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PROPOSAL FOR A LOGICALLY STRUCTURAL MODEL OF LOCAL TERRITORY/COMMUNITY DEVELOPMENT PLANNING FOR THE BALTIC SEA COAST

PRIEKŠLIKUMS BALTIJAS JŪRAS PIEKRASTES VIETĒJĀS TERITORIJAS/KOPIENAS ATTĪSTĪBAS PLĀNOŠANAS MODELIM

Edgars Pudzis, Sanda Lapuke

Riga Technical University, Institute of Economics and Entrepreneurship

edgars.pudzis@rtu.lv

Abstract

Increasing attention in Europe is being paid to the new territorial development approach or planning direction or "bottom up" planning", which means that increasingly more decisions regarding local development have to be taken at the lowest possible planning level – at the level of the village, including local communities. A significant problem has been identified in Latvia: rapid internal migration from rural territories to capital-city regions and external emigration to other countries. There are also problems of a social nature, as the unbalanced economic development of the regions leads to decreased quality of life and public activity. To solve these problems, new and modern solutions have to be found for the development of local communities and their involvement in regional development. The goal of this research is to develop an integrated, sustainable and participatory planning model as a new development planning tool at the village level. The main objectives resulting from this research goal are: to research the theoretical and regulatory aspects, to research community involvement and local development planning methods and approaches, and to research the potential of local economy and social aspects. The area where research was conducted was the Baltic Sea region (Latvia, Estonia, Finland (the Aland Islands), Sweden). The results of the research will form a proposal for a sustainable development planning model at the community level and proposals for further opportunities to introduce the village planning level in regional development planning.

Keywords: *regional development, participatory planning, sustainable development, local community planning*

Introduction

In an era of globalisation, when changes to the composition/lifestyle of populations are taking place, the regional development of states is influenced by several factors, which also directly or indirectly affect the further existence/development opportunities of local territorial communities. At the same time, the general development of the national economy is extremely important for regional economic development. A significant problem has been identified in Latvia: rapid internal migration of the younger generation to particular localities in Latvia, as well as emigration to other countries, thus causing negative changes in the development of regional economies in the mid- and long term. The problem has also a social nature, as the disbalanced economic development of the r regions leads to decreased quality of life and public activity. In order to solve these problems, new and modern solutions have to be found for the development of local communities and their involvement in regional development (both economic and social), to ensure increased willingness of the community to be involved and to take responsibility for their community and place of residence.

Increasing attention in Europe is paid to the new territorial development approach or "bottom up" planning", which means that increasing numbers of decisions regarding local development have to be taken at the lowest possible planning level – the level of the village, including local communities. Village development planning has become a means to create strong local communities.

Such a situation has resulted in unbalanced development of the Latvian regions, as has been identified both by local governments and by the central government in their planning documents. At present, increasing amounts of investment is allocated for regional development – from the state budget and local governments' budgets, as well as external financial resources (including EU funds). At the same time, there are concerns over whether the planning approach or "bottom up" planning" and the investment policy conducted by the central government will be able to ensure efficient development of local economic potential, which will also directly affect the development of the economic and social dimension of the regions.

The central question of the research: what elements make up and must be taken into account when creating an integrated, sustainable and participatory planning system as a new development planning tool at the village level. The goal of this research is to

develop an integrated, sustainable and participatory planning model as a new development planning tool at the village level.

Area where research was conducted: the Baltic Sea region (Latvia, Estonia, Finland (the Aland Islands), Sweden).

Limitation of research: The village development planning process does not include land management, as laws and regulations already envisage other instruments for land planning: local planning. In other words, if the village development planning process leads to a need to change land use objectives, this can be done through other instruments that are not considered to be within the framework of the research. The research was carried out between autumn 2016 and 2021, but several definitions laid down in regulatory acts date back to 2008, because at that time spatial development planning documents were intensively introduced in Latvia and special attention was paid to these issues.

Basic definitions used in the research are:

a) village – section of a municipal territory in which a built-up area is present (or is planned), where people live permanently, and where the appropriate infrastructure has been developed;

b) territorial community – can be defined in various ways; these may differ in size, structure and scale; however, it is possible to distinguish three recognised and fundamental features that characterise all of them – definite location (or common territory); common individual links (common interests, identity, etc.); social interaction between individuals (Kusenbach, 2008).

The main theoretical approaches used in the research are:

a) New Growth Theory

There were attempts to introduce human resources as a significant factor into economic theories as far back as the 1970s, and later on another factor was introduced: research and development (Audretsch et al., 2006). Over a number of years, outdated economic theories were adjusted to real market situations. The chief factor to be understood by entrepreneurs was that economic development was in their hands – they owned physical capital and, moreover, they owned knowledge and human resources.

The New Growth Theory is based on the idea that every country or region should search for their own way of developing technology. The New Growth Theory was one

of the first endogenous growth theories. Technological progress relevant to the specific level of knowledge regarding the environment, nature and human resources has to be reached, as adjustment to technologies from other regions means repetition of old and already employed ideas, whereas modern buyers are interested only in innovative, efficient and possibly cheaper products or services. And such results can be achieved only through using new ideas and technologies, and efficient materials and management of human resources.

b) Dimensions of Sustainable Development

The main regulatory aspects used in the research are:

- sustainable development (Ministry of Environmental Protection and Regional Development, 2008) – a concept defined in the Report of the World Commission on Environment and Development
- balanced development (Legislation, 2008) – planned development by balancing levels and rates in the development of separate territories
- territorial cohesion (European Commission, 2008) – its task is to achieve harmonious development of all residential areas and to ensure that the residents can use the resources of their respective territories in an optimal way.

Taking into account the importance of the concept of sustainable development, the authors of the research have reviewed the definition of sustainable development established in regulatory acts, as this approach has changed significantly over time. Initially, in the 1980s, sustainable development was understood to mean "meeting the needs of the present without compromising the ability of future generations to meet their own needs". Over time the concept has developed and sustainability has become associated with future-oriented changes that mostly depend on people's own actions and ability to cooperate with each other, because the challenges of sustainable development are of a global nature (Auzins, 2016). Already during the initial phases of the concept, scientists often criticised the fact that the definition of sustainable development ignores other aspects, such as education, occupation, household size, psychosocial characteristics, and marketing, which determine the quantitative and qualitative composition of the goods and services consumed by society to meet the needs in the various stages of Maslow's pyramid. The classic definition of sustainable development reveals a typically mechanistic approach to tackling a global problem: rescuing the Earth and the ecosystem from destruction requires reducing the consumption of resources to

meet needs (Zvirgzdins, 2020). Thus, the authors of this study conclude that such a narrow approach examines only consumption and economic issues, while largely ignoring social, psychological and public management aspects.

Today, the concept of sustainable development has been further developed by international organisations – for example, the UN has set 17 goals for sustainable development (United Nations, S.a.), which cover a much wider range of rural actions than in the original concept – but at the same time it can be identified that these goals are largely related to solving the problems of low-development countries. Examining different approaches to the concept of sustainability in different places in the world, it is concluded that the achievement of sustainability goals requires an appropriate approach in each specific place or region, as the levels of economic and social development differ, as do natural resources and habits related to consumption of goods. The authors of this study conclude that the concept of sustainability cannot be universally applied; it depends on the level of social and economic development, as well as the consumption habits, and geographical and social characteristics of the territory, in addition to levels of community development and involvement, regional development and many other factors. Therefore, the concept of sustainable development is in continuous development and different approaches to achieving global goals are being sought in different parts of the world.

Taking into account the information above, the authors have chosen to use the sustainability model developed and validated by G.M. Mudacumura, adapting it to the special features of the research area (the village and local community as the basis of development). G.M. Mudacumura in his study *Toward a General Theory of Sustainability* (Mudacummura et al., 2006) defines six dimensions of sustainability. Having studied various economic theories, the authors have concluded that there is no single formula for sustainable development. In order to solve the problem, the authors use six dimensions in this research, which together form the principle of sustainability:

- economic dimension
- social dimension
- political dimension
- cultural dimension
- ecological dimension
- spiritual dimension

After the research was conducted, the new Local Government Law of Latvia was adopted, Section 59 of which provides for the introduction of participatory budgeting in local government, including leaving it up to the local government to define the planning unit (territory), which can be a village. The elaboration of community-led local development strategies for 2021–2027 was also initiated after the research was conducted, and these will serve as instruments for the implementation of the elaborated development model.

To achieve rapid territorial growth and to provide positive social and economic changes in regions and local municipalities, it is essential to involve the wider society, including entrepreneurs, local communities, and citizen groups, in addressing territorial development issues. Because it is the local communities that, on the one hand, are actively involved in the achievement of regional development goals, and, on the other hand, are the main beneficiaries of the achievement of regional development goals. Considering that the local community consists of various community groups – entrepreneurs, employees, etc. – it is directly from their abilities, skills, activities, attitudes, experience, characteristics, etc. that the overall development of the region is formed, especially taking into account the "bottom-up" approach. Community as a part of spatial planning has been thoroughly studied in the UK (Turner, 2009). It has been examined, though less extensively, in the USA (Vitiello & Wolf-Powers, 2014), Australia (Campbell & Hunt, 2013) and Ireland (Gaynor, 2011), as well as in such developing countries as Indonesia (Kenny et al., 2013) and China (Chan, 2013), etc.

After the collapse of the Soviet Union, particular attention was devoted to communities in post-Soviet countries, as well as to the study of their development principles, for example, in Georgia (Vasadze & Datuashvili, 2011), Ukraine (Williams et al., 2012) and Lithuania (Macken-Walsh, 2009). There are only a few studies that deal with the development of Latvian communities.

Data and methods

The theoretical and methodological foundation of this research is constituted of general and scientific sources published in Latvia and abroad on regional development and local communities, scientific articles, databases, industry studies, data from the Central Statistical Bureau of the Republic of Latvia, regulatory enactments of the

Republic of Latvia, and internet resources, as well as the analysis and conclusions of scientific work and research conducted by the authors of this research.

In the research process, generally accepted qualitative methods have been used – analysis and synthesis; induction and deduction; logically constructive, graphical and historical approach methods; information analysis and summary; and comparisons – as well as quantitative methods: statistics collection and analysis and data grouping. Sociological research quantitative methods have been also used in the research – non-reactive method (document analysis and legal framework research), survey, questionnaire, focus group method. The methods have been chosen according to the research focus – spatial development planning, which is a form of social geography.

The following stages of research have been carried out:

- theoretical and regulatory research – identifying the existence and development aspects of villages and communities
- research into society involvement and international experience studying village planning – identifying best practice examples and their possible usage in Latvia
- identification of economic and social development factors to ensure the development of a sustainable and comprehensive planning model
- summarising and analysing the data obtained and making conclusions, providing a proposal for the sustainable development planning model at the community level
- observation of the village plan development and the changes in community development following a trial launch

The research was carried out between autumn 2016 and 2021.

In the research, the local economy or local development is considered to mean sustainable and comprehensive development, based on local resources and needs and on residents' own initiative and including the specific territory (village), while the village is the smallest planned territorial unit with set borders and a local community living there. Villages form the next planning level – local government – and local governments make up regions, which make up the state overall. Thus, a local community is considered to be a group of local residents who are involved in sustainable development of where they live.

The research encompasses the development of Baltic Sea coastal territories, including the development of Latvian coastal villages and communities. Similarly, from the economic development aspect, more attention is attached to the Baltic Sea's impact on the development of the local economy.

This scientific article is the conclusion of a scientific study conducted by the authors, "Opportunities to Use the Local Community's Potential to Ensure Sustainable Regional Development in Latvia", which is also used in the doctoral thesis of one of the authors – Edgars Pudzis – and the developed model is to be published in a scientific periodical.

Results

The authors of the research have developed a research design scheme, reflecting the sections of the research as well as its main activities and findings:

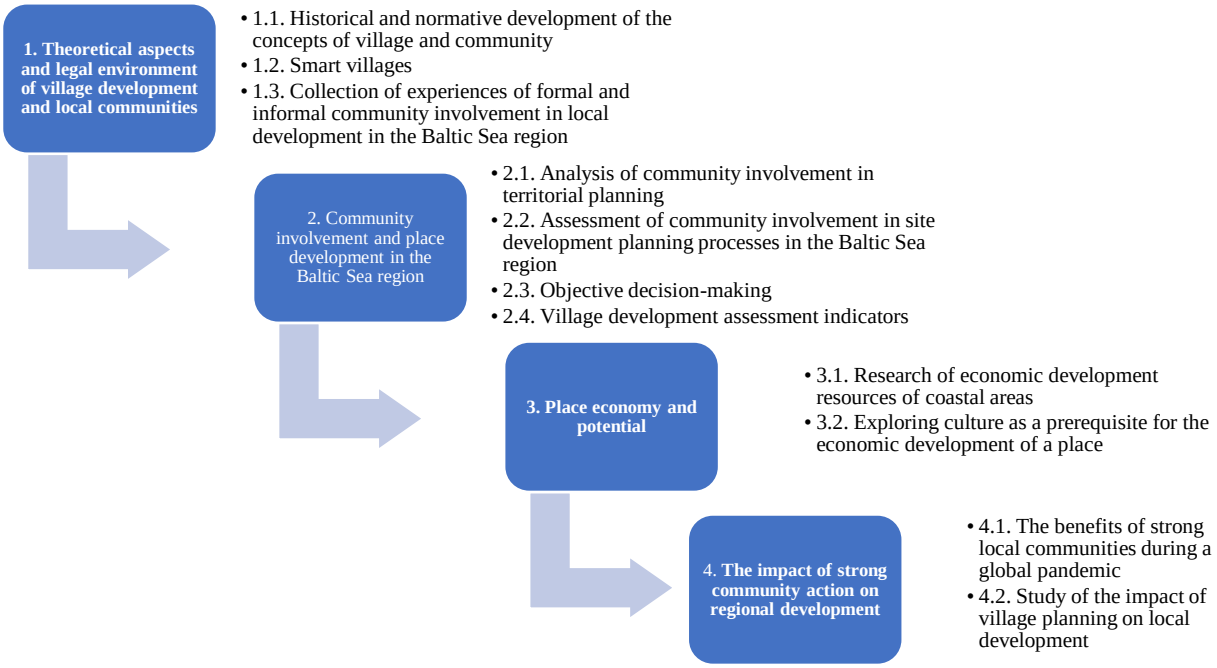

Figure 1. **Scheme of the research design** (authors' figure)

The central question of the research – what elements make up and must be taken into account when creating an integrated, sustainable and participatory planning system as a new development planning tool at the village level, and integrated, sustainable and participatory village development in the context of regional development – has been answered by the analysis carried out within the framework of the research and based on evidence and scientific findings. In addition, it confirms the ability of a strong

community to react in an extraordinary situation and to create innovative ideas in situations when a local community has managed to agree on a uniform solution regarding its future when elaborating the village development plan.

During research, it was confirmed that the spatial planning systems are in the process of transformation and are *de facto* involving local residents more, as the focus of development is transferred to the needs of specific people in the specific area (local community) by using new informal methods. This research results from wide and deep studies and cooperation between experts from different countries, who have observed the spatial planning traditions of the Baltic Sea region, having a common interest in the formal and informal spatial planning processes in the coastal areas.

The main involvement of different interested groups in the spatial and community planning process and implementation of the development plan should be identified. The involvement of a wide range of community and interest groups in ecological, cultural and social issues, as well as planning processes, ensures better access to information at the planning stage and the possibility of expressing their concerns and proposals during the planning process.

In addition, the authors concluded that the digital skills of local communities, digital equipment and services, as well as the cooperation skills of communities, had a significant role at the time of the Covid-19 pandemic restrictions and in overcoming the consequences of the pandemic. Smart villages and communities, as well as strong communities, were much better prepared for a crisis, as they were familiar with digital solutions related to different areas of life and could transfer to them, as well as providing mutual assistance. Smart and strong communities could much better adjust to the Covid-19 pandemic restrictions and overcome the consequences of the pandemic, as digital skills and strong community assistance played a decisive role.

Usage of local community potential in area development provides a significant positive impact on sustainable state regional development, as it ensures an inclusive and comprehensive process of territorial development. Simultaneously, to ensure the participation of such communities in area development, it is essential not only to introduce a new planning level – village planning – but also to introduce informal planning methods, planning and assessment of development based on data and indicators, as well as to promote economic development of the area based on local

resources. To ensure such inclusive and comprehensive development of the area, the local territory/community development planning model should be introduced.

To answer to research question, the authors have also **developed a local territory/community development planning logically structural model** (see Figure 2) that will ensure sustainable, comprehensive and inclusive development of the area.

The model was developed to provide information to its users, in a concentrated and comprehensible manner, about the most essential elements of village planning in order to achieve the goal of the planning process – a sustainably, comprehensively and inclusively developed village. This model includes more elements than a formal and regulated place development planning approach, as it includes both an indication of informal engagement tools, objective and data-based decision-making, and extended dimensions of sustainability.

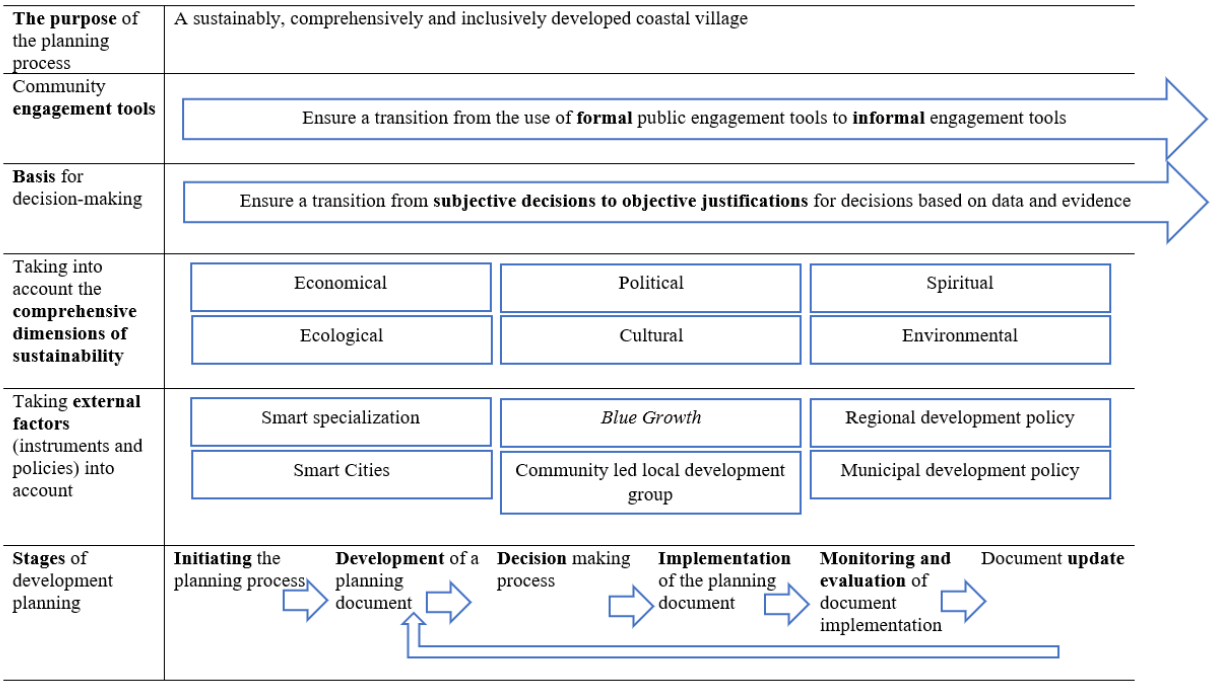

Figure 2. **A logically structural model for local territory/community development planning** (authors' firgure)

Spatial planning, implementation and monitoring need to have a certain order to ensure unified processes and results. This clearly indicates that, as a result of societal growth, the planning process must be adaptable and modern, which forces the research community to constantly look for new and appropriate opportunities for formal and informal societal involvement and motivation.

Conclusion

The implementation of village-level development planning must also take into account the factors surrounding the territorial community: regional development principles and conditions for sustainable development, as well as the identification and use of modern and appropriate methods of public participation. By bringing together all these external factors, it is possible to develop a proposal for a planning tool at the village level, and to suggest instruments for its implementation.

It is important not only to ensure the effectiveness of the planning process itself, but also to monitor progress in implementing the development model and making changes in the situation. This requires a comprehensive analysis of the evaluation criteria, the data used to measure them and the sources of the data.

With account of the conclusions of this research, the local territory/community development planning logically structural model includes observation of the following principles in the local development planning process:

- the community territory is defined as being where the development process is planned
- it is essential to take into account and evaluate the six sustainable development dimensions in the planning process, including drawing special attention to the development of the local economy based on local resources
- external circumstances are taken into account when planning local development: local government and regional policies, the Baltic Sea region, and EU-level policies and initiatives. This principle ensures observation of the interconnection and hierarchy between the planning levels, providing that local village development ensures sustainable development of the local government, region and state.
- the following core principles are observed in the planning process: not only formal involvement of the community, but also informal and inclusive methods. The development planning decisions are taken objectively, based on data and knowledge. Clear and measurable indicators must be used in introducing development planning

Kopsavilkums

Eiropā arvien lielāka uzmanība tiek pievērsta jaunajai teritoriālās attīstības pieejai plānošanā jeb "augšupējai plānošanai", kas nozīmē, ka aizvien vairāk lēmumu par vietējo attīstību jāpieņem zemākajā plānošanas līmenī, proti, ciema līmenī vai vietējās kopienās. Latvijā pastāv sociāla rakstura problēmas, jo nesabalansēta reģionu ekonomiskā attīstība noved pie dzīves kvalitātes un sabiedriskās aktivitātes pazemināšanās. Lai risinātu šīs problēmas, ir jāmeklē jauni un mūsdienīgi risinājumi vietējo kopienu attīstībai un to iesaistīšanai reģionālajā attīstībā. Šī pētījuma mērķis ir izstrādāt integrētu, ilgtspējīgu un līdzdalības plānošanas modeli kā jaunu attīstības plānošanas instrumentu ciemu līmenī. Galvenie uzdevumi, kas izriet no šī pētījuma mērķa, ir šādi: izpētīt teorētiskos un reglamentējošos aspektus, izpētīt kopienu iesaisti un vietējās attīstības plānošanas metodes un pieejas, kā arī izpētīt vietējās ekonomikas un sociālo aspektu potenciālu. Pētījums tika veikts Baltijas jūras reģionā (Latvija, Igaunija, Somija (Alandu salas), Zviedrija). Pētījuma rezultāti veidos priekšlikumu ilgtspējīgas attīstības plānošanas modelim kopienu līmenī un priekšlikumus par turpmākām iespējām ieviest ciemu plānošanas līmeni reģionālās attīstības plānošanā.

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SCOPE OF POPULATION POLICY IN LATVIA: 1990–2024

DEMOGRĀFISKĀS POLITIKAS TVĒRUMS LATVIJĀ 1990. – 2024.g

Liga Abolina
Ministry of Health of the Republic of Latvia
liga.abolina@vm.gov.lv

Abstract

Since the restoration of the independence of Latvia (and even before that) the demographic situation and the elaboration of demographic policy, despite varying intensity and different focuses on problems, have always been on the political agenda.

So far, the focus has been set on promoting the birth rate and improving family wellbeing, with the belief that this support will improve Latvia's demographic situation. Recently, a common understanding has been reached between the state institutions and researchers on viewing demographic policy as a cross-sectoral policy implemented in multiple policy areas, for example, in education, employment, health, the environment, etc.

It is necessary to strengthen both demography as an interdisciplinary science and scientifically based development of policies; therefore the author has set the goal of studying the topicality and importance of demographic issues between 1990 and 2024 in order to identify changes in approaches to demographic policy. The task has been set to analyse government declarations since 1990, as well as supplementary documents related to their implementation, in addition to materials available from the Council of Demographic Affairs. To reach the goal and fulfil the tasks set for this study, the author has analysed various historical documents and theoretical findings from recent decades. The author concludes that policymakers should first identify the most important demographic indicators (for example, predictable mortality reduction, fertility improvement, healthy life expectancy etc.) that would be impacted by purposeful policies. Then demographic projections should be conducted to enhance demographic processes using scientifically based predictions. Equally important is the smart management of population renewal and a shared understanding that the implementation of cross-sectoral demographic policy has long-term significance.

Keywords: *demographic policy, population renewal, concept of family, interdisciplinarity of demography*

Introduction

Since the restoration of independence of Latvia (and even before that) the demographic situation and the elaboration of demographic policy, despite varying intensity and different focuses on problems, have always been on the political agenda.

Demography as a science explores population change (natural – fertility, mortality, nuptiality – and movement–migration) events, as well as the sex-age structures of the population and interconnections between them. The explanation of the concept of demography given by Professor Zvidriņš in the *Latvian National Encyclopaedia* (Zvidriņš, 2024), explains demography as a science that clarifies the regularities of population reproduction and develops demographic concepts, theories and policy, as well as providing forecasts of demographic trends.

On the other hand, demographic policy (Krūmiņš, 2024; Zvidriņš, 2001) means purposeful action by state institutions and non-governmental organisations to regulate the processes related to population change, realising social, economic, legal and other aspects of it.

The review of the Parliament (Saeima) of the Republic of Latvia concerning demographic policies and their role in promoting and increasing the birth rate has recognised that in order for demographic policies to be effective, they should be based on a flexible, comprehensive approach (Valtenbergs & Vārpiņa, 2019).

In 2018 at the European Population Conference, organised by the European Association for Population Studies, highly recognised researchers (such as Wolfgang Lutz from the Wittgenstein Centre for Demography and Global Human Capital, Livia Olàh from Stockholm University, Emilio Zagheni from the Max Planck Institute for Demographic Research, and others) discussed how to promote interdisciplinarity in demography, as well as what the future of demography is. The researchers agreed that demography is an independent yet inter-disciplinary scientific field, while also recognising that we need more collaboration with other disciplines so as to be able to comprehensively understand changes in the world and to progress together. In particular, L. Olàh emphasised the importance of concrete research, which has enormous potential to support policymaking. She gave an example by referring to a study that proved the difficulties of defining the concept of family. Professor Jane Falkingham from the University of Southampton in the United Kingdom also stressed

that demographers should be more proactive by promoting more educational activities to policymakers in order to make the discipline more embedded in the policy world.

Encouragement to draft this publication came from recent and ongoing discussions taking place at the Council of Demographic Affairs, which was called by Prime Minister Evika Siliņa and later in the parliamentary sub-commission for demography, family and children's affairs. Within this council, regardless of criticism from the non-governmental sector and the stance of conservative politicians, other dimensions of demographic politics were emphasised, including the interconnection of economics, health promotion, education, etc. The prime minister initiated the work to produce proposals for new initiatives concerning the development of demographic policies to be subject to wider discussions. The Ministry of Welfare, which is the institution which has main responsibility for demographic policy in Latvia, has elaborated a proposal to set out a number of activities that, if implemented, would impact the demographic situation in Latvia. The proposal includes three main areas or themes: every child benefits society, a quality living environment, population migration and promotion of return migration. Meanwhile the parliamentary sub-commission for demography, family and children's affairs at the meeting on 11 September 2024, criticised the delay in developing a birth promotion policy (and also advocated pursuing a narrowed approach).

In a recently published review article, Janna Bergsvik (from Statistics Norway), Agnes Fauske (from the University of Oslo) and Rannveig Kaldager Hart (from the Norwegian Institute of Public Health) provided a systematic discussion of policy effects on fertility since 1970 in Europe, the US, Canada and Australia. In this study, the authors concluded that family-friendly policies *do* contribute to high fertility. Differences in fertility across countries have emerged, at least partly, because of family policies, and higher fertility especially results from policies that prioritise in-kind services such as affordable childcare and healthcare over cash transfers and longer periods of parental leave. However, these results emerge only when we put the most weight on those studies that are limited to policy reforms plausibly large enough to impact fertility.

As has already been pointed out, it is necessary to strengthen both demography as an interdisciplinary science and scientifically based development of policies, and therefore the author has set a goal of studying the topicality and importance of demographic issues, to identify changes in demographic policy approach, and the task

of analysing government declarations since 1990 and measures related to their implementation as well as the available materials from the Council of Demographic affairs. The central research question of this paper is to find out whether the scope of demographic policy can be determined by focusing only on fertility and mainly on family support policies, or if there are other equally important and relevant aspects to be considered.

