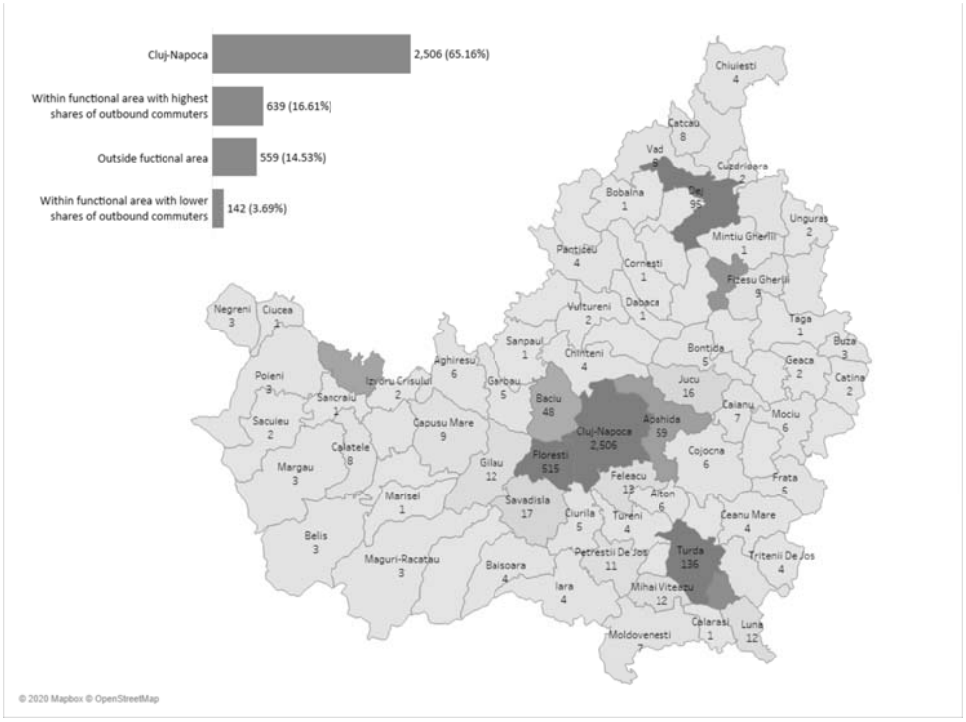
immigrants, while the cities and communes outside the functional area do not perform as well in attracting people from abroad. Communes within the urban functional area of Cluj-Napoca with a lower share of commuters are found at the bottom of the list, having the lowest number of immigrants in the county. This category of localities is characterized as having a close balance between those leaving and arriving from other countries.

Figure 16. Localities of departure and the number of permanent emigrants between 2008 and 2018



Source: National Institute of Statistics, TEMPO online platform

Figure 17. Localities of destination and the number of permanent immigrants between 2008 and 2018



Source: National Institute of Statistics, TEMPO online platform

Conclusions

The aim of this paper was to address the issue of territorial demographic disparities in the context of suburbanisation. The case of Cluj county is an illustrative example for the reconstruction of space within contemporary Romania. Economic development in Cluj-Napoca along with the emergence of a new middle class has put the county seat on the cosmopolite map of Europe. At national level, Cluj-Napoca is the second most important growth pole after Bucureşti, the country's capital. This privileged position of Cluj county/Cluj-Napoca was illustrated here from a demographical point of view.

Cross-county, the most favourable dynamics regarding population change is observed only in Cluj-Napoca and the suburbs (Floreşti, Apahida and Baciu). It was shown that the widest geodemographic gap is between Cluj-Napoca and the Urban Functional Area with the highest share of commuters on one hand

and the rest of the county on the other. Most of the communes within the functional area with lower shares of commuters are demographically similar with the communes outside the functional area. Considering their demographic evolution, the county's other cities, except for the county seat, are in opposition with the communes with the highest number of individuals working in Cluj-Napoca.

Suburbs of Cluj-Napoca have the youngest population in the county, the most rapid increase in the number of permanent residents as an outcome of internal migration and the highest crude birth rates resulting in natural growth. Population growth within this area is so intense that it counterbalances demographic decline specific to most of the administrative units of Cluj. Also, at national scale, such pattern in population change is an exception rather than a rule. Romania is facing massive population decline caused by out-migration and negative balance between the number of births and the number of deaths.

In opposition with the demographic context of Cluj-Napoca and the suburbs are most of the other communes and all the lower ranked cities of the county. For the latter, the number of residents is declining, and population ageing process is on the rise. The levels of population density show the beginning of a depopulation process within some of the most disadvantaged rural areas. Since, the working age population is most numerous, these localities have an optimal age structure. However, considering the current demographic trend, the demographic situation on medium and long term will not get better.

Being limited to descriptive data, it is not possible to make any causal inferences. However, by showing the perfect overlap between demographic and economic disparities cross-county, the present article managed to provide insights on structural changes from the recent history of Cluj county. In this context, the demographical analysis which uses the distinction centre versus periphery is much more illustrative for capturing territorial developmental disparities. In the context of suburbanisation and obsolete administrative classification of the territories, the urban-rural division loses sight of the new demographic dynamics.

Along with policy making, further investigations about the interdependency between economic and the demographic components are highly relevant in the context of a socially polarized Romania. Considering economic development an issue of accumulation of thegrowth poles reduces the capacity of the public and private actors to engage "profitable" actions within the periphery. Reduced quality of life and an increasing risk of poverty forces people to dislocate from their origins and appeal to spatial mobility, which in turn brings along other disadvantages.

Acknowledgements
This work has been supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project name: "Strategic Cooperative Networks: Exploring the Cluj information technology networks" (PN-III-P1-1.1-TE-2016-1691-RoTech).

References

Benedek, J. (2015). "Spatial Differentiation and Core-Periphery Structures in Romania". *Eastern Journal of European Studies* 6 (1): 49–61.

Brown, D., Kulcsar, L., Obadovics, C. (2005). "Post-socialist Restructuring and Population Redistribution in Hungary". *Rural Sociology* 70: 336–360.

Cristea, M., Mare, C., Moldovan, C., China, A., Farole, T., Vinţan, A., Park, J., Garrett, P.K., Ionescu-Heroiu, M. (2017). *Oraşe magnet: migraţie şi navetism în România*. Bucureşti: The World Bank.

Diminescu, D. (2009). "Exerciţiul dificil al liberei circulaţii: o introducere în istoria migraţiei recente a românilor". In Horváth, I., Anghel, R.G. (eds.). *Sociologia migraţiei: teorii şi studii de caz româneşti*. Iaşi: Polirom: 45-62.

Dustmann, C., Fitzenberger, B., Schönberg, U., Spitz-Oener, A. (2014). "From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy". *Journal of Economic Perspectives* 28 (1): 167–88.

Horváth, I. (2012). "Migraţia internaţională a cetăţenilor români după 1989". In Rotariu, T., Voineagu, V. (eds.). *Inerţie şi schimbare. Dimensiuni sociale ale tranziţiei în România*. Iaşi: Polirom, pp. 199-222.

