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WHY WE SHOULD NOT WAIT FOR EXISTING LATVIAN CROWDFUNDING PLATFORMS' AUTHORISATION UNDER THE EU REGULATION ON CROWDFUNDING SERVICE PROVIDERS FOR BUSINESS

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Abstract. The past decade, the crowdfunding market was growing rapidly in the European Union, including Latvia. At the same time, crowdfunding had remained unregulated domain until the European Union Regulation on European crowdfunding service providers for business (henceforth - the Regulation) was passed in October, 2020, giving the Member States one year for its adoption, and additional one year for crowdfunding service providers for authorising under the Regulation. Nevertheless, by the end of 2022, there was only one licensed crowdfunding service provider managed by Latvian legal entity. Considering this, the goal of the study is to explore why the majority of existing crowdfunding platforms, managed by legal entities registered in Latvia, has not authorised itself under the Regulation. To achieve the goal, the methodology of the study combines in-depth analysis of the Regulation with an explanatory case study of crowdfunding platforms managed by Latvian legal entities. Having considered nine platforms managed by Latvian legal entities, the results of the study show that four biggest Latvian platforms have authorized themselves as investment firms. Among other platforms which are unlicensed for the time being, there could be only one potential candidate to extend the list of crowdfunding service providers authorised under the Regulation. The conclusion was made considering the business models of the providers, and presence or absence of an auto-investing function, which was restricted by the Regulation. An implication of the obtained results is the possibility that the research will serve as a base for future studies on the Regulation's effect on the European crowdfunding industry.

Keywords: *crowdfunding, regulation, crowdfunding service providers, the European Union, Latvia.*

JEL code: G23, G28

Introduction

Since crowdfunding is has a twofold effect, namely, in closing the voids of financing for small and medium sized enterprises, and in being a good promotion instrument for financed businesses (Block et al., 2018), raising their recognition and value (Saksonova et al., 2020), it has become a significant form of alternative financing, over the past years. Recently, this mind-numbing developments in crowdfunding domain had heightened the need for crowdfunding regulation. Therefore, the necessity of having harmonised regulation for all Member States has become a focal point for significant number of scientific and professional debates, in the European Union.

Considering this, the European Union Regulation on European crowdfunding service providers for business (EPC, 2020), henceforth - the Regulation, was very discussed and expected event, in the industry of crowdfunding. The case in point is return-based crowdfunding, (both equity / investing-based and lending-based), which had remained unregulated domain in the European Union, whilst some of the Member States had implemented national rules, contributing to regulatory heterogeneity. Due to that, the crowdfunding market had a number of regulatory barriers for cross-border financing (Katalkina and Saksonova, 2022), (Daskalakis and Karpouzis, 2022), disturbing healthy functioning of the industry.

Thereby, the Regulation targeting at fostering of cross-border financing and high level of investors' protection (EPC, 2020, Disclosure (7, 8), was accepted in its final version, in October 2020, according to which the Member States had one-year period for its adoption, and the crowdfunding service providers for business had about one year of transition period after the adoption of the Regulation. In a nutshell, the providers had to authorise themselves under the Regulation by the end of November, 2022.

In spite of this, by the end of December 2022, there was only one legal entity authorised as a crowdfunding service provider under the Regulation (FCMC, 2022 (1), in Latvia. However, professional sources, aiming at providing reliable information on alternative financing providers for a broad public (existing and potential investors), count at least nine alternative financing providers registered in Latvia, which have crowdfunding service providers features, i.e. target at "small" investors - the crowd, (for the sake of expositional simplicity, hereinafter – crowdfunding platforms or providers). Moreover, Latvia is known in the entire world with its "big names" in alternative financing providers, whic came into the investment market exactly as crowdfunding platforms (Mintos, for instance).

Considering this, the **goal** of the paper is to explore why the majority of existing crowdfunding platforms, managed by legal entities registered in Latvia, has not authorised itself under the Regulation.

To achieve the goal, the **methodology** of the paper combines in-depth analysis of the Regulation with an explanatory case study of crowdfunding platforms managed by legal entities registered in Latvia. The case-study approach was chosen to allow a deeper insight into the reasons why the already operating platforms has not authorised themselves under the Regulation, and to capture the complexities of the phenomenon.

Literature Review

Despite crowdfunding's crucial role, what we know about the necessity of the Regulation is largely based upon studies conducted before the proposal of the Regulation (Klohn, 2018), (Zetsche and Preiner, 2018), (Hooghiemstra, 2019), and at its proposal stage, stating that regulatory heterogeneity of the European Union countries, in the domain of crowdfunding, exacerbated the market's fragmentation (Cicchello, 2019), (Cicchello et al., 2020), (Wenzlaff et al., 2020), and effected the size and the shape of the market (Cicchello and Leone, 2020), but introduced greater latitude for self-regulating (Odorovic and Wenzlaff, 2020). At the stage, researchers highlighted some important issues to be solved, such as delivering risk-adjusted returns to investors and enabling their exits from funded companies, as well as increasing platforms' profitability (Schwienbacher, 2019).

Being a very mature research realm, the phenomenon of crowdfunding itself has become the ground for extremely high number of studies on investors' behaviour (Hoegen et al., 2018), (Johan and Zhang, 2021), crowdfunding impact on financed businesses (Eldridge et al., 2021), crowdfunding success factors for fundraisers (Shneur and Vik, 2020), crowdfunding through the prism of social capital (Cai et al., 2019), and even, the territories of the world where crowdfunding is most researched (Gil-Gomez et al., 2021).

Yet, only few authors consider the shape of the market after the adoption of the Regulation that could be explained by a very short period passing after the end of the transition period. However, some studies such as that by Bajakic et al. (2021) already showed that the likely effect of the Regulation is in improvement of legal certainty for investors. Whilst some research has been carried out on critical analysis of the Regulation (Macchiavello, 2021), (Macchiavello and Alibrandi, 2021), there is still very little scientific understanding of the up-to-date state of the market participants, encompassing the crowdfunding service providers themselves, after the adoption of the Regulation. Thereby, this study attempts to contribute to the literature on the Regulation's post-adoption crowdfunding market's shape on the example of cases of Latvian platforms.

Research results and discussion

1. Scope of the Regulation

According to the definition given in the disclosure of the Regulation, “crowdfunding is ... an established form of alternative finance for start-ups and small and medium-sized enterprises, typically relying on small investments. Crowdfunding represents ... a type of intermediation where a crowdfunding service provider, without taking on own risk, operates a digital platform open to public in order to match or facilitate the matching of prospective investors or lenders with businesses that seek funding. Such funding could take the form of loans or the acquisition of transferable securities or of other admitted instruments for crowdfunding purposes. It is therefore appropriate to include within the scope of the Regulation both lending-based crowdfunding and investment-based crowdfunding...” (EPC, 2020, Disclosure (1)). “The provision of crowdfunding services generally involves three types of actors: the project owner that proposes the project to be funded, investors who fund the proposed project, and an intermediating organisation in the form of a crowdfunding service provider that brings together project owners and investors through an online platform” (EPC, 2020, Disclosure (2)).

Although the more precise definition of crowdfunding process participants and crowdfunding itself is not provided, in the Regulation, there are certain *criteria for exclusion of the scope* (EPC, 2020, Chapter 1, Article 1), which together with explanations on the Regulation provided by the Latvian regulator (FCMC, 2022 (1)) can be amalgamated in the following three main exclusions:

1. crowdfunding services provided to consumers;
2. crowdfunding offers exceeding 5 million Euro over a period of 12 months;
3. activities related to marketing of credit claims issued by credit providers on web platforms.

It should be noted, that the first criterion is related to activity of crowdfunding service providers, since to render crediting services to consumers, the provider should hold a relevant license in the country of activity (applies for all Member States); the second criterion applies to projects – (if exceeds, there are prospectus requirements); the third criterion – to those crowdfunding service providers, which propose others’ credit providers’ offers, at their platforms. Therefore, if any of those criteria, other licensing is required (for the first and third criterion), or the project cannot be proposed for funding via crowdfunding (the second criterion).

Another crucial aspect of the Regulation is that, in fact, it prohibits crowdfunding “business models using automated process whereby funds are automatically allocated by the crowdfunding service provider to crowdfunding projects in accordance with parameters and risk indicators predetermined by the investors, so called auto-investing,” which “should be considered individual portfolio management of loans.” (EPC, 2020, Disclosure (20)). A case in point is the auto-investing function provided by a majority of crowdfunding platforms before the adoption of the Regulation. Therefore, to continue the provision of the function, platforms should be licensed as investment portfolio managers (or similar), since the function is similar to asset-backed securities created from a pool of underlying assets. In this instance, the provision of asset-backed securities (financial instruments) replaces the function.

For the sake of providing more structured insight, based on definitions and criteria given in the Regulation, Table 1 shows the scope and exclusions of the Regulation by crowdfunding business models and types of the participants of the crowdfunding process.

Table 1

Scope and exclusions of the Regulation by crowdfunding business models and types of the participants of the crowdfunding process

			Investors	Intermediating organisation (a platform)	Projects’ owners
Business models	Scope of the Regulation	1	Small investors *	Lending-based; without auto-investing	Business with a project offer up to 5m Eur/year
		2	Small investors	Investment-based; without auto-investing	Business with an equity offer up to 5m Eur/year
	Exclusions from the Regulation	3	Small investors	Lending-based; holds a license for consumer crediting	Consumers
		4	Small investors	Lending-based; offers credit providers’ credit claims, on its web platform **	Credit providers

* The definition provided in the Regulation does not indicate the size of “small” investments in numerical terms.

**According to explanations given by the Latvian regulator, this type of activity must be authorised by an investment firm or a credit institution, i.e. other financial market participant’s license is required (FCMC, 2022 (1))

Source: author’s developed based on the analysis of the Regulation

Having identified the scope of the Regulation (the business model 1 and 2 of Table 1), i.e. which exactly crowdfunding business models must be authorised by a crowdfunding service provider license, the steps described below were made to reveal business models of topical participants of the Latvian financial market, which have crowdfunding service providers’ features, and to juxtapose them with the Table for further analysis.

2. Data gathering aspects

2.1. Initial list of Latvian platforms

Prior to commencing the study, the first core issue was to obtain the initial list of participants of the Latvian financial market, which have crowdfunding service providers’ features, i.e. platforms which provide their financing and investing services on-line, targeting at small investments. To do that, the industry’s professional data source P2PMarketData was used. This source aggregates topical data about platforms from the entire world, and oftentimes is used both by researchers and professional financial media (for instance, Bloomberg) as a data base on alternative financing providers (P2PmarketData, 2022 (1)). Utilising the data base, a list of nine platforms was shortlisted from the search by a country – Latvia. (P2PmarketData, 2022 (2)).

2.2. Data for the platforms’ cases analysis

Further analysis of the platforms was conducted to identify their business models, (i.e., who are their investors, projects’ owners, and which license is hold by the platforms), upon the following scheme:

- reviewing the on-line platforms (minimum investment amount; type of the projects placed for funding at the platforms; information on licensing, if any);
- reviewing lists of licensed entities at the Latvian regulator’s web-page (FCMC, 2022 (1), (FCMC, 2022 (2)), as well as date of issue of the license to identify if it was obtained before or after the adoption of the Regulation;
- reviewing the data base of licensed consumer crediting providers in Latvia (PTAC, 2022).

3. Analysis of cases of Latvian platforms

The results of the analysis of the cases are amalgamated in Table 2, providing the conclusion whether the activity of platforms is in the scope of the Regulation.

Table 2

Summary of the cases of Latvian platforms by their relevance to the scope of the Regulation (situation for December, 2022)

Group of cases	Name of a platform	Investors	Intermediating organization		Projects' owners	Business model (from Table 1)	Conclusion (in the scope of the Regulation – YES / NO)
			Operating legal entity, type of license, date of issuing	Auto-investing function* (YES / NO)			
A	1 Mintos	“Small” investors (min.investment 50 Eur)	JSC Mintos Marketplace, Investment firm, 17.08.2022	YES	Credit providers	4	NO
	2 Twino	“Small” investors (min.investment 1 Eur)	JSC Twino Investments, Investment firm, 31.08.2021	YES	Credit providers	4	NO
	3 Debitum	n/a	Ltd. DN Operator, Investment firm, 21.09.2021	YES	Credit providers	4	NO
	4 ViaInvest	“Small” investors (min.investment 50 Eur)	Ltd. Viainvest, Investment firm, 28.09.2021	YES	Credit providers	4	NO
B	5 CrowdedHero	“Small” investors (min.investment 100 Eur)	Ltd. CrowdedHero Latvia, Crowdfunding service provider, 16.08.2022	NO	Business with an equity offer up to 5m Eur/year	2	YES
C	6 Lande.finance	“Small” investors (min.investment 50 Eur)	Ltd. Secured Finance MGMT	YES**	Business with a project offer up to 5m Eur/year	1	YES
	7 DoFinance***	n/a	Ltd. Dofinance, Ltd. Alfa Finance	YES	Consumer loans	4	NO
	8 Fintelum	“Small” investors (min.investment 50 Eur)	Ltd. Fintelum	n/a	Business with a project and equity offer up to 5m Eur/year	1 and 2	YES / NO

9 Viventor

Not active. Liquidation process has been started.

*And/or provision of asset-backed securities created from a pool of underlying assets.

** The function cannot be found anywhere at the platform, however the provision of the function is mentioned in the platform's "Terms and conditions".

***The operator of the platform intends to be licensed as an investment firm (mentioned in the "About us" section of the platform).

Source: author's developed based on the analysis of the platforms

Commenting on the results of the analysis of the platforms, provided in Table 2, it is possible to see that the platforms are anything but a homogeneous group. Thereby, the platforms were broken down by three logical groups of cases (A, B, C) building on the criterion of licensing, namely:

- The platforms which are already authorised as investment firms acting upon the 4th business model, whose “Projects’ owners” are credit providers (four platforms – 1, 2, 3, 4). As it can be seen from the licensing dates of the platforms, they have obtained investment firm license *after* the adoption of the Regulation. Therefore, it can be stated that the Regulation prohibiting the auto-investing function was the impetus for the platforms to transform themselves into the investment firms. Consequently, it is highly unlikely that holding the license with broader range of eligible activities, the platforms of the group will authorise themselves under the Regulation.
- In the group, there is only one Latvian platform (5) – a newly established (launched in 2022) investing-based platform already authorised under the Regulation, and it does not offer the “auto-investing” functions for its investors, since the crowdfunding provider’s license does not allow it.
- In this group of cases, there are three platforms (6, 7, 8). Despite the diversity of their activities (business models), they were amalgamated to one group, since they are not licensed, at this point. However, building on the content of their services, it can be stated that the activities should be licensed. For expositional clarity, each case of the group is considered separately below.

