DEMOGRAPHIC CHANGES AND MIGRATION IN LAU 2 REGIONS OF LITHUANIA IN 2001–2018

DEMOGRĀFISKĀS PĀRMAIŅAS UN MIGRĀCIJA LIETUVAS LAU 2 REĢIONOS NO 2001. LĪDZ 2018. GADAM

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Abstract

Depopulation processes started to intensify in Lithuanian peripheral areas in 2004, when Lithuania joined the EU, and increasing emigration was the main factor behind these processes. This paper analyses the main differences between migration processes at LAU 2 level in 2001 and 2018 in relation to the changing demographic structure of the population inside the country. Analysis of data revealed that migration processes played little role in the redistribution of the population at the beginning of the century; however, the intensification of migration at the end of the 2010s resulted in redistribution of Lithuanian residents towards major metropolitan regions. A rapid increase in the share of residents in three metropolitan regions was followed by a decrease in the population in distant peripheries. A decrease in the size of the population was also followed by ageing processes in those areas.

Keywords: emigration, depopulation, periphery, metropolitan regions, Lithuania, eldership (LAU 2 region)

Introduction

Over recent decades Lithuania, like other CEE countries, has experienced profound changes in its population geography, which resulted in spatial transformation of the whole society. The major trends in the Baltic states are related to the polarisation of spatial development both within these countries and at the EU level (Åberg 2005; Stanilov 2007a, 2007b; Berzins & Zvidrins 2001; Burneika et al. 2013, 2017; Cirtautas 2013; Ubarevičienė 2018a, 2018b; Baranauskienė 2019, 2021; Ubarevičienė & Burneika 2019). Emigration from peripheral areas towards the metropolitan centres and abroad was the main process reshaping Lithuania's urban system; therefore there were a lot of studies analysing trends of migration from and inside Lithuania (Rakauskienė & Ranceva 2012; Ubarevičienė 2016; Shor & Burneika 2017; Ubarevičienė 2018a; Pociūtė-Sereikienė 2019). There are also studies that reveal post-accession migration from the Baltic states (Krisjane et al. 2013), the mobility of young people in the EU (Krisjane et al. 2018), and emigration and remittances pattern analysis in lagging-behind regions of the Baltics (Kozlovs 2019),

among others. Though emigration to foreign countries was the major cause of shrinking population across the country, the internal migration flows made the decisive impact on the transformation of Lithuanian residential structure (Ubarevičienė 2018a). Like in most CEE and Baltic countries, the growth of the metropolitan (primarily the capital) regions, manifested by fast suburbanisation, was the most evident process (Krišjāne & Bērziņš 2012). These processes were unsurprisingly followed by the depopulation of the peripheries. Though emigration trends at the municipal level are pretty obvious, the micro-scale trends remain uncertain so far. The main aim of this paper is to establish major spatial changes in migration processes at the local (LAU 2) level in 2001 and 2019.

As with all social processes, emigration can be explained either based on preferences of social agents (people) or by structural factors (social structure) or by their mutual interaction (structuration). The human decisions to emigrate can be rational, caused by, for instance, objective differences in wages or employment possibilities, as rational choice approach (Buchanan & Tullock 1962), the new economics of labour migration (Castles & Miller 2003) or dual labour market theories predict (Massey et al. 1993; Brettell & Hollified 2000). These decisions also can be based on subjective images, such as "distant metropolis is never perceived in perfect material measures" (Ley 1979). The polarisation of development and related migrations are often related to the structural factors, such as the nature of the present capitalistic economy or neoliberal economic policy (Hadjimichalis & Hudson 2014; Lang et al. 2015). Emigration processes can also be perceived as a continuation of the urbanisation processes which were sustained in the Soviet era, when one-fifth of the labour force was employed in agriculture. All these and many other theories can help us to understand the ongoing processes, but the main task of this paper is only to reveal the major spatial changes of migration at the very local level, because only this scale can illustrate the details of transformation of the Lithuanian urban system.

Data and methods

This research is based on the quantitative analysis of secondary data and uses mathematical statistical as well as cartographic analytical methods and the GIS. The analysis is based on the detailed 2001 and 2018 data on the declared place of residence obtained from the State Enterprise Centre of Registers, as well as the data on arrivals and departures officially declared by residents (for the identification of immigration to and emigration from LAU 2 regions) and the age structure of the population (for the identification of the share of the population under 15 years of age). The research aims to reveal the impact of migration processes in the smallest administrative areas of the country (seniūnija – an eldership or LAU 2 region) in 2001 and 2018. It should also be

noted that the declared arrivals and departures analysed do not necessarily reveal the exact movement of population, because residents moving to other areas often do not declare changes in their place of residence. The available data do not allow us to accurately estimate the number of migrants or the exact changes in population number, but it should be sufficient for the revelation of general trends of migrations and their spatial differences in different regions of the country.