Horváth, I., Anghel, R.G. (2009). "Introducere". In Horváth, I., Anghel, R.G. (eds.). *Sociologia migraţiei: teorii şi studii de caz româneşti*, Iaşi: Polirom, pp. 13-44.

Ionescu-Heroiu, M. (2013). *Oraşe competitive: Remodelarea geografiei economice a României*. Bucureşti: The World Bank.

Jemna, D.V., David, M. (2018). "Post-transnational regional fertility in Romania". *Demographic Research* 38 : 1733-1776.

Kurkó, I. (2010). *Disparităţi geodemografice şi economice din România în perioada de tranziţie*. Cluj-Napoca: Presa Universitară Clujeană.

Marin, D. (2018). "Global Value Chains, Product Quality, and the Rise of Eastern Europe." In Marin, D. (ed.) *Explaining Germany's Exceptional Recovery*. London: CEPR Press, pp. 41–46.

Marin, D., Schymik. J., Tarasov, A. (2018). "Trade in Tasks and the Organization of Firms." *European Economic Review* 107: 99–132.

Moldovan, A. (2017). "Peripheralization as a result and driving force of territorial mobility in post-socialist Romania". *European Spatial Research and Policy* 24(2): 39- 57.

Mureşan, C. (1999). *Evoluţia demografică a României: tendinţe vechi, schimbări recente, perspective (1970-2030)*. Cluj-Napoca: Presa Universitară Clujeană.

National Institute of Statistics, Romanian Demographic Yearbook, 2006.

Petrovici, N., Faje, F. (2019). "Revanşă fără revanşism: Cafenelele clasei de mijloc din Cluj". In State, C., Guţu, D. (eds.). *Hipsteri, bobos şi clase creative*. Bucureşti: Cartier: 273-301.

Petrovici, N. (2017). *Zona urbană: o economie politică a socialismului românesc*. Cluj-Napoca: Tact and Presa Universitară Clujeană.

Petrovici, N., Mare, C. (forthcoming). Economia Zonei Metropolitane Cluj şi a Municipiului Cluj-Napoca: Transformări între 2008 şi 2018. Report series of the Interdisciplinary Centre for Data Science, Babes-Bolyai University.

Rotariu, T., Elemér, M. (1998). "Internal Migration in Romania". In Heller, W. (ed.). *Romania: Migration, Socio-economic Transformation, and Perspectives of Regional Development*. München: Südosteuropa-Gesellschaft, pp. 121-149.

Sandu, D. (2018). "Migraţia internă între constrângeri şi contagiune". In Gheţău, V. (ed.) Demografia României. Bucureşti: Editura Academiei Române, pp. 77-117.

Sandu, D., Alexandru, M. (2009). "Migratia si consecintele sale". In Preda, M. (ed.). *Riscuri si inechitati sociale in Romania*. Iaşi: Polirom, pp. 287-305.

Szelény, I. (1988). *Socialist Entrepreneurs: Embourgeoisement in Rural Hungary*. Madison: University of Wisconsin Press.

Factorial Analysis of the Dynamics of Infant Mortality in Romania (2001-2017). Case Study: Iaşi County

Simona Andreea Ursache[*], Ionel Muntele[**]

[*]Alexandru Ioan Cuza University of Iași, Faculty of Geography and Geology, Department of Geography, Bd. Carol I, 20 A, 700505, Iași, Romania, simona_93u@yahoo.com
[**] Alexandru Ioan Cuza University of Iași, Faculty of Geography and Geology and Romanian Academy, Iași Branch, Geography Department, imuntele@yahoo.fr

Abstract. Beside a host of societal changes specific to the current century, ever-visible discrepancies regarding the standard of living, access to medical services, and education, Romania is also witnessing various issues such as increased population mobility, demographic ageing and a decline in births. Demographic transformations require the urgent elaboration of strategies and policies aimed to decrease the significant social and economic consequences they engender, such as the reduction of the labour force, the sustainability of the pension system, the health insurance system, etc.. What is more, the protection of life should be a priority on Romania's agenda, given that the birth rate and general fertility are constantly decreasing. In our study we intend to carry out a factorial analysis of the dynamics of infant mortality, one of the most expressive demographic indicators of the vulnerability of human communities, between 2001 and 2017, covering the pre-adherence period to the European Community, the crisis and post-crisis period, spurred by the fact that our country still has high values compared to the European average. From a methodological point of view, both the general trends will be analysed at the level of the administrative units of NUTS3 type and the specific trends will be observed at the level of Iaşi county, focusing on the way in which the ethnic and confessional structure, the standard of living, the level of schooling and access to sanitation services influences infant mortality. The qualitative multiscalar analysis partially confirms the initial hypotheses.

Keywords: infant mortality, socio-demographic indicators, Iaşi county, medical services, standard of living, factor analysis

https://doi.org/10.24193/RJPS.2019.2.06

1. Introduction

The World Health Organization defines health as "a state of complete well-being, physical, mental and social, which does not consist only in the absence of disease or infirmity", while as an individual notion it is the result of "the interaction between biological, genetic endowment of humans and its environment conditions of life and activity, natural and social" (Zanoschi 2003: 13).

Studies on the importance of protecting one's life and health have gone beyond the mere description of a situation and have materialized in the knowledge and understanding of all the determinants of health status through the relation that they create with the actual health of individuals (Evans, Barer and Marmot 1994: 46).

For measuring health status, the European Union recommends five categories of indicators (1997): health status indicators (life expectancy, mortality, morbidity, quality of life), lifestyle indicators (tobacco, alcohol, drugs, diet or nutrition), indicators for the characterization of living and working conditions (employment / unemployment rate, working conditions, pollution in the workplace, exposure to carcinogens or radiation), health protection (funding sources, human resources, hospitalized patient cost, drug cost) and demographic and social characteristics (sex, age, marital status, education, income, etc.) (Zanoschi 2003: 33-34).

One of the most significant demographic indicators is infant mortality which can weigh more heavily than other factors such as the standard of living, the life expectancy, the health of a population or even the importance of the health infrastructure. Geographer Kurkó Ibolya (2010) emphasized that no statistics express more eloquently than infant mortality the differences between a welfare society and a missing one.

This indicator expresses the number of infant deaths which occurred in the first year of life and is calculated by reporting deaths occurring under the age of one year per 1000 live births in the same year (Reidpath and Allotey 2003: 344). Child deaths can be divided into two categories: endogenous deaths (generally due to hereditary causes, congenital malformations or trauma caused by birth) and exogenous deaths (caused by external risks: infectious risk, of nature respiratory, alimentary, accidents) (Pressat 1974: 146). The infant mortality rate or index measures the intensity of infant deaths below one year of age, compared to live births in the same period (Trebici 1975: 187).

