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DEMOGRAPHIC CHALLENGES OF RURAL AREAS IN LATVIA: REFLECTIONS OF THE COVID-19 PANDEMIC

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Abstract. Typical case of rural depopulation represents a spiral of diminishing returns between negative natural population growth, shrinking employment opportunities, out-migration of the young, active and creative individuals and degrading socio-economic environments needed to support them. In 2020, health measures introduced due to COVID-19 pandemic by many European countries, including Latvia, have brought changes to the traditional concept of workplace, creating remote and hybrid working environments within multiple economic sectors. The rapid uptake of remote or hybrid working and the positive feedback of both workers and employers indicate a fundamental shift in the concept of workplace, suggesting a need to revisit the established rural population development approach. This study aims to evaluate the changes in rural population dynamics and population disposition towards demographic processes before and during the COVID-19 pandemic, while assessing the possible changes in the rural demographic development approach needed in order to encompass the changing realities. Authors use available population statistics and compare results of the two consecutive nationwide population opinion surveys carried out before and during the COVID-19 pandemic in Latvia. Study results indicate some new opportunities and new challenges for the rural population development in Latvia. Authors conclude that rural areas can benefit from the remote work possibilities, as it reduces role of employment constraints in the rural development equation. However, remote work is still unlikely to fix the rural-urban divide in Latvia, as many rural areas are lacking the necessary infrastructure or enabling institutions necessary to attract and sustain remote workers.

Key words: regional demography; COVID-19 pandemic; survey data.

JEL code: J11, I38, R1.

Introduction

Demographic viability of rural regions goes hand in hand with their social and economic well-being. Demographic processes are often found to be intricately and bi-directionally linked with local social and economic environment through direct and immediate mechanisms like employment and taxation, or more sophisticated and long-term interactions like gradual shifts in gender balance or age structure affecting workforce composition, causing skill-shortages and degrading economic output potential.

It is well accepted in the literature that a typical case of rural depopulation normally represents a spiral of diminishing returns between negative natural population growth, shrinking employment opportunities, out-migration of the young, active and creative individuals and diminishing social environments needed to support them (Hospers G. J. and Reverda N., 2015; Raugze I. et al., 2020). Therefore, it is not a surprise that most contemporary rural population development measures, being proposed or implemented in Latvia and elsewhere in Europe, seek to brake this downward spiral by either artificially creating new and diverse local employment opportunities, or encouraging economically productive population to move further from cities and metropolitan areas. This is usually achieved by promoting rural lifestyle, improving accessibility and speeding-up daily commute.

In 2020, COVID-19 pandemic has introduced noticeable changes in daily life and workstyle across the globe. Health measures introduced by many European countries, including Latvia, have brought some previously unfeasible changes to the traditional concept of workplace, creating remote and hybrid working environments within multiple economic sectors using modern IT solutions and communication tools

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(Kosteas V. D. et al., 2022). The rapid uptake of remote or hybrid working and the positive feedback of both workers and employers indicate a fundamental shift in the concept of workplace, suggesting a need to revisit the established rural population development approaches focused on the employment-driven demographic change.

The aim of this study is to evaluate recent demographic changes in rural areas in Latvia and to formulate main socio-demographic challenges and opportunities in rural population development (including reflections of the COVID-19 pandemic) on the threshold of third decennial of the 21st century. For this purpose, authors use available population statistics and results of the two consecutive nationwide population opinion surveys carried out before and during the COVID-19 pandemic. First survey (n=2049) was conducted at the beginning of 2016 within the research programme EKOSOC-LV (hereafter EKOSOC-2016 survey). Second survey (n=4457) with a significant portion of the same questions was launched during a COVID-19 pandemic in the middle of 2021 within the research project DemoMig (hereafter – DemoMig-2021 survey).

Noteworthy, ten years after the Population Census of 2011, a new Population Census was performed in Latvia in 2021. This recent Population Census was implemented with an innovative method – with the use of administrative data only (CSB, 2021). Changes happened in the description of population data collected by official statistics as well. Until 2019, Central Statistics Bureau (CSB) of Latvia published demographic data by factual place of residence. Since 2020, that practice was changed to the use of registered place of residence only (OSP, 2023). Such changes have to be taken into account in the analysis of time series data. Furthermore, since 1 July 2021 a new administrative territorial division was implemented in Latvia, which has led to recalculation of territorial statistics by the CSB, still ongoing. Additional insight to an actual residence is provided by experimental statistics (CSB, 2023).