It is also worth mentioning the importance of the theory of demographic transition as a theoretical basis for demographic changes in population. However, in order to characterise the political directions of Latvia's demography, the governmental declarations and initiatives which have been political guidelines and priorities for the Cabinet of Ministers in the period 1990–2023, the protocols of the Council of Demographic Affairs sessions, planning documents and legal acts have been analysed as well. In certain aspects of analysis of historical documents, the author goes back as far as the 1970s, when some of the documents setting further development of demographic policies were endorsed and approved.

The most visible authors and researchers in Latvia who have contributed significantly to the development of demographic science and policy, and its interdisciplinarity, are P. Eglīte, P. Zvidriņš, J. Krūmiņš, Z. Krišjāne, Z. Vārpiņa and others.

Data and methods

Scientific methods have been applied in addressing the tasks behind this research. There is an extensive literature on the development of demographic transition theory and demography as a field of science, as well as national-level scientific literature and research on demographic policies in Latvia in general, and state policy on supporting the family in particular. Scientific literature and theoretical analysis of results of other research conducted are used to clarify the theoretical basis for development of state policies, and in addition a content analysis of the governmental action plan, the materials of Commission of Demographic Affairs and legal acts has been applied. Since the understanding of legal acts requires specific methods of analysis, interpretative methods distinctive to legal science have been applied to the legal acts. The historical research method was also used to determine different inter-dependencies of the analysed events within a set timeframe, the development of the content of Latvia's demographic policies,

and characteristic features of that time. Migration had completely different characteristics and significance during the Soviet occupation of Latvia, and so migration either within or outside the borders of Latvia during that time is not seen as affected by locally made policy. At the same time, it must be admitted that Soviet-era migration influenced changes in society in terms of numbers and its ethnic composition, and has been indicated as a priority for demographic policies after the regaining of independence.

Results

Theoretical and historical aspects of demographic policy

Changes in the whole society have been described already starting from the beginning of the last century by A. Landry (1909 –1934), W. Tomson (1929), D. van de Kaa and R. Lesthaeghe, (1986); Coleman (2006), etc., giving a name of demographic revolution or in other sources – demographic transition, which is multi-level process. It is also acknowledged that necessity to separate family policy as a different policy field to promote fertility, family composition and stability, is historically developed. The demographic transition, mentioned for the first time by scientist W. Thompson in 1929 (Thompson, 1929) referred to the historical shift from high birth rates and high death rates to low birth rates and low death rates, as societies' reaction to technology, education (especially of women) and economic development. In Latvia, the first demographic transition to a rational mode of population reproduction took place in the 19th century (Eglīte, 2011).

The second demographic transition was first mentioned by Dutch scientist D. van de Kaa and Belgian scientist R. Lesthaeghe. In 1986, they observed interrelated changes in fertility, family formation and in relations between partners, which had begun at the end of the 1960s in many western and northern European countries. These changes were closely related to a significant turning point in the value system regarding family life and children. With the increase in the availability of contraceptives and the significant decrease in the birth rate, no longer reaching the replacement-level fertility rate, it was pointed out that the importance of the traditional family as an institute in society was weakening. These observations were considered to make up the main features of the Second Demographic Transition (Kaa, 2002; Sobotka, 2008).

This was based on the belief that industrialised countries had reached a new stage in their demographic development and that this was characterised by the full possibility of birth control. As couples lost the motivation to have more than two children, the birth rate also fell below the threshold for replacement fertility. Although it is possible that the postponement of childbearing also played a role, the observations showed that the birth rate would continue to remain at a low level, thus creating unbalanced demographics and leading to the next stage of demographic transition. The Third Demographic Transition is characterised by migration trends and was outlined by the Oxford professor D. Coleman. He emphasised that the features of Third Demographic Transition itself are impending ethnic and social transformations in host countries, affected by immigration from distant regions with different ethnic, cultural and racial backgrounds (Coleman, 2006).

Elements of the Third Demographic Transition can also be observed in Europe. As Professor Krūmiņš has acknowledged, demographic development in Latvia is characterised by elements of the Second Demographic Transition, tending to develop into the Third Demographic Transition (Krūmiņš, 2019). It should be noted that migration aspects in demographic policy in Latvia have not been significant, but the war in Ukraine and consequently a large number of Ukrainian asylum-seekers have slightly impacted the demographic situation in recent years in a positive way.

Changes in population have an impact on the understanding of various concepts, such as the concept of "family", and influence the development of family support policy and the scope of the necessary measures to be taken to enhance support for families. For example, the EU project "Families and Societies", conducted by Stockholm University, came up with the contribution that it is impossible to define families. "Family" can have a broad meaning, and we want to make sure we are not discriminating against those that are not in traditional nuclear families. They should still have the same life chances, as recognised by project coordinator, Professor L. Olàh.

As has already been mentioned, demographic policy in the narrowest sense relates only to processes that influences birth and death rates – especially reproductive behaviour, family support policy, health policy etc. A broader understanding of demographic policy, in addition to the subject of natural change in the population, includes the question of population movement (emigration and immigration, both internal and international), influencing changes in the location and composition of the

population (Krūmiņš, 2024). Over many years, the central issue in demographic policy in Latvia has been fertility and family support policy, so demographic policy has been viewed according to this narrow understanding.

Looking back at the historical development of demographic policy, it should be noted that more than a decade before the restoration of Latvia's independence, in 1976, the occupying government of the time established an interdepartmental council for the study of demographic problems and developed a set of complex measures to promote the birth rate over the following ten years (Eglīte, 2013). In 1980, the first family support policy planning document during the Soviet occupation of Latvia was developed, which pursued a policy of support of work and family balance for large families, employed mothers with children, those experiencing housing issues, etc.

In 1983, support for the state programme "Inhabitants of the Soviet Socialist Republic of Latvia" commenced, which resulted in an increase in the birth rate, reaching the level necessary for simple replacement fertility (Zvidriņš & Eglīte, 1990). In 1987, just before Latvia regained its independence, a new government-level document was adopted on additional guarantees and benefits for large families and mothers with children under three years of age.

Therefore, efforts to emphasise issues of demographic policy, according to their topicality – to promote the natural replacement fertility, by creating favourable conditions for an increase in the birth rate – also existed before the restoration of Latvia's independence.

Demographic policy as a part of social policy has always been emphasised in state policy processes, which has manifested itself in various ways, and can be found in all 22 governmental declarations made since the restoration of independence.

It should be emphasised that at the time of the restoration of independence, it was important to ensure the stopping of undesired growth of the population due to migration, including the presence of Soviet troops, who were counted among the population of Latvia. Along with the topicality of demographic issues, other fundamental national issues prevailed in documents defining the political discourse of the government after the restoration of independence, e.g. economic transformation, devaluation of currency (the ruble), high unemployment, industrial collapse and economic crisis.

Demographic policy milestones in government priorities

Between 1990 and 1994, the social security and support system was gradually created and Latvia gradually joined the international legislative system. However, during the early '90s, as described by researchers (I. Pavlina & M. Brants, 2002), economic growth and strengthening of state independence prevailed as the most important political trends. Defining demographic policy as a priority was not perceived to be an important measure that should be included in the government's action plan. This period is characterised as a time of populist decisions. Anticipated demographic policy measures were postponed and transferred from one declaration to another. As stated by P. Eglīte, at the end of 1992, the Demographic Commission was established, which consisted of members of parliament, representatives of the state administration, scientific institutions and the non-governmental sector, and their goal was to develop proposals for the government's priorities for improving the demographic situation.

In 1994, instead of this commission, a similar consultative demographic commission was established under the leadership of the Minister of Welfare, and as a result of its activities, in 1995 the Cabinet of Ministers issued an order "On improving the demographic situation", which is still valid from the legal point of view. With this order, the ministries and local municipalities were tasked to take measures to improve the demographic situation, but without having funding provided for it. In 1997, the Latvian Academy of Sciences issued a decree "On the demographic crisis in Latvia and the need for state action to prevent it", which was a reaction to the government's inaction. However, in 1998, indicating the lack of a unified coordinated approach, the Cabinet of Ministers, implementing the government's declaration, developed a programme of measures to improve the demographic situation, although there were no financial resources allocated for its implementation.

The development of demographic policy has also been studied by researchers S. Kristapsone and I. Indāns (Kristapsone & Indāns, 2019), who noted, similarly to P. Eglīte, that since the regaining of independence by Latvia, various measures for the promotion of national regeneration have been developed, but that these have only partially been implemented. One of the first, the complex target programme "Inhabitants of Latvia" in 1991, was developed by order of the Council of Ministers, but it was not approved due to lack of funds (Eglīte, 2013). Giving priority to the promotion of the birth rate and family wellbeing, the Cabinet of Ministers accepted the concept of

"National Family Policy" for the implementation of the national family policy on 28 May 2002, later replacing it with the "Guidelines of the National Family Policy 2011–2017".

At the end of 2022, the guidelines for children, youth and family for 2022–2027 were approved, which also included the strategy for population reproduction in Latvia. This strategy was developed by the expert platform Demographic Affairs Center, established in 2016, and emphasised strengthening the family as having value in society, quality of life for families with children and issues of remigration.

However, a comprehensive understanding of the demographic policy framework has not been characteristic of the measures developed by the government and ministries to improve the demographic situation. It can also be concluded that for real action to implement approved plans, the political will to allocate financial resources to them was required. Rather, the dominant approach has been to allocate a certain amount of finance and then figure out what and how much can be done with the allocated funding.

The creation and implementation of the institutional mechanism should be considered separately. The concept of "National Family Policy" included the task for the government of developing the necessary legislative drafts for the creation and implementation of the institutional mechanism by 30 December 2002. For the purpose of implementing a unified policy, the related functions of the Secretariat and later of the Ministry were consolidated from other state administrative institutions, but due to the consequences of the economic crisis they were fragmented again in 2009 between the Ministry of Welfare, the Ministry of Justice, and the Ministry of Education and Science.

According to Professor J. Krūmiņš (Krūmiņš, 2024), an important role in the planning and implementation of demographic policy measures is played by the expert commissions of interested parties and the coordination of the activities of various institutions. The demographic commission had already been established at the end of 1992. It later became the Demographic Commission of the Cabinet of Ministers under the auspices of the Ministry of Welfare and then the Demographic and Family Affairs Council. Between 2004 and 2009 some demographic initiatives, including management of the council, were provided by the Ministry of Children's, Family and Community Integration Affairs.

In 2011, the council was transformed into the Demographic Affairs Council – a consultative and coordinating state institution to promote a unified state demographic

policy and its implementation at all levels of state administration. At this time, the term "population reproduction" (*tautas ataudze* in Latvian) appeared for the first time in the government's declaration. Demographic policy issues in Latvia are mainly coordinated by the Ministry of Welfare, and the council is also coordinated by this ministry, but is headed by the prime minister.

It is important to emphasise the role of demography as a science in the development of demographic policy. In 1994, after creation the Department of Demographic Studies, the Demographic Center was established at the University of Latvia, while in 1998, demography was recognised as an independent branch of science by decision of the Latvian Council of Science. Along with the identification of demographic issues in state policy, scientific work in various research directions conducted by the Demographic Center also took place. Along with representatives of ministries and the non-governmental sector, demographers also worked in the Demographic Affairs Council. As early as in 2010, Professor P. Zvidriņš emphasised that it was necessary to talk more about population policy in general and future trends in this field, rather than about the current situation.

From 2017 to 2021 and from 2022 to 2024, the Council for Demographic Affairs was not convened, and its functions were *de facto* taken over by the Center for Demographic Affairs, whose competence and also interest in the field of demographic policy was less narrowed, marking the protection of the traditional family as a having value, focusing on raising the birth rate and getting compatriots who had emigrated to return to their homeland.

Quo vadis, demographic policy?

Within the framework of the national research programme EKOSOC-LV, a Latvian research team have tackled the issue of coming up with proposals for the sustainable development of society.

It is of high importance that when assigning content to the demographic policy framework, the concept of the renewal of society is analysed from the perspective of different theories, especially in cases where population growth is threatened.

According to the conclusions of research conducted by the researcher D. Bite (Bite, 2019), the concept of the renewal of society in Latvia should include modern economic solutions, with great emphasis on increasing human capital, reducing

discrimination in the labour market, balancing labour market supply and demand, promoting lifelong learning and healthy lifestyles among the population, and maintaining working capacity, as well as promoting social inclusion.

The Belgian sociologist and demographer Ron J. Lesthaeghe emphasised in 1984 that the social and economic sector must occasionally adapt to demographic changes in the process of the renewal of society. If this is ignored, there is a constant risk in attributing the problems associated with the renewal of society only to the demographic aspect, which, all in all, will not provide a solution. This finding, according to D. Bite, probably also explains the long-standing weak results in the renewal of society in Latvia, and the author agrees with this assessment.

Constantly shrinking populations are also recognised as existing threats to sustainability in neighbouring countries. On 15 June 2023, the Parliament of the Republic of Lithuania adopted "The Resolution on the Future of Lithuania's Demographic Policy", indicating a conviction that its the demographic policy is complex and includes a policy of boosting families and the birth rate; a policy on civic and cultural identity and loyalty ties with one's country; a policy on promoting the return of the Lithuanian diaspora and preservation of relations with Lithuania; a policy of attracting foreign students, highly qualified professionals, talents, and other workers to Lithuania, and their integration; a healthy lifestyle policy; extending lifespan and reducing mortality. Therefore, it is important to continue further discussions on the development of population policy in the region as a whole by analysing regional characteristics, and also considering the different path followed by Estonia, which has recorded population growth.

Conclusion

Demographic policy has been recognised as a topical interdisciplinary issue by all governments since 1990, but with varying focuses and intensities regarding the problems to be tackled. Since demographic policy has been understood in its narrowest meaning, demographic policy in Latvia since 1990 has been targeted and financial means allocated only to family support policy and the promotion of the birth rate. Over the time, various institutional mechanisms aimed at the elaboration and development of demographic policies have been established and transformed.

At the Council of Demographic Affairs on 7 February 2024, the deputy head of the State Chancellery, P. Vilks, gave a presentation and opened a discussion about the role of demography in all policies. For the first time in the recent decades a decision was made to move from a narrower understanding of demography to a broader one, marking its place and importance in the development policies of all sectors. Therefore, this turning point should be used as an opportunity to continue a broader discussion about the role of demographic policy in contemporary Latvian society. It is essential to be aware of the real extent of resources in order to plan their balanced use in the areas of employment, economic growth, education, health, migration and family support policies.

Those who carry out any planning documents related to demographic policy should engage with representatives of scientific institutions. First and foremost, in order to identify those demographic policy measures in each sector that are most capable of influencing important indicators (for example, in the health sector, when thinking about extending life expectancy, identifying and reducing preventable causes of death should be considered, as well as improving health status, and introducing a targeted, smart policy of deterring the use of addictive substances and processes, including alcohol and tobacco products among the youth population, etc.). Equally important is the smart management of population renewal and a common understanding that the implementation of cross-sectoral demographic policy has long-term significance.

It is also essential to continue further discussion in the context of the population policy of neighbouring countries.

The author presented her opinion, based on the research that has been carried out, at the Demographic Affairs Council on 7 February 2024, as well as at the 83rd international scientific conference of the University of Latvia in the section "Sustainable demographic development" on 21 March 2024.

Kopsavilkums

Latvijā demogrāfiskā situācija un atbilstošas demogrāfiskās politikas veidošana kopš neatkarības atgūšanas (un arī pirms tās) ar atšķirīgu intensitāti un fokusu vienmēr bijušas politiskās dienas kārtības jautājums. Līdz šim galvenais uzsvars demogrāfiskajā politikā Latvijā bija vērsts uz dzimstības veicināšanu un ģimenes atbalsta politikas attīstību, tomēr nesenajā Demogrāfisko lietu padomes sēdē tika akceptēta paplašināta demogrāfiskās politikas izpratne,

tajā ietverot demogrāfijas kā caurviju jomas nozīmi visās politikās. Lai raksturotu demogrāfiskās politikas ietvaru un tā attīstību kopš neatkarības atjaunošanas, autore izvirzījusi mērķi izpētīt demogrāfiskās politikas aktualitāti un ar izpratni saistītās izmaiņas laika posmā no 1990-2024. Lai sasniegtu mērķi, autore izpētījusi 22 valdības deklarācijas un to izpildei izdotus politikas plānošanas dokumentus, tiesību aktus, kā arī Demogrāfisko lietu padomes pieejamos materiālus. Lai raksturotu demogrāfiskās politikas attīstību, autore to analizē no politisko prioritāšu, institucionālās attīstības, teorētiskā un zinātniskā ieguldījuma aspektiem. Autore izvirzījusi hipotēzi, ka Latvijas demogrāfiskās politikas tvēruma attīstība ir likumsakarīga, jo, fokusējot to tikai uz valsts ģimenes atbalsta politiku, demogrāfiskā politika ir attīstījusies vienpusēji, nespējot nodrošināt līdzsvarotu sabiedrībai būtisku procesu attīstību. Izpētes rezultātā autore secinājusi, ka pēdējā Demogrāfisko lietu padomē panāktais konsensus attiecībā uz to, ka demogrāfiskā politika būtu skatāma un attiecīgi pasākumu plāns izstrādājams, ņemot vērā paplašināto demogrāfiskās politikas izpratni būtu jāizmanto kā iespēja uzturēt un attīstīt plašāku diskusiju par demogrāfiskās politikas caurviju lomu mūsdienu Latvijas sabiedrībā. Vienlaikus nepieciešams apzināties reālos resursus un plānot līdzsvarotu to izmantošanu gan nodarbinātības, gan ekonomiskās izaugsmes, izglītības, veselības, migrācijas, ģimenes atbalsta politikas jomās.

Tādejādi politikas veidotājiem vispirms būtu nepieciešams identificēt tos demogrāfiskās politikas pasākumus katrā nozarē, kas spēj ietekmēt būtiskākos rādītājus (piemēram, veselības nozarē domājot par veselīgi nodzīvotu mūža gadu pagarināšanu, būtu apsverama novēršamu nāves cēloņu identificēšana un mazināšana; veselības stāvokļa uzlabošana utml.).

Tikpat būtiska ir sabiedrības atjaunošanas procesu vieda vadība, kas būtu koordinēta, visaptveroša un periodiski mērīta. Vienlaikus nepieciešams turpināt tālāku izpēti kaimiņvalstu demogrāfiskās politikas kontekstā.

Autore savu viedokli, pamatojot izpētē gūtajās atziņās, ir paudusi 2024. gada 7. februāra Demogrāfisko lietu padomē, tajā piedaloties kā veselības ministra pārstāve, kā arī Latvijas Universitātes 83. Starptautiskās zinātniskās konferences sekcijā "Ilgtspējīga demogrāfiskā attīstība" 2024. gada 21. martā.

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MAPPING URBAN SHRINKAGE: SOCIOECONOMIC AND DEMOGRAPHIC DIMENSIONS OF URBAN CONTRADICTION IN SMALL TOWNS IN LATVIA

PILSĒTU SARUKUMA SOCIĀLI EKONOMISKĀS UN DEMOGRĀFISKĀS DIMENSIJAS LATVIJAS MAZAJĀS PILSĒTĀS

Niks Stafeckis, **Maris Berzins**
University of Latvia
Email: niks.stafeckis@lu.lv

Abstract

Urban shrinkage is a complex phenomenon affecting many regions globally, with small towns in old industrial regions often experiencing the most severe impacts. This study aims to examine the patterns of urban shrinkage in the small towns of Latvia, focusing on socioeconomic and demographic dimensions. We drew on data from the 2000 and 2021 censuses. Employing hierarchical cluster analysis (HCA), we analysed data from 48 small towns in Latvia. Our research revealed distinct geographical differences in urban shrinkage patterns, highlighting the uneven nature of this process across the country. This study unveils two primary clusters of urban shrinkage. The first is characterised by a combination of geographical location and demographic factors, while the second is mainly determined by the socio-economic indicators considered. Our findings reveal that small towns in non-metropolitan regions, particularly the border regions of the country, exhibit higher levels of population decline and worse demographic indicators. This study contributes to the growing body of literature on urban shrinkage by providing a nuanced understanding of its manifestation in the case of Latvia. Our findings have implications for regional development policies in Latvia and underscore the need for tailored strategies to address the challenges caused by urban shrinkage.

Keywords: *urban shrinkage, small towns, socio-demographic change, census, hierarchical cluster analysis*

Introduction

The phenomenon of urban shrinkage has attracted a great deal of public and academic attention over the past decade (Steinfuhrer & Grossmann, 2021). In many parts across Europe and North America, long-term structural economic and

demographic challenges are leading to decline, with urban and rural areas losing inhabitants, jobs, infrastructure and services. Nevertheless, the current state of knowledge regarding these processes remains uncertain, as research on urban shrinkage has thus far focused on large cities (Martinez-Fernandez et al., 2012; Haase et al., 2016; Mallach et al., 2017). Previous studies have addressed the topic of urban shrinkage broadly. Their main emphases highlight three research strands: identifying the causes and consequences of the process (1), characterising trends (2), and discussing policies related to urban shrinkage, (3) (Haase et al. 2017). The second half of the last century was marked by the onset of a prolonged demographic decline in several regions of the world, mainly in the Global North. Demographic change and population decline were influenced by industrial restructuring, economic downturns, and political changes. Despite the consequences of population decline, as well as growing economic and social challenges, urban shrinkage was not initially singled out by scholars and policymakers as a process to be studied and analysed separately (Marjanovic, 2023). However, over the past decade, shrinkage has become a process that is increasingly studied in urban areas of all sizes, as an increasing number of cities, towns and regions around the world face population decline, which has now become a common urban development trend (Bernt, 2019).

The global financial crisis of 2008 and its consequences for economic development and the political system were major turning points in the context of urban shrinkage. The rising social inequality, the associated increase in public discontent, and the rise of populism have been a pressing issue in society, on the political agenda and in academia (Pike et al., 2023). However, these processes are not evenly distributed across regions and populations. Therefore, the term “left-behind places” is now widely used in research to refer to negative demographic, socioeconomic, and political changes (Fiorentino et al., 2024). This concept is often used in urban, rural and regional studies in the Global North to describe the demographic and socioeconomic changes in old industrial regions and rural peripheries affected by austerity measures, globalisation, administrative and economic reforms, and by technological developments (Gormar et al., 2019; Hendrickson et al., 2018). The term “left-behind places” is sometimes employed as a novel descriptor for processes of urban shrinkage, social inequalities, uneven territorial development, and public discontent, as well as development traps

(Dijkstra et al., 2020; De Ruyter et al., 2021; Rodriguez-Pose et al., 2023; Fiorentino et al., 2024).

The classification of urban areas into distinct categories, such as cities and towns, is a complex and multifaceted endeavour. Regardless of the criteria and definitions used to distinguish them, small towns are a widespread type of urban settlements, far outnumbering cities. In the majority of countries, small towns play an integral role in urban systems (Grossmann & Mallach, 2021). In many regions, small towns contain a significant proportion of the overall urban population. Nevertheless, there is a paucity of research on small towns, with the majority of studies concentrating on the influence of globalisation and technological advancement on large cities and urban agglomerations. Nevertheless, the effects of globalisation are becoming increasingly evident in small towns as well (Mayer & Knox, 2010). The sustainability of small towns is inextricably linked to their capacity to adapt to change, cope with crises, and integrate into trends of development and change (Lazzeroni & 2020).

The urban system of Latvia is distinguished by a historically established network of small towns (Krišjāne & 2001) that has been shaped and evolved over an extended period. The network of small towns is constituted by settlements with disparate origins and functions. These include former Hanseatic League market towns that were established during the Livonian period, urban centres in predominantly rural regions that acquired town status in the early 20th century, and mono-industrial towns that came into being when Soviet-era industrialisation and immigration policies were in force (Bērziņš et al., 2018). In Latvia, a substantial body of research has been conducted on the development of small towns, the quality of life in different territorial regions, and the socio-geographical differences between cities (Krišjāne, 1998; Krišjāne, 2001; Šķiņķis & Stankeviča, 1999; Krišjāne, 2005). It is important to note, however, that these studies were conducted a relatively long time ago, around the turn of the century. More recent studies on urban shrinkage have concentrated on the Riga metropolitan region (Akmentiņa, 2017). In the field of social anthropology, the phenomenon of rural shrinkage has been examined in the context of the concept of "emptiness" (Dzenovska, 2012; Cimdiņa & Raubiško, 2012; Dzenovska, 2018). In 2021, the urban system of Latvia was comprised of 76 cities and towns, of which 48 were classified as small towns. It is important to note that the urban system is characterised by a strongly monocentric structure, with the capital city, Riga, having a significantly larger population than all

other urban areas. The objective of this study is to examine the patterns of urban shrinkage in the small towns of Latvia, with a particular focus on the socioeconomic and demographic dimensions and the changes that have occurred over the period since 2000.

Data and methods

The data employed in this study are derived from the 2000 and 2021 censuses. The data sets from both census years were provided by the Central Statistical Bureau of Latvia, thus ensuring the requisite quality and compatibility. The data set comprises highly accurate demographic and socio-economic information. For further insight, 12 distinct demographic, socio-economic, and geographic variables that illustrate the nuances of urban shrinkage in each of Latvia's small towns have been identified and selected for analysis (see Table 1). The variables describing the demographic development, population and employment composition, and human capital of the small towns under study were calculated from the relevant census data. To assess the location and geographical proximity of the small towns, we calculated the distance between them and the capital city of Riga, as well as other major cities located in each of the country's regions.

Table 1. **Variables used for hierarchical cluster analysis**
(authors' calculations based on data from the Central Statistical Bureau of Latvia)

No	Description	Measurement Units	Mean value	
			2000	2021
1	Population	number	3419.5	3000.5
2	Years with decreasing population	number	6.0	9.3
3	Median age	number	37.7	46.2
4	Demographic dependency ratio	number	548.6	626.0
5	Ageing index[1]	number	89.9	167.4
6	Share of ethnic minorities[2]	%	25.4	20.5
7	Share of university educated[3]	%	9.4	23.2
8	Share of employed[4]	%	43.0	51.1

No	Description	Measurement Units	Mean value	
			2000	2021
9	Share of managers and professionals among employed[5]	%	22.7	25.1
10	Share of mobile residents[6]	%	6.2	6.1
11	Distance to the capital city	km	135.4	
12	Distance to the closest large city	km	32.6	

Notes: [1]the ageing index refers to the number of the elderly aged 65 years and over per 100 individuals younger than 14 years old; [2]does not include those who have not indicated their ethnicity; [3]among adults aged 18 and over; [4]among adults aged 15 and over; [5]among adults aged 15 and over, and based on the International Standard Classification of Occupation (ISCO); [6]includes international migrants, internal migrants and residential moves.

A review of the mean values and changes over time reveals a clear decline in the overall population, and deterioration in all the selected demographic variables. Moreover, the share of ethnic minority groups has also declined, while the level of population mobility has remained constant. Concurrently, there has been a notable increase in the proportion of residents with a higher level of education. Similarly, improvements are observed in the variable of employment and professional qualifications. In terms of geographical proximity, small towns are distributed across all regions of Latvia, with a number situated in remote areas on the country's frontiers. Consequently, the mean distance to the capital city – the country's largest settlement and economic centre – exceeds 100 km. Conversely, the average distance to another large city is approximately 30 km, although this varies considerably across the regions.

This study employed hierarchical cluster analysis (HCA) to evaluate the clustering patterns of Latvian small towns based on selected variables and to examine the changes. The fundamental premise of cluster analysis is the grouping of objects with shared characteristics into clusters (Cauce et al., 2021). The primary objective is to generate clusters that exhibit internal homogeneity while maintaining heterogeneity between clusters. HCA is a technique used to identify the underlying structure among a set of studied objects. The process commences with each object designated as a discrete cluster, subsequently merging into larger clusters, thereby reducing the total number of

clusters at each stage (Almeida et al., 2007). The process of clustering data objects is contingent upon the information present within the existing dataset, encompassing both the characteristics of the objects themselves and the interrelationships between them. Hierarchical algorithms are particularly useful in the context of small datasets (Cauce et al., 2021). The analysis was conducted using OriginPro 2024b software, employing all 12 variables for 48 Latvian small towns. This methodology and a closely related set of variables have also been employed in other studies examining processes of urban shrinkage in Europe (Ubarevičiene & van Ham, 2017; Banica et al., 2017; Maly et al., 2020; Eva et al., 2021).