Worldwide, infant mortality has registered a significant decline in recent decades, except for Sub-Saharan Africa, where maternal mortality and the precariousness of medical and sanitation services are still the main factors

leading to infant deaths. In other areas in Latin America, countries such as Argentina or Brazil have experienced a considerable decrease in infant mortality, a trend shared by the countries of Eastern Europe (Onambele et al. 2018: 1).

In 1990, infant mortality in Romania was measured at 26.9 ‰ , decreasing to 12 ‰ in 2007, in the context of the transition period, when the accessibility of abortion, contraception and family planning decreased the risk of unwanted pregnancies (Kurkó 2010: 173). In 2018, however, the National Institute of Statistics shows a significant decrease, up to 6.4 ‰.

Although this demographic indicator's tendency of recovery especially after 1990 is evident, compared to the other countries of the European Union, Romania still ranks first. Even though infant mortality is decreasing in rural areas, there are still significant disparities in the territorial profile of this phenomenon.

Health status directly influences the a country's level of development and well-being, as ensuring access to medical services still presents a challenge for many countries, despite the fact that sustainable development, modernization and accessibility to health services generates and accelerates economic and social evolution. In this sense, citing economists, Erdoğan et al. (2013: 21) is of the opinion that infant mortality is directly influenced by economic factors , such as average income per capita, an important variable in terms of improving and fulfilling basic needs (Erdoğan et al., 2013: 21).

In Romania, amid the steady decline in birth rates and the resulting demographic decline, reducing infant mortality may be one of the viable solutions in restoring life expectancy, quality of life and natural population growth.

2. Methodology

In order to obtain a comprehensive image of the issue outlined during our approach, statistical analysis and spatial analysis were employed. The study relies on information provided by the databases of various authorized institutions (National Institute of Statistics, Ministry of Health, etc.). Various statistical procedures related to descriptive, univariate or inferential, multivariate statistics were used.

The database created includes, at national level, information on the evolution of infant mortality in the period 2001-2017. Moreover, for Iași county, information was collected concerning the following indicators: the share of the employed population, the share of the population with higher education, the share of the employed population, the share of the population

occupied in health and social assistance, the share of the Roma population, the share of the unemployed looking for the first job, etc., according to the 2011 census. Multiscale analysis was used to capture, on the basis of the analysed demographic indicator, the importance of the health status of the population in different spatial contexts.

The main instrument employed was factorial analysis, which will allow us to transform the data necessary for the descriptive analysis of the observed phenomena, complemented by multiscale analysis, through which we will analyse the dynamics of infant mortality in the period 2001-2017 at the level of the European Union, Romania, as well as at that of the Iaşi county. These issues will be discussed by focusing on both the general trends analysed at the level of administrative units of NUTS3 type and the specific trends analysed at the level of Iaşi county. The way in which the ethnic and confessional structure, the standard of living, the level of schooling and access to health services influence infant mortality will be addressed. We constructed the following hypotheses:

H_a: The regional disparities resulting from the analysis of Infant Mortality create coherent territorial structures, which can be explained by social-economic or cultural factors.

H_b: The quality of the medical infrastructure, the standard of living expressed by the share of the employed population and the level of education are significantly correlated with the dynamics of infant mortality.

3. Results

3.1. The dynamics of infant mortality at European level (2001-2017)

During the period under question (2001-2017), the European Union registered a significant increase of life expectancy, determined by the increase of the life expectancy but also by the reduction of the mortality in general, and especially of the infant mortality (see Table 1). Since 1950 the decline of infant mortality has been almost continuous throughout Europe, with the sole exception of the Eastern European countries, where a slight temporary increase around the 1990s was present, due to the medical crisis and changes in the definition of live births. Since 1980, infant mortality has dropped below 10 ‰ in all the countries of Northern Europe, the Netherlands and Switzerland. A decade later, the entirety of Western Europe, Spain, Italy, Greece, Malta and Slovenia reached this threshold, while the Nordic countries fell below the threshold of 6 ‰ (Avdeev et al. 2011). After 1990, infant mortality witnessed high values the former socialist countries and in the countries of Central and Eastern Europe:

Russia (17 ‰), Bulgaria (17 ‰), Latvia (15.3), Ukraine (14.2), and with higher values in Romania (23 ‰) and the Republic of Moldova (19.8 ‰) (Avdeev 2002: 3).

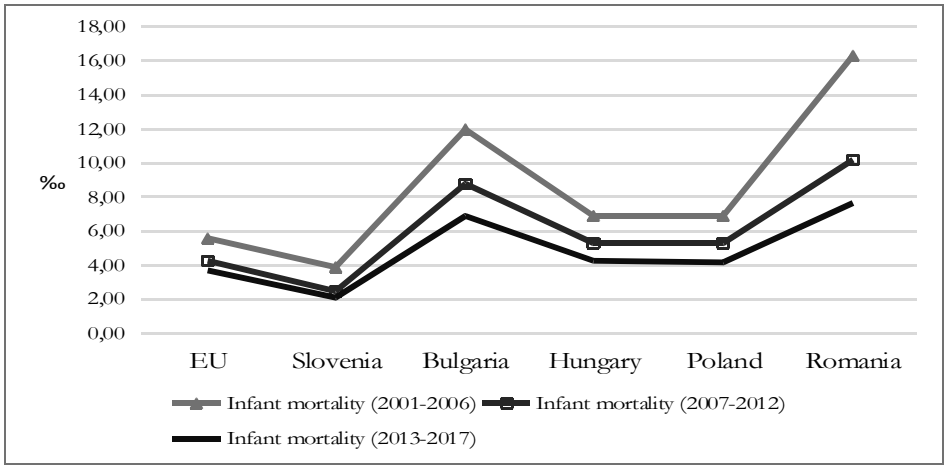
Table 1. Evolution of infant mortality in the EU and in the Eastern European countries (2001-2017)

EU Member States	Infant Mortality 2001 (‰)	Infant Mortality 2017 (‰)
Austria	4,8	2,9
Belgium	4,5	3,6
Bulgaria	14,4	6,4
Czech Republic	4	2,7
Cyprus	4,9	1,3
Croatia	7,7	4
Denmark	4,9	3,8
Estonia	8,8	2,3
Finland	3,2	2
France	4,6	3,9
Germany	4,3	3,3
Greece	5,1	3,5
Ireland	5,7	3
Italy	4,4	2,7
Latvia	11	4,1
Lithuania	8	3
Luxembourg	5,9	3,2
Malta	3,8	6,7
Poland	7,7	4
Portugal	5	2,7
United Kingdom	5,5	3,9
Romania	18,4	6,7
Slovakia	6,2	4,5
Slovenia	4,2	2,1
Spain	4	2,7
Sweden	3,7	2,4
Netherlands	5,4	3,6
Hungary	8,1	3,5

Source: https://www.pordata.pt/en/Europe/Infant+mortality+rate-1589.