Study results highlight new opportunities and new challenges for the rural population development. Authors conclude that rural areas can benefit greatly from the remote work opportunities, as it partially removes employment constraints from the rural development equation. However, remote work is still unlikely to fix the rural-urban divide in Latvia, as most rural regions are lacking the necessary social, economic and technical infrastructure or enabling institutions necessary to attract and sustain the remote workers.

Research results and discussion

This paper is structured into three sections. The first section provides an overview of the available regional population statistics, highlighting the urban-rural divide in demographic development of Latvia before COVID-19 pandemic and the observable changes in rural demographic processes during the pandemic years.

The second section mainly presents and compares selected results of surveys EKOSOC-2016 and DemoMig-2021 carried out before and during the COVID-19 pandemic. This provides additional insights into alterations of population mobility, remote work engagement and attitudes towards demographic development.

The third section features a discussion about the possible benefits and pitfalls of remote work in the context of Latvian rural demographic development. Authors examine both implications and prerequisites of remote work in rural areas in light of the available literature.

1. Rural population dynamics

Since 1990, when a number of population in Latvia during the whole post World War 2 period reached its maximum at 2.67 million people, depopulation processes started and continued in both urban and rural

areas. Decrease of urban population during 1990-2022 was more pronounced compared to rural: -31% and -27% respectively. That caused an increase in share of rural population among the total population of Latvia from 30.8% up to 32.0% (OSP, 2023 – Table IRD070). The share of rural population in 2021 in Lithuania was 32%, but in Estonia 31%. The share of rural population in all three Baltic States exceeded average of the European Union - 25%. The highest proportion of rural population was recorded in Poland (40%), but the lowest in Finland (14%), Denmark and Sweden (12%) (World Bank, 2021).

Since 2011, when consequences of 2008-2010 recession have settled, absolute and relative annual change in a number of urban and rural population of Latvia continued to be negative, but less extreme (Table 1). Contrary to that, during the years of COVID-19 pandemic absolute and relative annual decline of population both in urban and rural areas intensified compared to pre-pandemic period. Explanation for that may be found in population ageing and the fact that senior residents were more affected by COVID-19 pandemic and excess mortality, which led to higher age-specific mortality rates and accelerated rural depopulation in 2021-2021.

Table 1

Average annual absolute decrease (1) and average annual absolute decrease relative to number of population at the beginning of time period (2) among urban and rural population during 2011-2015, 2016-2019 and 2020-2021 in Latvia

	2008-2010	2011-2015	2016-2019	2020-2021
Urban population (1)	-27 455	-13 405	-10 711	-11 149
Rural population (1)	-11 613	-7 725	-4 610	-4 811
Urban population (2)	-1.84	-0.95%	-0.80%	-0.86%
Rural population (2)	-1.65	-1.16%	-0.73%	-0.79%

Source: authors' calculations based on OSP, 2023 - Table IRD070

Situation in the two neighbouring countries was different compared to Latvia. Estonia's urban population continued to increase both in pre-pandemic and pandemic years (Table 2). Contrary to that, increase of rural population in pre-pandemic years was replaced by decrease during pandemic years 2020-2021. In Lithuania, like in Estonia, urban population demonstrates positive dynamics during pandemic years compared to pre-pandemic periods. Absolute and relative decline of rural population worsened during the peak of COVID-19 pandemic.

Table 2

Average annual absolute changes (1) and average annual absolute changes relative to number of population at the beginning of time period (2) among urban and rural population before and during COVID-19 pandemic years in Estonia and Lithuania

	Estonia		Lithuania	
	2018-2019	**2020-2021**	**2016-2019**	**2020-2021**
Urban population (1)	3 892	7 002	-15 181	15 440
Rural population (1)	637	-4 514	-8 437	-9 486
Urban population (2)	0.43%	0.76%	-0.78%	0.82%
Rural population (2)	0.16%	-1.12%	-0.89%	-1.04%

Source: authors' calculations based on Statistics Lithuania, 2023 Table - Resident population by county and municipality at the beginning of the year, and Statistics Estonia, 2023 Table RV0291U

It should be noted that the factual number and the share of urban and rural population differ in official statistics when compared to experimental statistics. Breakdown of the population by urban and rural inhabitants in official statistics is performed according to their permanent place of residence. Urban

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population, according to that criteria, refers to those persons who live in cities and towns with at least 2 000 usually resident population, and in a number of historically established cities, where the population may be less than 2 000. The status of a city and a town is assigned and cancelled by the Saeima with a law. All the remaining inhabitants of Latvia are categorised as rural population (CSB, 2023).