Results of the Hierarchical Cluster Analysis (HCA)

The result of the Hierarchical Cluster Analysis (HCA) is a visual representation in the form of a dendrogram, which illustrates the clusters extracted from the selected variables. The HCA is reflected in two dendrograms, which illustrate the conditions of urban shrinkage in 2000 and 2021. Additionally, the dendrograms suggest trends of urban shrinkage over an extended period between these two years. In both the years under examination, the towns are divided into six urban clusters in accordance with the demographic, socio-economic and geographical variables included (see Figure 1). The identified clusters can be distinguished by their size, with two larger clusters (red and blue) comprising the majority of small towns. The red cluster includes 25 small towns, while the blue cluster includes 17 small towns, representing almost all of the small towns in Latvia.

In the 2000 dendrogram, the similarity coefficient of the two most significant clusters, which encompass the majority of small towns, exceeds the 80% threshold, indicating a high degree of similarity. Among the smallest clusters, the one formed by the towns of Aizpute and Lielvarde is of particular interest, exhibiting a similarity of over 60% with the two largest clusters. The dendrogram identifies three additional clusters, each comprising one or two towns. These clusters, which form a distinct group from those described above, exhibit characteristics that are incongruent with the typical attributes of small towns. The towns of Aizkraukle and Sigulda are considered a unified cluster. Additionally, the towns of Olaine and Salaspils are situated within distinct clusters. Salaspils is the most dissimilar town in the cluster group, exhibiting a similarity coefficient of less than 40% with the other towns. The towns of Olaine, Aizkraukle and

Salaspils (to a lesser extent) were mono-industrial towns when they were established during the Soviet era. It seems reasonable to suggest that the aforementioned towns have undergone a process of differentiation, resulting in the emergence of distinct clusters. Nevertheless, in terms of population size and economic development indicators, these towns are larger than the other small towns in Latvia, particularly those located in non-metropolitan regions.

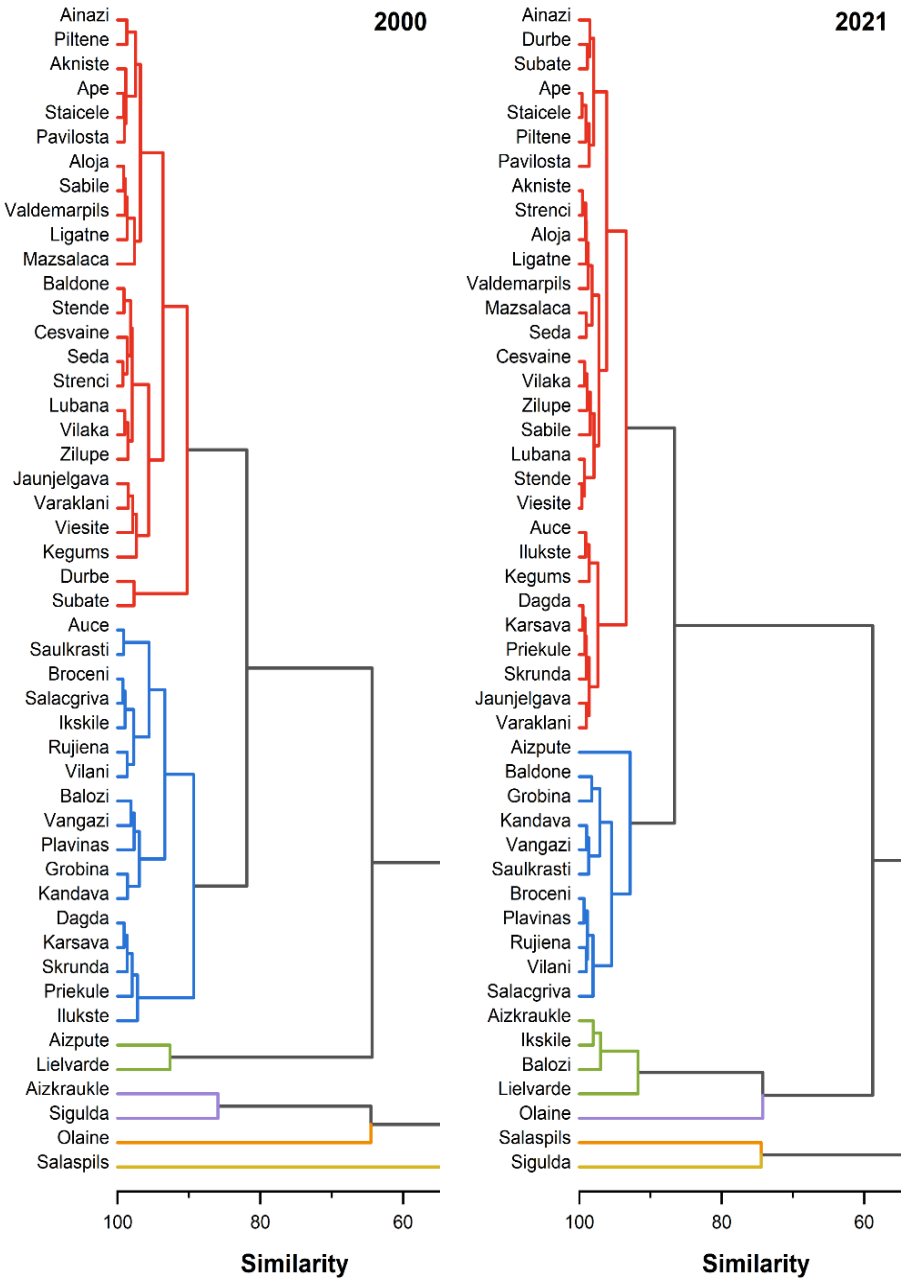

Figure 1. **Dendrograms and division of small towns into six clusters** (authors' calculations based on data from the Central Statistical Bureau of Latvia)

A review of the 2021 dendrogram reveals that the cluster classification remains largely unchanged, with six distinct groups still evident. Similarly to the dendrogram of 2000, the first and second clusters encompass the majority of Latvia's small towns. In 2021, the first cluster encompassed a greater number of towns than in the year 2000, while the second cluster included a smaller number of towns. The third cluster is comprised of four small towns: Aizkraukle, Ikskile, Balozi and Lielvarde. The aforementioned towns of Olaine, Salaspils and Sigulda form discrete clusters.

The following section will examine the geographical distribution of the small towns. The results for the year 2000 indicate that the majority of small towns in the Vidzeme region are situated within the first cluster. In the Latgale, Zemgale and Kurzeme regions, a mixed distribution was observed between the first and second clusters. The Riga metropolitan region features towns from nearly all the clusters, as illustrated in Figure 2.

In 2021, the Riga metropolitan area continued to exemplify the greatest diversity of clusters of all the regions. As illustrated in Figure 2, the initial two clusters encompass the majority of the small towns. The number of towns belonging to the first two clusters has remained relatively steady between the two years studied, with a slight decline from 42 to 41. The first cluster can be more comprehensively elucidated by demographic variables, including the median age, ageing index, number of years with declining population, and geographical proximity. The second cluster can be more comprehensively elucidated by socio-economic indicators, including the proportion of university graduates, the share of employed individuals, and the proportion of managers and senior professionals. A comparison of the two dendrograms reveals a notable decline in the number of towns that can be distinguished as separate clusters or groups. These towns exhibit a distinct divergence from the typical characteristics observed in the majority of small towns, which tend to demonstrate a higher degree of clustering. In the year 2000, there were only two towns of this description; by 2021, however, the number had grown to three distinct towns. The most effective method to illustrate this phenomenon is by examining the values of the similarity coefficient for the town of Salaspils in comparison to the other towns. The cluster group that demonstrates the most notable divergence from the primary cluster group in both years encompasses the towns of Sigulda and Salaspils. In contrast, the socio-demographic indicators of the cities of Aizkraukle and Olaine have become increasingly aligned with those of the initial two

clusters. In light of these observations, it can be posited that the socio-demographic situation has become increasingly homogeneous across the majority of the towns over time, as evidenced by the expansion of the first cluster.

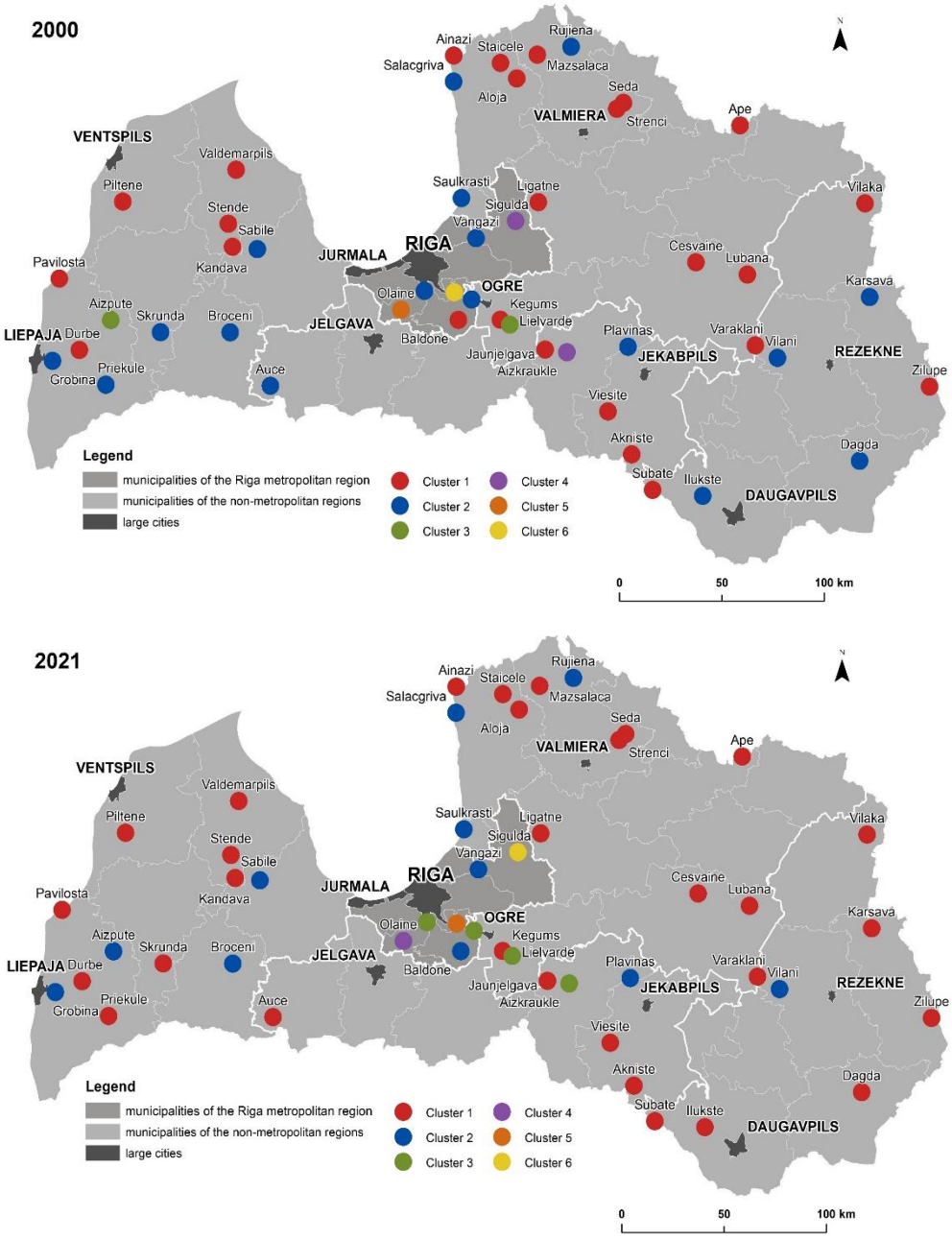

Figure 2. **The geography of the small towns representing the different clusters** (authors' calculations based on data from the Central Statistical Bureau of Latvia)

Conclusion

The population of Latvia's small towns experienced a persistent decline between the years 2000 and 2021. In comparison to other urban areas with larger populations, small towns in Latvia tend to exhibit more unfavourable demographic development. Several demographic variables characterise Latvia's small towns, including negative net migration, a higher median age than the national average, a high demographic burden, and an elevated ageing index compared to the national scale. Conversely, the proportion of the population with higher education has increased, while the proportion of ethnic minorities has decreased in all small towns since the year 2000. However, both indicators illustrate significant discrepancies between the towns included in the analysis. Some of the urban areas, which are predominantly former mono-industrial towns with a history of industrial decline, continue to exhibit a relatively high proportion of ethnic minorities.

A comparative analysis of socio-demographic variables reveals that the majority of small towns in the Riga metropolitan area exhibit distinctive characteristics when compared to other small towns in non-metropolitan regions. These include a higher rate of population growth, positive net migration, a shorter period of population decline, a higher share of employed persons, and a higher proportion of well-educated individuals. The study employed a hierarchical cluster analysis (HCA), which yielded the emergence of two urban clusters. These clusters encompass the majority (42 out of 48) of small towns. The first urban cluster is attributed to demographic characteristics and geographic proximity to the capital city, Riga, and other major cities. The second cluster of small towns is primarily attributable to the socio-economic indicators utilised in the study. In both years, at the beginning and at the end of the period spanning 2000 to 2021, neither of the two clusters included any of the small towns. Two medium-sized mono-industrial towns, Aizkraukle and Olaine, form another cluster due to their distinct demographic and socio-economic characteristics. Similarly, other towns, such as Salaspils and Sigulda in the Riga metropolitan region, have exhibited a persistent divergence from the rest of Latvia's small towns over the course of the period under review. This study demonstrates that small towns situated outside the Riga metropolitan region, and particularly those located in the frontier areas to the north, east and south, are experiencing more pronounced urban shrinkage as a consequence of unfavourable demographic trends.

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Kopsavilkums

Pilsētu sarukšana ir sarežģīta parādība un ietekmē reģionus daudzviet pasaulē, bet vissmagāk skar mazās pilsētas agrākajos rūpnieciskajos reģionos. Pētījuma mērķis ir analizēt pilsētu sarukšanas ģeogrāfiskās likumsakarības Latvijas mazajās pilsētās, koncentrējoties uz sociāli ekonomisko un demogrāfisko rādītāju izpēti. Darbā izmantoti 2000. un 2021. gada tautas skaitīšanas dati. Pielietojot hierarhisko klasteru analīzi (HCA), pētījumā aplūkotas 48 Latvijas mazo pilsētu sociāli demogrāfiskās attīstības tendences. Pētījums atklāj ģeogrāfiskās atšķirības pilsētu sarukšanā, uzsverot šī procesa nevienmērīgo raksturu valsts reģionos. Veiktā analīze atklāj divus galvenos pilsētu sarukšanas klasterus. Pirmo raksturo ģeogrāfiskā novietojuma un demogrāfisko faktoru kombinācija, bet otro galvenokārt nosaka aplūkotie sociāli ekonomiskie rādītāji. Pētījumā noskaidrots, ka mazās pilsētas ārpus Rīgas metropoles reģiona, bet jo īpaši valsts pierobežā, nelabvēlīgas demogrāfiskās attīstības rezultātā sarūk straujāk. Darbā aplūkotais mazo pilsētu piemērs papildina līdz šim veiktos pētījumus par pilsētu sarukšanas procesiem. Pētījuma secinājumi ir noderīgi, meklējot risinājums reģionālās attīstības politiku izaicinājumiem Latvijā.

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BEYOND THE TRADITIONAL DICHOTOMIES IN STUDYING ETHNIC RESIDENTIAL GEOGRAPHIES IN RIGA

MAZĀKUMTAUTĪBU ĢEOGRĀFIJA RĪGĀ: SKATS ĀRPUS IERASTĀ DALĪJUMA

Sindija Balode, **Maris Berzins**
University of Latvia
Email: sindija.balode@lu.lv

Abstract

Ethnic residential geographies are spatially complex, and there has been strong academic interest in immigrant residential segregation in urban Europe. In Latvia, the nature of immigration has changed in recent years, and one of the most visible features has been the emergence of previously underrepresented ethnic groups choosing the city of Riga as their place of residence. At the same time, Riga has had a very high proportion of ethnic minorities for more than 60 years, due to the immigration, industrialisation and militarisation policies pursued under the Soviet occupation. The distinctive historical context of the capital of Latvia has resulted in the formation of a multifaceted urban landscape, wherein long-established ethnic minority communities and emergent immigrant groups coexist. Therefore, in this paper we will examine the changes in the share of the largest ethnic groups in Riga over the past decade. Additionally, we will present a somewhat unconventional analysis, going beyond the traditional divides in order to assess the geographical distribution of emergent ethnic minorities. We use customised data from the last two censuses, in 2011 and 2021, to analyse the city-wide distribution of the major ethnic groups and the changing distribution of smaller ethnic groups in urban neighbourhoods. The findings indicate a decline in the overall population of all major ethnic groups in the city, although in certain neighbourhoods – and across the city as a whole – the proportion of Latvians is on the rise. Meanwhile, more significant changes have been observed among the emergent ethnic groups. The evidence from the inner city indicates the presence of fast-growing minority groups, such as Indians.

Keywords: *ethnic minorities, population change, census, urban neighbourhood*

Introduction

The demographic profile of the European urban population is undergoing transformation due to negative natural growth and increasing immigration (Amran et al., 2019). Immigration is the key driver of population change in the EU and has reached unprecedented levels; it is characterised by diversification in terms of the countries of origin and motivations for migration, which has significantly altered migration dynamics across the region (Van Mol & de Valk, 2016). Consequently, Europe's contemporary ethnic landscape is shaped by a combination of steady historical and varied new migration patterns (King & Okólski, 2019). Metropolitan areas exhibit the highest concentrations of immigrants (Benassi et al., 2020), leading to considerable changes in their ethnic composition (Johnston et al., 2015; Catney, 2017). While this rise in ethnic diversity in urban neighbourhoods can pose risks of socio-spatial inequalities, it does not inherently lead to such outcomes. Instead, increasing ethnic diversity is often associated with desegregation (Harris, 2023) and the ability to maintain stable levels of neighbourhood multi-ethnicity (Catney et al., 2021). Nevertheless, the evolving ethnic residential geographies can bring about certain risks of ethnic residential segregation. This multifaceted phenomenon is driven by several factors, particularly socioeconomic disadvantages that significantly impact residential choices and social cohesion (Manley et al., 2015; Sturgis et al., 2014). Consequently, ethnic residential segregation tends to be more pronounced than ethnic workplace segregation (Garlick et al., 2023). Additionally, discrimination, self-segregation, minority group size, overall urban ethnic diversity, country-specific differences (Forrest & Johnston, 2001; Johnston et al., 2007), and the practical and emotional need for a community (Stillwell & Phillips, 2006) play an important role in determining residential outcomes.

The dynamics and trends of ethnic composition vary significantly between countries and cities and are influenced by regional and international contexts. Therefore, examining specific cases is essential in order to gain a deeper understanding of these unique patterns. Cities differ in their immigration histories, ethnic compositions, and economic opportunities, leading to distinct spatial outcomes. Despite the general trend of diminishing spatial divisions between ethnic groups, ethnic minorities are still frequently concentrated in specific urban zones, such as deprived inner-city areas (Stillwell & Phillips, 2006). Additionally, migrants from third countries often face higher levels of segregation, particularly in countries with more recent immigration

histories (Benassi et al., 2020). Significant shifts in migration patterns in Central and Eastern European cities have led to increased foreign-born populations, resulting in major socio-spatial changes for ethnic groups, marked by ethnic-group-specific concentration patterns and growing spatial variability (Špačková et al., 2016).

In Latvia, the nature of immigration has changed in recent years, and one of the most visible features has been the emergence of previously underrepresented ethnic groups choosing the city of Riga as their place of residence. As Riga experiences modest increases in immigration and the arrival of new ethnic groups, there is a mounting necessity to conduct a more comprehensive examination of the evolving ethnic composition of Riga's neighbourhoods and the underlying factors driving these changes. In this paper, we will therefore examine the changes in the proportion of the largest ethnic groups in Riga over the past decade. Furthermore, we will present a somewhat unconventional analysis by examining the number and geographical distribution of the emergent ethnic minorities. This research paper goes beyond the traditional approach to examining ethnic residential geographies in Riga, elucidating the dynamic and heterogeneous ethnic landscape, shaped by historical legacies and contemporary demographic and socioeconomic factors.

Data and methods

This study employs quantitative methods to observe and analyse the residential geographies of ethnic groups in Riga. The data were derived from the most recent two censuses, namely in 2011 and 2021, with the objective of analysing the city-wide distribution of major ethnic groups across urban neighbourhoods, and the changing distribution of fast-growing smaller ethnic groups. The Latvian census employs a primarily self-report approach in classifying ethnic groups within predefined categories. Additionally, variables such as country of birth, previous place of residence in the event of migration, citizenship, or the language spoken at home or mother tongue (the last in 2011) are typically employed in the examination of immigration patterns. Our analysis draws on customised data based on the self-reported variable from the census. The selected self-reported variable is based on a classifier comprising over 300 distinct ethnicities, which can be selected (Regulations on the Classification of Ethnicities, 2016). The Central Statistical Bureau of Latvia employs this classifier for the purpose of coding data pertaining to ethnicities. Unfortunately, this classification only allows for

the selection of one ethnicity and does not provide for the selection of mixed ethnic ancestry. Furthermore, the census also offers the option of selecting "unknown" and "not selected" ethnicity. It is noteworthy that the number of cases classified as of "unknown" or "not selected" ethnicity has increased over the past decade, with a total of over 40,000 such entries documented in the 2021 census. This study presents a descriptive analysis of the changes that have occurred over the past decade in the distribution of the major ethnic groups and, subsequently, their geographical patterns across urban neighbourhoods. Subsequently, a description of the smaller ethnic groups is provided, with the larger or more traditional ethnic minorities previously discussed excluded.

Results

Understanding the Changing Ethnic Composition of Riga's Neighbourhoods

Riga, with its extensive historical background and strategic maritime location, has consistently served as a nexus of diverse cultures and ethnicities, facilitating the convergence of numerous cultural and ethnic groups. The city's ethnic composition is notable for the prevalence of an aggregated group of ethnic minorities, which constitute over half of the city's population. While ethnic Latvians form the largest single group, they do so alongside a substantial population of ethnic Russians, Belarussians, Ukrainians and Poles, reflecting a long history of migration, mainly influenced by Soviet-era immigration, industrialisation and militarisation policies. The ethnic composition of the city is further complicated by the spatial distribution of major ethnic groups across neighbourhoods. A comprehensive examination of Riga's urban neighbourhoods reveals significant variations in ethnic composition across different zones. Such variations illustrate the city's dynamic and evolving ethnic landscape, shaped by historical legacies and contemporary demographic and socioeconomic variables. Over the decade studied, the demographic landscape of Latvia, and particularly its capital city Riga, experienced an overall population decline and underwent transformations in its ethnic composition (Table 1). Despite its central role as a hub of the urban system and the primary centre for economic activity, Riga experienced population decline driven by negative natural growth, further exacerbated by negative net migration. Although a brief period of positive internal net migration occurred between 2013 and 2016 due to local policies on real estate tax and a discount

programme for urban dwellers, this was followed by an exodus to the suburbs, amplified by counter-urbanisation effects during the COVID-19 pandemic (Krumins et al., 2021). An examination of the relative changes in ethnic group sizes reveals that Russians and other traditional ethnic minority groups experienced the most substantial declines, whereas the Latvian population decreased only slightly. In contrast, non-traditional ethnic minorities demonstrated significant growth, reaching almost 28%.

Table 1. **Components of population change and relative ethnic group change in Riga from 2011 to 2021** (authors' calculations based on data from the Central Statistical Bureau of Latvia)

Components of population change	Natural change	-26.5k
	Net migration	-20.7k
Relative ethnic group change	Latvians	-3.4%
	Russians	-16.1%
	Other traditional*	-13.4%
	Non-traditional**	27.8%
	Not selected/unknown	484.3%
	Riga city, total	-5.7%

* Belarusians, Ukrainians, Poles, Lithuanians, Estonians, Jews, Roma, Armenians, Tatars, Moldovans

** All other ethnic groups, excluding Latvians, Russians, other traditional and not selected/unknown

Consequently, between 2011 and 2021, international net migration in Riga underwent a transition, shifting from a markedly negative to a slightly positive number (Figure 1). This shift was accompanied by a gradual decline in emigration and an increase in immigration, except for in 2020, which was likely influenced by pandemic-related movement restrictions. Notably, 2021 marked the first time in a decade that Riga experienced positive international net migration. This shift in international migration patterns aligns with the growth of non-traditional ethnic minority groups, illustrating the evolving demographic profile and ethnic geographies of the city and pointing to an increasingly diverse social and cultural fabric in the future.

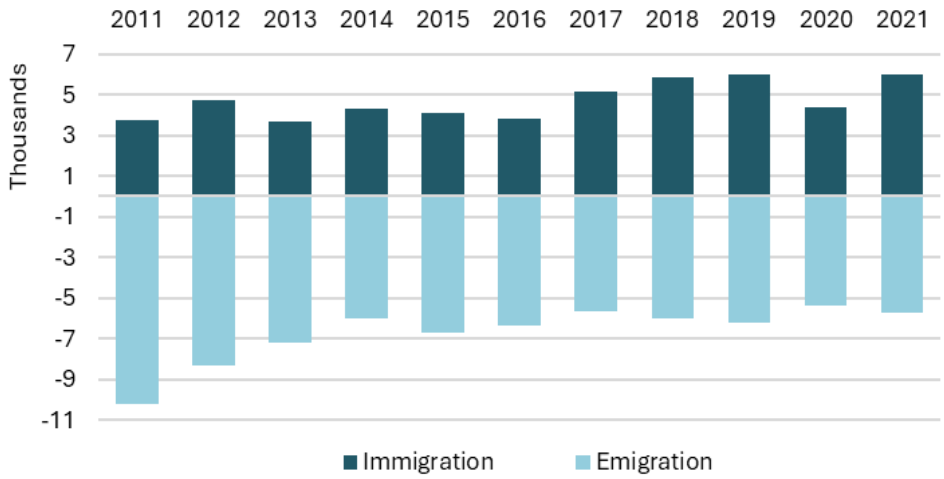

Figure 1. **Dynamics of international migration in Riga from 2011 to 2021** (authors' figure based on data from the Central Statistical Bureau of Latvia)

Figure 2 provides a comprehensive overview of the ethnic composition in Riga for 2011 and 2021, focusing on the top 12 ethnicities and excluding residents with "not selected" or "unknown" ethnic affiliation. During this period, the share of Latvians, who constituted just under half of the city's population, increased slightly. Conversely, Russians, the largest ethnic minority group, saw a decrease of over four percentage points. Other traditional ethnic minorities, including Belarusians, Ukrainians, Poles, Lithuanians, Jews, Armenians and Tatars, declined in absolute numbers, although their relative shares remained relatively stable.

Despite these shifts, the overall composition of the top ethnic groups has remained largely consistent. However, there were notable changes in the lowest positions in the top 12: in 2021, Moldovans and Azeris were replaced by Uzbeks and Indians. This change highlights a broader trend of declining traditional ethnic minority populations and the rise of emergent ethnic groups, suggesting a new gradual transformation in Riga's ethnic landscape.

The urban morphology of Riga can be delineated into three urban zones: the inner-city neighbourhoods, the Soviet-era large housing estates, and the outer-city neighbourhoods (Figure 3). Analysing ethnic minority representation across these zones reveals distinct patterns. Soviet-era large housing estates generally have populations which are more than 50% ethnic minority, primarily due to the concentration of long-established traditional ethnic minorities in these neighbourhoods. Inner-city

neighbourhoods typically exhibit a 30%–50% ethnic minority share, whereas outer-city neighbourhoods in most cases show less than 30% ethnic minority representation.