Infant mortality decreased steadily from 2001 (18.4 ‰) to 2017 (7.66 ‰) and as a result of the Union's policies and strategies to increase life expectancy, quality of life and standard of living.
For 2001, the highest values characterize especially the former communist countries, which were not yet part of EU: Romania, Bulgaria, Latvia, Estonia, Hungary, Poland. Thus, at the beginning of the transitional period a reduction in the slippages produced by the socialist system could hardly have been reduced. At the opposite pole, countries such as Finland, with a very efficient medical and social system (minimum value 3.2 ‰), Norway, Sweden, Spain, register a maximum of 4 deaths ‰. Although, the infant mortality rate was much lower in 2017, it is nevertheless worrying that Romania has a maximum value of 7.6 ‰ compared to Cyprus, which has a minimum value of 1.3 ‰. East-European countries are making progress in reducing infant mortality, but the values remain significant compared to other European countries (See Figure 1).

Figure 1. Dynamics of infant mortality in Eastern European countries during the reference period



Sources: https://www.pordata.pt/en/Europe/Infant+mortality+rate-1589.

After the collapse of the communist regimes, the former socialist countries went through a series of transformations, guiding themselves according to various proposals and initiatives regarding the transformation of the National Health Care Systems (which promoted Efficiency, Equity and Empowerment as criteria for evaluating efficiency). These changes elicited institutional

confusion, which contributed to the deterioration of the health system rather than the improvement of its performance (Zarcovic and Enăchescu 1998: 1).

Migration, demographic ageing and the steady decline in fertility indicators are just a few of the major problems facing European Union countries. Being concerned about future demographic developments, it is not surprising that policy makers pay special attention to them. The European Commission adopted the Communication entitled "The demographic future of Europe - turning a challenge into an opportunity" (COM (2006) 571 final), which outlined five main policy objectives:

• promoting the demographic renewal, through better conditions for families and improving the reconciliation of professional and family life;

• promoting employment, through more jobs and extending and increasing the quality of professional life;

• a more productive and dynamic European Union, which increases productivity and economic performance by investing in education and research;

• receiving and integrating migrants into the EU;

• ensuring the sustainability of public finances in order to guarantee adequate pensions, social assistance, healthcare and long-term care services.

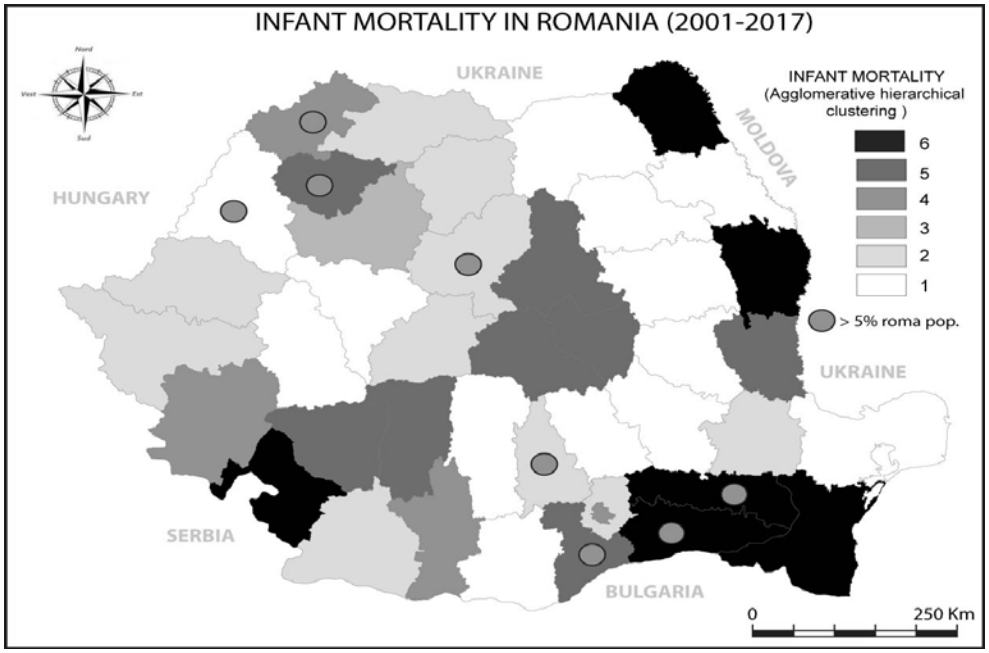
3.2 The dynamics of infant mortality at a national level

We can therefore say that during the 17 years analysed, Romania has not managed to get close to the European average in terms of infant mortality. The stagnantly low standard of living, a limited access to medical services and a modern healthcare infrastructure constituted only a few of issues which lead to infant deaths. We analysed the average of this indicator in the period 2001-2017, which corresponds to a certain extent with the transition period, respectively the pre-accession period, the accession period to the European Community and the crisis period.

With low values, the counties situated in the center of the country, as well as the counties of Ilfov, Harghita, Vâlcea are outlined. At first glance, we would be tempted to say that infant mortality also decreased as a result of the positioning of some counties in the proximity of others with modern medical facilities or a high standard of living such as the neighboring counties of Cluj, but this hypothesis is not confirmed in the case of the counties from the South and East or those near the Bucharest municipality: Ialomiţa, Călăraşi, where there are explanations of a different nature. A high rate of infant mortality is maintained in the following counties: Călăraşi, Botoşani, Vaslui, Satu Mare, Caraş-Severin, Mehedinţi. We note that these counties have a peripheral

position and a lower standard of living than the national average. Low values of infant mortality are registered in Ilfov, Cluj, Bistriţa-Năsăud, Arad, Valcea counties. Romania still occupies one of the first places in Europe in this respect, even though the value of the analyzed indicator has constantly decreased (See Figure 2).

Figure 2. Infant mortality in Romania during 2001-2017



Source: Tempo Online (National Institute of Statistics)

The maximum value of infant mortality was 16.38 ‰, witnessed in Călăraşi county, while the minimum value, 6.81 ‰, was noted in Bucharest, followed by 8.15 ‰ in Cluj county. It can be observed that for this period, most of the country has made remarkable progress. Iaşi county stands out in this respect: while in 2001 it was in the category of counties with a very high infant mortality rate, of 25.5 ‰, it succeeded to enter the category of counties with average values next to Bihor, Sibiu, Neamţ, Suceava, Argeş, Prahova and so on by 2017.

In order to have a more complex overview we decided to analyse the data of the last recess (2011). In the map in Figure 2, the counties in which the share of the Roma population is higher than 5% are marked with bullets,

noting the counties Mureş, Călăraşi, Ialomiţa, Sălaj, Bihor, Satu-Mare, Giurgiu and Dâmboviţa.As we could see, from the point of view of the reference indicator, Romania has travelled a specific path to the countries in the process of transition, characterized by a significant reduction of infant mortality. However, there is a strong split between the socio-economically vulnerable counties and the counties with a higher degree of development and therefore with a better equipped medical system, the lack of maternity medical equipment making the difference between life and death.