Having regard to the type of projects (the type of projects’ owners) placed at the platform “Lande.finance” (6), the activity of the platform was classed as business model 1, which is in the scope of the Regulation. However, the platform’s document “Terms and conditions” of the platform assumes that the platform provides (will provide / provided) the auto-investing function. Therefore, under the condition that the platform will implement the function, it should be licensed as an investment firm. In event of acting without the function, it should be authorised under the Regulation as a crowdfunding service provider for business. Despite this, there are no any records of the platform’s operating legal entity, in the official registries of licensed market’s participants – neither in the crowdfunding service providers’ list, nor in the investment firms’ list. The only evidence that the platform intends to solve the licensing issue is the document “FCMC Approval”, placed at the platform. From the context of the document, it can be concluded that the platform is in the transition period due to the process of restructuring. Therefore, the platform may potentially extend the list of licensed Latvian crowdfunding service providers for business, authorised under the Regulation.

In a related vein, the platform “DoFinance” (7) was analysed to get insight if its activity was a subject to the Regulation. Firstly, the projects’ owners’ type was analysed. Despite the information given at the platform in the “How it works” section, that the platform provides loans for individuals, no entries of the relevant license was found neither for its operating legal entity (Dofinance, Ltd.), nor for its assignor (Alfa Finance, Ltd.), in the registry of licensed consumer creditors (PTAC, 2022). From the description of the activity of the platform provided in

the “About us” section, it can be understood that, apart from Latvia, the platform provides its financing services in Poland and Indonesia. Thus, it was assumed that the platform provided its services via the countries’ partners which were duly licensed for the activity, in their countries. This made it possible to relate the platform to the business model 4 rather than to the 3. Furthermore, the information on the platform’s projections with regard to licensing issues, provided in the “Our team” section, shows that it is aiming at investment brokerage company’s license. Also, the platform’s investment products are based on auto-investing function. Thereby, it could be stated that the platform will not authorise itself under the Regulation.

Another unlicensed platform “Fintelum” (8) declares that it is an equity (investment-based) crowdfunding platform. However, among the projects presented at the platform, there are several ones offering bonds (loan projects). That was the reason for classifying the platform’s activity as both 1 and 2 business models, in Table 2. Moreover, the platform has one crucial feature which makes it different from other platforms, already registered in Latvia, i.e. tokenisation of projects, and accepts some crypto currencies as a method of investments. This feature is a subject to some considerations in terms of applicability of the Regulation.

On the one hand, the issue of the form of investment transactions (fiat or crypto currencies), and the form of investment contracts (directly to the projects or via the tokenisation) is left out of sight of the Regulation, the information given in the disclosure (EPC, 2020, Disclosure (13) indicates that “this Regulation ... covers and permits crowdfunding services related to transferable securities. Shares of certain private limited liability companies incorporated under the national law of Member States are also freely transferable on the capital markets and should therefore not be prevented from being included within the scope of this Regulation.” Therefore, the form of contracts and investment method does not change the essence of the activity (namely, investing-based crowdfunding services), and the activity is a subject to the Regulation. Even more, the legal basis for the activity, provided at the platform’s “Whitepaper”, is built on documents which are not in force for the time being, e.g., Crowdfunding Regulation Proposal. Thereby, the Whitepaper has not been updated after the adoption of the Regulation.

On the other hand, there continues to be struggles to come to grips with the fuzzy definition of Initial Coin Offerings (ICO) provided in the Regulation’s disclosure, which assumes that “... ICO have the potential to fund SMEs, innovative start-ups and scale-ups, and can accelerate technology transfer, their characteristics differ considerably from crowdfunding services regulated under this Regulation” (EPC, 2020, Disclosure (15). In this context, the formulation leaves lots of room for interpretations for the platforms which provides the crowdfunding service via tokenisation and the like. Due to this uncertainty in the Regulation, in Table 2, there is no clear answer provided whether the platform’s activity is subject to the Regulation or not. Stemming from that, an unequivocal conclusion on the platform’s potential authorisation under the Regulation cannot be made, since the Regulation itself leaves room for discussion in this regard.

In view of the above cases, it can be summarised that, potentially, there is one platform already registered in Latvia, being on its way to extend the list of crowdfunding service providers for business licensed under the Regulation. Should any platform–newcomer wish to operate in the market, there is a necessity of considering its business model to choose the right authorisation for making business in the domain.

Conclusion

1. The present study was designed to explore why the majority of existing crowdfunding platforms, managed by legal entities registered in Latvia, has not authorised itself under the Regulation. Returning to the set goal, it is now possible to conclude that it is highly unlikely that the list of licensed crowdfunding service providers for business will be extended significantly by already operating platforms, since the findings suggest that four biggest Latvian platforms have authorized themselves as investment firms.
2. Among other three platforms which are unlicensed for the time being, there could be only one potential candidate to expand the list. The study has gone some way towards enhancing our understanding of a possible reason why the four platforms have chosen to be licensed as investment firms instead of crowdfunding service providers.
3. An implication of the obtained results is the possibility that the research will serve as a base for future studies on effect of the Regulation on reshaping of the European crowdfunding industry.
4. Being limited to the cases of Latvian platforms, this study lacks examples from other European Union countries. If the debate is to be moved forward, a better understanding of effect of the Regulation needs to be developed, and a study similar to this one should be carried out on the example of other countries of the European Union.

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POLICY RECOMMENDATIONS TO CROSS-SECTORAL POLICY MAKERS FOR SAFE AND FAST RIGA INTERNATIONAL AIRPORT PASSENGER SERVICES DEVELOPMENT

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Abstract. The global aviation sector has never had a greater crisis than what it was experiencing during COVID-19 global pandemic. Research problem lies in decreased passenger demand of RIX services due to COVID-19. It strengthens a necessity to establish policy recommendations to develop touchless airport services which might increase passenger satisfaction with digital self-service processes at RIX airport.

The aim of this article is to develop policy recommendations to cross-sectoral policy makers for safe and fast airport passengers' digital self-services. Methodologically, the aim is achieved during the 22 months of research based on interaction of technology and individuals, analysing passenger satisfaction and technological possibilities, which include general screening of more than 100 publications covering the period of 2016-2021, and a close reading of more than 20 selected publications, including literature cited and citations of each. Also, 1315 questionnaires were analysed by employing a SERVQUAL model. During this research survey results, also local and international airport expert interviews were analysed with the qualitative data processing method NVivo 12. Results were interpreted to observe opinions, to empirically measure passenger satisfaction with statistical and observational data in order to transfer knowledge and create policy recommendations which derive from key constructs of passenger satisfaction, digital self-service processes in airports and passenger attraction policy within a framework of touchless airports.

Policy recommendations include improved passenger handling and information, creating an infectious diseases free zone in RIX airport terminal, invention of palm vein authentication technology that uses palm veins as a biometric feature, multimodal transport, and connectivity from terminal to airplane, availability of self-check-in kiosks and automated passport control kiosks, as well as a state-of-the-art airport resource management system.

Keywords: *passenger satisfaction; digital self-service processes; passenger attraction policy; touchless airport.*

JEL code: L90, J28, F68

Introduction

Global pandemic COVID-19 has influenced passenger travel by airplane in Latvia as from late February 2020. The Extraordinary and Crisis Management Council of the Cabinet of Ministers of Latvia, on Saturday, March 14 at the joint meeting decided to close Latvia's border for international passengers' transport from March 17, 2020. The only exception was passengers' transport by state aircraft, so called repatriation flights and some exceptionally allowed flights by the Minister of Transport. The very slow business and leisure air traffic recovery started on May 18, 2020, when first daily flights from Riga were operated by national carrier airBaltic to Frankfurt and Oslo.

Before global pandemic COVID-19, RIX handled 6.5 thousand flights in January 2020 with a total of 525 thousand passengers (7.8 million passengers in 2019). Passenger number decreased in February 2020 to 489 thousand, in March 2020 to 235 thousand. 3060 passengers were handled via RIX in April 2020 when only repatriation and special flights were allowed by the Minister of Transport. During May, when airBaltic resumed operations, 10 thousand passengers went to and from RIX. In May 2020, number of passengers has decreased to 98% comparing to May 2019. Currently, in October 2022, RIX handles 551 thousand passengers, which might mean that COVID-19 global pandemic has left unprecedented footprint, but also has allowed to rapidly digitalize self-service processes which has led to the development of touchless airport in order to attract passengers and make them be satisfied with passengers' services.

This interdisciplinary non-economic nature industrial research investigates a possibility to invent safe, secure, and user-friendly touchless airport for RIX passengers. It acquires new knowledge and skills to develop these processes and establish innovative solutions for business development and adaptation to changing circumstances due to COVID-19 global pandemic to renew airport services, to get a significant improvement in existing processes: check-in, baggage drop, security control, passport control and boarding. These processes must be done by every passenger before take-off. After landing, passengers from non-Schengen countries, need to go through a security check and passport control. RIX has also set equipment for measuring body temperature in the departure's hall before security control and in the arrival's hall before baggage reclaim.

The aim of this article is to develop policy recommendations to cross-sectoral policy makers for safe and fast airport passenger digital self-services minimising face to face (F2F) contact. The aim is reached based on interaction of technology and individuals, analysing passenger satisfaction and technological possibilities.

Research tasks:

- to investigate whether the replacement of human resources by digital solution in routine work would facilitate the return of passengers to the airport and resumption of travel during and post COVID-19;
- how COVID-19 has affected airport operations and what lessons we have learned to novelise and automate processes and minimize F2F contact.

To complete these tasks, it was necessary to acquire knowledge about touchless airport concept in the world and to measure passenger satisfaction with digital self-services. For this purpose, a general screening of more than 100 publications covering a period of 2016-2021, and a close reading of more than 20 selected publications, including literature cited and citations of each was done and the results were published (Abolina, Uzarina, 2022). Also, 1315 questionnaires were analysed by employing a SERVQUAL model. During this research survey results, as well as local and international airport expert interviews were analysed with the qualitative data processing method NVivo 12 and published (Abolina, Uzarina, 2022b). Results are interpreted to observe opinions, to empirically measure passenger satisfaction with statistical and observational data in order to transfer knowledge and create policy recommendations which derive from key constructs of passenger satisfaction, digital self-service processes in airports and passengers' attraction policy within a framework of touchless airports. To determine statistically significant differences ($p < 10\%$) in people's survey responses (service expectations, actual experience, etc.) between various groups (based on demographic information, airport use, etc.) the following procedure was carried out:

- 1) Reading of survey data in RStudio environment.
- 2) Selection of variables by which respondents were to be grouped (e.g., age group, frequency of travel).
- 3) Selection of variables of interest (e.g., expectations of baggage transfer).
- 4) Since the survey data was ordinal, standard one-way ANOVA and t-tests could not be used. Hence, Kruskal-Wallis H test and Wilcoxon signed-rank tests were used to determine whether significant differences within groups were present.
- 5) Kruskal-Wallis H test was applied for all combinations of groups and variables of interest.
- 6) Combinations of p value $< 10\%$ were selected.

7) Wilcoxon signed-rank test was applied to all pair combinations of the aforementioned selection to determine which groups differ significantly, since Kruskal-Wallis H test cannot determine which exact groups differ significantly.

Due to the large number of combinations tested, there was a potential risk of having Type 1 errors.

Also, SERVQUAL research instrument was used to measure touchless airport operations and passenger satisfaction. Given the fact that the quality of services is vital for airports performance, SERVQUAL model or its modification are widely applied to evaluate travellers' satisfaction. Model allows to compare expectations and perceptions. There are five dimensions: tangibility; reliability; responsiveness; security; empathy (Fernández et al., 2021). All these dimensions constitute the perceived service quality that is closely connected with the passengers' satisfaction. According to previous studies, the most influential factors are usually tangibility and responsiveness (Nonthapot et al., 2020). Moreover, these two dimensions not only have direct influences on travellers' satisfaction, but also have indirect effects on passenger loyalty (Thi et al., 2020). An adapted version of SERVQUAL model was used, focusing on convenience and ease of use in order to analyse passenger service experience at airports (Otieno et al., 2016). Ease of use and usefulness are important dimensions in adoption of technologies as self-check-in kiosks (Lin et al., 2015). SERVQUAL principles allow airports to integrate service quality criteria and improve services and their image (Jeeradist, 2021). Based on the concept of the service quality, perceived level of service delivered to the airport user (Francis et al., 2003), one service quality gap from the SERVQUAL model with the aim to identify gap occurring between perceived and expected service quality was included in the survey. The set of measurement items were related to getting to/from the airport; check-in and security; waiting for flight and boarding; epidemiological aspects. Passengers indicated their opinion by rating on a five-point scale.

This theoretical and methodological approach fully ensures achievement of the defined tasks, as only those methods which were selected prior research execution were used. Passenger satisfaction is measured and evaluated using cross-sectional research design and mixed methodology. These results are published in the article *Innovations for Satisfied Passengers at Riga International Airport* (Abolina, 2022) which is indexed in Scopus scientific database.

In compliance with the latest research, this study is unique because there is no such research on airport digitalization in the Northern European airports. In fact, many publications are theoretical and cover only airport activities of large countries. Moreover, this research has also an interdisciplinary character.

Following other international airport digitalization and based on the analysis of interviews, survey and knowledge gained during trainings, mobility, conferences, other knowledge transfer activities, research is concluded by policy recommendations to cross-sectoral policy makers for safe and fast airport passenger services development. To ensure the highest level of scientific quality, gender equality, rights, and inclusion of persons with disabilities, non-discrimination on the grounds of ethnic origin and age, were an integral part preparing survey questions and making policy recommendations.

Interdisciplinarity of this research is based on business, aviation management and public administration skill set. As these subfields are advancing, and referring to scientists and experts, airport operations will never be the same again, this research elaborates a concept how business development, aviation and public administration can invent user friendly services which are in line with policies, business growth and passenger satisfaction.

This research and results correspond and provide significant potential in achieving the goals of the Smart Specialization Strategy of the Republic of Latvia RIS3, in the implementation of Priority 2 of the 2nd growth sector, where high value-added products and services exist or may arise by the development of touchless airport concept and increase of passenger satisfaction.