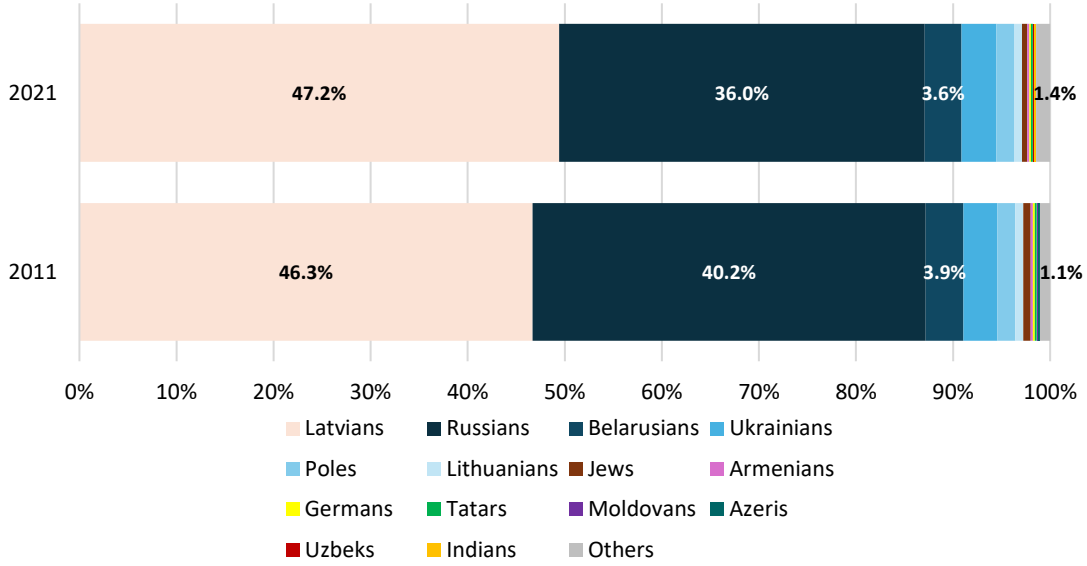

Figure 2. **Ethnic composition in Riga in 2011 and 2021** (authors' figure based on data from Central Statistical Bureau of Latvia)

A comparative analysis of data from 2011 and 2021 indicates that the ethnic minority share in Soviet-era large housing estates has been decreasing. This trend aligns with the general decline in the population of traditional ethnic minorities across the city. In outer-city neighbourhoods, the ethnic minority share has remained relatively stable, with only a few neighbourhoods showing an increase in ethnic minority density. In the inner city, the ethnic minority share has also remained stable in most neighbourhoods, but a decline can be observed in the eastern neighbourhoods of Brasa and Grīziņkalns, as well as the neighbourhood of Andrejsala-Pētersala, characterised by a majority of Soviet-era large housing estates and thus a larger traditional ethnic minority share. This decline is also due to the overall decline in the traditional ethnic minority population and the neighbourhood's socioeconomic transformations, which surpass those of other Soviet-era large housing estates (Balode 2023), likely influenced by the neighbourhood's proximity to the city centre. The inner-city neighbourhood of Skanste stands out as an exception, showing an increase in the share of ethnic minorities, which coincides with the widespread new-built gentrification of the neighbourhood and its status as the neighbourhood with the fastest population growth rate in the city.

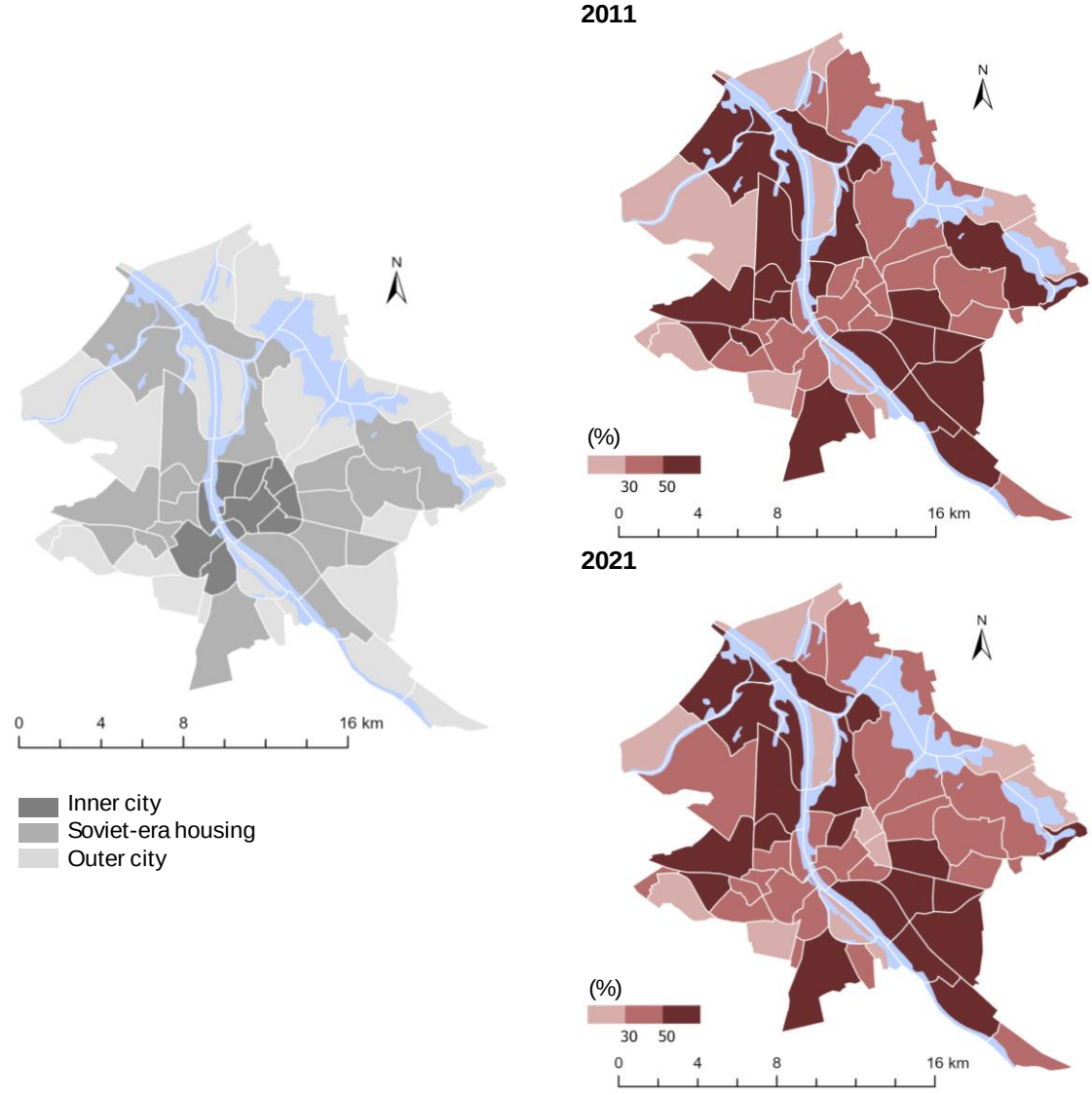

Figure 3. **Urban zones (left) and share of ethnic minorities at neighbourhood level in 2011 and 2021 (right) in Riga** (authors' figure based on data from the Central Statistical Bureau of Latvia)

How have the local geographies of ethnicity evolved over time?

When looking at smaller ethnic minority groups, we focused on those ethnicities that do not belong to the major ethnic groups. Figure 4 illustrates the distribution of the largest ethnic groups beyond the traditional ethnic minority groups, namely Russians, Belarusians, Ukrainians, Poles, Lithuanians, Estonians, Jews, Roma, Armenians, Tatars and Moldovans, across the neighbourhoods of Riga. Neighbourhoods with fewer than five residents from the non-traditional ethnic groups were excluded from the analysis. In 2011, Germans were the group most widely dispersed across the city, constituting the

largest non-traditional ethnic group in 29 neighbourhoods, followed by Azeris, who were concentrated in the northern neighbourhoods. Additionally, Finns, Swedes, Georgians and Indians formed the largest non-traditional ethnic group in one neighbourhood each.

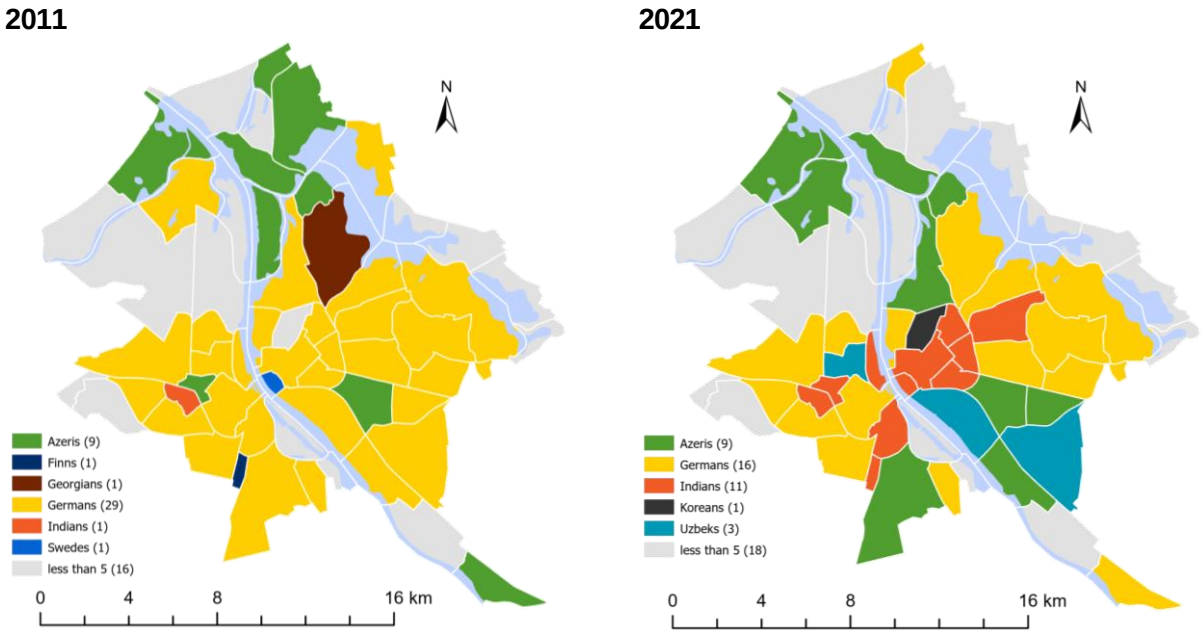

Figure 4. **The largest non-traditional ethnic groups at neighbourhood level in Riga in 2011 and 2021** (authors' figure based on data from the Central Statistical Bureau of Latvia)

In 2021, significant changes can be observed. Although Germans remained the most widely dispersed ethnic group, the number of neighbourhoods where they were the largest non-traditional ethnic group almost halved. Their presence diminished, particularly in the inner city. The distribution of Azeris became more segmented, with notable concentrations in both northern and southern neighbourhoods. Other previously represented groups, such as Finns, Swedes and Georgians, no longer appeared on the map – the exception being Indians. Indians expanded their presence significantly, becoming the largest non-traditional ethnic group in 11 neighbourhoods, primarily within the inner city, as well as in proximity to higher education institutions. Newcomers such as Uzbeks and Koreans emerged, forming the largest non-traditional ethnic group in three neighbourhoods and one neighbourhood respectively. These emergent ethnic groups were largely concentrated in areas where the proportion of Latvians has been increasing and the overall proportion of ethnic minorities, largely constituted by the

long-established Russian-speaking community, was lower than the city average (Figure 3).

This shift indicates a dynamic transformation of Riga's ethnic landscape. While fewer ethnic groups are represented on the map compared to 2011, newly emergent groups are spreading across larger areas than previously. The increase in neighbourhoods where Indians are the largest non-traditional ethnic group and the emergence of Uzbek and Korean communities point towards new migration trends and possibly economic and educational opportunities attracting these groups to specific urban zones that provide a suitable environment for their preferred lifestyle and ethnic community presence. The patterns observed between 2011 and 2021 reflect broader trends in migration, economic shifts, and social integration processes that are shaping the contemporary urban environment.

Conclusion

In Riga, the residential geographies of traditional ethnic minorities are the subject of thorough research and well-established knowledge, while the emergence of new ethnic groups represents a novel phenomenon that is redefining urban spaces. The new migration dynamics are reshaping local geographies and introducing new socio-spatial dynamics. The population of Riga experienced a decline between 2011 and 2021 due to a combination of factors, including natural decrease, suburbanisation, counter-urbanisation and emigration. This decline was most pronounced among traditional ethnic minority populations, particularly in Soviet-era large housing estates, which had historically been dominated by ethnic Russians and other long-established ethnic minorities. Nonetheless, by the end of the decade, international net migration had undergone a gradual transformation, resulting in an increase in immigration and the emergence of new ethnic groups. This contributed to the diversification of Riga's urban landscape.

Spatial analysis reveals that emergent non-traditional ethnic groups expanded over the course of the decade. Indians, for example, became the non-traditional ethnic majority in 11 neighbourhoods, illustrating the expanding influence of smaller groups in shaping the city's ethnic composition and spatial organisation. This was particularly observed in inner-city areas where factors like lifestyle and economic opportunities and fragmented gentrification play a significant role, as well as in areas in proximity to

higher education institutions. Studying smaller ethnic groups is important as these demographic shifts reflect broader trends in post-socialist cities, where economic opportunities and international migration are transforming urban neighbourhoods and turning them into attractive destinations for immigrants. Understanding the spatial dynamics of smaller ethnic groups is crucial in informing policies on social integration, housing, and urban planning. Their growing presence highlights the need for a nuanced approach to managing ethnic diversity and its spatial implications on the city's social and cultural environment.

Further research is required to examine the residential patterns of non-traditional ethnic groups at a more granular level and to investigate the long-term impacts on potential spatial inequalities as emergent ethnic groups encounter distinctive challenges in establishing networks and accessing resources, which may differ from those faced by established ethnic minorities. Addressing these dynamics will be crucial as these ethnic groups exert an increasing influence on Riga’s urban fabric in years to come.

Acknowledgement

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Kopsavilkums

Eiropas lielajās pilsētās imigrācija pāris pēdējo desmitgadu laikā ir mainījusi iedzīvotāju etnisko sastāvu. Tāpēc pieaug interese par pētījumiem, kas skaidro dzīvesvietas izvēles ģeogrāfiskās atšķirības dažādu tautību iedzīvotājiem. Arī Latvijā starpvalstu migrācijas saldo pāris pēdējo gadu laikā tuvojies nulles atzīmei. Iepriekš raksturīgā iedzīvotāju emigrācija mazinās, bet imigrācijā parādās jaunas iezīmes un Latviju, bet īpaši galvaspilsētu Rīgu, dzīvei izvēlas mums mazāk zināmu tautību iedzīvotāji. Vienlaikus Rīgā kopumā un atsevišķās pilsētas apkaimēs ilgus gadus ir bijis augsts mazākumtautību īpatsvars, ko noteica padomju okupācijas periodā īstenotā imigrācijas, industrializācijas un militarizācijas politika. Tas sekmējis to, ka Latvijā un Rīgā ir liels krievu, baltkrievu un ukraiņu tautības iedzīvotāju īpatsvars. Tāpēc šajā rakstā mēs aplūkosim lielāko tautību skaita un izvietojuma pārmaiņas Rīgā un tās apkaimēs, mēģinot palūkoties ārpus ierastā mazākumtautību dalījuma. Izmantojot 2011. un 2021. gada tautas skaitīšanas datus, mēs noskaidrojām izmaiņas gan lielāko tautību sadalījumā, gan arī straujāk augošās etniskās grupas un to izvietojumu pilsētas apkaimēs. Pētījuma rezultāti atklāj,

ka visu lielāko tautību skaits pilsētā samazinās, bet atsevišķās apkaimēs un pilsētā kopumā pieaug latviešu īpatsvars. Tikmēr mazo etnisko grupu vidū aplūkotajā desmitgadē notikušas ievērojamākas pārmaiņas un pilsētas centrā vērojama straujāk augošo mazākumtautību izplatība, piemēram, indiešu tautības pārstāvju klātbūtne.

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FROM STUDIES TO EMPLOYMENT: INTERNATIONAL STUDENTS IN THE BALTIC REGION

NO STUDIJĀM LĪDZ NODARBINĀTĪBAI: ĀRVALSTU STUDENTI BALTIJAS VALSTU REĢIONĀ

Elina Apsite-Berina[1], **Ieva Jegermane**[1], **Eero Loonurm**[2], **Zaiga Krisjane**[1], **Kristine Lece**[1]

[1] University of Latvia

[2] Estonian Education and Youth Board

Email: elina.apsite-berina@lu.lv

Abstract

International students in Europe contribute to the local economy through fees, living costs, and taxes. Moreover, they also significantly impact the economy, society and culture of the countries they study. The research concerning the employability of international students in their host countries suggests that international students represents a vital source of income for higher education institutions and local economies.

The aim of the study is to comparatively describe the numbers of international students in Estonia, Latvia and Lithuania specifically looking at the employed proportion of international students. Analysis is performed in a comparative manner by analysing the available statistical data for three different academic years. The analysis reveals that international students in these countries have experienced varying levels of success in finding employment. While Estonia consistently demonstrates the highest employment rates for international students among the three countries, Latvia and Lithuania show promising trends. The study highlights the factors influencing employment outcomes, such as students' country of origin, field of study, and language proficiency.

Keywords: *international students, employment, ISM, Baltic states*

Introduction

International students enrolled in Latvian higher education institutions have increased nearly thirteenfold over the last two decades, accounting for almost 15% of the total student population, one of the highest rates among former Soviet countries

(Chankseliani & Wells, 2019; IZM, 2023). International degree students are also increasing in Lithuania and Estonia, accounting for around 13% of the overall student population in Lithuania (Statistics Lithuania, 2021) and 10% in Estonia (Statistics Estonia, 2023). International students in the Baltic region are also considered a valuable asset. Even though access to the available statistical data is not consistent, this paper aims to assess the regional features of international students' economic impact.

International students make significant financial contributions to the economic growth of the Baltic countries through tuition fees, living expenses, and off-campus spending. This economic impact is evident in the rise in export revenues generated by the education sector. Beyond their direct contributions to institutions, international students indirectly stimulate the economy by spending on a wide range of goods and services outside the setting of the university.

The presence of international students also creates employment opportunities and increases demand for goods and services in the Baltic countries, further invigorating the local economies. Additionally, international students enrich host communities, fostering a more globalised and interconnected environment. Their presence not only contributes to the exchange of ideas and the broadening of perspectives but also inspires a more interconnected world, enhancing social cohesion.

The influx of international students can have short-term and long-term economic effects on host communities. International students can benefit local businesses and create jobs by increasing consumer spending. Additionally, educational migration can attract foreign investment, contributing to economic growth (Rokita-Poskart & Adamska, 2022). However, international students often need help with challenges such as cultural adjustment, language barriers, financial constraints, and a lack of understanding from the broader university community (Sherry et al., 2010). To mitigate these challenges, universities can implement various strategies. For instance, raising the profile of international students, increasing financial aid and scholarship opportunities, and providing English-language support can significantly enhance the overall student experience. It has previously been found that graduates with international study experience have higher wages at labour market entry, experience steeper wage growth during their early careers, and have a higher likelihood of working in large and multinational companies. Besides this, their gains in competency and self-selection play a role in their monetary returns (Netz & Cordua, 2021).

Several studies have been done on international students in the Baltic region. For instance, the presence of international students in Estonia may have significantly impacted the country's economy, particularly in the tourism sector. By visiting local businesses and attractions and participating in cultural activities, international students contribute to increased tourism revenue (Jarvis, 2020). Estonian universities implement several strategies to attract and retain international students. Moreover, increasing the number of English-taught programmes can has make the country more accessible to a broader range of international students. Additionally, offering language courses in Estonian may facilitate integration and cultural exchange (Abdulai & Roosalu, 2021). International students also contribute to the Estonian economy through employment. Many international students work part-time during their studies or full-time after graduation. This employment generates income for them and contributes to the country's tax revenue. By analysing employment patterns, wages and tax contributions, researchers can gain insights into the economic impact of international students on Estonia (Estonia Statistics, 2023).

Regarding Latvia, higher education institutions have the potential to attract even more international students by developing compelling academic programmes and effective marketing strategies. A critical factor in the success of recruitment of international students is the integration of these students into the local labour market, and the potential for growth in this area is promising. Latvia's appeal as a study destination is multifaceted. Its geographical location, relatively low tuition fees, and high-quality English-language programmes are significant attracting factors (Apsite-Berina et al., 2020; 2023). Moreover, the cultural richness and unique experiences offered by cities like Riga has the potential to further enhance the country's attractiveness to international students (Apsite-Berina et al., 2023). International students represent a valuable revenue stream for Latvian higher education institutions. However, student recruitment strategies may vary depending on the student's country of origin. For instance, German students may be more motivated by practical considerations like affordable tuition and flexible study options. By contrast, Indian students may be drawn by cultural experiences and the allure of Riga (Apsite-Berina et al., 2023). Universities in Latvia often collaborate with recruitment agencies to optimise international student recruitment. Factors like entry requirements and institutional priorities can influence the extent of such collaborations. Popular fields of study among

international students in Latvia include social sciences, business management, medicine and engineering (Chankseliani & Wells, 2019).

There are fewer studies about international students in Lithuania compared to Latvia and Estonia. Lithuania as a relatively small country faces significant challenges competing in the global higher education market. Countries like Lithuania need to implement effective marketing strategies, establish bilateral agreements with other countries, and provide adequate financial support for students in order to attract international students (Urbanovič et al., 2016). Lithuania has set ambitious international student recruitment goals for the future, aiming to double the number of international students by 2025 (Biveinytė & Dužinskas, 2018). To achieve this target of attracting and retaining international students, the country must address its particular challenges and capitalise on its unique advantages. To remain competitive, countries must continually review and refine their policies in order to create attractive environments for international students (Levent, 2016).

The study utilised data from various sources, including the national statistical offices of Latvia, Lithuania and Estonia. While data on international student mobility and employment is available for all three countries, the level of detail and accessibility varies. Estonia provides the most comprehensive data on student employment, while Lithuania primarily relies on surveys. Latvia's data, although relatively detailed, is not publicly accessible. These variations in data availability and detail pose challenges for direct comparisons between the three countries.

Results: International students in Europe and Baltic States

France hosted the most international students in Europe at the start of the previous decade, ranking first from 2013 to 2018. But since 2018, Germany has been the most popular destination for international students from EU countries, with more than 400,000 international students in 2022. In 2021, Germany and France were followed by the Netherlands, with 135,535 students.

In 2022, the Baltic states are below most other EU countries in terms of the number of foreign students: Latvia is in 21st place with 9,810 students, Lithuania in 22nd with 9,129 students, and Estonia in 25th with 5,062 students, ahead only of Luxembourg and Malta.

Overall, there has been an increase in the number of foreign students in almost all EU countries, except Italy and Greece, where the number of foreign students has decreased. Germany, the Netherlands and Poland have seen the largest increases in the number of international students.

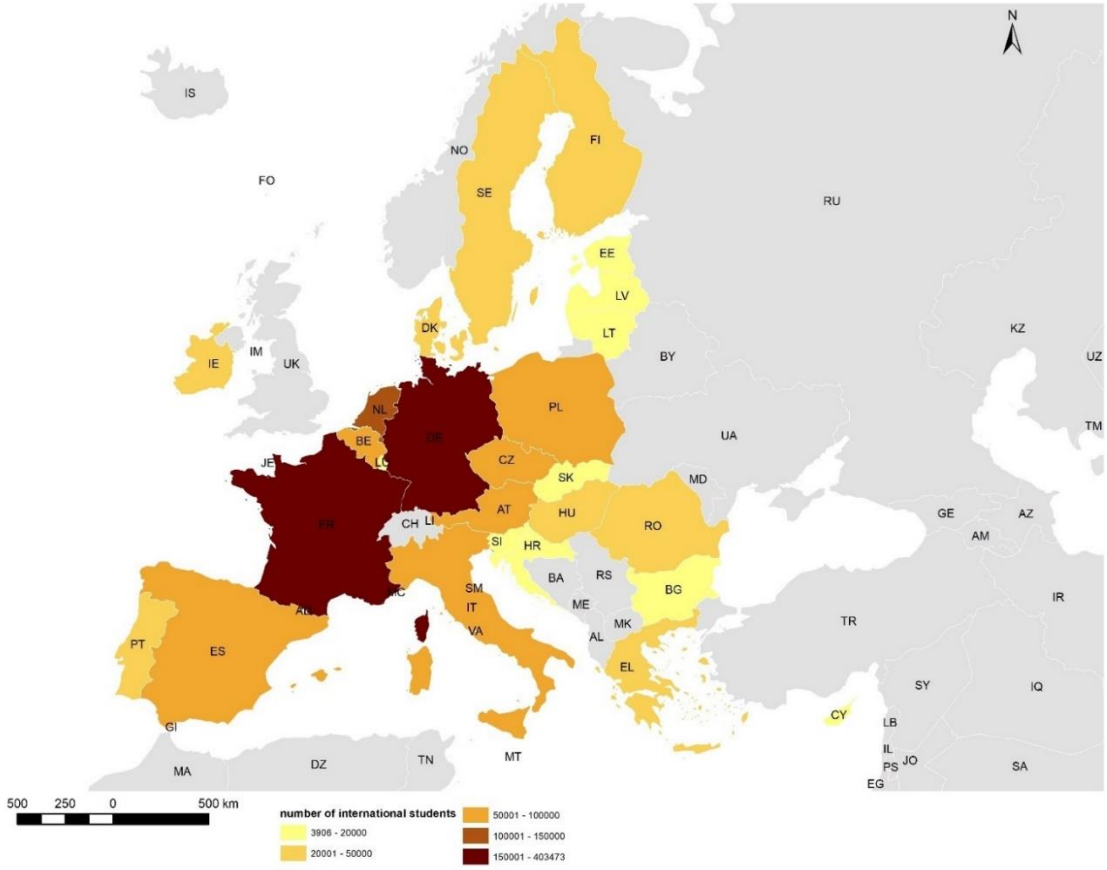

Figure 1. **Number of incoming international degree students in 2022** (authors' figure)

The number of international students in Estonia is slightly decreasing each academic year, falling below the 5,000 threshold in 2022–23. However, the number of international students in Lithuania is proliferating, reaching 9,467 students in the 2022–23 academic year. Among the Baltic states, Latvia has the highest number of international students, exceeding 10,000 students in 2021–22 and the same in 2022–23 (see Figure 2). Among the Baltic states, Latvia has hosted the most international students, with 12.8%, followed by Estonia with 12.3%, and Lithuania with 6.2%.

Figure 2 displays the number of international students enrolled in higher education institutions in Estonia, Latvia and Lithuania from 2020–21 to 2022–23. The overall

trend is that the number of international students enrolled in higher education institutions has increased in all three countries over the three-year period. Estonia has seen a steady increase in the number of international students, with a significant jump from 2020–21 to 2021–22. Latvia has experienced a substantial increase in the number of international students, with a significant increase from 2020–21 to 2021–22 and continued growth in 2022–23. Lithuania has also experienced a substantial increase in the number of international students, with a significant increase from 2020–21 to 2021–22, and continued growth in 2022–23. The increasing number of international students presents both challenges and opportunities for higher education institutions in these countries. Institutions need to be prepared to provide support services, such as language courses and cultural orientation programmes, to help international students adjust to their new environment. They may also need to invest in infrastructure and resources to accommodate the growing number of international students. By attracting international students, these countries can enhance their global reputation, promote cultural exchange, and contribute to economic growth.

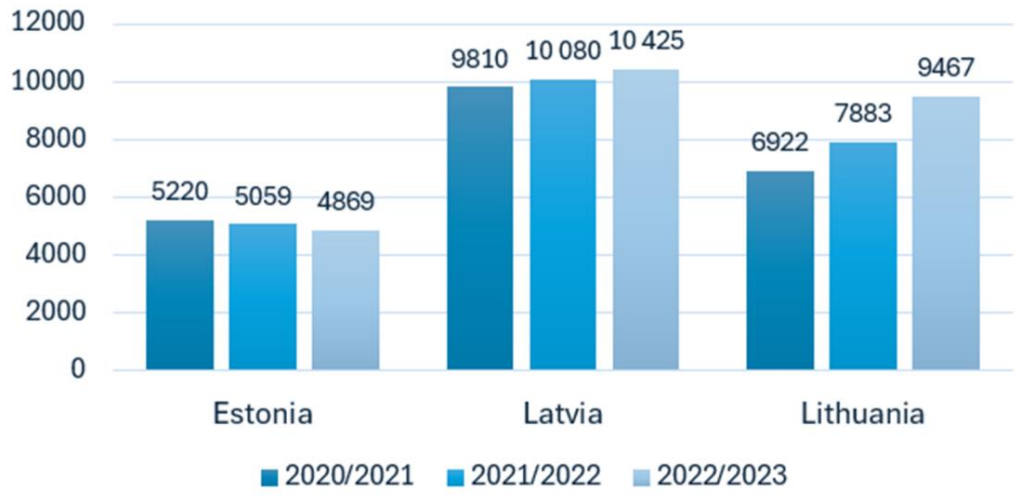

Figure 2. **Number of international students in Estonia, Latvia and Lithuania across three academic years** (authors' figure)

The increase in international students in the Baltic states is connected to the affordability of tuition fees when compared to many Western European countries; tuition fees in Estonia, Latvia and Lithuania are relatively low, making them a cost-effective option for international students. At the same time these countries offer high-quality education programmes, especially in fields like engineering, technology and

business. Universities in these countries often have strong international partnerships and collaborations. A cornerstone of their international character is programmes that are taught in English, making it easier for international students to integrate into the academic environment. Institutional regulations vary, but as members of the European Union, these countries offer visa-free travel within the Schengen area, providing students with opportunities for travel and exploration.