The analysis of changes in population size, as well as the declared arrivals and departures, is conducted at the most detailed territorial level of an eldership (LAU 2 level). According to the data of the Lithuanian State Enterprise Centre of Registers, on 1 January 2001, 3,071,103 residents were registered in the population register, while on 1 January 2018 there were 3,010,564 residents (the data also includes the registered residents in the territories of municipalities, without specifying the specific place of residence). This study analyses only the data in which the specific place of residence has been indicated by the declarers; therefore, a smaller population was selected for analysis (3,071,089 residents as of 1 January 2001 and 3,009,259 residents as of 1 January 2018).

A total of 524 territories (elderships) were examined in the analysis of the population changes from 2001 to 2018, as well as the arrivals and departures (net migration) officially declared by the residents in 2001 and 2018. In total, there are 556 administrative units in Lithuania that match the eldership level (LAU 2 level), but this paper uses the administrative territorial division which was updated by UAB HNIT-Baltic on 25 August 2018, according to 2015 data of the State Enterprise Centre of Registers. The layer used is adapted according to the data of the population register obtained from the State Enterprise Centre of Registers on 20 February 2019. As a very few cities have more than one eldership, we did not analyse inner-city changes. Some elderships consist of both central municipal city and surrounding suburban-rural areas (Anykščiai, Kupiškis, Širvintos), and in such cases the situation in the city eldership can be more positive, as population growth is concentrated in mostly in suburban areas of all cities.

Results

Demographic changes in LAU 2 regions (seniūnija) in 2001–2018

The previous studies have already revealed the main trends of changes in redistribution of population inside Lithuania, but most of them were based on the data of population censuses of 2001 and 2011 (Ubarevičienė 2018a) or made at the municipal level (Burneika and Pocius 2019). The analysis of the population changes based on the data of from the State Register reveals that the number of residents who have declared their place of residence in a particular municipality decreased only by

2% in 2001–2018 (Table 1). The overall demographic changes look very limited, though this can be related also to the changing system of declaration of place of residence. The most evident demographic change of 2018 comparing to 2001 is related to intensification of migration processes. The yearly migration flows in all LAU 2 regions (seniūnija) increased by more than three times in 2018.

Table 1. **Indicators of population change in Lithuania in 2001 and 2018** (authors' elaboration based on data of the State Enterprise Centre of Registers)

	Population (inhab.)	**Number of births**	**Number of deaths**	**Natural population change (per 1000 inhab.)**	**Number of arrivals/ immigrants**	**Number of departures / emigrants**	**Net yearly migration (per 1000 inhab.)**
2001	3,071,089	30,612	38,607	-2.6	33,438	48,981	-5.1
2018	3,009,259	28,041	38,571	-3.5	140,651	125,442	5.1

The fairly stable population size in the country as a whole, however, hides pretty major changes at the local level. The changes in the number of inhabitants in LAU 2 regions were extremely polarised, because regions surrounding the three metropolitan centres were the major hotspots of population growth. The population number was growing only in two cities (Vilnius and Jonava), but suburbanisation was evident even around small urban centres. More distant areas were losing population at a different pace, but the majority of non-suburban LAU 2 regions lost more than one-fifth of their population during this period, while suburban areas were growing fast. The visual analysis of the map (Figure 1) clearly reveals that the depopulation trends are strongly related to the location factors. The fastest depopulation was evident in those regions which are the most distant from the three major cities: Vilnius, Kaunas and Klaipėda. Other cities have very limited spatial impact on the depopulation trends.