Literature Review

From the onset of COVID-19 crisis, the aviation industry has faced ever-growing challenges and triggered sector by border closures and restrictive measures as countries battled to contain and better prepare to deal with COVID-19 global pandemic's fallout (Dube, 2021). The International Civil Aviation Organization (ICAO), through the Council Aviation Recovery Task Force (CART), has resolved to partner with its Member States, international and regional organizations, and industry to address challenges and to provide global guidance for a safe, secure, and sustainable restart and recovery of aviation sector (Council Aviation Recovery Task Force Report, 2021). Digital technologies at airport, have a potential to make passenger services more efficient, safe, reliable, and sustainable. Several inspections and services provided by humans, could fundamentally be transformed to digital self-services without F2F contact. This might significantly impact passenger satisfaction which can lead to the increase of travel demand during COVID-19 and post COVID-19 period (Abolina, 2022). Touchless technology is defined as a type of interaction which does not need physical touch to operate (Zhu et al., 2020). There are different types of touchless interfaces that have been commonly employed to avoid touching digital surfaces, for example, radio-frequency identification (RFID) and near field communication (NFC) enables touchless interfaces. Both rely on radio-frequency signals to exchange data between devices. Using gesture recognition simple gestures can be controlled or interacted with devices without physically touching them. Touchless sensing can detect presence or motion of a person under a sensor. Voice activation recognition software analyses sounds and performs tasks based on information that is given to it via a voice (e.g., Apple's Siri, Google's Home, or Amazon's Alexa). Bluetooth operates with an encrypted identifier being picked up by a reader, connecting a mobile app with an existing sensor and system. QR codes/barcodes are on-demand mobile quick response codes providing instant access to information. A QR code is a version of a barcode, an open-source technology that is easy for mobile apps to scan. Biometric authentication measure physical characteristics (e.g., face or palm) of a person to verify identity (Hao and Chon, 2021). Digital transformation is increasingly penetrating the aviation industry, and many airports are implementing smart airport applications in their environments. Countries that are leaders in digitalization are constantly innovating their airports to streamline processes and reduce costs (Drljača et al., 2020).

Various range of methods from digitisation to digital transformation can be applied in all scope of the airport processes and services, which is illustrated by the next examples presented in the table below (Abolina et al., 2022.). That proves that the infusion of digital technologies in the airport has impacted its numerous operations transforming business model.

Examples of applications of digital solutions

Airport operations management	The introduction of an operations centre results in better collaboration among airport stakeholders and optimization of use of resources (Zaharia et al., 2018). For example, Changi Airport offers passengers a feedback system in order to ensure real-time data in a simple manner. Passenger opinions sheds light on customer behaviour and needs for airport management (Jaffer et al., 2014).
Flow monitoring and capacity management	Digital and interactive displays save time and minimize queues. Bluetooth and Wi-fi technologies permit to introduction of geo-localization and flow monitoring. Gathered data is being analysed, visualised, as well as AI can help to make decisions, in order to improve the overall efficiency (Zaharia et al., 2018). Bluetooth passenger tracking gathers data on passengers' movements enabling to identify the crowds and to manage flows and queues (Jaffer et al., 2014).
Baggage handling	Automatic baggage handlers in departure zone improves the capacity of terminal (Zaharia et al., 2018).
Security control	Automatic security control systems allow maximum use of terminal internal space and may increase by up to 30% of airports capacity (Zaharia et al., 2018).
Border control	Self-service boarding systems may reduce boarding time by half (Zaharia et al., 2018).
Predictive and preventive solutions making	Automated planning management and preventive actions can support in security matters, if analysing passenger name record and suspecting their identifications (Zaharia et al., 2018).
Biometrics	Technology can support in identity management, as well as to collect data on passengers with a purpose of development of personalized products and services (Drljača et al., 2020). Interest in biometrics at security screening is high. This can be explained by ability of technologies to scan passengers while they are moving, so they do not need to remove items (Halpern et al., 2021).
Flight rebooking	An opportunity to obtain new boarding pass in a timely manner via self-service channel (Drljača et al., 2020).
Self-boarding	Automated boarding gates enable self-scanning boarding pass to proceed the way towards airplane (Drljača et al., 2020).
Robots	Robotics may be helpful in operational roles, as well in providing on-the-spot assistance to passengers (Drljača et al., 2020).
Touchless airport	Automation has proved itself to be an effective safety tool. Airports make their terminals safer using special cameras, AI, and machine learning. Autonomous vehicles identify threatening human factors. (Abolina et.al., 2022).

Source: author construction based on Zaharia et al., 2018; Jaffer et al., 2014; Halpern et al., 2021; Drljača et al., 2020 and Abolina et.al. 2022.

Methodology

During this research RIX passengers were asked to participate in a survey. Detailed methodology of this broad research is explained in previous article (Abolina, 2022). Survey was conducted by research center SKDS via internet (WAPI) in August 2021, with 1315 respondents. The sample design was established directly proportional to the entire population of Latvia in the target group in terms of age, sex, nationality, and place of residence.

Almost half of respondents were women (51.7%), with the rest (48.3%) being men. Most of the respondents were aged between 45 – 54 (21.7%), 55 – 63 (20.3%), 35 – 44 (20.1%). 59.0% were Latvians; 27.7% – Russians; 2.5% Ukrainians; other participants represented other nationalities. With regard level of education, most respondents have completed higher education (62.4%), 23.2% – secondary vocational education and 11.9% – secondary education. Most respondents (52%) used RIX services at least once during last three years until global pandemic COVID-19 began, however from March 2020 till August 2021 the majority did not use RIX services at all (90%).

To determine statistically significant differences ($p < 10\%$) in people's survey responses (service expectations, actual experience, etc.) between various groups (based on demographic information, airport use, etc.) the following procedure was carried out: reading of survey data in RStudio environment; selection of variables by which respondents were to be grouped (e.g., age group, frequency of travel); selection of variables of interest (e.g., expectations of baggage transfer).

Since the survey data is ordinal, standard one-way ANOVA and t-tests cannot be used. Hence, Kruskal-Wallis H test and Wilcoxon signed-rank tests were used to determine whether significant differences within groups are present. Kruskal-Wallis H test **was** applied for all combinations of groups and variables of interest. Combinations of p value $< 10\%$ **were** selected. Wilcoxon signed-rank test **was** applied to all pair combinations of the **selection** to determine which groups differ significantly, since Kruskal-Wallis H test cannot determine which exact groups differ significantly. **While** looking for significant correlations in data, Spearman's Rank Order Correlation was used, as the survey data is ordinal. Spearman correlation coefficient r between two variables is calculated as follows: $r = \frac{cov(X,Y)}{\sigma_X \sigma_Y}$

where:

$X = R(x)$, $Y = R(y)$ are the ranked variables x and y

$cov(X, Y)$ is the covariance between variables X and Y

σ_X , σ_Y are the standard deviations of ranked variables x and y

These calculations were automated as they were carried out in RStudio environment.

Interview qualitative analysis was performed using NVivo 12 software. Seven interviews were imported into NVivo 12. The most important themes and subthemes were identified by using auto coding functionality. This method eliminates human bias in the coding process and provides an objective overview of the most frequently mentioned themes. Furthermore, using NVivo 12 software also allows to identify links between themes, subthemes, and their reference documents, in this case interviews with airport experts. As a result, this method allows tracking a link between a theme and a region or a specific enterprise which it is often mentioned during the interview. The results of NVivo 12 analysis were used to validate the findings from statistical regressions.

Research results and discussion

This research aimed to have two research tasks. RT1: to investigate whether the replacement of human resources by digital solution in routine work would facilitate the return of passengers to the airport and resumption of travel during and post COVID-19; RT2: how COVID-19 has affected airport operations and what lessons we have learned to novelise and automate processes and minimize F2F contact. In response to RT1, this research reveals that passenger satisfaction with digital solutions increases and does not show a statistically significant difference compared to the situation where services are provided by airport staff. However, there are differences between passenger groups according to age, residence, and frequency of flights. It is likely that easier and repetitive service processes in the aviation industry will be fully automated and digitized in near future, but more complex tasks or those that require human interaction will be left to employees. According to theoretical findings (Miskolczi, et.al., 2021) and empirical studies to date (Abolina, 2022), (Prentice and Nguyen, 2020), (Fulghum, 2022) the most open to innovation in the field of service are young people, frequent flyers and technologically advanced passengers who can recognize convenience and benefits of technology. This also corresponds to the results of PASSDIGI research – passengers aged 18 to 34; those who flew more than 5 times in the last three years before COVID-19 pandemic, as well as those living in the capital or other large cities are most willing to use self-service baggage claim lines at RIX airport. By exploring passenger preferences, this research contributes to a more granular understanding of aspects of RIX airport digitalization. Findings point clearly towards the greater technology adoption by passengers, with a large proportion seemingly wanting more control over their journey with automated and more personalised options that provide a touchless airport experience. Findings support those of previous studies by IATA (2019) and SITA (2019) suggesting high levels of adoption of digital technology among passengers. Specific examples are interest in mobile-based boarding passes, payments and services, digital bag tags, use of biometrics and technologies at security.

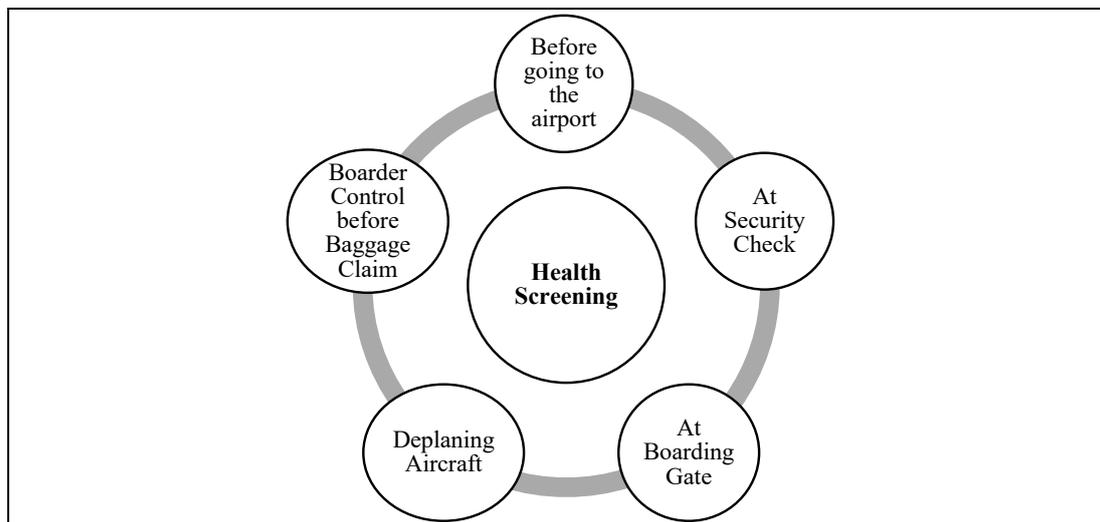
In response to RT2, COVID-19 has significantly affected airport operations in 2020 and 2021, and only in 2022 RIX could proceed with lessons learned to novelise and automate processes and minimize F2F contact, which led to the renewal of airport services and business development of RIX airport. However, surviving COVID-19 crisis is not enough. The aviation industry needs to take action to be prepared for a similar future health crisis. Air travel needs to be resilient to these health threats to avoid a repetition of a complete traffic standstill. This research explored passenger expectations and passenger satisfaction in the context of touchless airport passenger services. Since touchless airport services require passengers to engage with a series of technology enabled solutions, this research paid specific attention to automated processes in RIX. Research reveals the level of expectations and satisfaction of RIX passengers, determining most digital services which are established in RIX airport are positively approved by passengers. In most cases received service have been rated better than passenger expectations before using RIX services (Abolina et.al., 2022).

It could be expected that a hub airport with a focus on business traffic, where speed and reliability of passenger experience is likely to be valued more highly, would seek to adopt digital technologies more readily than a smaller airport focussing on seasonal leisure traffic.

The aviation industry is also facing unprecedented changes in management environment. Financial tensions across sector are rising (Choi, 2021). RIX airport should also focus on commercial revenue management. One of the policy recommendations covers implementation of airport crisis management.

Innovation is vital during crises, partly because of new demands imposed by different stakeholders and a risk of standing still which can lead to business failure (Amankwah-Amoah, 2021). It is advised by Nelson Manuel da Silva deMatos (deMatos et. al. 2021) in a review of 185 scientific articles to use flow experience concept as an instrument to improve passenger’s satisfaction. Flow is characterized by a sense of increased control over one’s behaviour. There is less interaction with people as one is focused on what they are doing. Airport digitalization and development of touchless airport will ensure flow experience of passengers.

Health screening could be done at dedicated locations in RIX airport and integrated in existing processes (e.g., security check and others). There is also a possibility to make this screening in a continuum during several segments of the whole passenger journey, as shown in Figure 1.



Source: author construction based on Tabares, 2021

Fig. 1. Passenger journey processes and potential health screening locations

For a passenger, potential health screening location options are depending on flow types: departure flow, when entering airport terminal building, at the security check, prior to aircraft boarding; and arrival flow, after deplaning the aircraft before mixing with other arriving passengers, prior to border control for all incoming flights; and transit and transfer flow, combination of the two previous flows.

Also, artificial intelligence and robotics might bring value to ensure “the cusp of invaluable advancement that can revive airport’s while re-establish passengers’ confidence in safe and fast airport passenger digital self-services” (Gaur, 2021). In some airports there are growing effort to move check-in (including bag tag and bag drop processes) away from airport or terminal building, for instance, to airport car parks or downtown locations, or with the option for passengers to pay to have their baggage collected (e.g., from home) by a company that then transports it to the airport and checks it in for them (Halpern, 2021). These solutions can help to reduce congestion and queuing times at airports and allow passengers to travel and arrive at the airport ‘baggage free’. This might be suggested for RIX airport to improve passenger handling, information, and management services.

Smart devices, sensors, smart appliances, smart TVs, smart assistants in natural interaction mode with voice or gestures on touchscreens and shared devices such as kiosks, self-service counters and interactive displays are present in our everyday lives. Each of these interactions is a concern for passengers, where hygiene is of utmost importance. The one-stop solution to hygienic interactions includes touchless technology such as voice control, biometric, and gesture control (Iqbal, 2021). With the breakthroughs in image recognition and language processing, powered by advanced computer vision and machine learning, these technologies are becoming a new normal. This might become a progress of the touchless interaction technology, which accelerates development of touchless airport digital self-service processes moving this term from being a luxury to a life necessity. Touchless technology is an important component of digital ecosystems of tomorrow. COVID-19 has provided the foundation for developing a touchless airport and will continue to satisfy and attract passengers from security screening with facial-recognition to touchless boarding. The role of biometric technology is crucial in enabling touch free passenger services. RIX airport has already introduced self-check-in, and bag drop for passengers to eliminate the surface touch and provide a touchless journey.

Another milestone in touchless airport processes is automation of security. Since there have been many attacks in aviation sector, especially on airports and airplanes, the requirements for security systems and their development have risen sharply, with the consequence that passengers must accept increasingly deeper intrusions into their privacy (Milbredt, 2022). Despite digitalised systems might be subject to cyber-attacks manipulating, for example, databases containing biometric data, the future work for airports should be to address cyber security on the one hand, and on the other, a method that applies the power of artificial intelligence to the control of all parts of the security infrastructure, such as cameras, access controls and border controls. Automation combined with artificial intelligence can be trained to detect hidden correlations that reveal potential threats (Milbredt, 2022).