3.3. The dynamics of infant mortality in Iaşi county

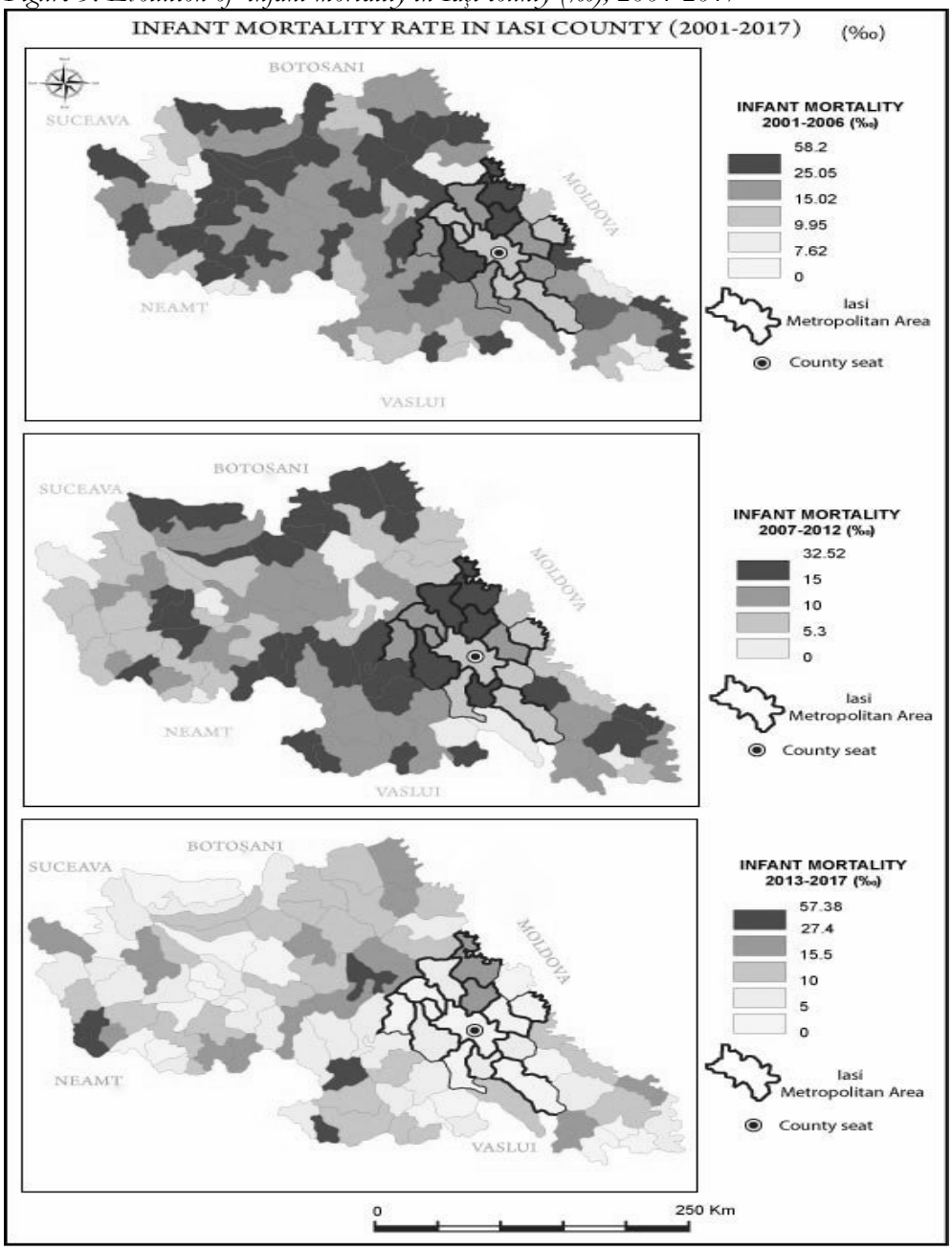
Iaşi County was selected as a case study because it is one of the counties with the most remarkable evolution: while in the period 2001-2006, it was ranked among the first counties in the country, with an infant mortality rate of 18.67 ‰, after joining the European Union it reached 10.46 ‰, and therefore entered the category of counties with an average infant mortality. Finally, between 2013 and 2017, this rate steadily decreased, reaching 6.44 ‰ (See Figure 3).

At the communal level, between 2001 and 2006, the following communes experienced very high values: Costuleni (58.2 ‰), Alexandru I. Cuza (42.1 ‰), Erbiceni (39.6 ‰), Ipatele (36.8 ‰). Several communes with a below county average were also identified: : Cozmeşti (4 ‰), Mirceşti (7.6 ‰) Lespezi (9.2 ‰), Răchiteni (7.6 ‰), ţigănaşi (7.7 ‰), Vânători (5.4 ‰), or in Moşna (0.00 ‰). Between 2007 and 2012, a homogenization of communal values took place, the maximum value almost halving with that of the previous period, 32.5 ‰ in the village of Plugari and minimum in the communes Moşna, Cucuteni, Dobrovăţ, Gropniţa, Răchiteni, Româneşti (0 ,00 ‰).

There are cases of communes that have been capped at certain values (Comarna, Lespezi, Andrieşeni), but there are also spectacular cases of rapid reduction (Costuleni, Podu Iloaei, Ciurea, Costeşti, Cotnari, Cucuteni, Dobrovăţ, Gorban, Gropnita etc).

After joining the European community, infant mortality decreased visibly in the rural environment, against the background of a very low birth rate. It is worth mentioning that compared to the previous period, the city of Iaşi halved its value, reaching 6.33 ‰, and then 3 ‰ between 2013 and 2017 to. For the last analysed period there is a stronger contrast between the communes with important socio-economic and demographic problems: Tansa, Româneşti, Mirosloveşti, Mădârjac (maximum value 57.38 ‰), Ciohorani, and communes with very low values, with a standard of living higher due to their integration in the metropolitan area: Bârnova, Ciurea, Holboca, Rediu, Tomeşti, Valea Lupului.

Figure 3. Evolution of infant mortality in Iași county (‰), 2001-2017



Source: National Institute of Statistics, 2001-2017

It may be argued that for the period 2013-2017 the disparities at county level between the communes with socio-demographic and economic problems (Vânatori, Tansa, Românești, Mirosloveşti, Ciohorani) and the communes in the metropolitan area (Miroslava, Valea Lupului, Rediu, Tomeşti) were consolidated, rather than having abated. After the accession to the European community, the former's problems deepened even more against the background of the migration of the prolific sector, the increase of life expectancy, the demographic ageing and the decrease of birth rate, while the latter fully enjoyed the benefits of European integration, European funds and the capital of companies installed there, which allowed them to develop rapidly. This also led to an increase in the quality of life and the standard of living.

It is interesting that in the case of small values two patterns are outlined: on the one hand, communes located in the proximity of urban centres, with a decent standard of living and higher accessibility to medical services or even cities (Pascani, Iaşi, Mirceşti, Târgu-Frumos, Rediu , Hunters); on the other hand, communes with a lower standard of living, but located in a peripheral position and with a high birth rate related to a small number of infant deaths (for instance, ţibăneşti- where a small community of Seventh-day Adventists is present, Sireţel, Sineşti, Belceşti). Finally, communes with significant communities of Roma population, which seem to be quite well integrated, given that the rate of infant deaths is rather small.