The general spatial trends in population redistribution were quite similar in all the Baltic states, though there was only one major growth pole in Latvia (Ubarevičienė 2018b; Kūle et al. 2011; Plüschke-Altof et al. 2020). Though the recent coronavirus crisis has made an impact on population mobility, we do not currently have any data giving reason to expect major changes in the monitored processes. Such a forecast can also be supported by another consequence of emigration. Previous studies (Ubarevičienė et al. 2016) have revealed that migration is selective and therefore changes in population number are followed by changes in social structure. Based on the data of the State Register, we have analysed the changes of the demographic structure in LAU 2 regions and our results confirm these statements (Figure 2). The visual analysis of the mapped changes of the share of younger population group shows

a growing share of younger people around the metropolitan centres. This also means that in the nearest future natural demographic changes will make a stronger impact on the spatial changes in the number of residents, which so far have been determined mostly by migration processes. The most radical increase of younger people was evident in the suburban zone of Vilnius, while changes in the number of residents were quite similar in other metropolitan areas. Apparently, the centralisation of the country is proceeding faster than data on population numbers shows. Though the fastest ageing was monitored mostly in those areas which were losing population most rapidly, there were also other regions where demographic changes were quite positive (i.e. the northern municipalities of Biržai, Rokiškis and the central municipalities of Ukmergė and Kėdainiai). These exceptional positive cases could be related to a different age composition of migrants but we don't have data to confirm this hypothesis.
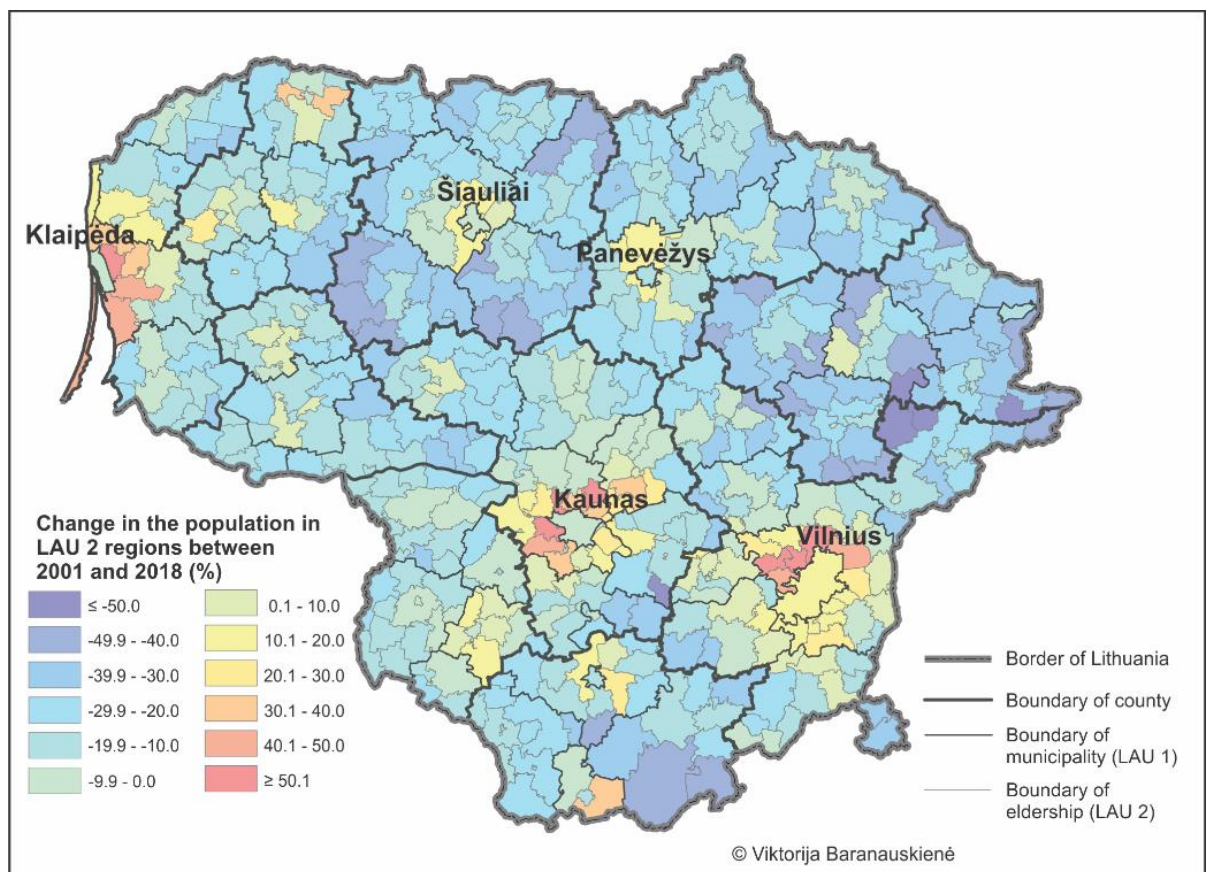