Airport services are in need to improve passengers' satisfaction. Satisfaction can help to attract more passengers who use existing airports and airlines. Satisfaction is needed to ensure passengers' mobility (Romadlon, 2022).

In order to further develop a touchless airport in RIX and increase passenger trust and satisfaction, there is a need to detect infectious diseases at the airport. Disinfection of airport facilities, cargo and aircraft is currently already achieved from both technical and operational perspectives. Also, food supplies and catering standards exist and are applied. To ensure that RIX airport terminal building remains an infectious disease-free zone, a filtering process is required for any person entering. This health screening should not be considered as a medical check but needs to be based on international standards and on medical evidence. The main difficulty with health screening is to accurately detect and filter out infectious people (i.e., passengers, crew or airport employees infected and who can infect other people). To be able to detect an infectious but asymptomatic individual, while ensuring symptoms that are not caused by an infectious disease can be distinguished. It should not be a requirement that only perfectly healthy persons can fly. (Tabares, 2021)

Airport passengers are directly or indirectly affected by flight bans, various control policies, and disease hot spots, which in turn changes their fears and behaviours. There is a need for policy makers to enable transitions and incentivize technology adaptation (Tidhar, 2022). Such technology transitions should include sustainable development goals (Gössling, 2020). Biometrics, contactless fingerprint, iris and face recognition, gesture control, touchless document scanning, and voice command are seen as the keys to touchless travel. The World Economic Forum's initiative assesses a person's risk profile and allows the authorities to operate the journey in advance and avoid queuing. At present, it is too early to say if these initiatives are efficient, and future studies need to explore if touchless airports can ensure a pleasant, efficient, and safe journey (Trip et al., 2022).

The intelligent security verification system based on face recognition technology can avoid missed inspection caused by human factors. The intelligent security verification system can effectively prevent unauthorized passengers from entering the security screening areas or departure sterile area (Zhu et al. 2020). This process is cost effective, easy to adopt, operate and expand, and the pre-check of the background information before the security verification process might be considered in the future.

Looking at pandemic policymaking practices all over the world, the comprehensiveness and 'seamlessness' of policies have seldom been considered, even though the virus is invisible and can consequently infect anybody, at any place, and at any time (Zhang et al., 2022).

Conclusions, proposals, recommendations

Lessons learned during COVID-19 are strengthened and research has developed policy recommendations for a concept of a touchless airport. One of the reasons why RIX airport should take effort on digital transformation and development is to satisfy its passengers with fast airport passenger services. Along with COVID-19, RIX airport has already adapted quickly to external environmental pressures, but some policy recommendations which derive from a research might be used to satisfy customer demands and expectations. Close integration is required between policy areas and amongst service providers.

1. Establish, regularly revise, and when necessary, implement airport crisis management strategies which require clear and effective communication with passengers on safety issues, and seek coordination between government and industry on appropriate passenger safety standards and procedures.
2. Support, in coordination with other relevant authorities, capacity building and investment for touchless travel, including full broadband and extensive Wi-Fi coverage, inclusive training programs in digital skills, communication and customer care, and relevant research programs to guide policies and actions in the field.
3. RIX airport should evaluate to move in the future check-in (including bag tag and bag drop processes) away from airport building, for instance, to airport car parks or downtown locations, or with the option for passengers to pay to have their baggage collected (e.g., from home) by a company that then transports it to the airport and checks it in for them. These solutions can help to reduce congestion and queueing times at RIX airport and allow passengers to travel and arrive at the airport 'baggage free'. This recommendation might be evaluated by RIX airport to improve passenger handling and information services.
4. In order to prepare for any other health pandemic, RIX airport should create an infectious diseases free zone in RIX airport building and terminals. To ensure that RIX airport terminal building remains an infectious disease-free zone, a filtering process is required for any person entering. This health screening should not be considered as a medical check but needs to be based on international standards and on medical evidence.
5. RIX airport should evaluate to invent palm vein authentication technology that uses palm veins as a biometric feature.
6. For passengers to be more satisfied with their experience by getting from terminal to airplane, there is a need for passenger's multimodal transport and better connectivity from terminal to airplane. The goal of multimodal transportation is to integrate different forms of transportation into a single experience that would take a passenger door-to-door. It would make travel experiences more efficient, safer, greener, with less hassle, while optimizing the journey time, and minimizing costs.
7. Visitor handling, information, and management. Direct provision of information and other assistance to travellers can significantly influence their activity and improve their experience, as well as providing other management benefits. There are many examples of good practice involving imaginative use of new technology as well as more traditional forms of communication.

8. Currently in RIX, self-service kiosks can be used by customers of airBaltic. Each airline has its own rules about the starting time and closing of check-in, therefore, RIX airport recommends reading regulations on chosen airlines website. To make travel touchless and smooth, RIX could invent self-service kiosks for all airlines operating from RIX airport.
9. Passengers are willing use automated passport self-service control kiosks to respond to customs and border protection and inspection related questions and submit biographic information. Automated passport control is a free service which does not require pre-registration or membership and maintains the highest levels of protection when it comes to the handling of personal data or information. This service should be invented in all RIX airport terminals for all flights regardless of destination, ensuring the highest control of encryption protocols.
10. RIX airport might evaluate to install a modern state-of-the-art airport resource management system – modern flight information display screens throughout terminals; 3D sensors to capture the position and movement of passengers with precision to detect long queues and calculate wait times, enabling operations teams to act proactively and prevent congestion or overcrowding in passenger touchpoints.

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TOURISM INDUSTRY SUPPORT DURING THE PANDEMIC: CASE OF THE BALTIC STATES

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Abstract. The impact of the pandemic on the tourism industry is widely discussed and its negative impact is largely represented by the drastic drop in tourist flow indicators and the financial indicators of tourism companies. Different state support instruments can be used to mitigate the economic shock, but the effectiveness of support mechanisms vary greatly.

The aim of the study is to investigate the state support mechanisms used by each of the Baltic States and the evaluation of the effectiveness of these support mechanisms from the point of view of hospitality entrepreneurs. Due to the scope of the study, quantitative research methods were used distributing questionnaires to hospitality and catering establishments in all three Baltic States. The research tasks were to assess changes in the financial situation of hospitality enterprises; to assess changes in the number of employees; to evaluate state support mechanisms for hospitality enterprises; to evaluate effectiveness of support programs and the procedures for receiving state support.

The results of the study show the need for particular support mechanisms for hospitality enterprises, and the effects of benefits provided in different stages of the pandemic for each Baltic State.

Keywords: *tourism, tourism industry, tourism enterprises, state support mechanisms.*

JEL code: M31, M38

Introduction

Tourism industry is an essential part of most economies of the world providing employment, financial income and other social and economic benefits. The impact of the pandemic on the tourism industry can be characterised as an economic shock. The biggest economic shock from the pandemic was experienced by tourism-dependent countries. Governments applied travel restrictions that affected tourism industry enterprises. Governments should develop strategy and apply appropriate economic policy for the support of the tourism industry to decrease negative effects from an economic shock. Baltic State tourism enterprises mostly consist of SMEs. Additional support for the survival during an economic shock is needed by different types of companies, still SMEs are struggling the most during the crises.

The aim of the study is to investigate the state support mechanisms used by each of the Baltic States and the evaluation of the effectiveness of these support mechanisms from the point of view of hospitality entrepreneurs.

In order to reach the research aim, the following study tasks were set:

- to assess changes in the financial situation of hospitality enterprises;
- to assess changes in number of employees in hospitality enterprises;
- to evaluate state support mechanisms for hospitality enterprises;
- to evaluate effectiveness of support programs and the procedures for receiving state support.

To achieve this, the following research stages were carried out - analysing literature on the impact on tourism industry by the pandemic, studying recent tendencies in tourist accommodation and food and beverage service establishments in Baltic States, developing questionnaire for tourism enterprises, distributing questionnaire among tourism enterprises in all three Baltic States, analysing data in each country during periods of the pandemic - three waves of COVID-19, developing conclusions based on the assessment of different government support mechanisms.

Survey was used as a quantitative research method to gain broader scope of hospitality and catering establishments in each Baltic State. Survey was distributed in 2022 asking to evaluate support received in first wave March until June 2020, second wave October 2020 until May 2021 and third wave October 2021 till February 2022.

Literature review

COVID-19 impact on tourism industry is indicated by many scholars as one of the biggest crises, or even as an economic shock - an unexpected exogenous event that significantly impacts economic development (Bhattachary, Sabyasachi 2005; Gössling, Scott, Hall, 2020; Wong, Lai, 2022). Application of international, regional and local travel restrictions affected tourism economy stakeholders (Gössling, Scott, Hall, 2020), tourism transportation companies, accommodation establishments, tourism intermediate enterprises and other organisations directly or indirectly involved in the tourism system. Just in few months, the global tourism system shifted from over-tourism to under-tourism (Marek, 2021, Berzina, Tsoy, 2021), or sometimes outlined even as non-tourism (Gössling, Scott, Hall, 2020). Tourism industry is an essential part of most world economies, providing a significant share of employment, generating financial income, and other social as well as economic benefits (Khalid, Okafor, & Sanusi, 2021, Okafor, Khalid, Gopalan, 2022). The biggest shock from non-tourism was experienced by tourism-dependent countries (Okafor, Khalid, Gopalan, 2022).

During the initial period of COVID-19, researchers mainly concentrated their attention towards the social and economic impacts of the pandemic (Qiu et al., 2020, Berzina, Tsoy, 2021, Wong, Lai, 2022), and only later researchers delved into the role of government and applied support systems (Fong, Law, Ye, 2020; Wong, Lai, 2022).

Unprecedented policy responses from national governments were applied using restrictions on movement, and regulations on social and business activities (Allan, Connolly, Figus, Maurya, 2022).

Tourism scholars indicated that there is a connection globally between the size of the country and the size of government support provided. Khalid, Okafor and Burzynska (2021) concluded that larger economic stimulus packages were introduced by governments of countries with a larger tourism sector, both fiscal and monetary policy support systems.

Tourism support policies applied by governments need to apply good governance principles, particularly transparency - open flow of information (Holmberg, Rothstein, & Nasiritous, 2009, Wong, Lai, 2022). Governments often have to take an active part in determining the appropriate economic policy, because the measures to limit require additional budget expenditures to provide support for the preservation of jobs, companies and the economy as a whole (EU, 2021). This time was especially challenging for micro, small and medium sized tourism enterprises (MSMEs).

Most governments of tourist destination countries were actively applying support activities for the recovery of the tourism economy (Niewiadomski, 2020; Wong, Lai, 2022). Analysing cases of different government measures for tourism industry support during the pandemic, researchers indicate that most popular ones include: taxes or fees deferrals, general loan facilitation, either by government, deferrals of payments, such as for principals and interest for loans, short time work compensation and wage subsidies as well as hardship relief (Laesser, Airey, Ermen, Hannonen, 2020). Some of the governments also introduced tax credits, tax incentives for overtime work, conversion of non-performing or distressed loans into tax credits, special economic measures with regard to the gig economy actors and digital startups as well as acceleration of depreciation tax deductions (Laesser, Airey, Ermen, Hannonen, 2020). While international tourism was greatly reduced by government restrictions and traveller fears, some governments chose to boost domestic travel as the most efficient way to return tourism, as a

logical strategy to reduce negative impact (Arbulú, Razumova, Rey-Maqueira, Sastre, 2021, Allan, Connolly, Figus, Maurya, 2022). However, tourism scholars have different opinions about the efficacy of policies aimed at attracting local tourists (Duro, Perez-Laborda, Fernandez, 2022), a variety of tourism enterprises, mainly countries with higher pre-pandemic domestic tourism demand, could use such a strategy to reduce negative effects of vanishing of international tourism (Boto-García, Mayor, 2022) Allan, Connolly, Figus, Maurya, 2022).

Research results and discussion

1. Impact of the COVID-19 pandemic on the operation of hospitality industry enterprises in the Baltic States

The impact of the COVID-19 pandemic on tourist accommodation establishments and catering service companies can be characterised by changes in the number of enterprises, number of employees in these enterprises as well as their financial indicators, respectively, turnover. To reduce the impact of the crisis caused by the pandemic, governments can influence the first two parameters with various state and municipality measures.

Tourist accommodation sector was most successfully recovered from company liquidation processes in Latvia, where the number of such establishments even slightly increased in both 2020 and 2021. In Estonia, the number of tourist accommodation establishments decreased by a total of 7% in both 2020 and 2021; in Lithuania, the number of tourist accommodation establishments decreased by 11% in 2020, but increased by 27% in 2021. (See Table 1)

In Lithuania, the number of catering companies did not decrease in 2020 - it even increased by almost 2%; however, a slight decrease in the number of such companies was observed in Estonia (1%) and Latvia (0.5%). In Latvia, the number of catering companies decreased by another 3% during 2021.

Table 1

Number of tourist accommodation and food and beverage service establishments in Baltic States (2017 – 2021)

	Accommodation establishments					Food and beverage service establishments				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Estonia	1500	1535	1424	1327	1324	2200	2269	2430	2405	...*
Latvia	999	1055	1114	1129	1145	3075	3073	3046	3032	2947
Lithuania	2971	3616	3756	3352	4268	3681	3753	3985	4053	...*

* Data was not available at the time of writing

Source: author's calculations based on statistical data

Unlike the number of accommodation establishments, the number of employees working in the hospitality industry was more strongly affected by the COVID-19 pandemic: the number of employees of tourist accommodation establishments decreased by 20% in Estonia during 2020, 17% in Latvia, and 18% in Lithuania. During 2020, the number of employees in catering sector companies decreased by 13% in Estonia, 11% in Latvia, and 5.5% in Lithuania. The available statistical data show that in Latvia during 2021, the number of employees in tourist accommodation establishments decreased by another 17.5%, and in catering companies - by another 9%. (See table 2)

Table 2

Number of employees in tourist accommodation and food and beverage service establishments in Baltic States (2017 – 2021)

	Accommodation establishments					Food and beverage service establishments				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Estonia	6934	6761	6607	5287	...*	18606	17513	19118	16647	...*
Latvia	7120	7570	7518	6236	5147	29937	31215	30851	27601	25134
Lithuania	7029	7531	7791	6426	...*	33326	33882	35237	33361	...*

* Data was not available at the time of writing

Source: author's calculations based on statistical data

The pandemic had the most negative impact on the financial indicators of tourist accommodation and catering service establishments: the turnover of tourist accommodation sector companies in Latvia and Estonia decreased by 50% in 2020 compared to 2019, and in Lithuania by 40%, which was caused by a sharp decrease in the flow of foreign tourists. The turnover of catering service providers in 2020 compared to 2019 in Estonia decreased by 25%, in Latvia by 29%, and in Lithuania by 21%. Decrease is lower because the turnover of catering companies does not depend so much on the flow of international tourists, moreover, catering companies reacted more flexibly to the conditions, starting to use the possibilities of food delivery services to work and living areas of the consumer.