The criteria defining sparsely populated areas in experimental statistics allow characterising inhabitants residing in rural areas from a different perspective. That group of population, according to the criteria used in experimental statistics, includes all usually resident population living outside cities, towns and densely populated areas with at least 500 inhabitants. In line with this methodology, in 2021, population in urban (densely populated) areas in Latvia declined by 13 083, but in rural (sparsely populated) areas declined by 4 393, which resulted in the split between these groups in the total number of population of 80.0% and 20.0% respectively.

Experimental statistics data show that percentage of population in rural (sparsely populated) areas varies significantly by statistical regions: Pieriga - 19.4%, Vidzeme - 44.0%, Kurzeme - 28.9%, Zemgale - 32.3% and Latgale- 32.7% (OSP, 2023).

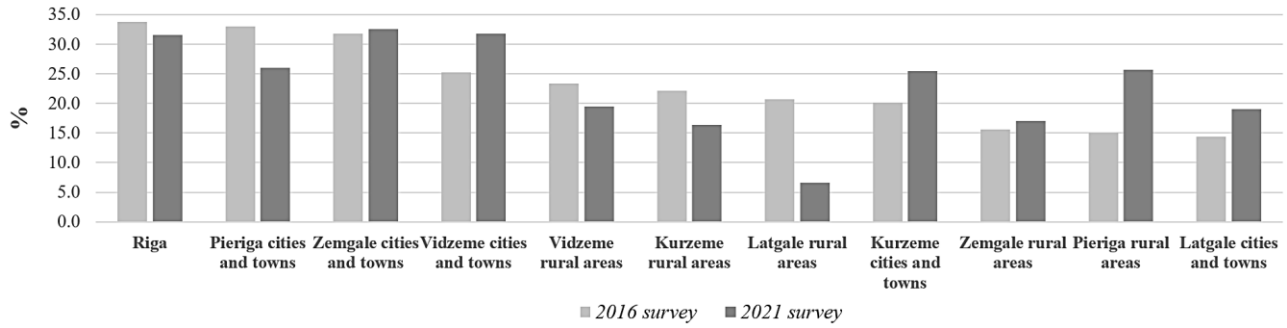
Pieriga region has the smallest proportion of population in rural areas, being closest to the capital city Riga and having the youngest age composition of population. It is the only region in Latvia with a positive increase of population number during 2011-2022, including largest positive internal migration saldo (21.8 thousand). Pieriga is also the only region with the positive natural population increase (3.0 thousand) over the same period. On the other end of the scale, Latgale region in the Eastern part of Latvia with the 2nd highest share of rural population had the biggest negative internal and international migration balance and the biggest natural decline of population among regions (excluding the capital city Riga).

Further analysis of the rural population dynamics and associated factors should be viewed in the context of the main statistical trends described above (international and internal net migration, as well as natural increase / decrease of population).

2. Population mobility, migration intentions and remote work

The comparison of the consecutive population survey results provides a unique opportunity for assessing changes in regional migration processes, population mobility intentions and engagement in remote work practices based on the first-hand data.

When comparing the reported mobility figures, we can look at the information provided by the respondents about their mobility during the five years leading up to the survey.



Notes: Weighted data. Numbers include mobility within the same city or municipality.

Source: authors' calculations based on EKOSOC-2016 and Demomig-2021 survey data

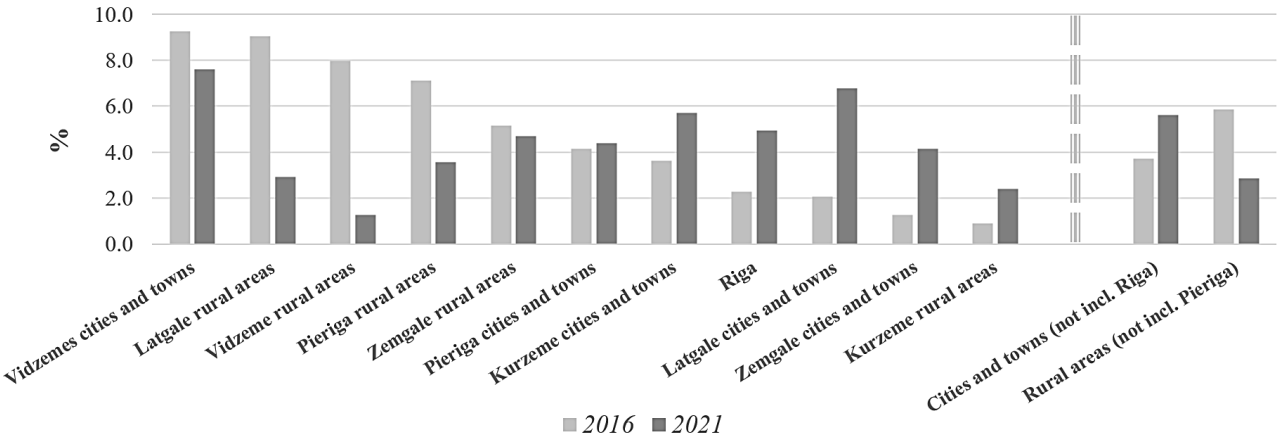
Fig. 1 **Share of urban and rural residents who have changed the place of residence within five years leading to 2016 and 2021 survey**