Figure 1. **Change in the population in LAU 2 regions between 2001 and 2018** (author's figure based on data of the State Enterprise Centre of Registers)
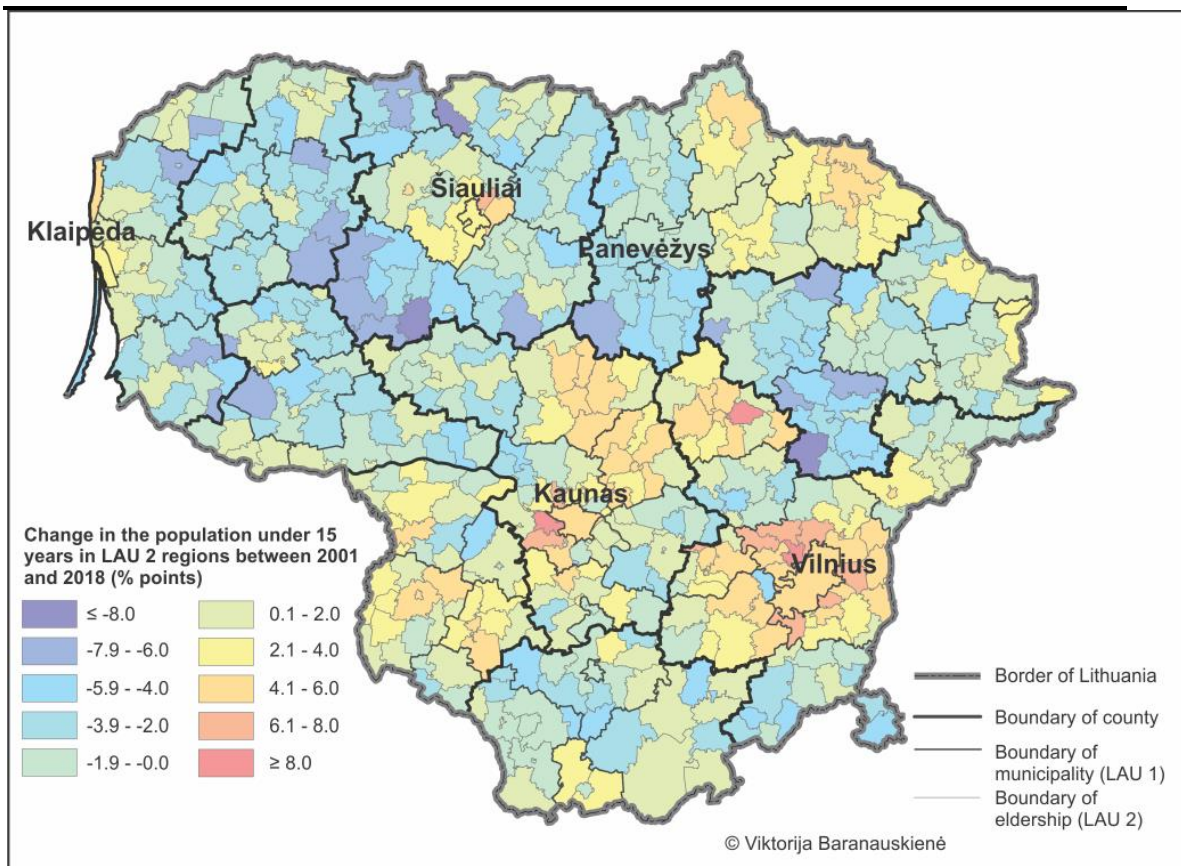
Figure 2. **Change in the share of population under 15 years of age in 2001 and 2018**
(author's figure based on data of the State Enterprise Centre of Registers)

Immigration and emigration

The analysis of migration data of 2001 and 2018 showed that the migration processes of the population in the country were uneven. The previous analysis of migration indicators data made by Baranauskienė (2021) revealed that in 2001, when Lithuania was not yet an EU member, migration processes were not intensive. Arrivals and departures made a very limited impact on the number of the population: 1.1% and 1.6% of the total population respectively. The share of immigrants increased to 4.7% and emigrants to 4.2% from the total number of the population in 2018. The intensifying immigration and emigration from LAU 2 regions was caused both by internal and international mobility. Emigration was the dominant process back in 2001 and throughout the whole period as the previous research illustrated (Shor & Burneika 2017). In 2018 immigration to LAU 2 regions became more numerous than emigration, which corresponds to the general trends of changing international migration flows in Lithuania.