Table 3

Turnover of tourist accommodation and food and beverage service establishments in Baltic states (2017 – 2021), thsd. euro

	Accommodation establishments					Food and beverage service establishments				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Estonia	323552	344559	341519	170398	...*	609202	655014	733289	553794	...*
Latvia	221988	250082	256038	126388	126497	610362	670187	719429	514099	516623
Lithuania	252400	285905	312964	186856	192226	725104	833593	945116	752354	...*

* Data was not available at the time of writing

Source: author's calculations based on statistical data

EU decisions and implemented measures became an opportunity for companies in the hospitality sector to receive state financial support. In general, companies in the hospitality sector had the opportunity to receive state support thanks to two decisions taken at the EU level. First, it was the decision to launch for the first time in history the general escape clause of the Stability and Growth Pact (SGP) (European Commission 2020a). The second important decision was the increase of EU funding. Thanks to the operation of the funds of the EU institutions, as well as the developed action plans, the member states were able to receive support from the EU to help companies and their employees overcome the financial difficulties caused by the COVID-19 pandemic (European Commission 2020b).

In general, the types of support programs were very similar in all Baltic States. First of all, governments developed support programs related to the wages of company employees, called wage subsidies that allowed companies to reduce the position of such costs by compensating part of them, and such support for downtime even completely replaced wages during the implementation of such programs. The second type of support was administered by institutions that usually dealt with support in obtaining loans by offering guarantees or loans with significantly reduced conditions. Due to the COVID-19 pandemic, additional financing was triggered to solve liquidity problems for companies that have experienced objective difficulties in making loan payments to banks or obtaining new financing due to the spread of Covid-19 in order to overcome the negative economic impact of the Covid-19 pandemic.

2. Use of state support by accommodation and catering establishments of Baltic States during the period of COVID-19 pandemic

As the aim of the study was to investigate the state support mechanisms used by each of the Baltic States and the evaluation of the effectiveness of these support mechanisms from the point of view of hospitality entrepreneurs, it was important to find out how the economic policies of Baltic States governments in the form of support programs, allowed enterprises in the hospitality sector to overcome the negative economic consequences of the COVID-19 pandemic.

As the research methodology quantitative research methods were chosen, including structured questions and evaluation using evaluation scale.

Representatives of accommodation and catering companies from the Baltic States were invited to participate in the survey. The survey was distributed through the companies' e-mails and social networks (LinkedIn, Facebook and Instagram accounts), sending company representatives a direct invitation to participate in the study. Answers were received in the period from April 22 till May 6, 2022. Respondents completed the survey online using the QuestionPro platform. A total of 112 Estonian, Latvian and Lithuanian companies answered the survey questions, comprising 57 accommodation and 55 catering service establishments. The structure of the respondents can be seen in Table 4.

Table 4

Structure of respondents (n=112)					
	Micro-enterprise (up to 10 employees)	Small enterprise (11 – 50 employees)	Medium enterprise (51 – 100 employees)	Large enterprise (more than 100 employees)	Total
Accommodation establishments					
Estonia	3	5	6	2	16
Latvia	12	10	2	0	24
Lithuania	6	6	5	0	17
Food and beverage service establishments					
Estonia	5	9	1	1	16
Latvia	10	10	1	0	21
Lithuania	5	7	3	3	18
Total	41	47	18	6	112

Source: author's calculations based on survey results

In order to characterize the impact of the COVID-19 pandemic on the operations of companies, the respondents, first of all, indicated how their company was functioning during the COVID-19 pandemic, depending on the time period of pandemic "waves" offered (spring 2020 – the 1st pandemic "wave" / autumn 2020 – Spring 2021 – 2nd pandemic "wave" / Autumn 2021 – Spring 2022 – 3rd pandemic "wave"). During the first wave of the pandemic, catering companies in Latvia suffered the most - 90% stated that they had been closed, in Estonia 87.5% and in Lithuania 67% of catering companies were closed. At the same time, 87.5% of surveyed tourist accommodation establishments were closed in Latvia, 75% in Estonia and 70.6% in Lithuania. The other companies' operations were limited (more limitations) or so-called. in "green mode" (less limitations). In the second "wave" of the pandemic, tourist accommodation establishments were more affected: 62.5% of the surveyed accommodations were closed in Latvia, 25% in Estonia, 41% in Lithuania, while 43% of the surveyed catering providers were closed in Latvia, 19% in Estonia, and 33 in Lithuania. %. The other companies operated limited (more limitations) or so-called. in "green mode" (less limitations). During the third "wave" of the pandemic, 19% of the surveyed catering companies in Latvia and 11% in Lithuania, 12.5% of the surveyed tourist accommodation in Latvia and Estonia were closed. The other companies operated mostly in the so-called "green mode". Respondents were asked to rate the impact of the COVID-19 pandemic on the number of employees and financial indicators on a 10-point scale. (Table 5).

Table 5

Assessment of the reduction in the number of employees and of the financial situation under the influence of the COVID-19 pandemic (n=112)

	Estonia	Latvia	Lithuania	Average
Assessment of the reduction in the number of employees under the influence of the COVID-19 pandemic (1 - did not decrease, 10 - strongly decreased)				
Accommodation establishments	6.38	5.96	6.29	6.21
Food and beverage service establishments	5.63	5.86	5.17	5.55
Assessment of the financial situation under the influence of the COVID-19 pandemic (1 - had no effect, 10 - greatly worsened)				
Accommodation establishments	7.19	8.33	8.18	7.90
Food and beverage service establishments	7.38	8.76	7.17	7.77

Source: author's calculations based on survey results

In general, companies in the hospitality sector financially suffered the most from the first wave of COVID-19. (See Figure 1) This is due to the shock that the economy experienced at that time and the lack of public support programs that were only in the development process at that time. The second wave also has a big impact, especially on the results of accommodation companies, because catering companies, when the second wave arrived, mostly already managed to adapt their work to remote customer service. Latvian accommodation establishments are the only category in the reviewed results where the impact of the second wave is assessed as the strongest - 45.8% of respondents considered it as such. No representative of Lithuanian accommodation companies indicated that it suffered the most from financial losses during the third wave of the COVID-19 pandemic, but the other categories have similar results. The biggest impact of the third wave is in the category of Latvian catering companies - 14.3%. In addition, there are also companies that indicated that they did not suffer from financial losses in any of the waves. The largest number (16.7%) of such companies were from Lithuania from catering services. This may be related to the seasonality in the activity of companies, which is especially visible in the results of catering companies. For example, if such companies worked only in summers, during which there were no conditional waves, and therefore also strong operational restrictions, then the COVID-19 pandemic did not have a bad effect on the financial situation of the companies.

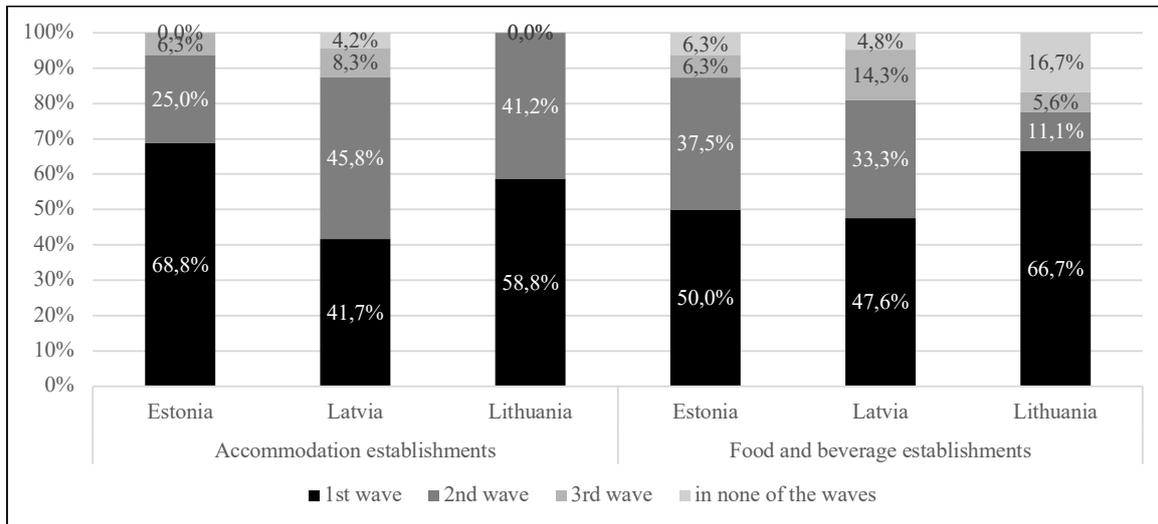


Fig.1. Assessment of the largest financial losses in the distribution by pandemic waves, % (n = 112)

Source: author's calculations based on survey results

In response to the question related to particular wave of the pandemic when the companies in the hospitality sector needed government support the most, the first and second waves dominated. (See Figure 2) The majority of companies (50.9%) indicated that they needed support the most during the first wave of COVID-19, while 38.4% of companies needed it most during the second. Some of the surveyed companies did not need support in any of the waves, which again may be related to seasonal work. This was indicated by Lithuanian and Latvian companies, but no company from Estonia marked such an answer option. Representatives of Estonian companies indicated that they needed state support the most only during the first or second wave, as well as the third wave in general, which was the answer option marked by the fewest companies. The only category where the second wave was chosen as an answer more frequently than the first wave, was in case of Latvian accommodation companies (62.5%), but such companies from Lithuania assessed the need for support equally in these periods (41.2%). The results again show that catering companies overcame the second wave of the pandemic more easily than accommodation companies.

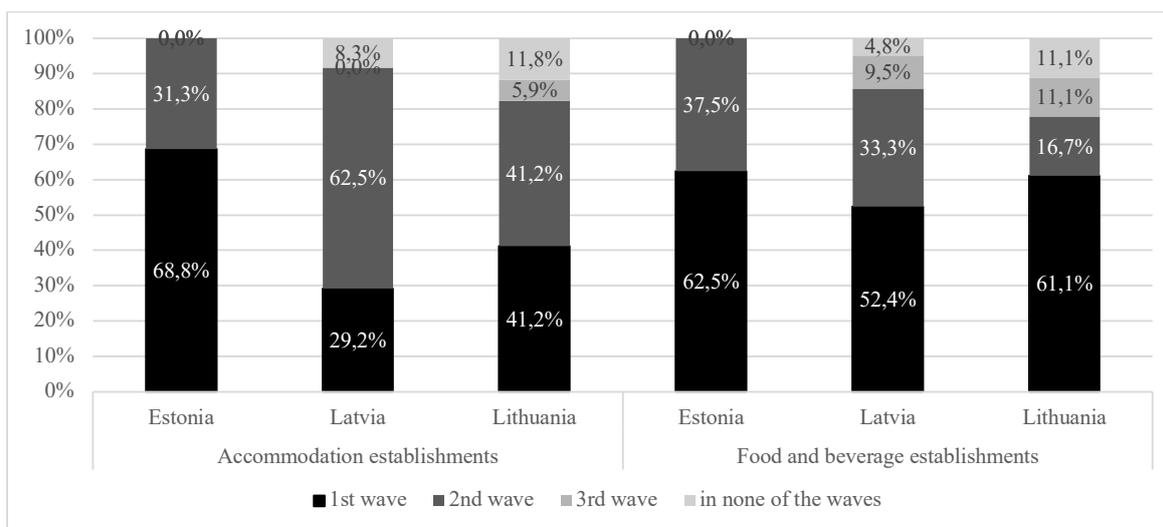


Fig. 2. Assessment in which of the waves of the pandemic, state support for companies was most needed, % (n=112)

Source: author's calculations based on survey results

The data obtained from the company survey show that most companies used state support to overcome the negative impact of the restrictions related to the struggle against the COVID-19 pandemic on the financial situation of the companies. (See Figure 3) It was most actively used by Estonian companies (in the category of accommodation companies, the share of use is 93.8%), and the least - by Lithuanian companies (the result of catering companies is 66.7%). Latvian accommodation companies also actively used state support, as only 12.5% of respondents stated that this was not done.

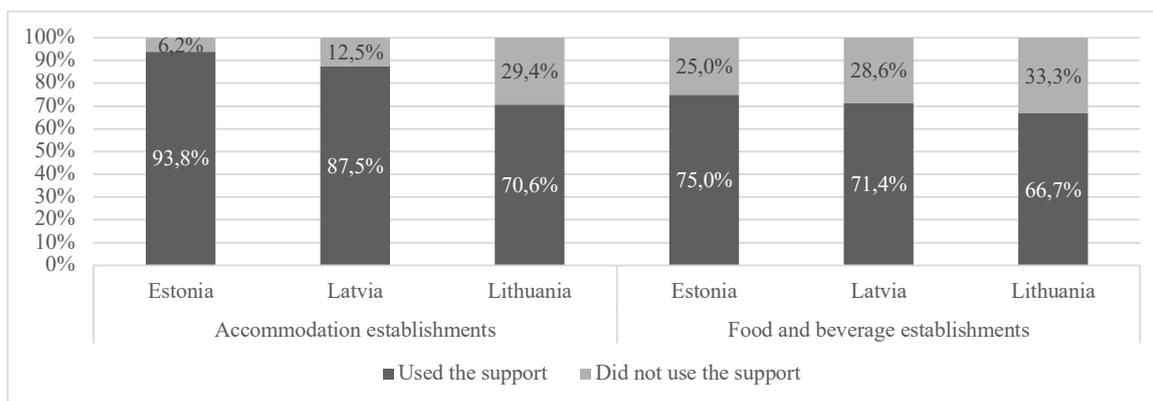


Fig. 3. Use of state support within the pandemic, % (n=112)

Source: author’s calculations based on survey results

In total, 87 companies (48 in the accommodation and 39 catering sectors) used state support among the respondents, therefore only these respondents were asked the following questions related to particular support systems.

Since the state support was implemented in the form of support programs, in the next question the respondents indicated which of the programs the surveyed companies used to overcome the economic consequences of the COVID-19 pandemic. Looking at the results comprised in Table 6, catering companies in the Baltic countries used the wage subsidy program the most - this was indicated by 12 companies from Latvia, and from Estonia and Lithuania - 9 from each country (total - 30). Downtime allowance was next used support, noted by 21 companies. On the other hand, this type of support was not so popular in Lithuania - it was mentioned by only 3 respondents. Catering companies used the state-guaranteed loan program the least often - it was marked 8 times, and 6 of them were marked by Latvian companies. Credit holidays (10) and direct financial support programs (13) were used a little more often. On the other hand, the option of extending the tax payment deadline was mostly used by Latvian companies (8).