4. Multivariate analysis of infant mortality in Iaşi county

As outlined, one of the objectives of the study is to analyse the factors that directly influence infant mortality in Iaşi County. The agglomerative cluster hierarchical multicriteria (AHC) analysis was considered relevant because the statistical process ensures sufficient accuracy by calculating the intra/inter class variance. Thus, a dendrogram with 8 sufficiently homogeneous classes was obtained, the inter-class variance being greater than that within each class. As we can see the biggest differences appear between classes 1-2 and the others, grouped into three couples. In completing the ascending hierarchical analysis, a principal component analysis (ACP) was also performed in order to more accurately capture the correlation between the factors analysed previously. We took into account infant mortality (2007-2016), birth rate (2006-2017) and the share of the population employed in health and social assistance, the share of the active population, the share of the employees, the share of the unemployed in search of the first job, the share of the population without studies, the share

population with higher education, weight of Roma population, data processed following consultation of the 2011 Census.

4.1. The typology of infant mortality in Iaşi county through the lens of ascending hierarchical cluster analysis

Grades 1-2 group urban centres with better medical infrastructure (Paşcani, Târgu Frumos) and suburban commune Miroslava. At the opposite pole, grades 7-8 group communes with a significant share of the Roma population, with still high birth rates or in isolated areas. The description of the classes highlights the following particularities (See Figure 4).

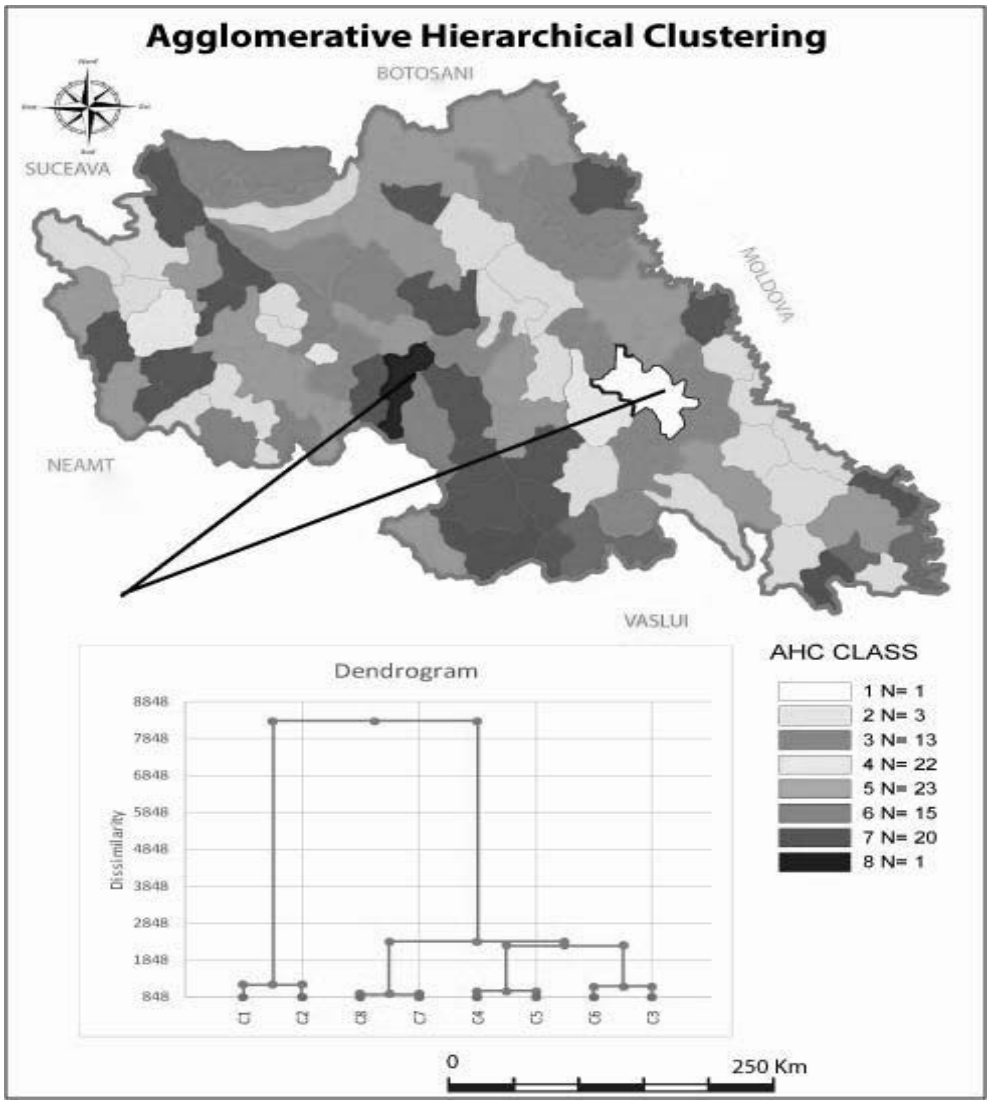
Class 1 is represented by the city of residence of Iaşi County, respectively Iaşi City, an administrative unit with low infant mortality, a high standard of living and a high quality of life compared to the other communes in the county, belonging to the urban environment, which allows easier access to the health system and a high level of education among its inhabitants.

The 2nd class includes municipalities such as Paşcani, the city of Târgu Frumos or the commune of Miroslava, administrative units with a high standard of living, which benefit from the complexity of the urban functions or from their proximity to urban areas, which offer more opportunities to find a place to live, work, for the development of services, the existence of specific technical-public facilities etc. All of these directly influence infant mortality, which is kept low.

Within the 7-8 groups, deeply agrarian communes that encounter quite a lot of socio-demo-economic problems were included:Brăeşti, Ciohorani, Erbiceni, Fântânele. These were influenced either by a peripheral position in the case of the county, or by the migration of the active population, the aging of the population and implicitly a low birth rate, high infant mortality rates, above the national average, sometimes a significant proportion of the Roma population. Only the commune of Lungani belongs to the latter category: it stands apart as the poorest commune in Iaşi county from a territorial perspective, deeply agrarian, with a very low standard of living and a significant share of Roma population.

Classes 4 and 5 comprise the most communes, both from the metropolitan area: (Aroneanu, Victoria, Schitu Duca, Leţcani, Ungheni) and from the proximity of some municipalities and cities: (Cotnari, Bălţaţi, Vânatori, Plugari etc.), common with a pattern specific to the Moldavian rural environment, values of average infant mortality, an average standard of living and accessibility to medical services, and relatively high education .