Though population mobility at the beginning of the 21st century was very low, some spatial differences were evident already. The immigration flows to LAU 2 regions varied from 0.2% to 7.3%, and immigration flows from 1.1% to 6.8% of the

total population. The most extreme cases could be also related to the changes in the administrative system near Visaginas, but otherwise the most intensive immigration was already being observed in the suburban areas of the three biggest cities in 2001. In 2018, immigration flows varied from 1.2% to 26.5%, while emigration varied from 1.4% to 13.0%. Immigration, which was generally more spatially diversified than emigration, intensified in the surroundings of smaller cities as well. As a result of the changing migration flows, the map illustrating net migration in 2018 is much more polarised than the one for 2001 (Figure 3). The maps illustrate deviations in net migration per 1,000 inhabitants in LAU 2 regions in 2001 and 2018. Migration processes played a minor role in population change in 2001 when deviations from the national average were minimal. Migration became a decisive factor in 2018, when the country was divided quite sharply into growing and declining regions.

The intensification of migration processes can partly be explained by growing international mobility in the borderless EU, but the actual spatial pattern of these processes can only be related to changing internal migration according to the centre-periphery dimension. As foreign emigration from cities was more numerous than emigration from less urbanised municipalities throughout the 21st century, the total net migration to cities was generally negative or close to zero. The formerly rural suburbs around the municipal centres and especially the cities of Vilnius, Kaunas and Klaipėda were the main winners in this game. Unsurprisingly, the most negative migration trends were evident in the most distant municipalities, which corresponds to the trends in population change (Figure 1). The most negative trends in 2018 were observed in those regions located the furthest from the three growth poles. The border regions with Kaliningrad oblast (Russia) and Latvia are the most typical examples of such areas. The observed situation once again confirms the hypothesis that migration has so far played the decisive role in determining the trends of population change in most Lithuanian regions.

The analysis also suggests that the country is experiencing fast urbanisation, even though Statistics Lithuania provides data on the stability of the urban–rural population during the last few decades (Lietuvos statistikos departamentas 2021). The only reason for this stability is related to the fact that suburbanisation is taking place in formerly rural areas, while the territorial administrative system has been "frozen" for more than two decades.
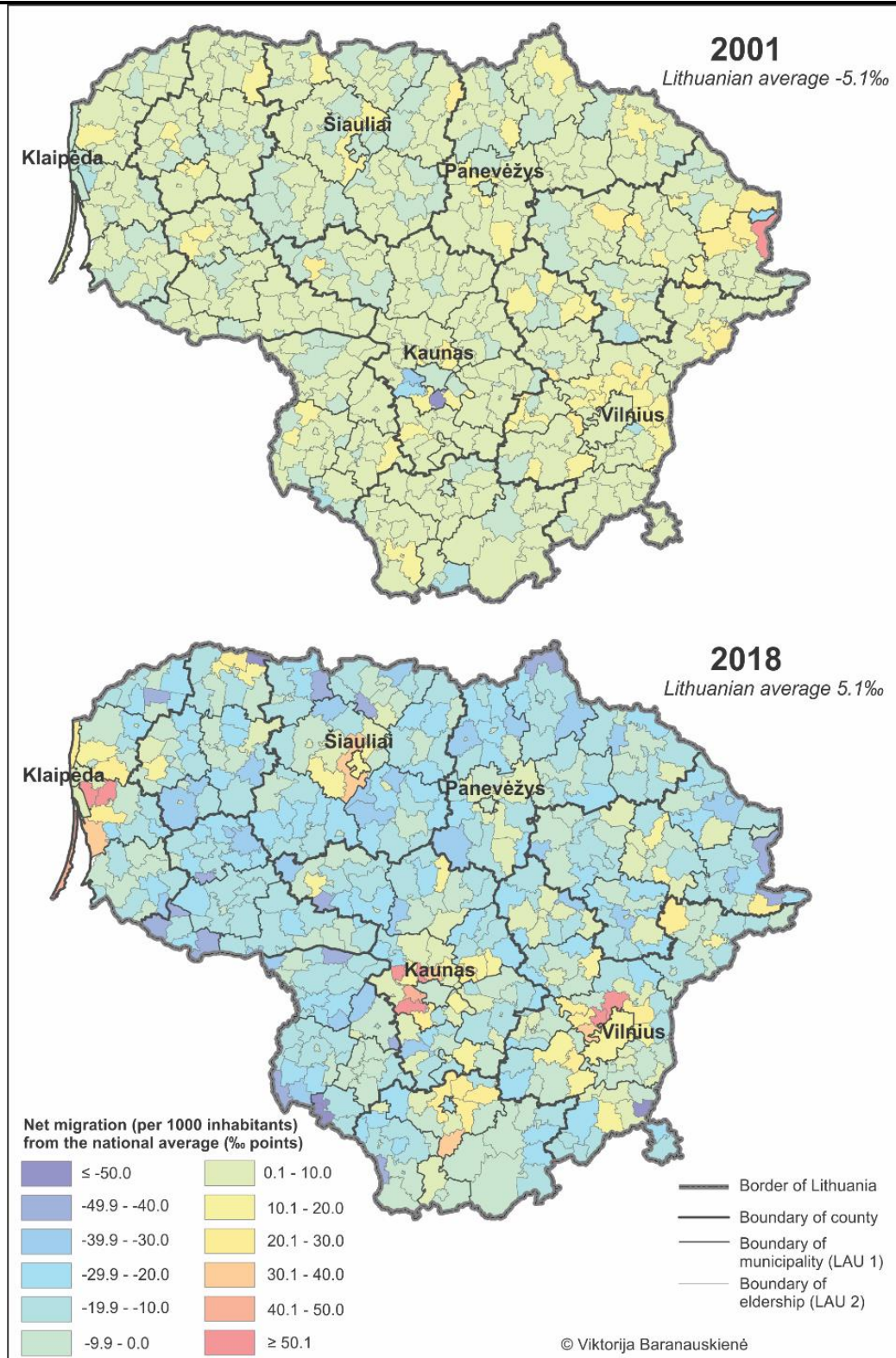
Figure 3. **Net migration (per 1000 inhabitants) compared to the national average in LAU 2 regions in 2001 and 2018** (author's figure calculations based on data of the State Enterprise Centre of Registers)