Table 6

Use of state support programs in hospitality establishments (n=87)

	Accommodation establishments n=48			Food and beverage establishments n=39		
	Estonia	Latvia	Lithuania	Estonia	Latvia	Lithuania
Salary subsidies	10	17	11	9	12	9
Downtime allowance for company employees	8	15	10	8	10	3
Credit holidays	1	2	5	2	4	4
Extension of tax payment deadline	3	10	8	3	8	6
Direct state financial support	7	15	12	4	5	4
State guaranteed loans	0	6	3	1	6	1

Source: author’s calculations based on survey results

Accommodation companies' answers to the question about the use of support programs varied slightly. Most of all, as in the case of catering companies, the companies used the wage subsidy program provided by the responsible authorities of each country. This answer option was marked 38 times, and representatives of Latvian companies made it the most (17). This is followed by direct state financial support, which companies used very often (34). This is due to the fact that in the Baltic States, separate support programs intended only for accommodation companies were developed, the purpose of which was to cover, for example, the operational costs of companies. They had fewer opportunities than catering companies to work without restrictions, so they were subsidised by the states, which the companies took advantage of. It was used the mostly by Latvian companies (15), a little less by Lithuanian companies (12), and the least by Estonian companies (7). Downtime support was used to a similar extent - it was noted by 33 companies, most often (15) - companies from Latvia. The least used support program is related to credit holidays (8), followed by state-guaranteed loans (9). For example, in the case of Estonia, no company used it. The tax payment extension program (21) was used more often, and Latvian companies used it the most.

In order to judge the effectiveness of the programs used, company representatives were asked to make an assessment using a 10-point scale, where 1 means that the effectiveness of the programs was very poor and 10 - excellent. (See Table 7) The average evaluation of efficiency is quite low and does not exceed 6 points. The best support enabled catering companies in Lithuania to overcome difficulties (6.00), and the worst – Latvian accommodation companies (4.17). In general, catering companies rate the effectiveness of support higher than accommodation establishments - only in the case of Estonia, the rating of accommodation companies is better than that of catering enterprises.

Using a similar approach, companies were also asked to rate the process of receiving support, to judge how difficult it was to receive support resources, using a 10-point scale where 1 means that the process of receiving support was very easy and 10 means very difficult.

The results show that the procedure for receiving support was rather difficult, as the obtained average ratings are higher than 4 points (the lowest (4.13) in the case of Estonian accommodation companies), but do not exceed 6 points. The process appears to be more complicated in the case of accommodation companies, and such Lithuanian companies rated this process as the most complicated among the surveyed companies (5.67). Moreover, the procedure for receiving aid in Estonia was the easiest among these companies. This may be one of the reasons why a higher proportion of Estonian companies actually used it. In the case of catering companies, the highest rating was given by Latvian companies (5.07), but the support was still used quite intensively, as shown by the previous results.

Evaluation of the effectiveness of support programs and the procedure for receiving support (n=87)

	Estonia	Latvia	Lithuania	Average
Evaluation of the effectiveness of support programs (on a scale from 1-very poor to 10-excellent)				
Accommodation establishments	5.60	4.71	5.00	5.10
Food and beverage service establishments	5.17	5.47	6.00	5.54
Evaluation of the procedure for receiving support (on a scale from 1-very easy to 10-very difficult)				
Accommodation establishments	4.13	5.24	5.67	5.01
Food and beverage service establishments	4.50	5.07	4.67	4.74

Source: author's calculations based on survey results

In the study it was also determined whether companies that already used some form of state support within the pandemic need another form of state support. The data show that the mentioned state support was enough for the majority of companies to overcome the difficulties related to COVID-19. Only Latvian accommodation companies would prefer to receive additional support - 13 out of 21 surveyed companies indicated this. Those companies that spoke in favor of additional support were offered to indicate the details related to this issue - what kind of additional support they would need. Most noted that they would like to receive additional direct funding to cover, for example, operational costs, as the drop in turnover during the pandemic made it difficult to cover such costs. Some respondents expressed the opinion that companies would especially benefit from a reduction in the tax burden.

Those companies that did not use the support programs offered by the state were asked about the reasons. Most of the companies indicated that the company faced non-compliance with some of the criteria that had been set to receive support. This means that the companies still needed it and would gladly use the support possibilities offered to other companies. In total, 18 out of 25 companies noted this as the reason for not receiving support. None of the respondents indicated insufficient or non-existing information as a reason for not receiving state benefits. 5 companies stated that they did not need to use state aid.

In the end, all respondents were asked how they generally evaluate the developed state support, the purpose of which was to help companies in the hospitality sector of the Baltic States to overcome the negative economic consequences of the COVID-19 pandemic, using a 10-point scale, where 1 means that the support was very bad, and 10 excellent. The results show that the state aid is better evaluated by the companies that used it, as well as among the catering and accommodation companies, a higher rating was received from the representatives of the catering companies. (See Figure 4)

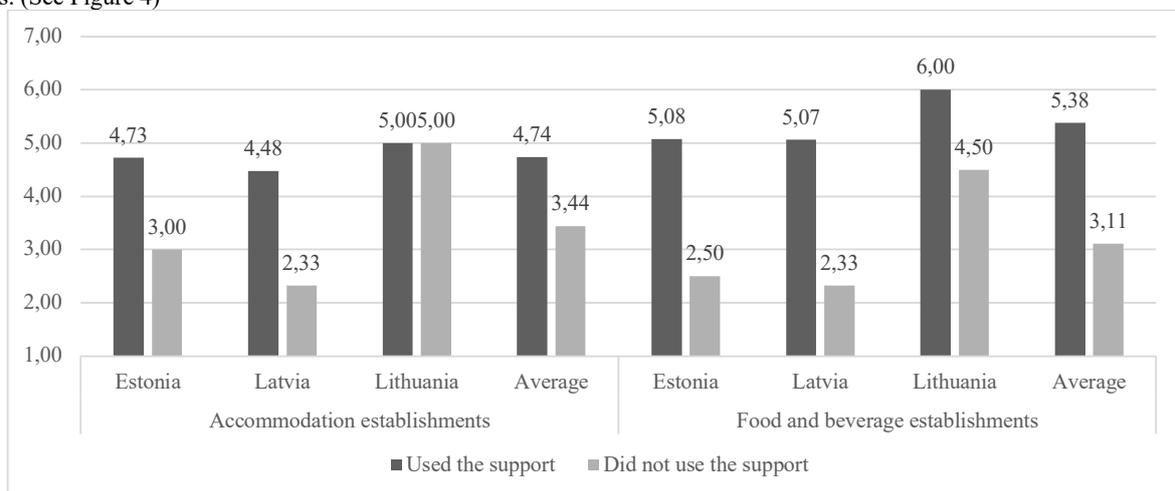


Fig. 4. Overall assessment of state aid depending on the use of state aid within the framework of the COVID-19 pandemic (on a scale from 1-very poor to 10-excellent) (n = 112)

Source: author's calculations based on survey results

Among the companies that did not use the support, the highest score was given to Lithuanian accommodation companies (5.00), while the lowest, very bad rating (2.33) was given by Latvian companies. The companies that used the support rated it better – in the case of catering companies, the overall average score is 5.38, and for accommodation - 4.74. Lithuanian catering companies were rated the best (6.00), while Latvian accommodation companies gave the lowest rating. In general, however, the assessment of state aid among the surveyed companies is quite low, especially those that did not initially use state aid.

Conclusions, proposals, recommendations

1. The spread of the COVID-19, which caused a pandemic in 2020, became a situation that required the implementation of economic policy with the aim of supporting the country's citizens and companies. Companies in the hospitality sector in the Baltic States also suffered greatly from the restrictions that were introduced to combat the spread of the disease, as they could not fully implement their economic activities. The strongest restrictions during the pandemic were introduced in Latvia, while in Estonia the activity of companies was the least restricted.
2. In order to support companies in the hospitality sector, the governments of the Baltic States, with the help of the European Union, developed and implemented various support programs, which were mainly related to the use of fiscal policy instruments. By increasing the amount of budget expenditures, states supported companies with wage subsidies, downtime allowances, direct financial support, credit holidays, state-guaranteed loans, and tax payment extension programs. The support programs developed in all the Baltic States were similar, and companies in the hospitality sector could use them if they met the specified criteria.
3. In order to evaluate the mentioned economic policy, companies in the hospitality sector of the Baltic States were surveyed, they could express their opinion on state support within the framework of the COVID-19 pandemic. The majority of companies actually used support, but those that did not would like to do so, but could not due to non-compliance with the criteria for receiving support. The type of support related to salaries (subsidies, downtime allowance) was most used, while programs related to loans were used quite rarely among the surveyed companies. This suggests that companies are not so confident in their future to make new loans and are better off using support

that does not have a pronounced long-term impact. In addition, it harms the state budget, as direct financial support and support in wage costs lead to a significant increase in the budget deficit, while the loans will be repaid in the long term.

4. In general, the developed state support has been evaluated rather mediocre - companies did not evaluate it as bad, but it could certainly have been better. The companies lacked direct financial support that would cover the current costs, which were quite difficult to pay in those circumstances due to the significant deterioration of the financial situation. Difficulties are also caused by the tax burden that companies have to pay, so changes in it would also benefit companies in the hospitality sector. In the event of a new wave of COVID-19, companies will likely need support again, and the state should properly prepare for this by easing the procedure and criteria for receiving support, as well as taking into account the companies' need for direct financial support.
5. In the case of the potential new wave of the COVID-19 pandemic, the governments of the Baltic States should limit the activity of companies as little as possible and use the approach that was implemented during the third wave - the principle of the green zone. Since the Estonian government was the most successful in overcoming three waves of Covid-19 and supporting its companies, the governments of Lithuania and Latvia should pay attention to the approach of the Estonian state in combating COVID-19.
6. The relevant institutions of the Baltic States must facilitate the procedure and criteria for receiving support programs, so that in the event of a potential new wave of COVID-19, companies receive appropriate support in time and overcome the difficulties associated with it. The types of support related to salaries should be preserved, the amount of direct financial support should be expanded (also for catering companies), and the receipt of state-guaranteed loans should be encouraged.

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NGO ACCOUNTING REGULATION IN LATVIA – RECENT INNOVATIONS

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Abstract. Accounting is an integral part for the management of any organisation and an essential information source for all users. The regulation plays the main role in the process of formation and presentation of accounting information. The aim of the paper is on the basis of the studies of Latvian NGO accounting regulation and special literature to evaluate the innovations to Latvian NGO accounting regulation and to advance proposals for its improvement. The objectives set to achieve the aim are to: 1. Perform the literature review in the field of NGO accounting, 2. Describe and analyze the development of Latvian NGO sector, 3. Evaluate the recent regulatory changes in Latvian NGO accounting. In the studied special literature very few studies could be found in relation to NGO accounting. Latvian NGO sector demonstrates the developmental tendency during the last five years (2017-2021). The performance of NGOs has an important role for the achievement of Latvia's strategic goals, and it is surely expected that the NGO sector in Latvia will continue to develop. All-in-all, the authors evaluate as positive the recent innovations to the Latvian NGO accounting regulation, and believe that the innovations improve procedures of NGO accounting. However, the authors have identified a shortcoming in the new Latvian NGO accounting regulation as well and recommend to the Ministry of Finance of the Republic of Latvia to elaborate amendments to the regulatory framework of NGO accounting.

Keywords: *accounting, regulation, non-governmental organisations, NGO.*

JEL code: L31, M41, M48

Introduction

Accounting is an integral part of the management of any organisation. Simikova (2016) points out that accounting is indispensable source of information for all users. In conformity with the Latvian regulation, the tasks of accounting are to: 1. Provide the management of an organisation with the information for making economic decisions; 2. Provide users of financial reports with truthful and complete information on the financial position, performance results and cash flow of the organisation; 3. To perform calculation of taxes; 4. Ensure the allocation of revenues and expenditures by accounting periods (Accounting Law, 2021). The significance of the use of accounting information emphasizes the necessity to prepare such information properly. The regulation plays the main role in the process of formation and presentation of accounting information, because it provides the requirements set for accounting methodology and information to be disclosed in the financial statements (Subačienė *et al.*, 2018).

The issues of accounting regulation are topical for accountants both in practice and in academic environment. Cordery *et al.* (2019) stresses that most of the research on accounting is related to business sector; however, there are also organisations, the performance of which is focused on achieving social goals instead of gaining profit. These organisations strive to manage their financial and non-financial resources to facilitate to the utmost achievement of their social goals. Our research is devoted to such organisations, i.e. non-governmental organisations (hereinafter – NGOs) and to the evaluation of innovations to NGO accounting regulation in Latvia.

While being non-profit organisations, NGOs in Latvia, for the achievement of their goals, attract private donations, state and municipal grants, financing from foreign funds etc. At the same time, these organisations are allowed to carry out economic activities for the achievement of their goals and performing of their mission. Economic activities enable to lessen an NGO's dependence on irregular donations and external funding. Thus, an NGO makes such a hybrid model that combines non-profit performance and business activities, which together are directed towards the achievement of an NGO's social goals. These peculiarities are also reflected in NGO accounting.

The year 2022 was a year of significant changes in the field of Latvian accounting, because the new "Accounting Law" of the Republic of Latvia has come into effect and there were introduced several changes to the regulation of accounting, including in relation to NGO accounting. The aim of the paper is on the basis of the studies of Latvian NGO accounting regulation and special literature to evaluate the innovations to Latvian NGO accounting regulation and to advance proposals for its improvement. The objectives set to achieve the aim are to: 1. Perform the literature review in the field of NGO accounting, 2. Describe and analyze the development of Latvian NGO sector, 3. Evaluate the recent regulatory changes in Latvian NGO accounting. In the studied special literature the authors established only few studies related to NGO accounting. Within the framework of research, the authors used qualitative and quantitative research methods: monographic method, statistical analysis methods, as well as logical constructive research method. As a result of research, the authors draw a conclusion that all-in-all the innovations to the Latvian regulation of NGO accounting shall be evaluated as positive. However, at the same time, the authors have also identified a shortcoming in the new regulation and have elaborated a proposal for the elimination of such shortcoming.