Results: Employability Patterns of International Students

The employment levels of international students are an essential detail in assessing their economic impact. In Latvia and Estonia, their employment rate has risen slightly each year. In Estonia, almost half of international students are employed (48.7% in the academic year 2022–23), while in Latvia, only 22.1% were in the academic year 2022–23. The employment rate for international students in Lithuania is available only for the academic year 2022–23, when it was 20.9%. Figure 3 shows the employment rates for international students in Estonia, Latvia and Lithuania from 2020–21 to 2022–23. There is a general upward trend in employment rates across all three countries. Among the three countries in all three years, Estonia has consistently had the highest employment rate for international students. It experienced a slight increase from 2020–21 to 2021–22, and then a more significant increase in 2022–23. Latvia had the lowest employment rate for international students in 2020–21. However, it saw the most significant increase in international students' employment rate from 2020–21 to 2021–22. The rate continued to increase in 2022–23, but at a slightly slower pace. International students in Lithuania had a moderate rate of employment in 2020–21. They experienced a steady increase in the employment rate from 2020–21 to 2022–23.

The increasing employment rates for international students in all three countries could be attributed to the economic recovery following the COVID-19 pandemic. Differences in labour market dynamics, such as industry structure and government policies, may contribute to the varying employment rates across the three countries. Demographic factors, such as population age structure and migration patterns, can also influence employment rates.

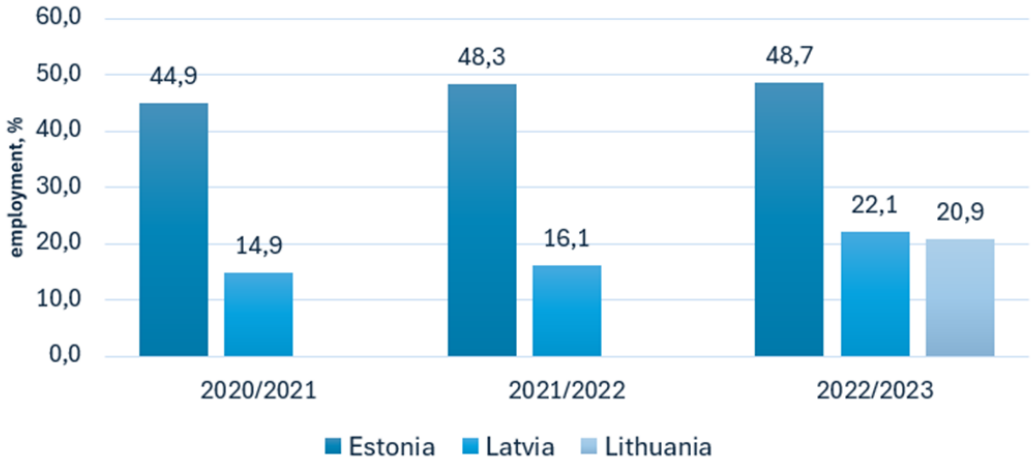

Figure 3. **Employed international students in Baltic countries** (authors' figure)

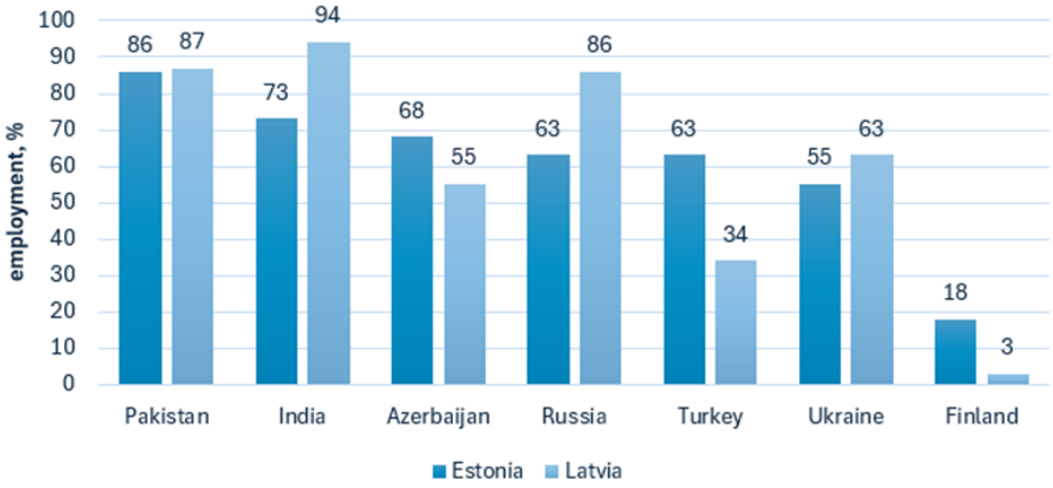

Figure 4. **Percentage of employed students from different countries in the academic year 2022–2023** (authors' figure)

It is important to understand which countries employed students are from. In Estonia, the highest employment rates are for students from Pakistan (86%), India (73%) and Azerbaijan (68%). In Latvia, on the other hand, the highest employment rates are for Indian (94%), Pakistani (87%) and Russian (86%) students (see Figure 4). This employment rate could be explained by the fact that students from these countries are not wealthy and need paid work to continue their studies abroad.

The chart highlights a significant disparity in employment rates among the countries. Students from Pakistan, India, and Azerbaijan exhibit notably high employment rates, exceeding 80%. In contrast, students from Finland have the lowest employment rate, below 20%. Students from Estonia consistently outperform those from Latvia in this respect.

Conclusion

The Baltic states have emerged as attractive destinations for international students. Factors such as affordable tuition fees, high-quality education, and unique cultural experiences contribute to the attraction of those study destinations.

International students contribute significantly to the Baltic countries. They generate revenue through tuition fees, living expenses, and spending on goods and services. Additionally, their presence stimulates local economies by creating jobs and fostering economic growth.

While the Baltic countries offer many advantages, they face challenges in attracting and retaining international students. To overcome these challenges, universities and governments need to implement effective strategies, such as increasing the number of English-taught programmes, providing financial aid, and promoting the cultural and academic benefits of studying in the region.

Acknowledgement

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Kopsavilkums

Šis pētījums analizē starptautisko studentu skaitu un nodarbinātību Igaunijā, Latvijā un Lietuvā. Līdzšinējie pētījumi parāda, ka starptautiskie studenti ne tikai maksā studiju maksu, bet arī veicina vietējo ekonomiku, kultūru un sabiedrību.

Pētījuma mērķis ir salīdzināt starptautisko studentu skaitu un nodarbinātību Baltijas valstīs. Analīze balstās uz pieejamajiem statistikas datiem par trim akadēmiskajiem gadiem.

Pētījums atklāj, ka Igaunija ir līdere starptautisko studentu nodarbinātības ziņā, kamēr Latvija un Lietuva demonstrē daudzsološas tendences. Nodarbinātību ietekmē vairāki faktori, tostarp studentu izcelsmes valsts, studiju joma un valodas prasmes.

Starptautiskie studenti sniedz būtisku ieguldījumu Baltijas valstu, kā arī bagātina vietējo kultūru un sabiedrību. Baltijas valstis kopumā vērtējamas kā pievilcīgs studiju galamērķis, tomēr, lai piesaistītu un noturēt šos studentus, nepieciešams uzlabot angļu valodā pasniegto

programmu pieejamību, nodrošināt finansiālu atbalstu un veicināt reģiona kultūras un akadēmiskās priekšrocības. Papildus tam īpaši Latvijai un Lietuvai ir jāveicina ārvalstu studentu iesaiste darba tirgū paralēli vai pēc studijām.

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ERASMUS+ STUDENTS AT THE UNIVERSITY OF LATVIA

ERASMUS+ STUDENTI: LATVIJAS UNIVERSITĀTES PIEMĒRS

Elina Apsite-Berina, Viktorija Alise Kukite
University of Latvia
Email: elina.apsite-berina@lu.lv

Abstract

This study examines the experiences of Erasmus+ students at the University of Latvia. It analyses trends in student mobility, the factors influencing their choices, and perceptions of the university's academic environment. The study found that the number of Erasmus+ students at the University of Latvia has fluctuated, with a significant increase in recent years. Most exchange students come from Central and Southern European countries, with Business Administration, English Studies, and Political Science being the most popular study programmes. An analysis of student surveys reveals that while students appreciate the university's academic choices and support services, they often struggle with language barriers and networking with locals. The study highlights the importance of creating a welcoming and inclusive environment for international students to enhance their overall experience and academic performance.

Keywords: *international students, economic impact, ISM, Baltic states*

Introduction

Erasmus+ is not just a study exchange programme. It is a gateway to personal growth and development. The internationally recognised name "ERASMUS" is an abbreviation of the "European Community Action Scheme for the Mobility of University Students". Initially called "Erasmus," the programme originally focused solely on higher education cooperation within the EU. However, it gained momentum, grew in popularity, and expanded its objectives to include learning, youth exchanges and sports. The "+" added to the name indicates its broader scope beyond higher education, a testament to its evolution and adaptability.

Erasmus+ is the cornerstone of the educational landscape of the European Union (EU), bolstering education, training, youth exchanges and sport in Europe. The

programme's role in facilitating student mobility in higher education cannot be overstated. Over the period from 2014 to 2021, a staggering 13 million EU citizens used the opportunity to participate in an Erasmus+ project, underscoring its growing popularity and significance (Erasmus to Erasmus+: history, funding, and future, S.a.). This exchange entails students from various countries studying at a higher education institution in a member state.

Since 1987, Erasmus+ has retained its place as the most successful EU student exchange programme, confirming its enduring impact (Senci et al., 2022). The programme's initial goal was to foster closer cooperation between universities and higher education institutions across the EU. This mission has not only been achieved, but it has also expanded to other sectors. In 1999, Latvia's inclusion in the Erasmus+ member states further bolstered the programme's reach, leading to significant cooperation in mobility for transnational exchanges (European Commission, S.a.). A 2018 survey of young people aged 15 to 30 revealed that over 90% considered providing opportunities for exchange experiences essential, a clear indication of the programme's success (European Commission, S.a.).

Higher education exports have become a component of Latvia's economy, making it crucial to ensure that international students choose to study in Latvia (Auers & Gubins 2016). In Latvia's Erasmus+ exchange projects, the largest share of funding is allocated to the higher education section (European Commission, S.a.). Understanding the motives that Erasmus+ students from abroad have for studying in Latvia, as well as their experiences and degree of social inclusion, is essential in order to ensure a positive and inclusive learning environment for all students. This understanding could enhance the university's reputation, promote student success, and strengthen the internationalisation of the Latvian higher education system.

Typical criteria for choosing a country to study in are diverse, such as an internationally recognised university, an engaging culture and lifestyle, the availability of scholarships, the desire to remain in the chosen country after studying, language improvement, and other reasons that attract international students (Van Mol et al., 2024). International students often experience culture shock and difficulties in adapting to an unfamiliar environment. Language barriers and administrative and bureaucratic challenges also create difficulties for international students (Reinold, 2018). Low levels of social integration and infrequent official and informal interaction between Erasmus+

and host students is an issue at many European universities (Senci et al., 2022). Being in another country for an extended period can lead to culture shock as a reaction to the unfamiliar environment; one may feel helpless and confused due to the need to adapt to new customs and social norms (Mihailovska, 2016). Creating a positive experience for these international students is crucial for successful educational outcomes and the student's development.

Erasmus+ currently involves 33 countries, including the 27 EU member states, the European Economic Area member states Iceland, Norway and Liechtenstein, and the EU candidate countries Turkey, North Macedonia, and Serbia (European Commission, S.a.). A higher education institution can participate in the project if it has been awarded an Erasmus Charter for Higher Education (ECHE) or a national higher education mobility consortium (European Commission, S.a.).

The new Erasmus+ 2021–2027 programme, with an indicative budget of €26.2 billion, almost double the funding of its predecessor (2014–2020), is not just about numbers; it is about a renewed focus on social inclusion, green and digital thinking, and promoting young people's participation in democracy. This shift in focus is a testament to the programme's adaptability and commitment to staying relevant in a rapidly changing world (European Commission Representation in Latvia, S.a.).

Educational exchanges allow students to develop valuable skills and to broaden their horizons by studying abroad. The Erasmus+ programme enables students to study at a university in another country, gaining language, culture and study experience, resulting in young people who are experienced and well-qualified (State Education Development Agency Republic of Latvia, S.a.).This programme, which has become a key driver for internationalising higher education in the EU, is a source of pride for all involved (Senci et al., 2022).

The programme is implemented by the European Commission, which is fully responsible for its management, budget, priorities, targets, and benchmarks, as well as monitoring, coordinating, and implementing follow-up and evaluation. Numerous agencies, organisations, and other bodies, such as the European Education and Culture Executive Agency (EACEA) and National Agencies, significantly contribute to the programme's implementation. National agencies play a crucial role in adapting the programme to the various national education systems and in cooperating with the

European Commission, other organisations, and member states (European Commission, S.a.).

Trends indicate that European students are more likely to study abroad for a short-term period, such as that offered by Erasmus+, than for the long term in order to obtain a full degree (Van Mol et al., 2024). However, each European country has unique student mobility trends and characteristics, making it essential to examine Latvia's specific characteristics in more detail.

Erasmus+ Students in Latvia and the University of Latvia

The trend of international students studying at Latvian higher education institutions is increasingly significant. While Erasmus+ students participate for a short duration and only from programme member states, there are also international students from various other countries worldwide seeking longer-term studies and education. Therefore, examining the characteristics of these international students is equally important.

Countries with smaller populations tend to have higher mobility intensities. An analysis of five countries (Latvia, Estonia, Denmark, Poland and Sweden) reveals that Latvia experienced the fastest increase in Erasmus+ mobility between 2014 and 2016 (Technopolis Group, 2019). Overall, the highest number of Erasmus+ participants arrived in Latvia in the 2016–17 academic year (see Figure 1) In 2017–18, the number of Erasmus+ students gradually decreased. The academic year 2019–20 saw a markedly lower number of exchange students (1,478), likely due to the impact of the COVID-19 pandemic. However, the number of incoming Erasmus+ students has since increased again, reaching a new high in 2021–22, with 2,957 participants.

Specifically, at the University of Latvia (UL) Erasmus+ offers study exchange opportunities for international students. The programme is not just about earning credits but also about fostering intercultural education and exchange experiences. It is an exciting opportunity for international students to immerse themselves in a diverse learning environment. Students nominated by partner universities can apply for study exchanges at the UL.

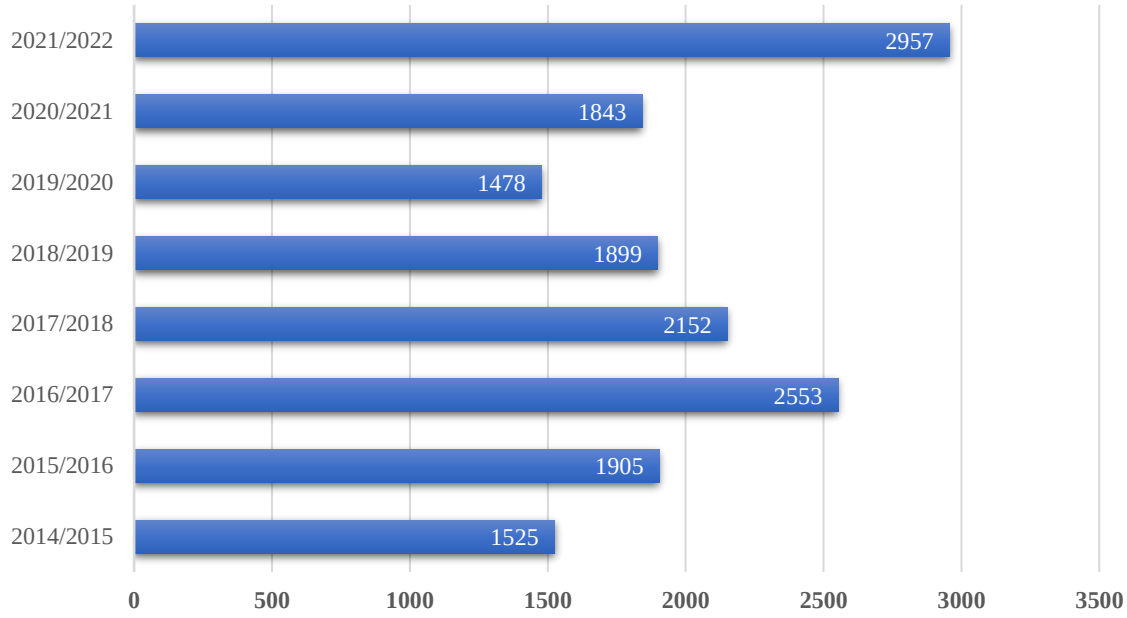

Figure 1. **Number of Erasmus+ students in HEI in Latvia, 2014–2023** (authors' figure using CSB data)

The UL cooperates with 33 Erasmus+ member states, with the partner universities varying depending on the faculty (University of Latvia, S.a.). Erasmus+ also provides scholarships to cover part of the mobility costs, including travel, accommodation, and insurance. The scholarship amount depends on the student's country of origin, host country and exchange duration. International students can participate in the exchange for just the autumn or spring semester, or for a full academic year. Applications are submitted electronically via its website (lu.lv), which provides information on the application process, scholarships, and admission criteria.

The Student Services Department (SSD) at the UL informs nominated applicants about study opportunities, the online application process, and halls of residence. Students coordinate their chosen courses with the Faculty Coordinator and submit the Erasmus+ Study Agreement with their application documents. The SSD evaluates applications, coordinates formalities with the relevant faculty, and decides on student participation. The SSD ensures that international students are informed of all the necessary information while in Latvia and studying at the university. To facilitate a successful exchange experience, the SSD organises an introductory seminar for international students and introduces them to the UL Student Council (LUSP) and ESN

Riga (Erasmus Student Network) (Erasmus+ mobility organisation procedure at the University of Latvia, 2021).

Data and methods

The study used secondary data to analyse trends in international youth migration to Latvia. This data reflects the migration patterns of full-time and Erasmus+ students in Latvian higher education institutions. The database of the Central Statistical Office of the Republic of Latvia contains statistical data on full-time international students in Latvian higher education institutions (2014–23 academic year).

Data on Erasmus+ students at the UL were obtained from the archive of the SSD Mobility Unit at the UL for the 2023–24 academic year.

Results: Erasmus+ students in Latvia

This study provides analysis of the trends in the number, countries of origin, study programmes, and faculties of Erasmus+ students entering the UL. The most recent study period, 2023–24, was specifically examined to understand the most relevant choices of Erasmus+ students. This analysis has given us a comprehensive overview of international student mobility at the university and has identified key trends in the number of arrivals and study choices.

After selecting an Erasmus+ exchange member state, students decide to choose the higher education institution where they will spend their exchange. This choice is not arbitrary but somewhat influenced by academic and personal factors, including the university's reputation; the availability of tuition in English; and the country's culture, society, geography and daily living costs. Understanding these factors provides valuable insights into the decision-making process of Erasmus+ students.

In the academic years 2020–2023, most Erasmus+ students came from Germany, France, Spain, Italy, and Turkey. This academic year, 105 international students from Germany, 64 from France, 52 from Spain, and 39 Erasmus+ students from Italy arrived at UL on the Erasmus+ exchange. As shown in the figure, this trend aligns with the countries above of origin of Erasmus+ students entering Latvian higher education. Most Erasmus+ students who choose UL as study exchange destination come from Southern and Central Europe.

After selecting a country and university, Erasmus+ students must assess which faculty offers study programmes that align with their interests and career goals. The Faculty of Business, Management, and Economics at the UL was the most popular choice for Erasmus+ students in the 2023–24 academic year, with 146 international students starting exchange studies there. Other popular choices among exchange students within the UL community included the Faculty of Social Sciences and the Faculty of Humanities. The faculties of science, such as chemistry, physics, mathematics, and biology, were less preferred by international students.

The final decision for Erasmus+ students before coming to the university is which faculty programme to choose for the exchange. In the 2023–24 academic year, the Business Administration programme received the highest number of Erasmus+ students, hosting 28% of all exchange participants at the UL. A significant proportion of incoming Erasmus+ students also chose English Studies, Political Science, Education, and Law as their programmes of choice. Conversely, exchange students were least likely to choose programmes in optometry, computer science, philology, geography, or psychology, among others.

Notably, most incoming Erasmus+ students at the UL in the 2023–24 academic year came from Central and Southern Europe. The most popular UL programmes among Erasmus+ students were Business Administration, English Studies, and Political Science. These findings offer valuable insights into the migration patterns of incoming Erasmus+ students to the UL, including their faculty and programme preferences.

The SSD Mobility Unit surveys incoming exchange students annually, preparing a report based on the results. Respondents evaluate the university's study courses, lecture quality, learning methods, study environment, learning material availability, integration with local students, Mobility Unit and faculty coordinator/methodologist support, library, canteen, and hostel services, ESN Riga activities and events, and whether they would recommend studying at the UL.

From an analysis of surveys from 2018–19, 2019–20, 2020–21 and 2023–24, respondents gave an average rating of 8 (generally good) to the choice of study courses. However, some students mentioned insufficient English-language courses and untimely or sudden lecture and exam timetable changes. Exchange students gave an average rating of between 7 and 8 points to the quality of the lectures, appreciating the lecture content and the lecturers' attitudes towards international students. Criticisms included

weak English proficiency among lecturers, excessive course requirements, perceived indifference, and comparisons to secondary school level.

Exchange students gave an average rating to teaching methods within the 8–10 point range, commending their quality. However, some students criticised the level of study as inadequate and considered the teaching methods outdated. Respondents gave an average rating of between 7 and 9 to the learning environment, emphasising the responsive teaching staff and accessible libraries. Criticisms included obsolete computer equipment and a feeling of not belonging to the UL community. The accessibility of teaching materials was highly rated, with e-learning being a valuable platform for information searches and coursework completion. Some respondents noted that the "e-studies" platform sometimes only provided information in Latvian.

Integration with local students was one of the most negatively evaluated factors. Some exchange students felt excluded from the UL community due to separate lectures for international students and perceived disinterest from locals. The support the Mobility Unit and faculty coordinator/methodologist provided was highly appreciated, receiving a rating of 10. The UL libraries were also rated positively, although some mentioned a lack of required readings. The canteens were generally rated well, but evaluations could have been more objective during the COVID-19 remote studying period. The canteens faced criticism due to staff's lack of English proficiency and incivility, unclear pricing, lack of English-language menus, and high prices. The UL residence halls were criticised for needing renovation, website pictures that did not match with reality, cleanliness issues, and lack of English proficiency among the service staff. Most respondents were positive about what was on offer from ESN, highlighting its organisation of various events for meeting other students and its welcoming team.

Exchange students generally appreciated the sports activities offered at the university but found it challenging to communicate with coaches due to Latvian-language instructions and scheduling conflicts with lectures. All the respondents rated the UL activities in the 8–9 range, the only negative being their frequent Latvian-language focus.

Several factors influenced the exchange students' experiences regarding integration into Latvian society. The conditions upon arrival, interactions with the surrounding environment, culture, and new education system played significant roles in their study quality, integration, relationships with Latvians, living environment, and

overall exchange experience. Some students admitted initial difficulties fitting in due to culture shock and adapting to a new environment. However, many found ways to integrate among Latvians over time. Students' willpower and willingness to step out of their comfort zone facilitated integration, along with support from others and positive factors encouraging engagement with members of Latvian society.

Conclusion

Overall, most Erasmus+ students at the UL come from Central and Southern Europe. Their preferred faculties are Business, Management, Economics, Social Sciences, and Humanities. Business Administration, English Studies, Political Science, Education, and Law are the most popular programmes within these faculties.

The UL, a reputable institution, provides comprehensive support services for Erasmus+ students through the Student Services Department (SSD) Mobility Unit. This includes expert guidance on application processes, accommodation, and introductions to student organisations.

Erasmus+ students generally rate the study courses, lecture quality, and teaching methods at the University of Latvia positively. However, some students report challenges with insufficient knowledge of the English language by teaching staff, outdated teaching methods, and limited access to required readings. Exchange students need help socialising with local students, but this is hindered by seperate lectures, perceived disinterest from local students, and language barriers.

Most Erasmus+ students, despite the social integration challenges, highly recommend studying at the University of Latvia. They value the university's support services, academic courses, and activities offered. The study suggests that by enhancing English-language support, fostering interaction with local students, and ensuring accurate residence hall descriptions, the Erasmus+ student experience could be further improved.

Acknowledgement

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Kopsavilkums

Šajā pētījumā aplūkota Erasmus+ studentu pieredze Latvijas Universitātē. Tajā analizētas studentu mobilitātes tendences, viņu izvēli ietekmējošie faktori, kā arī priekšstati par universitātes akadēmisko vidi un sociālo integrāciju. Pētījumā konstatēts, ka Erasmus+ studentu skaits Latvijas Universitātē ir svārstījies, bet pēdējos gados ir ievērojami pieaudzis. Lielākā daļa apmaiņas studentu ir no Centrāleiropas un Dienvideiropas valstīm, un populārākās studiju programmas ir uzņēmējdarbības vadība, angļu valodas studijas un politikas zinātnes. Studentu aptauju analīze atklāj, ka, lai gan studenti atzinīgi vērtē universitātes akadēmisko piedāvājumu un atbalsta pakalpojumus, viņi bieži cīnās ar valodas barjeru un sociālo integrāciju. Pētījumā uzsvērts, cik svarīgi ir radīt viesmīlīgu un iekļaujošu vidi ārvalstu studentiem, lai uzlabotu viņu vispārējo pieredzi un akadēmiskos panākumus.

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INFLUENCE OF PALAEOENVIRONMENTAL CHANGES ON THE FORMATION OF THE VILKU BOG DEPOSITS

PALEOVIDES IZMAIŅU IETEKME UZ VILKU PURVA NOGULUMU VEIDOŠANOS

Elina Reire, Laimdota Kalnina, Aija Cerina

University of Latvia, Department of Geography

Email: elinareire@inbox.lv

Abstract

Vilku Bog is a small (about 95 ha) area of peatland formed in a glacial meltwater lake depression in the north-western part of the Lubāns Plain. The aim of this study was to investigate the influence of paleoenvironmental changes on the sedimentation of Vilku Bog. To achieve this aim, fieldwork was carried out – eight soundings were taken and three boreholes were drilled diagonally across the Vilku Bog. Multidisciplinary studies were carried out on deposit samples collected during fieldwork. The deposits were subjected to analyses of Loss on Ignition, plant macroremains, analyses of peat botanical composition and peat decomposition degree, spore-pollen analyses, and radiocarbon AMS ^{14}C dating.

The area where Vilku Bog is located was originally filled with lake clay and silt, but during the Middle Holocene, at the climatic optimum of 6160 cal BP, the lake began to accumulate gyttja and peaty gyttja as the number of aquatic plants increased. This contributed to the lake becoming completely overgrown and the start of peatland formation before 5810 cal BP in the second part of the Middle Holocene. The development of Vilku Bog started with the accumulation of peat deposits over the lake gyttja (fen-type *Hypnum*, grass and sedge peat, transition-bog-type grass peat and *Sphagnum*- cotton grass peat), followed by raised-bog-type peat (*Sphagnum* peat). The conditions (peat decomposition) of deposit accumulation were variable during the development of the bog. Peat botanical composition, which is affected by water-level fluctuations, indicate that Vilku Bog underwent the complete cycle of bog development, from fen to transitional bog and finally to raised bog. It has only been developing as a raised bog for the past 380 years.