Figure 1 shows the share of those urban and rural residents in each region who have changed the place of residence within five years leading to 2016 and 2021 survey respectively. To give the overall evaluation of population mobility level, the numbers presented in this figure also include mobility within the same city or municipality. The total share of persons who have changed their place of residence is approximately the same in both periods included in the surveys – 25.7% and 26.2% respectively. Among the rural areas, Pieriga stands out the most, where 15% of the population lived in their current place of residence for less than 5 years in 2016, and 25.7% in 2021. This indicates increasing mobility processes in Pieriga, both when moving from other regions and changing the place of residence within the same area.

The opposite situation is in the rural areas of Latgale, where 20.7% of the population lived in their current place of residence for less than 5 years in 2016, and 6.6% in 2021. One can notice a general trend of increasing mobility in cities, as well as in the areas closer to Riga. Among persons who have changed their place of residence in the last five years leading to 2021 survey, the proportion of persons who came from another (not their own) region of Latvia has increased in all territories (except the cities of Kurzeme). This is most noticeable in rural areas, where 14.7% of immigrants were from another region in 2016 and 33.9% in 2021.

It is important to note that in Latgale (both in cities and in rural areas), a significant proportion of newcomers have previously lived abroad (in the 2021 survey - 8.4% of newcomers in cities, 9% in rural areas). From the literature, one can assume that a significant part of these individuals were return migrants (Mierina I. et al., 2021). Interestingly, in the 2016 survey results, there was a similar proportion of such newcomers in the cities and towns of Latgale (8.5%), but they were not found in the rural areas.

Looking into the near future, Figure 2 demonstrates the difference in migratory intentions of rural and urban populations between 2016 and 2021 surveys. In order to highlight potential inter-regional mobility changes, this figure represents only intentions to move to another municipality or abroad. Compared to 2016, the proportion of persons who plan to change their place of residence in the next year has increased in the 2021 survey (in 2016, there were 6.7% and in 2021 – 8.1%). However, this trend is mainly driven by the urban residents. The nationwide proportion of rural residents who plan to change their place of residence has decreased from 7.2% to 5.7%. This difference is even greater, if one does not count the Pieriga rural areas, which can be considered as a part of Riga metropolitan area (5.8% in 2016 and only 2.8% in 2021 survey). Particularly strong drop in migratory plans can be observed in Latgale and Vidzeme rural areas.



Notes: Weighted data.

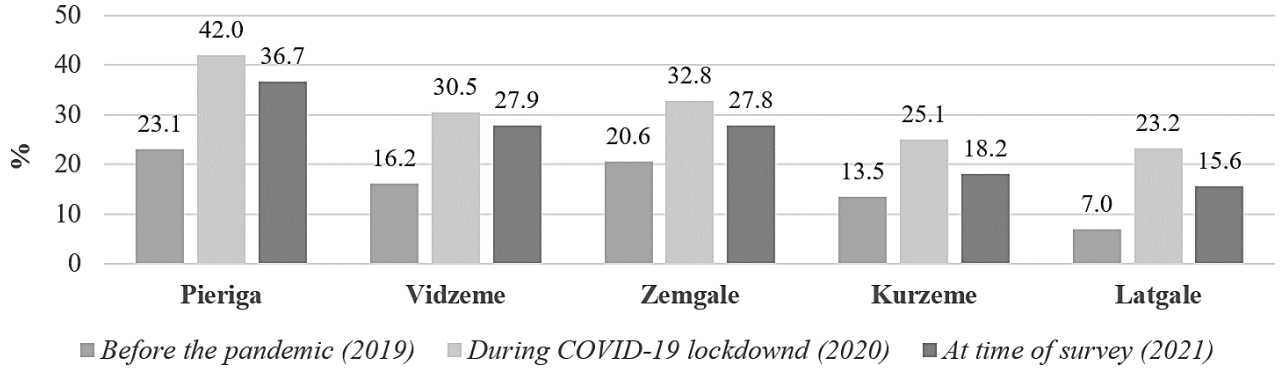
Source: authors' calculations based on EKOSOC-2016 and Demomig-2021 survey data