Review of Research Theoretical Background

Having studied research performed in the field of NGO accounting, the authors conclude that there are a few of such studies. The authors agree to the point of view expressed by Cordery *et al.* (2019) that studies in the field of accounting mostly are devoted to business sector, where the following concepts of accounting are studied: assets, liabilities, equity capital, profit and loss. However, there are also organisations, the performance of which is not oriented towards gaining a profit, but their main aim of activities is a social goal. In the studied special literature for the last years, the authors established only some studies related to the NGO sector. The research has been mostly performed on NGO stakeholders, the performance and financial aspects of these organisations: identifying stakeholders of non-profit organisations (Maguregui Urionabarrenechea *et al.*, 2019), impact of stakeholders on the development of NGO (Melvja & Kavčič, 2019), building successful NGO-business relationships (Moshtari *et al.*, 2020) and the financial aspect of NGOs (Stanimirovic, 2021). There are few studies carried out regarding NGO accounting. The research on management accounting aspects in NGOs was performed by B. Clerkin and M. Quinn (2021), the specialists from Ireland and the United Kingdom, as well as the research on NGO accounting and accountability was performed by C. Cordery, A.R. Belalet and I. Thomson (2019), the specialists from the United Kingdom. In Latvia there was no detailed research on NGO accounting identified by authors. The only profound studies in Latvia related to NGOs has been research on the description of the NGO sector performed by K. Zdanovskis (2017), doctoral student at Latvia University of Life Sciences and Technologies, and research on the methods of NGO financial report analysis performed in 2019 by Professor I. Pilvere and doctoral student K. Zdanovskis (2019) at Latvia University of Life Sciences and Technologies.

All-in-all, NGOs may be characterized as a wide range of organisations that are neither commercial organisations, nor state-owned organisations (Melvja & Kavčič, 2019). Non-governmental organisations protect public interests (Zdanovskis & Pilvere, 2019) and the performance of these organisations is of no profit gaining nature. Moshtari & Vanpoucke (2020) point out that NGOs and businesses have different missions, objectives, and challenges. Melvja & Kavčič (2019) point out that the success of an organisation depends on the fact how successfully this organisation is able to adapt to stakeholders' interests. In contradiction to business sector, NGOs have a wider range of stakeholders. The main stakeholders of NGOs are beneficiaries, donors and other resource providers, experts/regulators, staff, constituents, policy influence targets, members, the general public and the media (Melvja & Kavčič, 2019). Maguregui Urionabarrenechea *et al.* (2019) emphasizes that modern society is aware that organisations shall provide information and communicate with stakeholders accurately, clearly

and objectively. From the point of view of accounting it means that NGOs shall ensure correct accounting by involving competent specialists and applying valuable methods in order, as a result, to provide stakeholders with true and complete information on an NGO's operating results and financial position.

The result of accounting is disclosure of data in the organisation's annual statement. The annual statement is the main document that provides stakeholders with the information on the NGO's operating results, financial position, property and liabilities, as well as revenues and expenses. According to Toma *et al.* (2015), financial information of an annual statement shall have two main qualitative properties: relevance and faithful representation of economic reality. Relevant financial information is the one that can provide support for the stakeholders in decision making process. Correct data of accounting ensure the management of an organisation with an opportunity to follow the NGO's financial stability. According to Zdanovskis & Pilvere (2019), NGOs are responsible for their financial stability, because these organisations are responsible for its members and means spent for achieving the aims, as well as for its liabilities, like any other legal entity.

The performance of this research and evaluation of latest changes to the Latvian regulation for NGO accounting, the authors based not only on the practical application of these innovations, but also on the framework of accounting theory, because, as has been acknowledged by Taylor (2018), theory plays an important role in qualitative research.

Research Results and Discussion

1. Development of the NGO Sector in Latvia (2004 – 2021)

Non-governmental organisations are founded voluntary on the basis of an initiative of a citizens' group and represent public interests in various fields. Nonprofit organisations are supposed to exist not for making profit but for collective or social ends and, by their nature, are situated between the state, the (service) economy, and civil society (Bode, 2003). Altogether, these organisations form so-called "third sector".

The first NGOs were founded in Latvia in 1990ies, when Latvia regained its independence (Zdanovskis, 2017). At that time these organisations were called "public organisations" and their activities were regulated by law of the Republic of Latvia "On Public Organisations and Associations Thereof" adopted in 1992. The law provided that these organisations were established voluntary and on the basis of common goals, and their operating could not have a profit gaining aim, as well as intention and nature of economic activities.

In 2004 there was reform implemented in Latvia regarding the NGO sector, and a new law of the Republic of Latvia came into effect, i.e. "Associations and Foundations Law". It substituted the previous law on public organisations. The regulation of the new law did not alter the essence of activities and non-profit nature of NGOs; however, the legal form of these organisations was changed. There were two new legal forms of organisations introduced in Latvia, i.e. an association and a foundation. As a result, the previously operating public organisations had to be re-registered as associations or foundations, or they had to be liquidated. Furthermore, by the end of 2004, there was such legal form as "a non-profit LTD" liquidated in Latvia. As a result, a part of these organisations were also re-registered as associations or foundations (Jauja, 2004). Thus, at present there are two types of NGOs in Latvia – associations and foundations (or funds), the activities of which differ according to their organisational structure and aim:

1. An association is a voluntary union of persons founded to achieve the goal specified in the articles of association, which shall not have a profit-making nature;
2. A foundation, also a fund, is an aggregate of property that has been set aside for the achievement of a goal specified by the founder, which shall not have a profit-making nature (Associations and Foundations Law, 2003).

The activities of NGOs are of a diverse nature. In Latvia, in conformity with the regulation for the classification of NGOs, there are fifteen fields of NGOs' activities, including, social support measures, protection of environment and animals, justice and protection of interests, philanthropic mediation and facilitation of voluntary work, employers' organisations, trade unions, sport associations and foundations etc. (Regulation No.779, 2015). If an NGO is operating in a public profit field, for example, carrying out charitable activities, raising the social welfare of low-income and socially disadvantaged person groups, protecting human rights and an individual's rights, protecting environment, supporting sport, etc. the State Revenue Service of the Republic of Latvia may grant a special status of "a public benefit organisation" (hereinafter – PBO) for such an organisation. This status enables the donors of such an organisation to receive tax reliefs for the donations made. From the aspect of accounting, PBO status imposes an additional obligation on the NGO, namely, to:

1. Perform separate accounting for donations according to their purposes (general donations, targeted donations);
2. Ensure internal control over the administrative expenses; their amount must not exceed 25% of the general donations spent during the taxation year;
3. Ensure that the losses due to economic activities are not covered from the donations received (Public Benefit Organisation Law, 2004).

The rapid development of Latvian NGO sector was observed since 2004 and it was facilitated by the following factors:

1. The reform of the NGO sector that authors already mentioned above; as well as
2. Accession of the Republic of Latvia to the European Union in 2004 that ensured availability of the financing of EU funds to Latvian NGOs.

Information on the main indicators of Latvian NGO sector for the last five years is provided by authors in Table 1.

Table 1

Main Indicators Characterising Latvian NGOs (2017-2021)

Indicator	2017	2018	2019	2020	2021
Total number of NGOs, including	22 751	23 308	22 869	23 694	24 403
- number of economically active NGOs	12 108	11 526	14 636	14 571	13 206
Total number of employees	19 194	29 609	26 984	25 748	24 248
Total revenue (millions, Euro)	442	434	470	482	459
Total expenses (millions, Euro)	418	428	470	423	441
Total amount of salaries (millions, Euro)	No data	No data	96	102	114

Source: authors' construction based on Civic Alliance – Latvia, 2019; Civic Alliance – Latvia, 2022

The data aggregated in Table 1 show that, irrespective of the fact that the total number of NGOs continue to grow in Latvia year by year, the number of economically active NGOs fluctuates. We can also see positive dynamics of the total number of employees in Latvian NGOs within the period under the research, and it reaches the highest level in 2018. The decrease of the number of economically active NGOs and of the total number of NGOs' employees within the last three years (2019-2021) the authors explain by the limitations set during Covid-19 pandemic, as a result of which NGOs were forced to stop their activities and "to freeze" their projects. The authors relate the increase of the indicators of the total amount of salaries during the Covid-19 crisis period (2019-2021) to the state compensations paid for the down-time during the emergency situation period.

When speaking about the development of the NGO sector, it is important to examine separately the structure of NGOs' revenues. It enables to gain an insight into the types of financing that are used for the achievement of NGOs' aims. According to Stanimirovic (2021) the role of

financial resources does not differ between for profit companies and non-profit organisations. Financial resources are vital for the operating of any organisation, establishment or company. In Table 2 the authors provide an overview of the classification of NGOs' financial resources.

Table 2

Typology of NGOs' Financing Sources and Resources

Types of non-refundable resources	Attracted resources		Self-generated resources
From private funds	From members: <ul style="list-style-type: none"> Grants Sponsorship Unconditional contribution (donation) Membership fee 	From non-members: <ul style="list-style-type: none"> Grants Sponsorship Unconditional contribution (donation) 	Commercial activities
From public funds	Direct allocation: <ul style="list-style-type: none"> Grants Subsidies % of personal income tax 	Direct allocation: <ul style="list-style-type: none"> Tax exemptions 	Commercial activities

Source: Stanimirovic, 2021

Latvian NGOs, alike disclosed in Table 2, for performing their tasks, attract private donations and gifts, state and municipal subsidies, grants, financing from the EU and other foreign funds. The Latvian regulation provides a possibility for NGOs to also generate revenues by performing economic activities (Associations and Foundations Law, 2003).

Table 3

Structure of Latvian NGOs' Revenues, 2017 – 2021, millions, euro

Type of NGOs' income	2017	2018	2019	2020	2021
Membership fee, fee paid for joining the organisation and other annual payments	46	46	48	50	44
Donations and gifts received	88	64	64	59	57
Subsidies received	87	86	90	93	97
Financing received from the EU funds, the EEA funds and other foreign funds	20	28	33	34	39
Revenue from economic activities	106	110	127	112	121
Other types of revenue	93	95	105	134	99
Inheritance received	2	5	3	0	2
TOTAL:	442	434	470	482	459

Source: authors' construction based on Civic Alliance - Latvia, 2019; Civic Alliance – Latvia, 2022

According to data aggregated in Table 3, revenues generated as a result of Latvian NGOs' economic activities is considerable and constitutes, on average, 25% of the total annual revenue of Latvian NGOs. Consequently most of the financial resource amount is formed by various external financing, e.g. donations and gifts received, subsidies received and financing received from the EU and other foreign funds.

Speaking about the developmental prospects of Latvian NGO sector, the authors emphasize that NGOs as co-responsible authorities are included into the National Development Plan of Latvia for 2021 – 2027 (NDP2027). Their activities are significant in the fundamental directions of changes, such as: family values, human health, knowledge and lifelong learning, safe and open society, culture and sport, qualitative habitat environment (energy efficiency of housing and climate neutrality or "Green Deal"). Altogether, it proves that the activities of NGOs have a significant role for the achievement of the strategic goals of Latvia, and it is surely expected that the NGO sector will continue its development in Latvia.

2. Evaluation of recent Regulatory Changes in NGO Accounting in Latvia

The year 2022 was a year of significant changes in the field of accounting in Latvia, because the new "Accounting Law" (hereinafter – AL) of the Republic of Latvia came into effect. In the new law there have been specified several concepts related to accounting; there have been defined the tasks of accounting; there have been precisely listed an accountant's duties; there have been determined an accountant and an outsourced accountant's status and requirements set for their education; there has been provided regulation on the licencing of outsourced accountants and on the introduction of publicly available Register of Outsourced Accountants, as well as there have been given other more precise definitions and additions. In 2022, on the basis of the new AL, there were several new Regulations adopted by the Cabinet of Ministers of the Republic of Latvia. In relation to NGO accounting the new Regulation No.439 "Regulation on the Annual Statements of Associations, Foundations and Trade Unions and on Single-Entry Accounting" (hereinafter – CM No.439) was adopted.

Altogether, the new Regulations influenced provisions of accounting at any enterprise and organisation, and it also caused several changes in NGO accounting. According to authors' point of view, the most significant changes in NGO accounting are the following:

1. an increase in the threshold for the use of single-entry system;
2. separate accounting of revenues and expenses of an NGO's non-profit activities and economic activities;
3. the addition of two new components to the structure of the annual statement;
4. an opportunity to handle accounting also by a person performing voluntary work.

Further in the article the authors will provide the evaluation on the usefulness and sufficiency of these changes.

The organisation of accounting is one the management functions ensured by the board of an NGO. In conformity with AL provisions, accounting at an NGO may be performed by a competent accountant, a competent outsourced accountant, the responsible board member of the NGO itself or a person performing voluntary work with whom the NGO's board has concluded a written agreement, where the duties, rights and responsibility of such a person have been defined. This innovation of AL, i.e. an opportunity to keep NGO accounting in a form of voluntary work is evaluated by authors as positive, and the authors agree to the supporting arguments of K. Zondberga (2021), the director of organisation "Civic Alliance – Latvia", which is the largest umbrella organisation in Latvia for the defence of NGOs' interest protection, expressed on the necessity of such a supplement to AL: "... such regulation would enable associations and foundations to outsource accounting specialists who could voluntarily ensure accounting processes in conformity with the provisions of laws and regulations. It should be said that not always a member of the board of a small association or foundation is a specialist in the field of accounting. Besides, and that is not unessentially, small associations and foundations cannot afford hiring accounting specialists due to financial considerations. ... such ... supplement would enable small associations and foundations outsource qualified accounting specialists in a form of voluntary work that, in its

turn, will enable to prepare statements, which would be qualitative and in conformity with the provisions of laws and regulations” (Civic Alliance – Latvia, 2021).

According to the authors’ point of view, the significant alteration to the new regulation that makes it easy to keep the NGO accounting is the increase in the threshold for the use of single-entry system.

AL stipulates that accounting registers in NGOs must be kept in a double-entry system, but it is also allowed to keep them in a single-entry system, if the revenue criterion is met, namely, an NGO’s total revenue does not exceed 100,000 euro in the reporting year (two years in a row). When determining the correspondence of an NGO to the revenue criterion, one such case of economic transaction (for example, alienation of immovable property) is not included into the revenue, as a result of which the total sum of economic transactions in one of two previous reporting years has exceeded 100,000 euro within the reporting year (Regulation No. 439). It should be noted that before 2022 the amount of this criterion was 40,000 euro.

A *single entry system* is an accounting approach where each *accounting* transaction is recorded as a single entry in a register. CM No. 439 requires to keep a cash flow register, where an NGO’s cash and non-cash transactions shall be registered chronologically. The single-entry accounting envisages also analytical accounting with the purpose to control an NGO’s property and settlement of accounts. For this purpose there are analytical registers kept in the organisation’s accounting (for example, stock keeping register, debtors’ register). Besides, in case of using the single-entry accounting, AL and CM No.439 stipulate such relief arrangements regarding an NGO’s organisation of accounting:

1. simplified preparation of an annual statement, i.e. it is not necessary to prepare balance sheet and explanation of an annual statement;
2. there is no duty to elaborate accounting organisation documents (for example, chart of accounts, accounting policy);
3. it is not necessary to keep a cash book, if cash revenues and cash expenses are registered in the cash flow register.