Keywords: *Lubāns Plain, gyttja, peat, plant macroremains, AMS ^{14}C*

Introduction

The Lubāns Plain was formed as a result of the East Latvia glacial tongue of the last (Latvian, Weichselian) glaciation. It is an area in the central part of the east Latvian lowlands, the surface of which is lower than the surrounding area, and its altitude does not reach 96 m AMSL. The lowest place in the south-east part of the plain is occupied by Lake Lubāns, which is significantly overgrown and today only approximately a third of the original floodplain is preserved. Bogs have developed in overgrown lake bays. Many of these have been studied in detail (Stivriņš et al., 2014; Grūbe, 2006; Paparde et al., 2019). However, there were also several small lakes remaining in the depressions of the Lubāns Plain after drainage of glacier meltwater, but these later became overgrown and gradually developed as peatlands. The sediments of these small lakes turning into peatland in the Lubāns Plain have been relatively little studied (Stivriņš et al., 2014).

The results of research elsewhere (Grūbe, 2006; Paparde et al., 2019; Stivriņš et al., 2014), on the process of accumulation of sediments in small lakes, fluctuations of water levels, changes in the nature and sediment composition, their overgrowth, well reflect changes both in the climate and hydrological regime. They make it possible to reconstruct the sedimentation conditions and palaeoenvironment, and allow the development of the lake to be tracked from its formation to becoming overgrown and the development of peatland. One such site in the north-western part of the Lubāns Plain is Vilku Bog (about 95 ha), which became overgrown and gradually developed into peatland. Vilku Bog is located 12 km north of Lake Lubāns, on the left bank of the River Aiviekste, about 1.5 km from the nearest Stone Age settlement, Abora I (Reire, 2024).

The aim of this study was to investigate the influence of paleoenvironmental changes on the formation of the sediments of Vilku Bog. To find out about these changes, multidisciplinary studies were carried out on sediment samples collected in Vilku Bog on 15 and 16 August 2023.

Data and methods

This study draws on previous research (Kalniņa et al., 2024; Reire et al., 2024a; 2024b; Eberhards, 1969, 1985; Loze 1988; Loze et al. 2011), as well as on the results of the project LZP-2020/2-0032 “Subsistence strategy and the first demographic transition in the Lubans Wetland: the case of the Late Neolithic settlement of Abora,” developed

as part of a project by the Latvian Institute of History at the University of Latvia (Reire, 2022) and the Latvian Science Council project No. LZP-2022/1-0300 (Reire, 2024). In this case sediments were taken from Vilku Bog and laboratory methods were used.

A soft sediment corer with a chamber (5 cm diameter, 0.5 m long) was used for fieldwork, sediment exploration, and extraction. The investigated profile consisted of eight soundings taken and three boreholes drilled diagonally across Vilku Bog, with a distance of approximately 100 m between each point. Three sediment monoliths with a total length of 15 m were obtained from three boreholes in Vilku Bog. Sediment samples were taken from the 6-m-long borehole 2 (U2) (coordinates: x=675986.33; y=312170.26; borehole surface altitude: 95.76 m AMSL.). In this study the sediments were subjected to Loss on Ignition (Heiri et al., 2001), plant macroremain (Warner, 1987), peat botanical composition and peat decomposition degree, and spore-pollen analyses, as well as AMS ^{14}C dating. Terrestrial plant macroremains identified and collected during macroremain analysis were prepared for radiocarbon AMS ^{14}C dating technique at the Poznan Radiocarbon Laboratory, Poland. Altogether, five AMS radiocarbon dates of sediment age obtained from the Vilku Bog core sediment section were calibrated using the IntCal20 calibration dataset (Reimer et al., 2020).

Results

Vilku Bog has a gently undulating surface with no pronounced dome (Figure 1), which is usually characteristic of a raised bog's relief. This can be explained by the fact that the bog reached the raised bog development stage relatively recently (385 cal BP), when raised-bog-type *Sphagnum* peat began to accumulate. The lowest surface altitude measured was at the beginning of the profile, in the north-west of the bog (approximately 300 m from the River Abora): 95.15 m AMSL. In the middle of the bog, the altitude reaches 95.76 m AMSL. The relief of the mineral base of the bog is uneven, and the absolute altitude ranges between 91.54 and 92.26 m AMSL, reaching a maximum in the middle part of the profile. The lowest bed depth (91.54 m AMSL) is located in the central part of the bog, while the highest marker (92.26 m AMSL) is located 101 m from the deepest point, thus forming a relatively pronounced elevation. The surface of the gyttja deposits, parallel to the clay deposits, also undulates. The surface of the gyttja, including peaty gyttja, ranges from 92.30 to 92.98 m AMSL. The maximum thickness of the peat layer in Vilku Bog is 3.36 m, in the south-east of the

bog and at the end of the studied profile (Figure 1). The smallest peat layer thickness is 2.37 m, in the north-west of the bog and at the beginning of the profile. All peat types are present in Vilku Bog: fen, transition, and raised-bog-type peat.

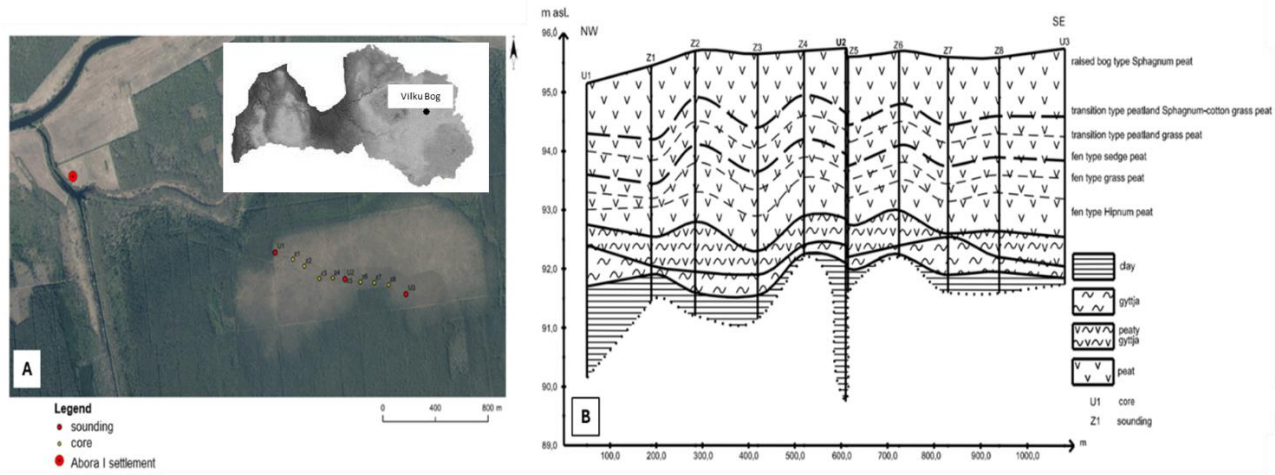

Figure 1. **Soundings and cores in Vilku Bog (A) and geological cross-section of Vilku Bog (B)** (authors' figure using basemap – Latvia 6th Cycle ortophoto map, LGIA)

Organic matter, carbonate matter and mineral matter results of the sediment Loss on Ignition analysis provide information on the sediment composition and changes in accumulation conditions shown in the diagram (Figure 2), where three zones based on changes in sediment composition are subdivided manually: VP LOI 1, VP LOI 2, and VP LOI 3.

The lower zone (VP LOI 1) in the depth range of 368–600 cm has the highest amount of minerals and carbonates, but the lowest amount of organic matter and natural moisture. Minerals in this interval average 90%, while organic matter varies between 2 and 5% (average 4%), moisture averages about 28%, and carbonate content average less than 9%, except for the peak at 512 cm, where carbonate content reaches 80%. The high mineral content was due to the accumulation of clay in this interval. The high carbonate content in the interval 511–512 cm is due to the leaching of carbonate rocks from the moraine abrasion plain close to the shore of Lake Lubāns. Its sediments (moraine clayey sand) are carbonatic, so as the lake water level rose, they washed away, thus leaching carbonate substances into the lake sediments.

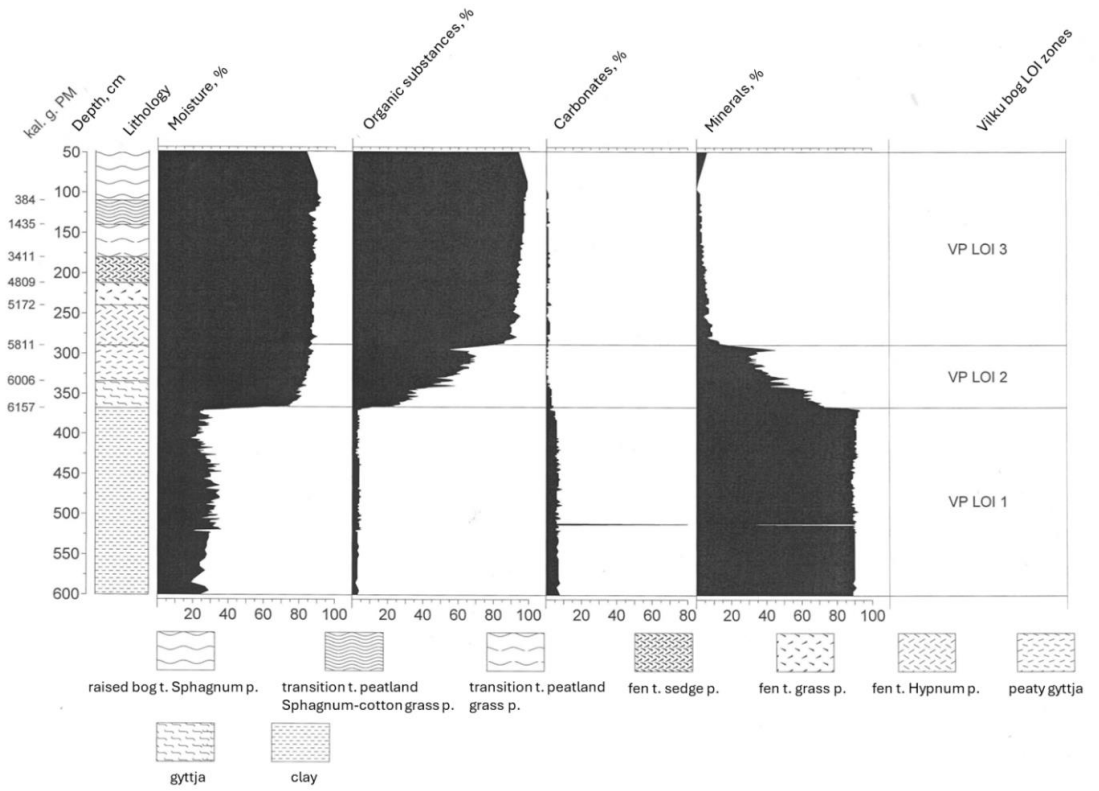

Figure 2. **Diagram of changes in the percentage of natural moisture, organic, carbonate and mineral matter in the sediments of Vilku Bog borehole 2 (U2) according to results of LOI analysis** (authors' figure)

The depth interval 278–368 cm in the middle zone (VP LOI 2) is characterised by a relatively rapid increase in organic matter and a decrease in carbonates and minerals in the sediments. The mineral content gradually decreased from 90% to 6%, while the carbonate content decreased from 9% to 1–2%. The moisture content averages 82% over this range. The organic matter increased rapidly to 93%. This indicates that the lake became overgrown during the accumulation of this sediment. This also evidenced by the fine detritus gyttja (335–368 cm) and peaty gyttja (290–335 cm) in this interval.

The upper zone (VP LOI 3) in the depth range 48–278 cm is characterised by high natural moisture and organic matter, and low carbonate and mineral content. The average natural moisture content of the sediments in this zone was 88%. Organic matter increased slowly and gradually from 93 to 99% between a depth of 278 and 85 cm, and then decreased, reaching 94% at a depth of 48 cm. Mineral content, on the other hand, decreased from 6% to 1% up to a depth of 85 cm, and then increased again to a level of 6%. The carbonate content in this zone varied between 0% and 3%. The sediments in

this zone are peat. In general, the results of the Loss on Ignition analysis reflect changes in the conditions of sediment accumulation. It is possible to identify the point (the depth) at which aquatic conditions give way to coastal and terrestrial conditions, that is, where the lake begins to become overgrown and a bog starts to develop. The scale of the mineral content is inversely proportional to that of the organic matter. The changes in sediment lithology coincide with the changes in the composition of the sediments (moisture, organic matter, carbonates, and minerals) in Vilku Bog.

Based on the data collected and summarised from the plant macroscopic analysis, four plant macroremain zones (MA zones) characterising the changes in the vegetation composition of the lake were identified. In the lower part of the sediments analysed in the section at a depth of 454–368 cm, which consists of clayey sediments deposited in a calm basin with conditions unsuitable for vegetation development, only *Equisetum* sp. and *Sphagnum* spp. macroremains were found. Only one leaf of *Oxycoccus microcarpus* and a few small charcoals were found.

In the section above 368–282 cm depth, 6160–5715 cal BP accumulated in gyttja and peaty gyttja. This is characterised by the highest number of macrofossils found and the greatest diversity of species. There is a relatively high abundance of shallow-water and flooded coastal plants, and aquatic plant remains. Diversity of plants and other macroremains are evident in the gyttja sediments of this zone, where the first macroremains of aquatic plants, peatland plants, and wet meadow plants appear. Among the aquatic plants were found *Stratiotes aloides*, *Myriophyllum spicatum*, *Trapa natans*, and *Nymphaea alba*. Shallow water plants such as *Sagittaria sagittifolia*, *Alisma plantago-aquatica*, *Phragmites* sp., and *Rumex maritimus* have been recorded. Bog plants include *Sphagnum* spp., *Thelypteris palustris*, *Rhynchospora alba* and *Trichophorum cespitosum*. Sediments in the depth interval 282–258 cm were accumulated during 5715–5405 cal BP and are represented by fen-type *Hypnum* peat. Plant macroremains are no longer of aquatic plants; only *Phragmites* spp. macrofossils are found in coastal plants. Among bog-specific plants, only *Sphagnum* spp. and *Eriophorum vaginatum* macroremains were found. Macroremains of *Scirpus* spp. were found, and the amount of *Equisetum* sp. decreased. This sub-area had a high abundance of wood fragments and tree/shrub leaf fragments. The plant species found in the gyttja indicate that vegetation had developed and the lake had begun to become overgrown, but that conditions were still waterlogged.

In the depth interval of the 258–174 cm section a fen-type *Hypnum* peat layer accumulated before 5405–3115 cal BP, overlain by fen-type grass peat, while the upper part of the interval is composed of fen-type sedge peat deposits. From a depth of 258 cm upwards, the sediments showed a decrease in tree and shrub leaf macroremains, with an increase in *Phragmites* sp. remains, and *Scirpus* sp., and *Equisetum* sp. m and *Poaceae* spp. macroremains. In the upper part of the zone, the number of plant *Scheuchzeria palustris*, *Eriophorum* spp., *Rhynchospora alba*, and *Carex* spp. macroremains decreases. Fragments of insect chitin were also found throughout the zone, as in the upper part of the zone was charcoal.

At a depth of 174–102 cm, before 3115–350 cal BP fen-type sedge peat was replaced by transition-type peatland grass peat. This zone is characterised by a high number of wood fragments and charcoal, as well as *Sphagnum* spp., *Calamagrostis canescens*, and *Pinus sylvestris* macroremains. This indicates that the bog was receiving fewer nutrients from groundwater, and the herbaceous vegetation typical of fens was slowly being replaced by vegetation typical of raised bogs.

When Vilku Lake became overgrown with *Phragmites* spp., *Equisetum* spp., *Carex* spp. and *Hypnum* spp., around 5600 cal BP mosses (mainly *Meesia* sp.) began to accumulate on the peaty gyttja of the fen-type *Hypnum* peat, having a high degree of decomposition – 45%. Before 5200 cal BP, the composition of the main peat-forming plants changed: *Hypnum* spp. mosses, *Typha*, and *Carex dioica* disappeared, and the amount of *Carex lasiocarpa* increased slightly. The degree of decomposition decreased slightly, but a well-decomposed (30%) fen-type grass peat still formed. This was the case when, 4800 cal BP ago, the fen-type sedge peat dominated by *C. lasiocarpa* macroremains, started to increase, coming to cover 45% of the total remains.

At a depth of 1.8 m in the bog section, the composition of the main peat-forming plants changed, with a significant decrease in *C. lasiocarpa* and the disappearance of deciduous remains, which were present (5–10%) in the fen peat. Such changes in the botanical composition of the peat allow us to determine that transitional bog peat accumulated. In the section above, at the depth interval 1.2–1.4 m (385–1435 cal BP), significant changes occurred in the composition of the bog vegetation and peat-forming plants. Groundwater-feeding plants (sedges, rushes) still grew in the bog, but *Sphagnum* species – *Sphagnum fuscum* and *Sph. Magellanicum* – which feed on precipitation were

also becoming established. This combination of plant remains is indicative of a transitional bog type during the accumulation of the peat layer described above.

The upper, 1.15-m-thick peat layer of Vilku Bog has accumulated over the last 380 years. Its main peat-forming plants are *Sphagnum* sp., *Eriophorum vaginatum* and *Ericaceae*., which are characteristic of raised bogs. The peat characteristics identified suggest that the upper layer of Vilku Bog is composed of *Sphagnum* peat of the raised bog type with low decomposition (15–20%). The nature of the botanical composition shows that Vilku Bog has undergone the complete cycle of bog development, from fen to transitional bog, and finally to raised bog.

The regional vegetation is characterised by changes in tree composition in the whole of the vicinity of the northern part of the Lubāns wetland, according to the results of the spore-pollen analysis (Reire, 2024). The pollen curves in the diagram indicate a change in the composition of the surrounding forests since the Middle Holocene and the end of the climatic optimum between 6100 and 5100 cal BP, when forests with a significant presence (10–15%) of broad-leaved trees (*Ulmus*, *Tilia*, *Quercus*) developed in the vicinity of Vilku Bog area; in the present day, there is a distribution of mixed-tree forests, with a significant proportion of *Pinus* in the forest composition. The fluctuations in herbal plant pollen and changes in the composition of aquatic plant pollen and spores indicate the lake becoming overgrown and the development of the peatland from a fen to a raised bog over the last 380 years, with a significant proportion of *Sphagnum* in the peat composition. The results of the pollen analysis reveal changes in vegetation composition between 6100 cal BP and the present day, which have been influenced by changes in climatic conditions and possibly by human activities conditionally indicated by the presence of ruderal plants, mainly *Urtica*, Chenopodiaceae, Plantaginaceae pollen and charcoal dust. They were found in the bog section interval, the sediments of which formed in the period from 3000 to 1430 years ago and are probably not related to the Abora I settlement existed time since 4520 cal BP.

The dynamics of sediment accumulation during the development of Vilku Bog have not been uniform up to the present day. Relative to the other sediments of Vilku Bog, the slowest sediment accumulation occurred when environmental conditions in Vilku Bog changed from fen to transitional bog from 4810 to 3410 cal BP, with an average annual accumulation of 0.02 cm. The fastest rate of sediment accumulation is

in the last section, accumulating 0.23 cm per year during the raised bog development stage since 380 cal BP.

Conclusion

In the Vilku Bog area, which is a small depression in the Lubāns Plain, clays and silt initially accumulated under lake conditions. During the Middle Holocene, at the climatic optimum before 6155 cal BP, the lake began to accumulate sediments rich in organic matter (gyttja and peaty gyttja) as the number of aquatic plants increased. The calm hydrological conditions of the lake are evidenced by the water chestnut fragments *Trapa natans* found in the gyttja; the seeds of *Nymphae alba* are also well preserved. Vilku Bog began to develop before 5810 cal BP in the Middle Holocene, in the second half of the climatic optimum, as the lake overgrew and fen type *Hypnum* peat accumulated. The peatland bed is relatively flat, with occasional undulations, above which other sediments accumulated almost in parallel: lake sediments, gyttja, and peaty gyttja, bog deposits, fen-type *Hypnum*, grass, sedge peat, transition-type peatland grass, *Sphagnum*- cotton grass peat; and raised-bog-type *sphagnum* peat. The conditions of sediment accumulation have been variable, with the aquatic environment at a depth of 2.98 m being replaced by peatland conditions as the palaeolake becomes overgrown. The botanical composition of the Vilku Bog peat shows that Vilku Bog, formed by the overgrowth of the Vilku palaeolake, has undergone a complete bog development cycle from fen to transitional bog and, finally, to raised bog, which has only developed as a raised bog over the last 380 years. As the Vilku paleolake became overgrown, the macroremains found in its sediments include a large diversity of plant remains, both aquatic plants and plants that usually grow in shallow water and on the coast, as well as in wet meadows. As the raised bog developed the number and diversity of plant macroremains decreased.

Peat accumulation in Vilku Bog varied, from 0.02 cm/year in the period 4810–3410 cal BP to 0.23 cm per year before 380 cal BP, when the bog reached the stage of raised bog.

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Kopsavilkums

Vilku purvs ir viens no maziem (aptuveni 95 ha), ledāja kušanas ūdeņu palikšņu ezeriņiem Lubāna līdzenumā ziemeļrietumu daļā, kurš ir pārpurvojies. Lai noskaidrotu paleovides izmaiņu ietekmi uz Vilku ezera/purva nogulumu veidošanos, tika veikti multidisciplināri pētījumi nogulumu paraugiem, kuri tika iegūti lauka darbos, veicot 8 zondējumus un 3 urbumus pa profilu diagonāli pāri Vilku purvam. Nogulumiem tika veiktas: karsēšanas zudumu, augu makroatlieku, kūdras botāniskā sastāva un kūdras sadalīšanās pakāpes, sporu–putekšņu analīzes, kā arī AMS ^{14}C datēšana.

Vilku purva teritorijā sākotnēji ezera apstākļos uzkrājās māli un aleirīti, bet vidējā holocēnā, klimatiskā optimuma laikā, pirms 6160 kal. g. PM, ezerā, palielinoties ūdensaugu daudzumam, sāka uzkrāties gitija un kūdraina gitija. Ezeram aizaugot, Vilku purvs sāka veidoties pirms 5810 kal.g.PM vidējā holocēnā, klimatiskā optimuma otrajā pusē, virs gitijas uzkājoties purvu nogulumiem – zemā tipa hipnu, zāļu, grīšļu kūdrai, pārejas tipa zāļu un sfagnu-spilvju kūdrai un augstā tipa sfagnu kūdrai. Nogulumu uzkrāšanās apstākļi bijuši mainīgi – ūdens vidi 2.98 m dziļumā nomaina purva apstākļi, paleoezeram aizaugot. Vilku purva kūdras botāniskā sastāva raksturs liecina, ka Vilku purvs, kas izveidojies aizaugot Vilku paleoezeram, ir izgājis pilnu purva attīstības ciklu no zemā purva uz pārejas purvu un, visbeidzot, uz augstā tipa purvu. Kā augstā tipa jeb sūnu purvs, tas attīstās tikai pēdējos 380 gadus. Nogulumu uzkrāšanās Vilku purvā ir bijusi mainīga no 0.02 cm gadā laika posmā 4810–3410 kal.g.PM līdz 0.23 cm gadā pirms 380 kal. g. PM, kad purvs sasniedz augstā purva stadiju.

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SEDIMENT FORMATION DURING THE HOLOCENE IN THE AIVIEKSTE OXBOW IN THE AREA OF THE ABORA I SETTLEMENT

NOGULUMU UZKRĀŠANĀS HOLOCĒNĀ AIVIEKSTES VECUPĒ ABORAS I APMETNES TERITORIJĀ

Anna Batraga[1,2], **Aija Cerina**[1,2] and **Laimdota Kalnina**[1,2]

[1] University of Latvia, Faculty of Science and Technology, Department of Geography

[2] University of Latvia, Institute of Latvian History

Email: anna.batraga@lu.lv

Abstract

Changes in sediment formation can tell us a lot about the palaeogeographical conditions in a given place. In order to contribute information about the conditions of sediment accumulation in the area of Lake Lubāns, studies have been carried out in different places. This study was done in the Aiviekste oxbow, located in the Stone Age settlement area of Abora I. A core U17 was taken and analyses such as Loss on Ignition (LOI), plant macro-remain analysis and sediment dating using AMS ^{14}C technique were carried out. The results show the process by which this part of the River Aiviekste became an oxbow, quickly becoming overgrown with vegetation. The dates obtained indicate that the process of sediment accumulation was for a time quite rapid, before slowing down. As far as the settlement is concerned, the only evidence of human activity are some fragments of amber in the oxbow. This suggests that the settlement didn't extend to this part of the oxbow.

Keywords: *LOI, macro-remains, oxbow, sediment formation*

Introduction

The Lubāns Plain is one of the regions of the East Latvian Lowlands and is located in the central part of it, and its hypsometrically lowest part is occupied by Lake Lubāns. This area is characterised by a complex geological structure, extensive wetlands and a hydrographic network. The area around the lake is also characterised by a large number of Stone Age settlements. Due to the complicated geological development of the Lubāns

Plain and Lake Lubāns, palaeogeographical conditions in various places in the area are diverse (Эберхардс, 1985).

Today, the Abora I settlement is located in the Lubāns wetland at an elevation of 92.5 m above sea level (Loze & Eberhards, 2012) and its on the right bank of the River Abora, near where it meets the River Abaine, which in turn flows into the River Aviekste. Archaeologist Ilze Biruta Loze discovered the settlement in 1963 during a survey near Lake Lubāns (Loze, 1964). In the following years many archaeological excavations took place at the site (Loze, 1979; Loze & Eberhards, 2012). As a result, an area of 1311 m^2 was excavated, but the estimated area of the whole settlement is ~5000 m^2. Today the settlement is located in a meadow.

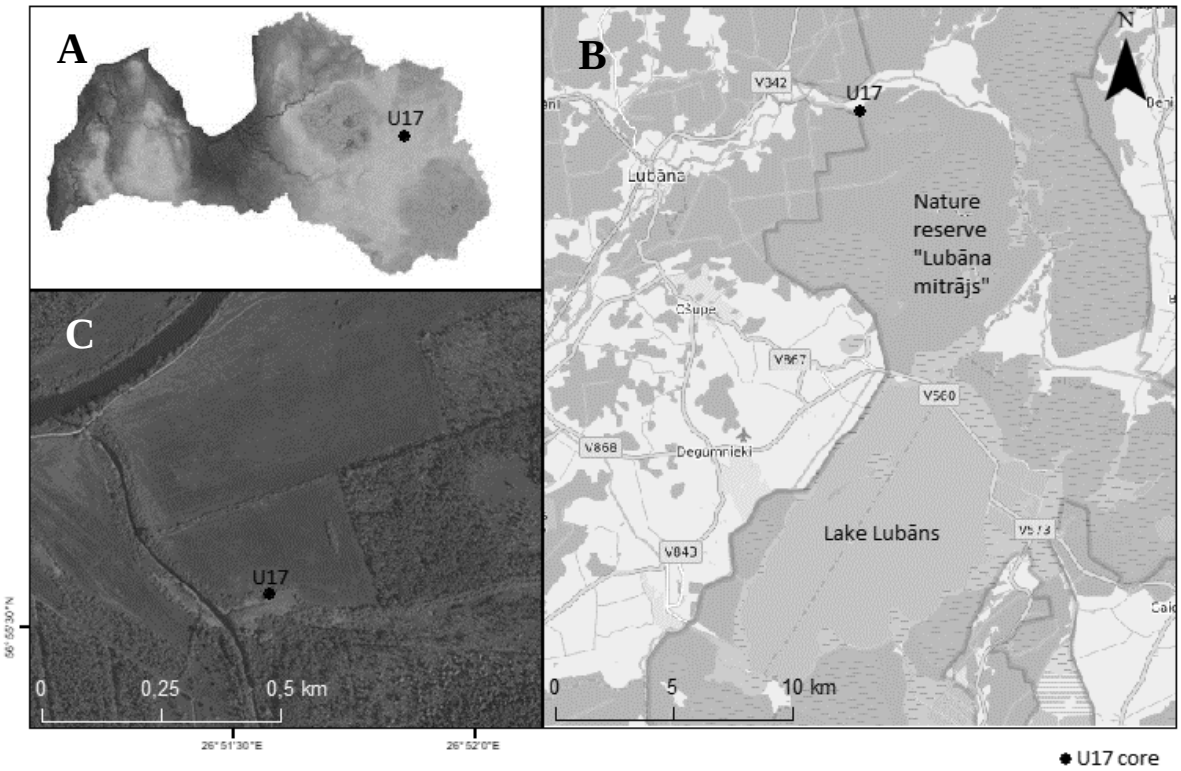

Figure 1. **Location of U17. A – Location of U17 on the map of Latvia. B – Topographic map of the U17 area. C – Location of U17 near the rivers Abora and Abaine** (authors' figure using a digital surface model of Latvia, OpenStreetMap and the 7th cycle orthophoto from the Latvian Geospatial Information Agency as base maps)

The place where the River Abora now flows was once the Aiviekste's riverbed. At some point this part of the riverbed got separated from the rest and over time became covered with vegetation, but more detailed information about this process is not known.