Figure 4. The ascending hierarchical cluster analysis



Source: National Institute of Statistics

The category of classes 3-6 included especially smaller urban administrative units, such as the city of Hârlău, the city of Podu Iloaei and a part of the peri-urban communes which are part of the metropolitan area(Bârnova, Ciurea, Holboca, Rediu, Tomeşti, Valea Lupului etc.). These are distinguished by low values of infant mortality on the one hand as a result of being located in the

vicinity of Iaşi and on the other hand as a result of decreased birth and fertility. They share both a high development potential and a rather high quality of life. This group also includes a series of peripheral rural communes, with a low infant mortality due to the majority migration of the active population and the decrease of births: Sineşti, Scheia, Scânteia, Probota, Mirceşti.

As mentioned above, in order to complete the ascending hierarchical analysis, we also carried out an analysis in main components, taking into account the socio-demographic indicators mentioned above. According to the correlation matrix, infant mortality correlates negatively with the population employed in health and social assistance, with employees in general, and with persons with higher education, i.e. it is higher where these indicators have low values. In contrast, birth rate is positively correlated with the unemployed, precarious education and ethnicity (Roma). The strong correlation of the employed population and the employees with the higher studies shows that these factors constitute a favourable context for the decrease of infant mortality, explaining types 1-2 of the AHC. On the contrary, the Roma population is positively correlated with high birth rates, unemployment and poor education (See Table 2).

Table 2. The Pearson correlation matrix

Variables	Infant mortality 2007-2017	Birth rate 2007-2016	% population working in health sector 2011	% active population	% employees 2011	% unemployed	% without education 2011	% higher education	% Roma population 2002-2011
Infant mortality 2007-2017	1	0,14	-0,28	0,01	-0,22	0,19	0,07	-0,20	0,06
Birth rate 2007-2016	0,14	1	-0,09	-0,38	-0,06	0,39	0,31	-0,16	0,42
% population working in health sector 2011	-0,28	-0,09	1	-0,23	0,66	-0,08	-0,10	0,76	0,12
% active population	0,01	-0,38	-0,23	1	-0,23	-0,26	-0,13	-0,07	-0,24
% employees 2011	-0,22	-0,06	0,66	-0,23	1	-0,13	-0,25	0,76	0,03
% unemployed	0,19	0,39	-0,08	-0,26	-0,13	1	0,25	-0,16	0,39
% without education 2011	0,07	0,31	-0,10	-0,13	-0,25	0,25	1	-0,31	0,24
% higher education	-0,20	-0,16	0,76	-0,07	0,76	-0,16	-0,31	1	-0,01
% Roma population 2002-2011	0,06	0,42	0,12	-0,24	0,03	0,39	0,24	-0,01	1

5. Conclusions

As we could see, in the analysed period, from the point of view of the reference indicator, Romania has travelled path specific to the countries in the process of transition, characterized by a significant reduction of infant mortality.

The main contribution of the article is to underline the manifestation of some profound changes in the spatial distribution of the analyzed indicator. While the North-East area of the country, including Iaşi county, was marked by marked by values much higher than the national average for a lengthy period, during the last few years a reduction of the gaps has been noted. In the case of Iaşi County, the progress was even more spectacular. This trajectory can be related to the presence of a denser and more efficient network of medical infrastructure.

Moreover, at a national level there is an increasingly visible differentiation between counties that have medical centers with regional influence and peripheral ones. At the local level, this phenomenon manifests itself in the same direction, the peri-urban areas of the big cities registering a significant improvement of the incidence of this indicator, in contrast to the isolated communes, disadvantaged from the perspective of the access to the medical infrastructure, in which high values were maintained.

The results of the study show obvious limits, generated by sometimes incomplete information or by the adversarial nature of some of the analyzed parameters. The concrete way of expression and their cause can only be surprised by case-by-case studies at the detailed level, following field investigations.

A more complete view of observed trends also means linking the indicator analysed with other demographic elements such as early birth incidence, birth prevalence in age groups at risk (both over 40 and under 15 years), the degree of vaccination of children etc. or other similar elements which can be analysed, within the limits of access to information, in further research.

References

Avdeev, A. (2002). "La mortalité infantile en Russie et en URSS : éléments pour un état des recherches". INED : *Dossiers et recherches*, Nr. 107, Janvier 2002.

Avdeev, A., Eremenko, T., Festy , P., Gaymu, J., Le Bouteillec, N., and Springer, S. (2011). "Populations et tendances démographiques des pays européens (1980-2010)". *Population* 66 (1): 9-133.

Erdoğan, E., Ener, M, and Arica, F. (2013). "The Strategic Role of Infant Mortality in the Process of Economic Growth: An Application for High Income OECD Countries". *Procedia - Social and Behavioral Sciences* 99: 19 – 25.

Evans, R., Barer M., and Marmor, T. (1994). *Why are some people healty and other not? The determinants of health of population.* New York: Walter de Gruyter.

Kurkó I. (2010). *Disparităţi geodemografice şi economice din Româia în perioada de tranziţie*. Cluj Napoca: Presa Universitară Clujeană, Cluj- Napoca.

Onambele, L., San Martin-Rodríguez, L., Niu, H., Alvarez-Alvarez, I., Arnedo-Pena, A., Guillen-Grima , F., and Aguinaga-Ontoso, I. (2018). "Infant mortality in the European Union: A time trend analysis of the 1994-2015 period". Anales de Pediatría (Barcelona).

Pressat, R. (1974). *Analiza demografică*. Bucureşti: Editura ştiinţifică.

Reidpath, D.D., Allotey, P. (2003). "Infant mortality rate as an indicator of population health". *Journal of Epidemiology and Community Health* 57(5):344-6.

Trebici, V. (1975). *Mică enciclopedie de demografie*. Bucureşti: Editura ştiinţifică şi Enciclopedică.

Zanoschi, G. (2003). *Sănătate publică şi management sanitar*. Iaşi: Editura DAN.

Zarcovic, G., and Enăchescu, D. (1998). *Probleme privind politicile de sănătate în ţările Europei Centrale şi de Răsărit*. Editura Info Medica.

Waldhoer, Th., Wald, M., and Heinzl, H. (2008). "Analysis of spatial distribution of infantmortality by cause of death in Austria in 1984 to 2006". *International Journal of Health Geographics* 7: 21.

BOOK REVIEW

Ján Golian (2019). *Život ľudu detvianskýho. Historicko-demograficka a kultúrna sonda do každodenneho života v dlhom 19. storočí/The Life of the People of Detva. Historical-demographic and cultural research on everyday life in the 19th century*, Ružomberok: Society for Human Studies, 432 p. ISBN 987-80-972913-4-1

The presented book is a result of the 10-year study into the demographic dynamics of the Catholic parish of Detva, with an agricultural character, located in the region of Podpoľanie, Central Slovakia, at the end of the 19th century and during the first two decades of the 20th. What makes the population of the Detva parish an interesting object of study for Ján Golian? The first reason is its cultural isolation. Due to large distances from other localities/ urban centres, the studied region long preserved its own cultural separateness, remaining a kind of "open-air museum of the old days". The second reason is its dynamic pace of demographic development. The parish grew enormously: in the early 1880s, it consisted of 4,000 people while 140 years later there were almost 15,000 inhabitants. The population was moreover homogeneous in terms of nationality and religious denomination. The Slovak-speaking population made up an absolute majority and Catholics accounted for at least 97 % of the total population.