Fig. 2. **Share of urban and rural population expressing wishes to move to another municipality or abroad in 2016 and 2021**

The destinations, to which rural residents aspire to go, have also changed. In 2016, 5.1% of rural residents planned to go to another municipality within the borders of Latvia. In 2021, however, there were only 1.8% of such residents, but it was more popular to look for a new place of residence within the borders of the current municipality (2.6%).

Overall, it can be concluded that the mobility processes in the rural areas, with the exception of Pieriga (which falls within Riga metropolitan area) are on decline. The proportion of rural residents who have changed their place of residence (except for Zemgale) and those who plan to do so (except for Kurzeme) has decreased significantly.

The data presented above indicate that during COVID-19 pandemic Latvia was experiencing some level of so-called "urban exodus" event observed in many other European countries. However, we should remember that these numbers cover a highly specific time period of global pandemic. In order to benefit from these positive dynamics in the long term, it is crucial to understand the underlying processes and relations (Gutierrez E. et al., 2022).



Notes: Weighted data. Riga region is omitted from this figure, as it does not have rural areas.

Source: authors' calculations based on Demomig-2021 survey data

Fig. 3 **Share of rural population working remotely or in hybrid format in 2019 - 2021**

Figure 3 shows levels of rural population engagement in remote or hybrid work over the course of the COVID-19 pandemic. All rural areas presented an increased population participation in remote employment activities during the peak of the pandemic, which declined somewhat in 2021. Pieriga, Vidzeme and Latgale rural areas have demonstrated the highest growth in population working remotely or in hybrid format

in 2020, which correlates with observations about population mobility in these areas and supports information from other countries found in some literature sources such as Randall L. et al., 2022; Gallacher G. and Hossain I., 2020; Brynjolfsson E. et al., 2020. Retention of the remote employment after the peak of the pandemic was also high in rural areas of all regions. However, survey results for Kurzeme and Latgale rural areas show troubling decline of remote employment figures in 2021, which bring out concerns about the sustainability of the remote work model in these areas, as well as availability of remote working opportunities in locally predominant economic sectors (Dingel J. I., and Neiman B., 2020).

In order to explore the future prospects of remote work in Latvia, it is important to look at other available survey data sources. Recent study "Remote work as an opportunity to attract human capital for the development of Latvia" published by University of Latvia Center for Diaspora and Migration Studies (Mierina I. et al., 2021) provides further insights into attitudes and expectations of employees and entrepreneurs concerning the remote work, focusing on possible benefits for return migrants and diaspora members. Business surveys and employee interviews carried out within this study show, that even after the pandemic, a large part of the labour market hopes to continue working remotely. Employer surveys show that more than half of entrepreneurs plan to keep at least some of their employees working remotely or in hybrid formats. There is also a noticeable desire on the part of the employees to maintain a remote or hybrid work model.

All of the above suggests new possibilities for social, economic and demographic development of Latvia and its rural regions through implementation of various remote work models, which could make rural areas more attractive to economically active population groups and may even facilitate domestic and international return migration.

3. Challenges and opportunities for rural development

Limited observations and experiences recorded in the literature show that remote work has been proven to support development of rural areas and communities in several key dimensions (Davies A., 2021). Remote employment opportunities help building or safeguarding more diverse and inclusive local communities by attracting or retaining young professionals and bringing new local economic initiatives. If remote workers choose to move to or stay in rural areas, their taxes and daily spending may provide direct economic stimulus to the local businesses and municipal budget.

Revitalisation of regional business landscape through remote work is also an important aspect. Recent studies (Stefenberga D. et al., 2021) have shown that local businesses in Latvia face several principal challenges on their road to recovery after COVID-19 pandemic and that of overcoming current economic instability. These include adopting new digital technologies, accessing new markets, adjusting to changes in business environment and local customer solvency. Influx of remote workers to the declining rural areas may help addressing these concerns for local businesses. Furthermore, remote workers may help building ties with businesses located in urban areas and create networking opportunities between rural and urban economic actors.