Some geological, paleontological and plant macrofossil research was carried out in the settlement area by G. Levkovskaya (1987), I. Loze and T. Yakubovskaya (1984) and Guntis Eberhards (Loze & Eberhards, 2012). It was shown that the geology in this single area is complex, due to the changes in the water level of Lake Lubāns.

The aim of this research is to investigate the palaeogeographical evidence in the sediment formation of the Aiviekste oxbow in the area of the Abora I settlement. During archaeological excavations in August 2023, sediment cores were taken. This research was carried out on one of these cores, U17 (Figure 1) (X674039,2 Y312728), using Loss on Ignition (LOI), macro-remain analysis and sediment dating with the AMS ^{14}C technique.

Data and methods

In order to obtain information on the palaeogeographical conditions in the area of the Abora I settlement, the 1.5 m sediment core U17 was taken from the area of the Aiviekste oxbow at an elevation of 90.87 m above sea level. The sediment core was taken according to the established methods, using an *Eifelkamp* soft sediment corer with a 50-cm-long camera with a diameter of 5 cm. The sediment monolith was immediately placed in a special cartridge and sealed with polyethylene film to preserve the naturally occurring moisture. The monolith was then transported to the laboratory, where it was sectioned at 1 cm intervals for both LOI and macro-remain analysis, giving a total of 150 samples for each. The samples were stored in a cold room.

Loss on Ignition analysis is a widely used method for estimating organic, mineral and carbonate matter in sediments (Dean, 1974). By measuring the mass loss of samples when heated to temperatures of +550°C and +950°C, the percentage composition of the above materials can be determined (Heiri et al., 2001). These measurements provide an insight into the depositional environment of the sediments and the factors influencing their formation.

Plant macro-remains provide information about the palaeovegetation in the immediate vicinity of the sampling site and its changes over time (Birks, 2007). Samples for macro-remain analysis were processed in the laboratory using a 0.25-mm sieve to separate macro-remains from residue. Each sample was approximately 10 ml. The subsequent identification of plant and other kinds of remains was carried out using a ZEISS Stemi 508 stereoscopic microscope, using the available reference material such

as Cappers et al. (2006) and Rasiņš (1954). For AMS ^{14}C dating, five plant macro-remain samples were taken at intervals of 48–52, 60–64, 84–85, 98–103 and 130–131 cm. The sediment accumulation rate model was made using the CLAM package in R (Blaauw, 2010).

Results and discussion

During the fieldwork, the sedimentary monolith U17 was described in a field journal. As the core was taken in the Aiviekste oxbow, the majority of the monolith consists of brown and greyish-brown gyttja in the 0–1.28-m-long section. The gyttja consists of organic debris (detritus) that varies from coarse to fine throughout the section. In the lower part, from 1.28 to 1.43 m, there is sand, followed by aleurite and then sand again, indicating the river conditions. This indicates that the River Aviekste became an oxbow lake at about 127 cm (c. 4680 cal BP) and was covered by vegetation.

Table 1. **The AMS ^{14}C dates from U17 samples**

Sample depth, cm	Macro-fossils selected	Laboratoy code	^{14}C years	Cal BP
48–52	*Poaceae, Cyperaceae, Pinus, Arctostaphylos uva-ursi*, wood fr.	Poz-174413	3655 ± 35 BP	4090–3880
60–64	*Carex, Eleocharis palustris, Persicaria lapathifolia, Betula, Chenopodium, Eleocharis*, wood branch	Poz-176664	3755 ± 35 BP	4240–3990
84–85	Wood branch	Poz-174239	3810 ± 35 BP	4390–4090
98–103	*Alisma, Schoenoplectus lacustris*, wood branch	Poz-176755	3925 ± 30 BP	4500–4250
130–131	Wood branch	Poz-174238	4170 ± 35 BP	4830–4580

AMS dating of the five samples was carried out at the Poznań Radiocarbon Laboratory (Poznańskie Laboratorium Radiowęglowe). The dates range from 3880 to 4830 cal BP (Table 1). All these dates refer to the period of the existence of the Abora

settlement, i.e. from 5320–4870 cal BP to 4086–3874 cal BP. This also means that the settlement existed before this part of the river became an oxbow lake.

The depth interval of the section 150–50 cm (4930–3980 cal BP) from the monolith is characterised by rapid sediment accumulation (the fastest being of fine detrital gyttja), which slows down significantly in the upper sections.

The Loss on Ignition and macro-remain U17 results are reflected in the plotted diagrams (Figure 2, Figure 3). According to the changes in sediment composition, four zones (AB 17U 1 – 4) have been identified in the LOI results (Figure 2). These show that sediment accumulation occurred under four different conditions.

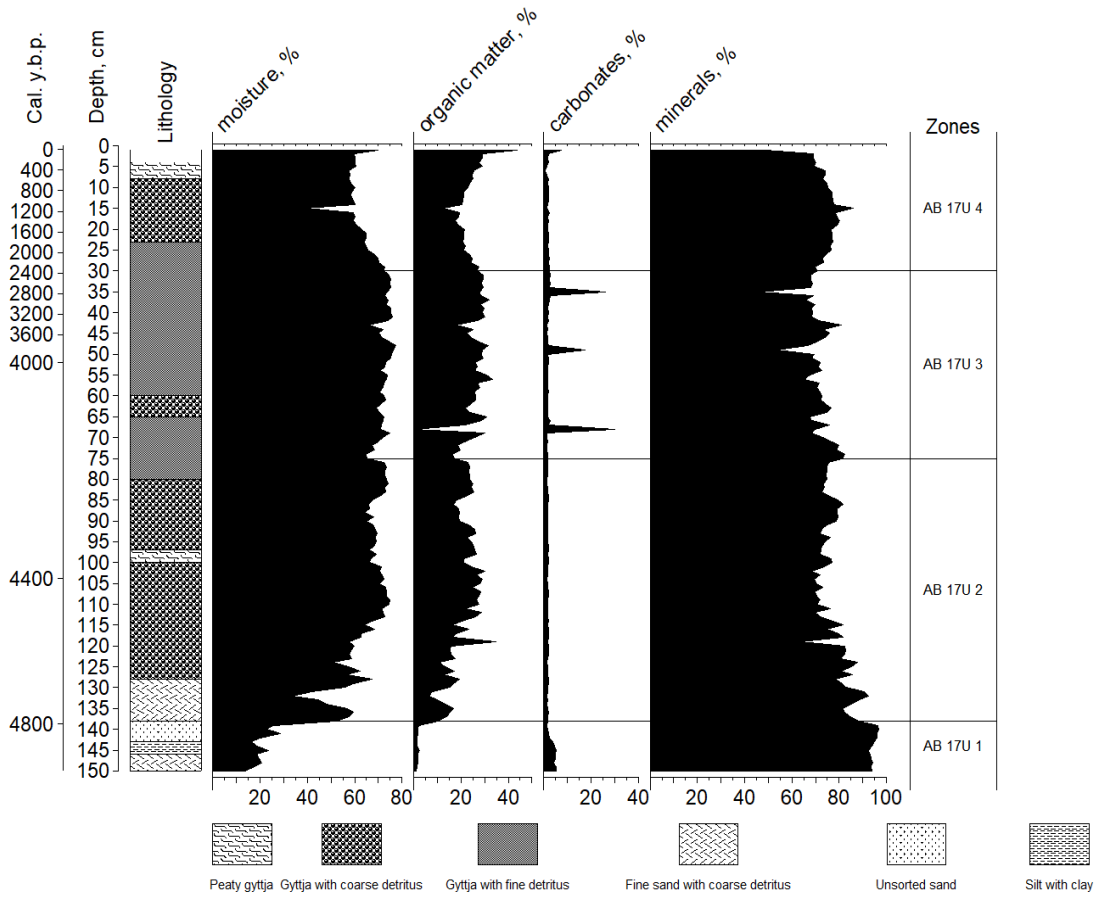

Figure 2. **Loss on Ignition results for U17. The diagram reflects changes in the moisture content and composition of the sediments** (authors' figure)

The AB 17U 1 zone is characterised by a very high percentage of minerals (88.1% – 96.4%) while the proportion of other matter is much lower. This indicates stable underwater accumulation conditions with very little plant presence. Zone AB 17U 2 shows an increase in organic matter, indicating a rapid development of vegetation. This

also marks the beginning of this part of the river becoming a lake-like body of water which is starting to become overgrown. Fluctuations in the organic matter curve indicate periodic changes in sediment accumulation conditions, which may have been influenced by changes in water levels. There isn't much difference between zone AB 17U 2 and the next one, AB 17U 3, except that there are three carbonate peaks in the latter. Meanwhile, at the end of zone AB 17U 4, organic matter increases by up to 45%. This indicates that the area is being overgrown and that a paludification process is taking place, which coincides with the Lubāns Lake trangression about 3,400 years ago (Loze & Eberhards, 2012). The bed of the River Aiviekste was partially filled with sediments carried by the rivers Pededze and Bolupe. Therefore, at the upper end of Aiviekste, near the new bed, it was already partially blocked, but at the lower end, near Abaine, it was open, resulting in the formation of the old oxbow lake.

Based on the results of the macro-remain analysis, the U17 monolith was divided into three macroscopic zones (MA zones) (Figure 3). Throughout the monolith, the majority of remains are wood fragments and fish remains in the form of bone and scale fragments. Zone AB MA1, unlike the other zones, is characterised by the highest number of macro-remains found and the highest diversity of plant species. The majority of these are aquatic plants, especially water chestnut (*Trapa natans*) and pondweed (*Potamogeton*). Despite the presence of terrestrial plants, the abundance of aquatic, shallow water or coastal plants indicates the presence of aquatic conditions at the time these sediments were formed.

In the next zone, AB MA 2, aquatic plants decrease significantly, and while other plant groups do not change significantly in this zone, the presence of silver birch (*Betula pendula*) and other ruderal and shallow water/coastal plants indicates the process of lake overgrowth. This is also shown by the gradual decline in fish remains. In the upper zone, AB MA 3, there is a low total number of macro-remains. The low numbers of aquatic plants and fish remains indicate dry conditions, but these sediments have a high degree of decomposition, which is most likely the reason for the lack of macro-remains.

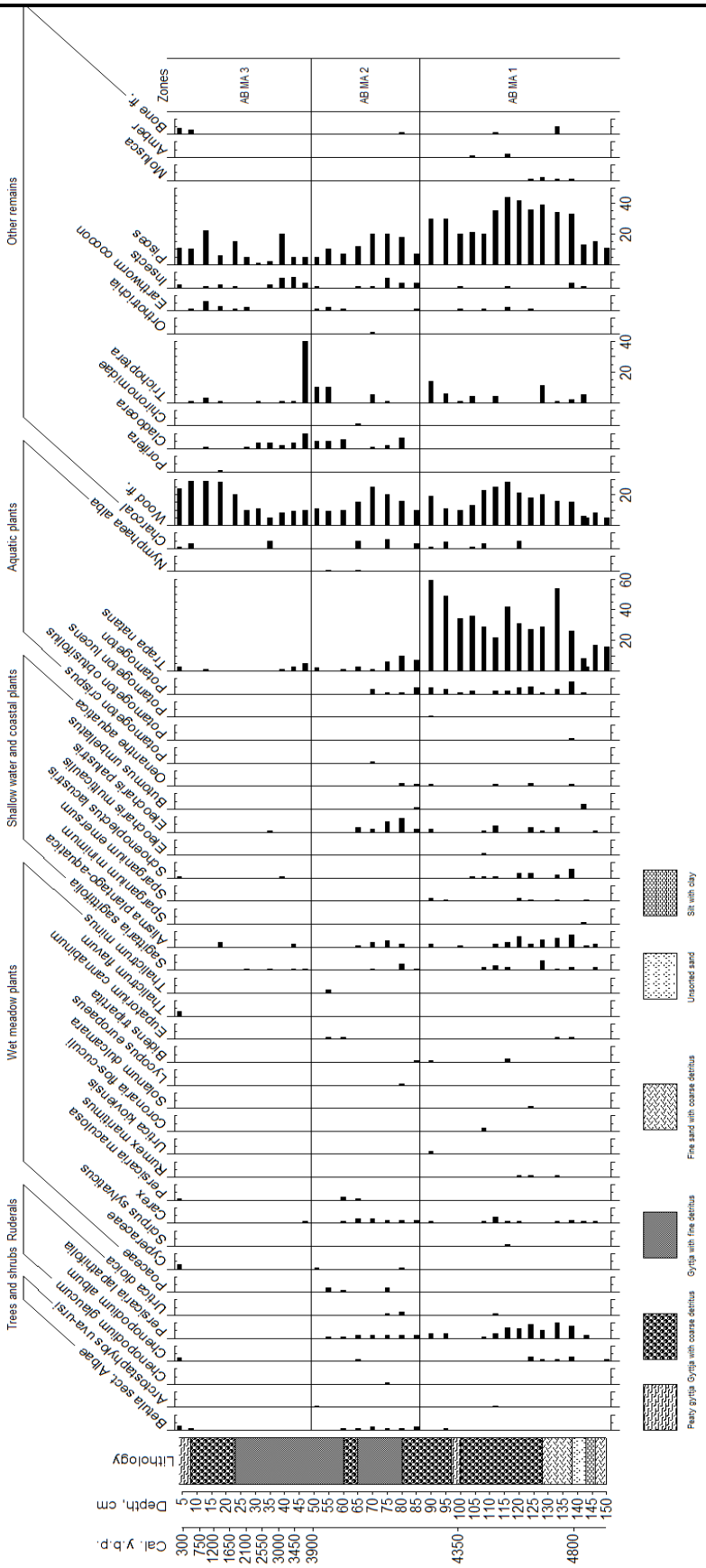

Figure 3. **Plant macro-remain diagram from U17** (authors' figure)

Macro-remains indicating human activity in U17 were very few in number. Some amber fragments were found at depths of 103 and 114 cm, as well as some bone fragments. However, it is possible that the presence of ruderals shows traces of human activity. In 2021, excavations were carried out in the central part of the Abora I settlement. There, in Object 2a, some ruderals were found, such as white goosefoot (*Chenopodium album*) and pale smartweed (*Persicaria lapathifolia*), together with charred *Trapa natans* fruit fragments and fragments of common reed stalks (*Phragmites australis*) (Ceriņa, 2023). As ruderals usually grow where the natural vegetation cover has been disturbed, it is possible that some human activity took place there. However, the paucity of human activity indicating macro-remains could be explained by the fact that U17 is located in the Aviekste oxbow area and the settlement was not located there, but a little further away.

Acknowledgement

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Kopsavilkums

Pētījuma mērķis ir noskaidrot paleoģeogrāfiskos apstākļus Aiviekstes vecupē Aboras apmetnes I teritorijā. Lai šo mērķi sasniegtu, vecupē veikts urbums U17, kura paraugi skatīti ar LOI un augu makroatlieku analīzēm. Pieci paraugi no visa 150 cm garā griezuma ir datēti. Visas analīzes, kā arī griezuma litoloģija liecina, ka laika gaitā Aiviekstes vecupe, pēc tam, kad kļuvusi par ezeram līdzīgu ūdenstilpi, sākusi strauji aizaugt ar veģetāciju. Datējumi norāda, ka nogulumu uzkrāšanās ir bijusi strauja. Pēc datējumiem ir zināms, ka apmetne pastāvējusi arī pirms vecupes izveidošanās, taču makroatlieku analīzē par cilvēku klātbūtni liecina tikai daži dzintara fragmenti.

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KAPITĀLA TIRGUS UN UZŅĒMUMI REĢIONOS: VĒSTURISKĀ PIEREDZE UN AKTUĀLĀS TENDENCES

CAPITAL MARKETS AND COMPANIES IN THE REGIONS: HISTORICAL EXPERIENCE AND CURRENT TRENDS

Māris Fogelis
Latvijas Universitāte
Epasts: maris.fogelis@mfaconsulting.lv

Kopsavilkums

Raksta mērķis ir novērtēt, kāda reģionālā kontekstā ir kapitāla tirgus attīstība Latvijā kopš neatkarības atjaunošanas. Rakstā aplūkots gan akciju, gan obligāciju tirgus, akcentējot visu akciju emitentu ģeogrāfisko novietojumu, to sadalījumu statistiskajos reģionos un emitentu ģeogrāfiskā īpatsvara korelāciju ar atbilstošo reģionu īpatsvaru kopējā tautsaimniecībā. Ar nelieliem izņēmumiem biržā kotēto uzņēmumu īpatsvars labi korelē ar atbilstošā reģiona īpatsvaru no kopējā Latvijas iekšzemes kopprodukta (IKP).

Atsevišķi apskatīta korporatīvo obligāciju tirgus attīstība, īpaši pēdējos gados, īpašu uzmanību pievēršot reģionālo spēlētāju klātesamībai.

Ieskicēta arī akciju un obligāciju tirgus jaunāko emisiju investoru ģeogrāfiskā bāze, kas parāda, ka vairumā gadījumu vēlme ieguldīt Latvijas tirgū ir tikai Baltijas valstu investoriem.

Aplūkojot pēdējās Latvijas kapitāla tirgus attīstības tendences, var secināt, ka vairāk ir aktivizējies korporatīvo obligāciju tirgus, savukārt uzņēmumu novietojums neietekmē vai maz ietekmē kapitāla tirgus pieejamību.

Atslēgas vārdi: *kapitāla tirgus, reģioni, investoru ģeogrāfija, kapitāla pieejamība*

Summary

This paper aims to assess the regional context of capital market development in Latvia since the restoration of independence. The article examines both equity and bond markets, highlighting the geographical location of all equity issuers, their distribution across statistical regions, and the correlation of the geographical share of issuers with the share of their respective

regions in the overall economy. With few exceptions, listed companies' share correlates well with the share of the corresponding region in Latvia's total gross domestic product (GDP).

The development of the corporate bond market, especially in recent years, is discussed separately, with a particular focus on the presence of regional players.

It also outlines the geographic base of investors in recent issues of the stock and bond markets, showing that, in most cases, only Baltic investors are willing to invest in the Latvian market.

Recent developments in the Latvian capital market reveal a vibrant corporate bond market that has become more active. Interestingly, the location of a company seems to have little or no impact on its access to the capital market, indicating a dynamic and accessible market.

Ievads

Kapitāla tirgus pieejamības novērtējums atsevišķas valsts reģionos ir izpētes vērts temats, jo var sniegt indikācijas par reģionālās attīstības tendencēm, analītisku informāciju investoriem un reģionālās attīstības plānotājiem.

21. gadsimtā, īpaši pēc globālās finanšu krīzes 2008.–2009. gadā, pētījumi finanšu ģeogrāfijā kļuvuši par atsevišķu intereses objektu. Viens no primārajiem jautājumiem – vai un kā ģeogrāfiskais stāvoklis jeb novietojums ietekmē finanšu tirgu, investīciju pieejamību un rezultātus. D. Voiciks izvirza tēzi, ka ģeogrāfijai ir nozīme akciju tirgos (Woicik, 2009), pamatojot to ar apgalvojumu, ka akciju tirgus dalībnieki nav abstrakti subjekti, bet atrodas savstarpējā mijiedarbībā, dažādā attālumā no finanšu centriem, kas, savukārt ietekmē citu dalībnieku uzvedību un darbības rezultātus. Kā atsevišķs aspekts ir pētīta iespējama informācijas asimetrija attāluma dēļ. Lai gan komunikācijas tehnoloģijas strauji attīstās, tas var ietekmēt tirgus dalībnieku spēju un izmaksas novērtēt kompānijas, īpaši, ja tās atrodas citā reģionā vai valstī (Dixon, 2011). Rezultātā veidojas "mājas tirgus pievilcīguma" efekts, kur investori priekšroku dod zināmiem un kulturāli tuvākiem tirgiem (Woicik, 2009).

Atsevišķs pētījumu aspekts ir ģeogrāfijas ietekme uz akciju sākotnējo izvietošanu (IPO) globālo piegāžu/vērtību ķēdēm (Klimek, 2024) un tiešajām ārvalstu investīcijām (Klimek, 2024, Kurtovic et al., 2024, Stiblarova, 2021). Izmantojot empīriskus datus, Berns et al., izmantojot Ķīnas kompāniju piemēru, pētījuši iespējamo informācijas asimetriju un kompāniju attāluma no finanšu centriem ietekmi uz sākotnējās izvietošanas cenu, nonākot pie slēdziena, ka kompānijas attālums no finanšu centriem var ietekmēt informācijas asimetrijas efektus un akciju sākotnējās izvietošanas

rezultātus. Tomēr atkarību no kompānijas ģeogrāfiskā novietojuma var mazināt ar atzītu starpnieku un valdības iesaisti (Berns J.P. et al., 2020).

Austrumeiropas akciju tirgus kontekstā vairāk ir pētīts reģions kopumā (Beck un Stanek, 2019; Schroder, 2001) vai Centrāleiropas valstu akciju tirgi: gan atsevišķu valstu (Broniszewski, 2019, Glavina, 2015), gan Centrāleiropas valstu akciju tirgu indeksu korelācija ar Eiropas lielāko valstu tirgiem (pēc Svēte, 2024).

Baltijas un atsevišķi Latvijas vērtspapīru tirgus ir aplūkots vispārējās funkcionēšanas aspektā gan grāmatās (Apsītis, 2003, Praude, 2009), gan akadēmiskos darbos, iekļaujot jaunākus datus un pētījuma periodus (Augulis, 2020, Sveile, 2023). Vairāki autori atsevišķi ir pievērsušies parāda vērtspapīru tirgus analīzei (Bruģis, 2024, Točelovska, 2018). No investoru skatu punkta (Jadevicius, 2017, Kotāne, 2019) analizēta Latvijas un Baltijas akciju tirgus pievilcība, kā arī Baltijas akciju tirgus reakcija uz globāliem notikumiem – pandēmiju, Krievijas sākto karu (Svēte, 2024). Savukārt Baltijas un Latvijas emitentu ģeogrāfiskā novietojuma aspekts nav īpaši akcentēts un pētīts.

Sākotnējā kapitāla tirgus attīstība Latvijā, izņemot atsevišķus tirgus izveides mēģinājumus (piem., Baltijas Vērtspapīru nams, Latvijas Universālā birža), kopš 20. gadsimta 90. gadu vidus ir saistāma ar bijušo valsts uzņēmumu privatizāciju un to akciju kotēšanu Rīgas fondu biržā (RFB). 20. gs. 90. gados pirmie uzņēmumi biržā nonāca privatizācijas gaitā, un daudziem uzņēmumiem privatizācijas noteikumi paredzēja kotēšanu jeb iekļaušanu biržā.

1995. g. RFB sāka kotēt 17 uzņēmumu akcijas otrajā sarakstā ar kapitalizāciju 5,23 milj. Ls jeb 7,44 milj. EUR (Vērtspapīru tirgus zinības, 111. lpp. 4.1. tabula). Tirgus kapitalizāciju aprēķina vienas akcijas cenu konkrētā laikā reizinot ar akciju skaitu.

5 gadus pēc RFB darbības sākuma, kotēja 65 uzņēmumus, no tiem 8 oficiālajā sarakstā (bez Igaunijā reģistrētās Hansapank), 16 otrajā sarakstā un 41 brīvajā sarakstā (sk. 1. tabulu, dati : RFB ceturkšņa pārskats). Biržā tika izveidoti dažādi saraksti, lai uzņēmumi varētu izvēlēties sarakstu atkarībā no regulācijas prasībām un uzņēmumu finanšu rādītājiem, izmaksām u.tml. (Nasdaq Riga noteikumi "Par finanšu instrumentu iekļaušanu un tirdzniecību biržas regulētajos tirgos").

Lai gan uzņēmumu skaits ir visai liels, tikai oficiālajā sarakstā kotētiem uzņēmumiem bija vērā ņemama kapitalizācija: 272 milj. EUR (pārrēķināts pēc oficiālā

LB Ls/EUR kursa). Turklāt no šiem uzņēmumiem tikai 3 uzņēmumu (Latvijas Gāze, Ventspils Nafta, Unibanka) tirgus kapitalizācijas daļa sasniedza 72,9% no kopējās visu uzņēmumu kapitalizācijas. Savukārt brīvā sarakstā esošo kompāniju kapitalizācija reti pārsniedza 1 milj. EUR. Cēlonis zemai kapitalizācijai nereti bija uzņēmumu vāji saimnieciskās darbības rādītāji un/vai dažāda veida parādu slogs un nelikvīdi/grūti izmantojami aktīvi. Virknē gadījumu uzņēmumu vadība un jaunie īpašnieki nebija ieinteresēti vai nespēja nodrošināt darbību jaunos tirgus apstākļos, un kompānijas tika pārdotas, reorganizētas vai nonāca likvidācijas procesā. Pārdošanas un reorganizāciju rezultātā vairākas kompānijas saglabāja darbības profilu un sekmīgi attīstījās, bet nereti kā lielāka koncerna sastāvdaļas vai uzņēmumi ar citu zīmolu (Laima, Staburadze, Gutta – visas iegādājās norvēģu koncerns Orkla, a/s Latvijas Unibanka – zviedru SEB banka, a/s Balta – Dānijas apdrošinātājs Codan, a/s Viesnīca Latvija – īpašnieks norvēģu kompānija Linstow, operē Radisson Hotel Group u.c.).

Uzņēmumam kļūstot par publisku sabiedrību, parādās vairāki pienākumi (ziņošana biržai par lieliem darījumiem, regulāra atskaišu publicēšana u.tml.), kas prasa laiku un resursus, kā arī ir ikgadējas biržas komisijas maksas. Izdevumi, vairāki ierobežojumi un papildus prasības varēja būt iemesls, kāpēc uzņēmumi pārtrauca kotēšanos biržā pēc likumā noteiktā perioda. Vairākos uzņēmumos (piem., Grindeks, Unibanka, Olainfarm, VEF) notika publiskais piedāvājums mazākuma akcionāru izpirkšanai.

Privatizācijas periodā reģioni ir plaši pārstāvēti biržā, bet kotēto uzņēmumu kapitalizācija bija maza un likviditāte niecīga (saskaņā ar RFB un Nasdaq Riga informāciju). Var teikt, ka vairumā gadījumu kotēšana biržā nepievienoja būtisku vērtību un neuzlaboja uzņēmumu pārvaldību. Vēlākajās desmitgadēs pārmaiņas piedzīvoja gan pati Rīgas fondu birža, gan ir mainījies kapitāla tirgus raksturs. Akciju tirgū ir saglabājušies daži uzņēmumi no privatizācijas perioda (piem., Latvijas Gāze, Amber Latvijas balzams, Siguldas CMAS, Latvijas Jūras medicīnas centrs), bet ir arī jauni tirgus dalībnieki (Virši-A, Madara Cosmetics, APF Holding, Indexo u. c.). Ir izveidojies un attīstījies korporatīvo obligāciju tirgus. Gan akciju, gan obligāciju tirgū jaunu dalībnieku vidū ir uzņēmumi, kuru galvenās ražošanas/funkcionēšanas lokācija ir reģionos vai arī to filiāles ir izvietotas reģionos.

2024. gada sākumā Latvijas kapitāla tirgus gan akciju, gan privāto kompāniju obligāciju jomā ir neliels – Latvijas akciju tirgus kapitalizācija pret iekšzemes

kopproduktu (IKP) ir zemākā Eiropā : 4% (2013. g. pēc Eiropas Komisijas datiem) . Arī, salīdzinot ar Lietuvu un Igauniju, Latvijas tirgus kapitalizācija ir mazāka pret IKP (attiecīgi 8%, 10% un 3% 2019. g., Augulis K., 2020, 46). Tomēr, ja saglabāsies pēdējos gados vērojamā interese par alternatīviem kapitāla piesaistīšanas veidiem (ārpus banku finansējuma), autora ieskatā ir iespējas, ka Latvijas uzņēmumu vidū kapitāla tirgus nozīme palielināsies, tajā skaitā arī ārpus Rīgas bāzētajiem uzņēmumiem.