Conclusions

Although migration processes intensified only in the 21st century, they had become a decisive factor in the transformation of the Lithuanian settlement system. Migration processes have changed the age structure in different regions, so the natural population change will tend to frame these changes in the future. As a consequence, the development of the country is ever more polarised. On the other hand, the migration processes in 2018 still show that Lithuania retains its multipolar development character, though Vilnius is playing a more and more important role.

The growth potential of the three metropolitan centres can be felt beyond their direct suburbs, but the most distant parts of the country are losing population very fast. Net migration in the majority of peripheral areas is still very negative even when the country has a positive net balance in international migration flows. This is especially evident in the western parts of the country, which used to have a younger and more mobile population. As a consequence, the decrease in younger groups here is extremely fast. The growing immigration from other countries will hardly make a noticeable impact on the development of the peripheral regions, as cities attract most of those immigrants.

The analysis of local migration trends reveals that low-level differences in migrations are quite visible. The migration trends can be highly polarised both in the whole country and within one small municipality. Our results suggest that the geographical location of any particular LAU 2 region is the most important factor in migration trends in 2018 and this is in line with the findings of previous studies (Ubarevičienė 2016). Such a situation suggests that migration processes and population change in a particular locality can depend more on its place in the Lithuanian settlement system than on the socio-economic situation in a particular municipality. The socio-economic situation in a municipality is at least to some degree the result of its location.

The statistical invisibility of the actual urbanisation of the country means that the formal territorial administrative division of Lithuania reflect settlement systems which existed at the end of the last century. Effective planning and governing of the trans-municipal urban systems is impossible without reforms to its administration.

Kopsavilkums

Depopulācijas procesi Lietuvas perifērajos rajonos sāka pastiprināties 2004. gadā, kad Lietuva iestājās ES, un pieaugošā emigrācija bija galvenais šo procesu faktors. Šajā rakstā analizētas galvenās atšķirības starp migrācijas procesiem LAU 2 līmenī 2001. un 2018. gadā saistībā ar mainīgo iedzīvotāju demogrāfisko struktūru valstī. Datu analīze atklāja, ka migrācijas procesiem bija maza nozīme iedzīvotāju pārdalē gadsimta sākumā; tomēr migrācijas pastiprināšanās 21. gadsimta pirmās desmitgades beigās izraisīja Lietuvas iedzīvotāju pārdali uz lielākajiem lielpilsētu reģioniem. Straujš

iedzīvotāju skaita palielinājums trīs lielpilsētu reģionos ~~sekoja~~ noteica iedzīvotāju skaita samazināšanos attālās perifērijās. Iedzīvotāju skaita samazināšanās šajās teritorijās izraisīja arī novecošanās procesu.

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