However, not all rural areas are capable of attracting remote workers and capitalising from the changes in population mobility patterns. In this context, most successful rural communities share some common characteristics, which partially mimic urban and sub-urban socio-economic environment. These characteristics can include good internet access and sufficient local ICT infrastructure, as well as accessible public services and social venues capable of supporting younger and more active residents. The remote rural regions with limited possibilities to facilitate such basic requirements are least likely to succeed in attracting remote workers and participating in the on-line labour market. As a result, remote work alone is

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unlikely to solve the urban-rural divide in Latvia or any other country (Braesemann F. et al., 2022). For example, Latvia and its regions already benefit from high level of internet availability; however, there are significant digital inequalities among regional populations that should be addressed in the context of remote employment possibilities (EUROSTAT, 2022; Lase K. and Sloka B., 2021).

Increased population engagement in remote or hybrid work does not necessarily mean better prospects for all rural areas. Observations presented in sections one and two of this paper clearly show the unequal distribution of population engaged in remote work and heterogeneous changes in regional migration trends during the last few years. One can clearly see these trends following the availability of aforementioned conditions and institutions enabling them. These institutions may include social services, networking opportunities, transport facilities and other venues supporting more diverse and active local community. Furthermore, age and gender composition of the remote workers must also be taken into consideration (Vanadzins I. et al., 2022; Moretti A. et al., 2020).

This does not necessarily imply that remote and traditionally agrarian rural areas cannot benefit from remote workers settling further away from metropolitan areas. Previous studies have underlined that such areas have a high potential for economic diversification thanks to their local natural and cultural resources. In order to capitalise on these resources, these regions need to be accessible and attract visitors from other areas, so that they can use local services and support local business (Rivza B. et al., 2019; Andersson M. and Karlsson C., 2004). A more distributed settlement of economically active population groups in some areas can have various positive spillover effects on neighbouring territories, which could not attract remote workers by themselves. With some remote workers choosing to settle further away from the capital (e.g. regional development centres), services in the surrounding areas will need to grow to match the specific needs of remote workers (Felstead A. and Henseke G., 2017), which in turn can benefit the larger surrounding communities.

As a final remark, one should consider the deliberation presented above in light of the broader rural depopulation trend across Europe and beyond. Several notable recent studies, including those carried out under the ESPON programme of the European Union (Raugze I. et al., 2020; Copus A. et al., 2021) have indicated that depopulation requires new ways of thinking about rural development, which views population shrinkage not as a burden, but as an inevitable reality or even potential positive opportunity. Under this mind-set, it is important to cautiously investigate local conditions in rural regions and invest accordingly in growth-focused or adaptation-oriented local policies. Findings of this study support such pragmatic approach and provide additional arguments and criteria for making the appropriate policy decisions.

Conclusions, proposals, recommendations

1) The decline in number of rural population in Latvia over the last three decennials was less pronounced compared to urban residents, which led to an increase in total share of rural population to 32.0% according to official statistics or to 20.0% in sparsely populated areas according to experimental statistics. Due to an excessive mortality among senior residents during COVID-19 pandemic, absolute and relative annual decline of rural population in Latvia intensified compared to pre-pandemic years, which resembled the situation observed in Estonia and Lithuania.

2) Survey results show that mobility processes in most rural areas of the country are on decline. The proportion of rural residents in all regions (except Pieriga) who changed their place of residence and those who planned to do so decreased significantly between 2016 and 2021. Particularly strong drop in migratory aspirations can be observed in Latgale and Vidzeme rural areas. Contrary to that, urban areas are showing increasing out-migration intentions among residents.

3) Pieriga, Vidzeme and Latgale rural areas demonstrated the highest increase of population working remotely or in hybrid format in 2020, which correlates with observations on population mobility in these areas. Retention of the remote employment after peak of the pandemic was also high in rural areas across the country. However, survey results for Kurzeme and Latgale rural areas show troubling decline of remote employment figures in 2021, which brings out concerns about the sustainability of the remote work model in these territories.

4) The study shows that rural areas can benefit from the remote work, as it reduces the role of employment constraints in the rural development equation. However, literature sources indicate that remote work is still unlikely to fix the rural-urban divide in Latvia, as many rural areas are lacking the necessary social, economic and technical infrastructure or enabling institutions necessary to attract and sustain the remote workers in the long-term.

5) The survey results and literature sources suggest exploring new possibilities for social, economic and demographic development of Latvia and its rural regions through implementation of various tailored adaptation policies, which could help rural areas cope with population change or become more attractive to economically active population groups.

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