Darba mērķis ir novērtēt kapitāla tirgus attīstību Latvijā reģionālā kontekstā kopš neatkarības atgūšanas. Darbā izvirzīti 3 galvenie pētnieciskie jautājumi:

- Kā reģionālie uzņēmumi ir bijuši pārstāvēti kapitāla tirgos vēsturiski un kādas ir pēdējās tirgus attīstības tendences?
- Kā attālums no Rīgas ietekmē kapitāla pieejamību reģionāliem uzņēmumiem?
- Kāda ir investoru ģeogrāfija jaunākiem Latvijas akciju un obligāciju emitentiem?

Dati un metodes

Lai noskaidrotu, cik un kādi uzņēmumi dažādos laika periodos ir kotēti biržā, kā arī lai noteiktu uzņēmuma lokāciju, tika izmantota informācija no publiski pieejamiem avotiem. Aktuālie dati uz 2024. g. sākumu par biržas dalībniekiem (gan akciju, gan obligāciju emitentiem) iegūti no Nasdaq Riga mājas lapas (nasdaqbaltic.com), atlasot Latvijas uzņēmumus. Vēsturiskie dati kopš 2000. g. sākuma (vecāki dati Nasdaq Riga nav pieejami) iegūti, izmantojot to pašu mājas lapu sadaļā Statistika, izvēloties interesējošo datumu (nasdaqbaltic.com/Statistika). Kontrolei par 2000.gada sākuma datiem tika izmantoti Rīgas Fondu biržas ceturkšņu pārskati (Ceturkšņa statistikas pārskats 01.10.1999.–31.12.1999., 03.01.2000.–31.03.2000.). Savukārt, lai varētu noteikt uzņēmuma lokāciju pēc juridiskās adreses, iegūt informāciju par uzņēmuma vēsturi un lielākajām struktūrvienībām, detalizētāka informācija ir iegūta no Uzņēmumu reģistra, interesējošo uzņēmumu mājas lapām, kā arī avīžu rakstiem interneta versijās (piem., Dienas Bizness, Latvijas Vēstnesis).

Informācija par investoru sadalījumu reģionos un pēc juridiskā statusa bez publiski pieejamās informācijas sagatavota, izmantojot nepublicētus Signet Bank datus.

Darbā izmantota satura analīze un statistikas datu apkopojums, nosakot biržas dalībnieku skaitu dažādos laika periodos un uzņēmumu lokāciju pēc juridiskās adreses. Uzņēmumu lokācija noteikta pēc juridiskās adreses, bet apkopojumam izmantoti valsts

Statistiskie plānošanas reģioni 2024. gada robežās. Salīdzināti arī reģionu saimnieciskās aktivitātes statistiskie rādītāji (izmantoti 2021. g. iekšzemes kopprodukta dati no stat.gov.lv) salīdzinājumā ar vēsturisko reprezentāciju biržā periodā no 2000. līdz 2024. gadam. Attiecībā uz uzņēmumu funkcionālo statusu par būtisku reorganizāciju tiek uzskatīta pilnīga kontrolējošo īpašnieku un zīmola maiņa, darbības profila modifikācija vai maiņa. Savukārt likvidācija ir juridisks fakts, kas parādīts valsts Uzņēmuma reģistrā.

Rezultāti

Rezultātu sadaļā parādīts, kā kopš fondu biržas izveides tajā ir bijuši pārstāvēti uzņēmumi, klasificējot tos pēc lokalizācijas. Aplūkots kā reģionālā pārstāvniecība biržā korelē ar reģiona kopējo saimniecisko aktivitāti. Tāpat aplūkotas pēdējo gadu tendences akciju un obligāciju tirgos, īpaši reģionālā kontekstā, un ieskicēta pēdējo gadu emisiju investoru ģeogrāfija.

Pārstāvība reģionos

Kopumā no RFB, vēlāk Nasdaq Riga, no dibināšanas brīža 1995.gadā līdz 2024.g. sākumam bija kotētas 91 uzņēmuma akcijas (pēc pieejamās informācijas). Sk. 1. tabulu (Dati: Nasdaq Riga statistika).

No tiem Rīgā reģistrēti 46 uzņēmumi, t. i. 50,5 %. Tiesa, dažiem uzņēmumiem juridiskā adrese atrodas Rīgā, bet ražotnes – ārpus pilsētas, piemēram, uzņēmums "Laima", kura ražotnes atrodas Ādažu novadā vai uzņēmums "Latvijas tilti", kas savu uzņēmējdarbību veic Stopiņu pagastā. Savukārt citi uzņēmumi ir ar plašu filiāļu tīklu visā Latvijā, piemēram, degvielas mazumtirgotājs "Virši-A", a/s "Unibanka" u. c.

Ņemot vērā pārmaiņas statistisko reģionu plānošanas robežās kopš 2024. gada 1. janvāra, ir samazinājusies Pierīgas reģiona teritorija, bet Limbažu un Ogres novads atrodas Vidzemes reģionā. Tā kā divi uzņēmumi Ogres novadā un divi uzņēmumi Salacgrīvā ir/bija kotēti biržā, kotēto Vidzemes uzņēmumu skaits palielinājies līdz 9, kā tas nebūtu iepriekšējās reģionu robežās. Savukārt samazinājies bijušās Pierīgas reģiona (kopš 1. 01. 2024. Rīgas statistikas reģions) uzņēmumu skaits biržā no 17 uz 11.

Visvairāk biržā bijusi pārstāvēta Kurzeme, proti, 15 uzņēmumi. Kurzemes reģionā dominē Liepāja ar 6 uzņēmumiem un Liepājas novads ar diviem uzņēmumiem. No Vidzemes biržā bijuši 9 uzņēmumi, no Latgales 6 uzņēmumi (3 no Daugavpils), no

Zemgales 4. Tātad attiecīgi Kurzemē 16,5%, Vidzemē 9,9%, Latgalē 6,6%, Zemgalē 3,3 % no biržā kotēto uzņēmumu kopskaita 2000.–2024. g. periodā (sk. 2. tabulu).

1. tabula. **Biržā kotētie Latvijas uzņēmumi 2000.-2024.g.** (izveidojis autors, izmantojot Nasdaq Baltic, UR, Lursoft datus)

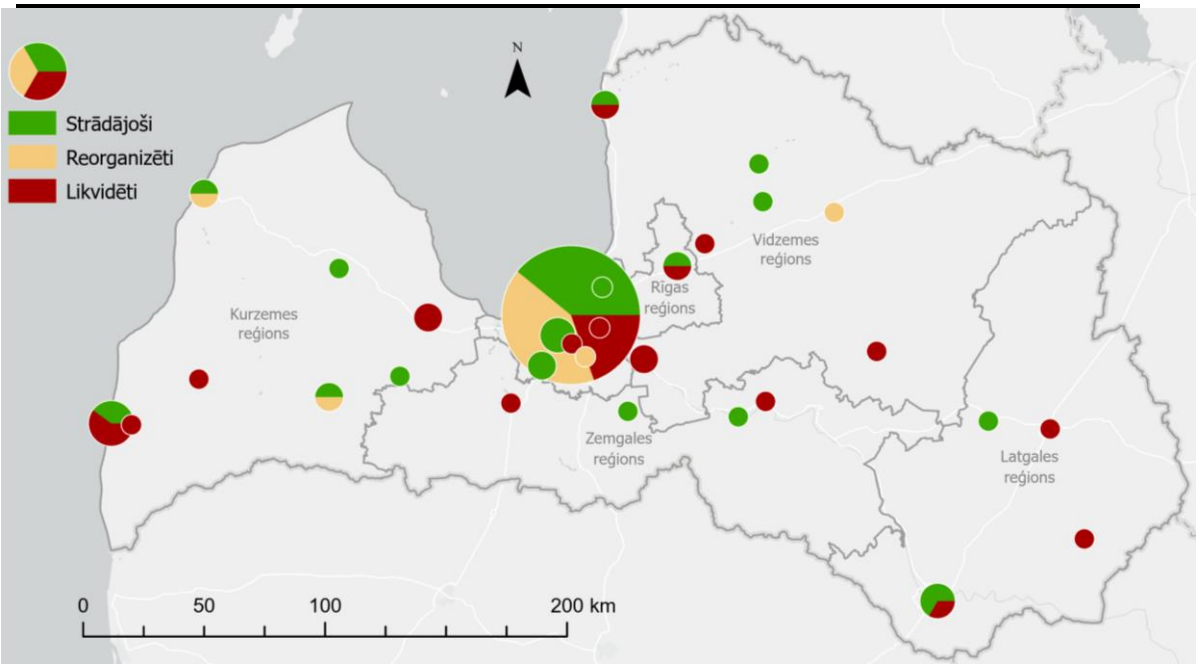
Uzņēmumi RFB (Nasdaq Riga)	2000. g.		2000.-2024. g.	2024. g.	
	Skaits	Kapitalizācija (m EUR)	Skaits	Skaits	Kapitalizācija (m EUR)
Oficiālais saraksts	8	272	11	3	141
2. saraksts	16	42	47	5	467
Brīvais saraksts	41	12	27	_	_
First North	–	_	6	4	149
Kopā	65	326	91	12	757

2. tabula. **Biržā kotētie uzņēmumi 2000.–2024. g. atbilstoši izvietojumam un funkcionālajam statusam** (izveidojis autors, izmantojot Nasdaq Baltic, UR, Lursoft datus)

BIRŽĀ KOTĒTI UZŅĒMUMI ATBILSTOŠI STATISTIKAS REĢIONIEM						
Reģions/Rīga	Skaits	Strādājoši	Reorganizēti	Likvidēti	Strādājoši %	Likvidēti %
Rīga	46	18	19	9	39,1	19,6
Rīgas reģions (bez Rīgas)	11	7	1	3	63,6	27,3
Kurzeme	15	6	2	7	40,0	46,7
Vidzeme	9	3	1	5	33,3	55,6
Latgale	6	3		3	50,0	50,0
Zemgale	4	2		2	50,0	50,0
Kopā	91	39	23	29		

Lai novērtētu uzņēmumu noturību un salīdzinātu noturības rādītājus starp reģioniem, ir apkopots, cik uzņēmumi, kas apskatāmajā laika periodā 2000.–2024. g. bijuši pārstāvēti biržā, ir joprojām strādājoši, cik ir būtiski reorganizēti un cik likvidēti.

Jāpiebilst, ka, kaut likvidācija ir juridisks fakts un pētījumā tas tiek atbilstoši klasificēts, nereti bijušā uzņēmuma telpās vai vienā adresē ir izveidots cits, līdzīga profila uzņēmums (Kurzemes atslēga–1, Sauriešu būvmateriāli– Knauf u.c.).



1. attēls. **Biržā kotēto uzņēmumu izvietojums un funkcionālais statuss** (izveidojis autors, izmantojot Nasdaq Riga, Uzņēmumu reģistrs, Lursoft datus)

No 91 uzņēmuma līdzšinējo darbību saglabājuši 39, no tiem 18 ir reģistrēti Rīgā (sk. 2. tabulu), bet, ja pieskaita reorganizētos uzņēmumus, tad darbību saglabājuši 62 jeb 68,1 % uzņēmumu. Tomēr ir vērojamas teritoriālas atšķirības uzņēmumu noturības griezumā. No Rīgā reģistrētajiem uzņēmumiem likvidēti tikai 19,6%, Rīgas reģionā 27,3%, kamēr pārējos reģionos likvidēto uzņēmumu skaits ir apmēram puse (46,7–55,6%). Te katrs gadījums būtu jāapskata atsevišķi, bet, iespējams, Rīgā ir bijušas lielākas iespējas restrukturizēt uzņēmumus. Piemēram, pārvēršot ražotni par nekustamā īpašuma pārvaldības kompāniju, saglabājot iepriekšējo juridisko personu (VEF u.c.). Daļa uzņēmumu, savukārt, tehniski turpina funkcionēt, bet ir zaudējuši agrāko nozīmi un tirgus daļu (Rīgas autoelektro aparātu rūpnīca, Rīgas kinostudija u.c.).

Savukārt, ja aplūko strādājošo (bez reorganizētiem) uzņēmumu īpatsvaru, tad Rīga īpaši neizceļas uz citu reģionu fona. Labāku īpatsvaru demonstrē Rīgas reģionā (ārpus Rīgas) esošie uzņēmumi.

Kopumā var vērtēt, ka reģioni ir bijuši visai labi pārstāvēti kapitāla tirgū (sk. 1. karti), tie faktiski atspoguļo saimnieciskās aktivitātes sadalījumu valstī, ja par pamatu ņem IKP sadalījumu pa reģioniem un lielākajām pilsētām (sk. 3. tabulu):

3. tabula. **IKP un kotēto uzņēmumu īpatsvars reģionos un pilsētās** (izveidojis autors, izmantojot LR CSP datus)

Reģioni un pilsētas	Iekšzemes kopprodukts (% no Latvijas kopējā) 2021	Biržā kotēto uzņēmumu skaita īpatsvars 2000-2024
Rīgas statistiskais reģions (no 01.01.2024.)	63,9	62,6
Vidzemes statistiskais reģions (no 01.01.2024.)	11,1	9,9
Kurzemes statistiskais reģions (no 01.01.2024.)	10,1	16,5
Zemgales statistiskais reģions	8,1	4,4
Latgales statistiskais reģions	6,6	6,6
Rīga	52,9	50,5
Daugavpils	2,6	3,3
Jelgava	2,2	1,1
Liepāja	3,2	6,6
Ogre	0,6	2,2
Rēzekne	1,1	1,1
Valmiera	1,4	1,1
Ventspils	1,4	2,2

IKP īpatsvaru ar dalību biržā būtiskāk apsteidz Liepāja, kā arī Kurzemes reģions kopumā. Savukārt no IKP īpatsvara atpaliek Jelgava un Zemgale kopumā. Pārējie reģioni un pilsētas biržā bijuši pārstāvēti pārsteidzoši tuvu IKP īpatsvaram. Vēl var piebilst, ka Rīgas un Rīgas reģiona uzņēmumi nav bijuši vairāk pārstāvēti biržā kā IKP īpatsvars. No tā var secināt, ka Rīgai kā finanšu centram un biržas mājvietai nav izveidojušās īpašas priekšrocības un kapitāla tirgus pieejamībai nav teritoriālu ierobežojumu. Drīzāk svarīga ir katra emitenta biznesa attīstības savdabība un noturība, novietojumam nav izteiktas nozīmes vismaz kapitāla tirgus pieejamības kontekstā.

Uz uzņēmumu telpisko izkliedi var paskatīties, arī abstrahējoties no administratīvām robežām, bet izmantojot autoceļa attālumu no Rīgas (sk. 4. tabulu). Rīga izmantota kā atskaites punkts, jo ir valsts galvaspilsēta un lielākā pilsēta, Rīgā atrodas vienīgā birža valstī. 4 uzņēmumiem (Latvijas Kuģniecība, Hansa Matrix, Tukuma GPS, APF Holding), kuriem ir būtiskas ražotnes/biroji dažādās pilsētās, izmantots summārais vidējais aritmētiskais attālums.

4. tabula. **Biržā kotēto uzņēmumu attālums no Rīgas** (izveidojis autors, izmantojot OpenStreetMap)

Attālums no Rīgas centra (km)	0–50	50–100	100–150	150–200	200–250	250–300
Uzņēmumu skaits	56	10	9	4	11	1

Attālumā līdz 100 km no Rīgas centra atrodas 66 uzņēmumi, kas ir vairāk kā 57 uzņēmumi Rīgas statistiskajā reģionā. 100 km robežās atrodas arī 9 uzņēmumi ārpus Rīgas statistikas reģiona: 4 no Zemgales (Jelgava, Aizkraukle, Vecumnieki, Koknese), 3 no Vidzemes (Līgatne, 2 no Ogres) un 2 no Kurzemes (Jaunpils, Tukums). Savukārt attālumā virs 100 km no Rīgas izvietoti 25 uzņēmumi kopā jeb 27,5%, bet virs 200 km robežas – 12 uzņēmumi jeb 13,2%. Virs 200 km attālumā lielākā daļa uzņēmumu (9) izvietoti 2 pilsētās – Liepājā un Daugavpilī. Tomēr arī šādā griezumā var redzēt, ka attālāki reģioni ir bijuši pārstāvēti biržā.

Pēdējo gadu tendences

Pašlaik no 2024. g. biržā kotētajiem 12 uzņēmumiem, 8 ir reģistrēti Rīgā, 2 Mārupē (APF Holding galvenā ražotne atrodas Ziemeru pagastā Alūksnes novadā), 1 Siguldā un 1 Aizkrauklē (Virši – A galvenais birojs izvietots Rīgā, bet kompānijai ir 75 tirdzniecības vietas visos reģionos).

Interesi par kotēšanos biržā no uzņēmumiem, kas nav bijuši saistīti ar privatizāciju, līdz 2012. g. izrādīja tikai tehnoloģiju uzņēmums SAF Tehnika 2004. gadā, vēlāk elektronikas ražotājs Hansa Matrix, kas bija biržā no 2016. līdz 2023. gadam. Abas kompānijas saistītas ar tehnoloģiju sektoru, kur akciju kotēšana biržā ir populāra iespēja iegūt atpazīstamību un piesaistīt ārējos investorus.

Izņemot divas minētās kompānijas, varētu teikt, ka 15 gadu periodā pēc privatizācijas ēras kompānijām nebija intereses par kotēšanos biržā. 2007. gadā pēc Skandināvijas valstu pieredzes Baltijā tika izveidots Nasdaq First North tirgus, jeb MTF (Multilateral Trading Facility – Daudzpusējā tirdzniecības sistēma). Uz First North tirgu netiek attiecināti Regulētā tirgus nosacījumi, bet gan akciju, gan obligāciju tirgus segmentā tikai tieši šim tirgum paredzētie noteikumi (sk. Nasdaq Riga "Alternatīvā tirgus First North noteikumi"). Līdz ar to First North ir piemērots mazākiem uzņēmumiem, vienlaicīgi izmantojot publiskā uzņēmuma priekšrocības ar mazākiem

prasību un informācijas atklāšanas noteikumiem. Kopš ieviesa First North sarakstu, pakāpeniski atgriezās interese par kapitāla piesaisti, izmantojot biržu. Tomēr pirmās First North sarakstā iekļautās kompānijas bija maz zināmas, tās arī vairs nav biržas dalībnieku vidū.

Publiski redzamāk sevi pieteica kosmētikas ražotājs Madara Cosmetics, 2017. gadā veicot pirmreizējo publisko piedāvājumu (IPO). Ar šo un Hansa Matrix emisiju varētu teikt, ka par akciju tirgu radās interese citiem uzņēmumiem: emisijas degvielas mazumtirgotājam Virši–A 2021. gadā, kā arī finanšu kompānijām oficiālajā sarakstā – Delfin Group 2021. g., Indexo 2022. g. Nesenāko IPO veica putnkopības kompānija/holdings APF Holding 2023. gadā, ar reģistrācijas adresi Mārupē, bet kuras galvenā ražotne atrodas Ziemeru pagastā Alūksnes novadā.

Akciju investoru ģeogrāfija

No investoru ģeogrāfijas viedokļa līdzīgi sadalījās interese par Virši–A un Indexo akcijām –visi bija tikai privātie investori, un 2/3 investoru bija no Latvijas, 1/3 no Igaunijas. Viršu –A gadījumā arī ap 2% no citām valstīm (Signet bankas dati). Nebanku aizdevēja un mazumtirgotāja Delfin Group investoru bāze bija citāda: ap 60% Igaunijas, virs 30% Latvijas privāto investoru. Savukārt APF Holdings piesaistīja ¼ kapitāla no institucionāliem investoriem, toties virs 90% investoru bija no Latvijas, kaut kompānija bija cerējusi piesaistīt vairāk Igaunijas investoru (rezultātā tikai ap 8%).

Investoru ģeogrāfija rāda, ka, lai gan Nasdaq Riga ir pieejama starptautiskiem investoriem, realitātē pēdējās emisijās virs 90% investoru ir no Latvijas un Igaunijas, nedaudz Lietuvas izcelsmes kapitāla. Iespējams, ka investoru interesi nosaka "mājas tirgus efekts" (saskaņā ar Woicik, 2009). Toties investoru skaits ir visai ievērojams, vismaz salīdzinot ar obligāciju investoriem: Virši–A 9979 investori, piesaistītais kapitāls 7,8 milj. EUR; Delfin Group attiecīgi 5927 uz 8,1 milj. EUR; Indexo 2867 uz 9,0 milj. Eur un APF Holding 2128 investori uz 5,2 milj. Eur.

5. tabula. **Nasdaq Riga kotēto obligāciju emitenti un emisijas apjoms**

(izveidojis autors, izmantojot Nasdaq Riga datus)

Baltijas parāda vērtspapīri 2024			
Emitents	**Adrese**	**Nozare**	**Emisijas apjoms (m EUR)**
Valsts kase	Rīga		390
Augstsprieguma tīkls	Rīga	Enerģētika	100
Latvenergo	Rīga	Enerģētika	100
Valsts kase	Rīga		80
Eleving Group	Rīga	Finanses	50
Amber Beverage Holding	Luksemburga	Dzērienu ražošana	30
Mogo (Eleving)	Rīga	Finanses	30
Altum	Rīga	Finanses	20
Citadele	Rīga	Finanses	20
Storent	Rīga	Tehnikas noma	10
Agro Credit Latvia	Mārupe	Finanses	8
BlueOr	Rīga	Finanses	4,9
Storent	Rīga	Tehnikas noma	4,5

First North obligācijas, 2024			
Emitents	**Adrese**	**Nozare**	**Emisijas apjoms (m EUR)**
Sun Finance	Rīga	Finanses	50
Marijas 2	Rīga	Nekustamais īpašums	42,7
Eleving	Rīga	Finanses	25
Elko Grupa	Rīga	IT risinājumi, tirdzniecība	20
iCotton	Liepāja	Higiēnas preču ražošana	20
Clean R	Rīga	Atkritumu apsaimniekošana	15
Delfin group	Rīga	Finanses	15
Summus Capital	Rīga, EE	Nekustamais īpašums	10
Eco Baltija	Rīga	Atkritumu apsaimniekošana	8
Coffee Address	Rīga	Kafijas serviss	5
Longo Group	Rīga	Auto tirdzniecība	4,9
CrossChem	Olaine	Autoķīmija	3
Grenardi Group	Rīga	Juvelierizstrādājumi	3
Banga	Roja	Zivju konservi	2,5
Hestio	Rīga	Mazumtirdzniecība	1

Obligāciju tirgus

Kopš kapitāla tirgus atjaunošanas pirmā obligāciju kotēšanu biržā uzsāka Latvijas valsts. Tiesa, biržā valsts kotē tikai daļu no savām parādsaistībām. Pēc valsts nākamā obligācijas (hipotekārās ķīlu zīmes) sāka emitēt valstij piederošā Latvijas Hipotēku un Zemes banka, vēlāk 2000. gados arī privātās komercbankas, kas emitēja gan hipotekārās ķīlu zīmes, gan subordinētā kapitāla aizņēmumus u.c. Vienlaicīgi obligāciju tirgū parādījās valstij piederošu kompāniju aizņēmumi – Latvenergo, Augstsprieguma tīkls, Altum. Pēc tam parādzīmju tirgū aktīvāk iesaistījās nebanku finanšu kompānijas.

Un tikai pēdējos gados vērojama tendence, ka obligāciju tirgu kā finansēšanas avotu izmanto citu nozaru uzņēmumi (sk. 5. tabulu).

Lielākā daļa emitentu gan Baltijas regulētajā tirgū, gan First North sarakstā ir Rīgā bāzēti uzņēmumi. 2022.–2023. gada emitentu vidū ir reģionālie dalībnieki: zivrūpniecības uzņēmums Banga no Rojas un kokvilnas produktu ražotājs iCotton no Liepājas.

Tirgus dalībnieku ģeogrāfija un statuss

Ja par valsts uzņēmumu emisiju, piemēram, Latvenergo, investoru interese ir no dažādām valstīm: Lietuvas, Somijas, Lielbritānijas, Austrijas (no Latvijas zem 30%), tad pēdējo gadu korporatīvo emitentu (Banga, CleanR Grupa, iCotton) obligācijas iegādājās galvenokārt Latvijas investori, turklāt Bangas gadījumā 100% apmērā, CleanR un iCotton tuvu 90%, atlikušajā daļā piesaistot Lietuvas investorus un tikai pavisam nedaudz no Igaunijas (pretstatā akcijām līdzīgā laika posmā). Vienīgi Luksemburgā reģistrētais Amber Beverage Holding (bijušais Latvijas balzams) spēja piesaistīt ap 40% ārvalstu investoru – lielākie no Lietuvas un Vācijas (pēc Signet Bank datiem).

Arī atšķirībā no akcijām obligācijas iegādājas mazāk privātpersonu, investoru vidū ir bankas, pensiju un investīciju fondi. Savukārt investoru skaits ir būtiski mazāks kā akciju emisijās – no 21 investora Bangā līdz 103 Amber Beverage Group (pēc Signet Bank datiem).

Atšķirīgi ir izdevies piesaistīt uzmanību obligācijām 2023. un 2024. gada emisijās būvtehnikas nomas uzņēmumam Storent – attiecīgi 1325 un 1445 unikālie investori, pie tam 56% un 49% no Igaunijas, 32% un 30% no Latvijas, 11% un 17% no Lietuvas. 2024. gada emisijā juvelierizstrādājumu tirgotājs Grenardi arī piesaistīja daudz

investoru –1300, bet te dominēja investori no Latvijas – 85%, no Igaunijas un Lietuvas attiecīgi 12 un 3% (pēc Signet Bank datiem).

Secinājumi

Uzņēmumu, kas ir vai ir bijuši kotēti biržā, izvietojums visai precīzi atspoguļo Latvijas IKP sadalījumu pa reģioniem un pilsētām. Līdz ar to var pieņemt, ka kapitāla tirgus pieejamība nav bijusi atkarīga no uzņēmumu atrašanās vietas, bet atspoguļo kopējo ekonomisko aktivitāti.

Kapitāla tirgus (gan akcijām, gan obligācijām) Latvijā ir neliels gan emitentu skaita, gan kapitalizācijas vai piesaistītā kapitāla ziņā (t. sk. pēc Sveile, 2023). Laika gaitā kapitalizācijas apjoms pret valsts IKP nav bijis būtisks gan tirgus veidošanās pirmsākumos uzņēmumu privatizācijas gaitā, gan pēdējos gados, nekad nepārsniedzot 10% no iekšzemes kopprodukta. Tomēr pēdējos gados konstatējama jaunu tirgus dalībnieku interese par kapitāla tirgu, turklāt no nefinanšu kompānijām. Īpaši aktivizējies korporatīvo obligāciju tirgus, lai gan emisiju apjoms ir visai neliels. Tāpat jaunāko tirgus dalībnieku vidū ir reģionālie uzņēmumi, kas, vismaz Latvijas mērogā, apliecina, ka kapitāla tirgus ir pieejams neatkarīgi no novietojuma.

Lai gan RFB transformējusies par lielas biržu sistēmas Nasdaq sastāvdaļu un ir iekļauta kopējā Baltijas tirdzniecības platformā, kotācijas ir eiro valūtā utt., lielākoties investori ir vietējās privātpersonas, kā arī, atkarībā no emitenta, citu Baltijas valstu investori. Ārpus Baltijas būtisku investoru interesi nav izdevies radīt. Iemesls tam var būt mazais tirgus apjoms, vājā likviditāte un maz zināmu kompāniju/zīmolu tirdzniecība. Iespējams, ka arī ģeopolitiskie riski neveicina investoru vēlmi ieguldīt Latvijas tirgū.

Lai gūtu plašāku kopskatu un kontekstu par kapitāla tirgus attīstības reģionālajiem aspektiem, būtu lietderīgi ar līdzīgām metodēm aplūkot Lietuvas un Igaunijas tirgus attīstību, novērtēt atšķirības un to iespējamos cēloņus.

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