Golian's very ambitious research objectives were accomplished using parish birth, marriage and death records from the years 1781-1920. In total, the author used over 58,551 baptismal records, 12,342 marriage records and 39,032 deaths records.

In the chapter "Sobáše" *(Marriage),* the author characterized marriage patterns, setting them into the concept of the division of Europe by the so-called Hajnal line. The number of matrimonies was shaped by various political events and economic conditions, such as: the Napoleonic wars (the end of the 18th century), the failures of Vienna's foreign policy (the first two decades of the 19th century), the agricultural crisis and famine in the late 1840s, the economic stagnation in the following decade and epidemics of diseases.

The number of marriages concluded was strongly related to wars, famines and epidemics of infectious diseases. Over a period of 140 years the proportion of first marriages fluctuated from less than 60% (during the periods of natural disasters and wars) to 85% in the 20th century. Some matrimonies were re-marriages of widowers and brides, widows and widowers or widowers and grooms. Grooms and brides entered into matrimony at a very young age. Taking into consideration the average age at first marriage, which was 21 years for grooms and 19 years for brides, the region perfectly fits into the Hajnal's characteristics of an Eastern European family type. Seasonality of matrimonies in the parish of Detva, as in other Catholic parishes from Europe of that time, was mainly shaped by the liturgical calendar. Few marriages were contracted during the Advent and the Lent while the most took place in autumn and during the Slavic carnival period called *fašiangy*, and lasting between the Epiphany and the Ash Wednesday. The marriage patterns were compared by the author to the ones from neighbouring countries, belonging in the studied period to the Habsburg monarchy.

Golian starts the Chapter "Narodenia" *(Births)* by presenting fluctuations in the number of births caused, among others, by the economic crisis in the first decade of the 19th century, famines, emigration and by the outbreak of the First World War. Illegitimate children in the population occurred in parish registration at the beginning of the 19th century. Between the 1860s and the 1880s the proportion of children born out of the wedlock accounted for over 12% in all births, and then these numbers declined. This fact is interpreted by the author as a result of the intervention of the hierarchs of the Catholic Church in the moral life of the faithful. In Detva parish, births of twins accounted for 1.3% of all births. The masculinity index (the secondary sex ratio - the index of live-born males to live-born females) was at the level of 97.1 which means that the live-born females outnumbered the live-born males. The secondary sex ratio is a very good indicator of environmental stress, i.e. economic conditions, natural disasters, famine or wars. It is regrettable that the author did not interpret the fluctuation of the value of the masculinity index in this context. At the beginning of the timeframe under study, stillbirths were not recorded in parish register books. It was only in the first years of the 20th century that these events appeared in the parish books, while during WWI children born without signs of life were again not recorded in the parish registers. According to the author, the seasonality of births was influenced by biological processes.

The biggest numbers of births were observed at the turn of the calendar years, which means that children were conceived in the spring time.

Golian's research did not confirm the significant impact of the seasonality of marriages on the birth season, nor the influence of sexual abstinence during the time assigned by church.

The chapter Úmrita *(Deaths)* starts with the presentation of the changes of the numbers of deaths in the parish of Detva and their causative factors, such as: crop failure leading to famine or epidemics. In the latter case the most serious epidemic broke out in 1873. Deaths of children under the age of 14 had the highest proportion in relation to all deaths. Due to broadly understood improvement in medical care, i.e. anti-epidemiological measures and vaccination, the proportion of children declined over time. The infant mortality rate was 250 deaths of children during the first year of life per 1,000 live births, being at the average Central European level. Golian lists the leading causes responsible for children's mortality: smallpox, pertussis and scarlet fever. Although epidemics were eradicated due to the improvement in medical care, cholera and the Spanish influenza hit the population of Detva even in the 20th century. According to Jan Golian's research, the seasonality of deaths was influenced by climate-related factors, mainly seasonal changes in temperature. Higher numbers of deaths were also caused by the shortage of food, especially after long winter. This phenomenon (known in the Polish literature as *przednówek*) is characteristic of the population at a low economic level (seasonal food shortages). Mortality increases were also caused by the outbreaks of epidemic diseases, irrespective of the season.

To sum up, *Životľududetvianskýho. Historicko-demografická a kultúrna sonda do každodennehoživota v dlhom 19. storočí/The Life of the People of Detva. Historical-demographic and cultural research on everyday life in the 19th century)* is a work which can be of interest not only to historians and historical demographers. One cannot exclude that there are people interested in the history of their ancestors once living in the area belonging to the studied parishes. The book opens up a number of interdisciplinary discourses concerning the pace of demographic transformation and its causative factors, everyday life of people, their customs, etc., inviting representatives of anthropology, sociology, historical demography and ethnography.

Reviewed by: Grażyna Liczbińska,
Faculty of Biology, Adam Mickiewicz University in Poznań, Poland
Department of Anthropology, Masaryk University, Brno, Czech Republic
grazyna@amu.edu.pl

The *Romanian Journal of Population Studies* is published twice yearly by the Centre for Population Studies. The journal is included in the EBSCO, ProQuest, ERIH PLUS and C.E.E.O.L databases.

The purpose of the *Romanian Journal of Population Studies* is to disseminate historical and contemporary demographic research with a focus on Romania and Central and Southeast Europe, to all scholars from around the world who have an interest in this field, and to provide a publication platform for relevant studies in this field. Both descriptive studies and research papers in the field of demography are welcome.

The *Romanian Journal of Population Studies* is an interdisciplinary journal covering the social, historical, geographical, and economic aspects of the population. The journal focuses both on analysis made from the historical perspective and the present realities as well as the predictions made in the field of population studies in Romania and in other countries from this part of Europe. The journal is also open to studies on population phenomena from other parts of the world or to theoretical or methodological papers relevant for the study of population.

Information for authors

The journal accepts submitted manuscripts in one of the following languages: English, French or German, with a short abstract (approx. 100 words) and keywords written in English. The main text of contributions should not exceed 10,000 words. We ask authors to provide notes and comments as footnotes within the flow of the text, generally at the bottom of the page. In case your notes contain charts, tables, long equations, or other tems that make a footnote impractical, you can include this information in an appendix or as an endnote. The references should be cited in the text. No full length bibliographic references should appear in the main text of the submission. All references should be placed at the end of the submission.

Submission should contain original unpublished work and not have been submitted or under consideration for publication anywhere else.

All submissions will undergo a double blind peer review process, during which both the author identities are concealed from the reviewers, and the reviewer identity remains undisclosed to the author.

For further information please access our website at:
http://rjps.reviste.ubbcluj.ro/.

Centre for Population Studies
Avram Iancu St, No. 68, 3rd floor
400083 Cluj-Napoca, Romania
rjps@ubbcluj.ro