Besides, not only choice of the single-entry accounting or the double-entry accounting depends on the fulfillment of the above mentioned revenue criterion, but it also influences the method of the recognition of an NGO’s revenues and expenses (cash accounting or accrual accounting), (see Figure 1).

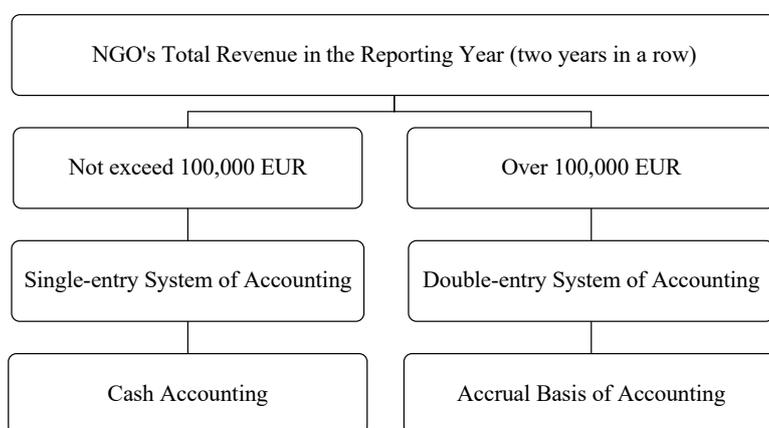


Fig. 1. Basic Provisions for NGO Accounting in Latvia

Source: author’s construction based on AL, 2021; CM No. 439, 2022

As we can see in Figure 1, if in Latvia an NGO has the right and chooses the single-entry system of accounting, consequently the organisation uses the cash method of accounting. It means that the organisation’s revenues and expenses are recognized when money is received or paid. If an NGO uses the double-entry system of accounting, then such organisation’s revenues and expenses shall be recognized according to the accrual basis of accounting. According to Khan (2009), accrual basis of accounting means such accounting methodology, in conformity to which transactions are recognized according to the economic cases forming basis, irrespective of time, when revenues are received and payments made. It means that revenues are recognized in the period, when they are earned, but expenses are recognized in the period, when they incurred. According to ACCA experts (2013), cash accounting is meant for small organisations, and, in some cases, it may provide the same result as the accrual accounting. In its turn, accrual basis of accounting shows clearer relations between revenues and expenses and ensures its coherence by time periods. It also provides more precise insight into the organisation’s assets and liabilities. According to Arnedo *et al.* (2012), accrual basis of accounting improves forecasting of future cash flow, thus facilitating better distribution of economic resources.

The authors evaluate positively the introduced increase in the threshold for the use of single-entry system from 40,000 euro to 100,000 euro that enables potentially greater number of economically active NGOs (see Table 1) to choose accounting according simpler conditions. According to authors’ point of view, single-entry system, if the revenue threshold is met, is particularly easy and useful for NGOs with insignificant number of transactions and simple structure of transactions.

As the next significant innovation to the processes of Latvian NGO accounting, the authors point out the requirement to ensure accounting of an NGO’s non-profit activities separately from accounting of the NGO’s economic activities. It is a mandatory requirement to all Latvian NGOs. If an NGO is using the single-entry accounting, there shall be kept a separate cash flow register of economic activities. In its turn, in the double-entry system, there are separate accounts created in the organisation’s chart of accounts. In connection with this innovation also one of the components of NGO’s annual statement was improved, i.e. “Revenues and Expenses Report”. Already before 2022 there was the item “Revenues from the Economic Activities” included into it, but along with the latest amendments, this report has been supplement with a group of items “Expenses for Performing Economic Activities”, including items “Other Persons’ Services Received for Performing Economic Activities”, “Material Expenses”, “Salary” etc. All-in-all, the authors evaluate these innovations as positive and recognize them as an important instrument for NGO accounting, because such separate accounting of NGO’s economic activities additionally ensures the fulfillment of several regulatory requirements, namely, it provides:

1. internal control in order the organisation’s losses due to economic activities would not be covered from donations received (Public Benefit Organisation Law, 2004);
2. correct calculation of input VAT, excluding the amounts of VAT paid for goods and services not related to the NGO’s economic activities (State Revenue Service, 2021);
3. users of NGO’s statement with clear and true information about the results of NGO’s economic activities (if there are such).

However, at the same time, the authors identify a shortcoming in relation to the requirement to ensure separate accounting of NGO’s economic activities. The authors would like to emphasize that there is no procedure regulated, how there shall be separated the expenses for

such NGO activity items that shall be related to both non-profit activities and economic activities. For example, expenses for the rent of premises for organisation. While renting rooms, the organisation may carry out there both non-profit and economic activities. The same issue shall be related to the expenses for communications, public utility services etc. According to authors' point of view, the solution is the development of the organisation's accounting policy, where there shall be defined the method for the expense distribution. The authors find that the most appropriate method of expense distribution is distributing expense between an NGO's non-profit activity expense and economic activity expense in proportion to the structure of the organisation's revenues during the respective period. For example, if the proportion between the organisation's revenues from the non-profit activities and revenues from the economic activities constitutes 60%:40%, then in this case the expenses due to the rent of premises (and other above mentioned expenses) in the amount of 60% shall be attributed to the organisation's non-profit operating and in the amount of 40% to its economic activities. However, at the same time, the authors find that the Ministry of Finance of the Republic of Latvia should include this issue also into the regulation.

The amendments to the Latvian regulation in 2022 have affected also the structure of NGO annual statement. Annual statement is one of the most significant documents that provides an insight into the results of an NGO's operating. In conformity with provisions of CM No. 439, an annual statement shall provide true and clear insight into the organisation's means (sources), liabilities and financial position on the last day of the reporting year, as well as on the organisation's economic transactions, revenues and expenses in the reporting year. Annual financial statements describe the economic phenomena in words and numbers; and to be a faithful representation, financial statements must be complete, neutral and must lack errors (Toma *et al.*, 2015). Users of the information of NGO annual statements may be: potential donors or members (natural and legal persons), cooperation partners (other NGOs), volunteers, State Revenue Service, state or municipal institutions, foreign funds, media and other concerned persons. The structure of NGO annual statement depends on the entry system of accounting (see Table 4).

Table 4

The Structure of Latvian NGO Annual Statement since 2022

#	Components of NGO Annual Statement	Authors' notes	Single-entry accounting	Double-entry accounting
1.	Balance Sheet			✓
2.	Revenues and Expenses Report		✓	✓
3.	Report on Donations and Gifts	A new item has been added - "Expenses for Performing Economic Activities"	✓	✓
4.	Preparation of detailed information on the spent donations and gifts	Shall be prepared, if the NGO has been granted the PBO status	✓	✓
5.	Explanation of an Annual Statement	Innovation		✓
6.	Management Report	Innovation	✓	✓

Source: author's construction based on CM No. 439

As we can see in Table 4, there have been two new components introduced into the structure of NGO annual statement: explanation of an annual statement and a management report. In the explanation of an annual statement the NGO provides detailed explanation on the items of balance sheet, revenues and expenses report, including explanation on all significant liabilities, guaranties (guarantee obligations) provided by the organisation, information on the subsidies received and how they have been spent, information on how was spent the financing received during the reporting year from the EU/EEA funds and from other foreign funds, etc. In its turn, in the management report there shall be provided information on the fields of the NGO's activities, aims, the main social target group, the most important events during the reporting year and on the future prospects, volunteer work, as well as information about the financial attraction activities performed by the NGO during the reporting year and information about the financial management (i.e. drawing up the budget, planning and control of finances), etc. The authors explain this requirement by the fact that NGOs are founded with the purpose to implement the social mission, and these organisations are trusted the subsidies and the financing from the funds of EU/EEA and other funds, therefore, the transparency of information is particularly significant. Taking into consideration the above mentioned factors, as well as a wide range of the users of the information of NGO annual statement, the authors believe that this significant improvement of the procedure of preparing NGO annual statement shall be evaluated as positive.

Conclusions, Proposals, Recommendations

1. In the studied special literature for the last years, the authors established only some studies related to the NGO sector. The research has been mostly performed on NGO stakeholders, the performance and financial aspects of these organisations. There are few studies carried out regarding NGO accounting. The research on management accounting aspects in NGOs in 2021 was published by B. Clerkin and M. Quinn, the specialists from Ireland and the United Kingdom, as well as the research on NGO accounting and accountability in 2019 was published by C. Cordery, A.R. Belalet and I. Thomson, the specialists from the United Kingdom. In Latvia there was no detailed research on NGO accounting identified by authors. The only profound studies in Latvia related to NGOs has been research on the description of the NGO sector performed in 2017 by K. Zdanovskis, doctoral student at Latvia University of Life Sciences and Technologies, and research on the methods of NGO financial report analysis performed in 2019 by Professor I. Pilvere and doctoral student K. Zdanovskis at Latvia University of Life Sciences and Tehnologies.
2. In conformity with Latvian regulation, accounting shall provide an NGO management with the information for making economic decisions and shall provide users of financial reports with truthful and complete information on the NGO financial position, operating results and cash flow, as well as accounting shall perform correct calculation of taxes and allocation of revenues and expenditures by accounting perios.
3. Rapid development of Latvian NGO sector was observed since 2004, when the reform of the NGO sector took place, as well as Latvia acceded to the European Union. At present there are two types of non-governmental organisations in Latvia – associations and foundations. Latvian NGOs attract private donations, state and municipal subsidies, financing from the EU other foreign funds, grants. At the same time NGOs are allowed to perform economic activities to achieve their aims. The total revenue of Latvian NGOs for the last five years (2017 – 2021) has increased from 442 millions euro to 459 millions euro. NGOs as co-responsible authorities are included into the National Development Plan of Latvia for 2021 – 2027 (NAP2027). Altogether, it proves that the activities of non-governmental organisations have a significant role for the achievement of the strategic goals of Latvia, and it is surely expected that the NGO sector will continue its development in Latvia.
4. All-in-all, the authors evaluate positively the innovations to the Latvian regulation in the field of NGO accounting and find that the innovations are focused on and considerably unburden NGO accounting, thus lessening the NGO administrative burden. Besides, the authors draw a conclusion that the innovations impove procedures of NGO accounting in relation to the following issues: outsourcing of

- an accountant – a person performing voluntary work, procedure of using the single-entry system of accounting, separate registration of an NGO's revenues and expenses from the non-profit and the economic activities, as well as updated NGO annual statement structure.
5. However, the authors have also identified a shortcoming in the new Latvian regulation regarding the requirement to ensure separate accounting of an NGO's economic activities. The new regulation does not define the procedure how shall be separated expenses for such NGO activity items that simultaneously should be attributed to both non-profit activities and economic activities, for example, expenses for renting premises.
 6. In order to eliminate the established shortcoming, the authors recommend to the Ministry of Finance of the Republic of Latvia to elaborate amendments to the regulatory framework of NGO accounting that would provide a methodology of expense distribution. The authors find that the most appropriate method of expense distribution is distributing between an NGO's non-profit activity expense and economic activity expense in proportion to the structure of the organisation's revenues during the respective period. Besides, the authors believe that till the recommended amendments would be made in the regulatory framework, it would be useful that NGO itself in its accounting policies determines this method of expense distribution recommended by authors.

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EXPLORING THE RESOURCE CHALLENGES AS A SIGNIFICANT PERFORMANCE ASPECT OF LATVIAN SOCIAL ENTERPRISES

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Abstract. The success story of social entrepreneurship has expanded into a global movement. Social entrepreneurs' resilience, innovation capabilities and exceptional results in terms of social, economic and environmental impact have attracted the interest of both governments as well as researchers. While the resource challenges of social enterprises have been rather often discussed in the academic literature, in Latvia the topic has been reflected primarily in the form qualitative research. Particularly, given the young age of the social entrepreneurship field in Latvia, quantitative studies with regards the performance aspect of resource availability are of utmost importance as they allow to quantitatively monitor the effects of public policies and support measures for a comprehensive and successful development of the field in the future. Therefore, the aim of this research is to identify current resource challenges of social entrepreneurs in Latvia and to determine their severity, serving as a valuable benchmark for policy makers seeking to strengthen the performance of the field. To this end, this research employed analysis of previously published academic literature as well as analysis of Latvian social enterprise survey results. Research results reveal that Latvian social enterprises are in most need of enhanced access to financial resources, technical and material base as well as a network of cooperation partners. Work integration social enterprises reveal lower resource sufficiency across all resource categories, substantiating particular attention from policy makers.

Keywords: *resources, performance, social enterprise, social entrepreneurship, Latvia.*

JEL code: M30; O15; O35; P46

Introduction

Today, social entrepreneurship has turned into a global movement in search for the well-being of societies worldwide. While the character and legal framework of social entrepreneurship often vary from country to country, social entrepreneurs worldwide are innovative, resilient and with the ambition to bring about social change. Faced with limited resources and often lacking the experience and skills of their commercial counterparts, social enterprises deliver the needed social, economic and environmental impact in areas that have been overlooked by governments and market forces thus contributing to sustainable and balanced economic and social development. While the resource challenges of social enterprises have been rather often discussed in the academic literature, in Latvia the topic has been reflected primarily in the form qualitative research. Particularly, given the young age of the social entrepreneurship field in Latvia, quantitative studies with regards the performance aspect of resource availability are of utmost importance as they allow to quantitatively monitor the effects of public policies and support measures and deliver targeted interventions for a comprehensive and successful development of the field as it is yet being shaped by legislators and key stakeholders within the social entrepreneurship ecosystem. Therefore, the aim of this research is to identify current resource challenges of social entrepreneurs in Latvia and to determine their severity, serving as a valuable benchmark for policy makers seeking to strengthen the performance of the field.

To this end, this research employed analysis of previously published academic literature as well as analysis of a survey of Latvian social enterprise managers. For the purposes of the present research, general population has been defined as consisting of 220 social enterprises based on the official data from the Register of social enterprises in Latvia as of October 31, 2022. Data regarding resource challenges faced by Latvian social enterprises, among other questions, were collected with the help of an online survey which was elaborated by *Name, Surname* by using the survey development tool *QuestionPro*. The survey was disseminated via direct email among Latvian social enterprises with the official status and members of the Social Entrepreneurship Association of Latvia and yielded a sample of 67 responses. All respondents were social enterprises with the official status (organizational form of a limited liability company), 47.22% of them were engaged in work integration. Majority of respondents (69.44%) had 1-9 employees, operated 1-4 years (61.11%) and were based in Riga (40%) or Pierīga (20%). Respondents mostly represented such sectors as education (19.44%), services (16.67%) and health and social care (13.89%). While the sample is not fully representative, it, nevertheless, includes a substantial proportion of the social enterprises from the general population, thus indicating sufficient sample quality.

Data regarding resource challenges faced by Latvian social enterprises were captured with the help of two questions. First, respondents were asked to indicate by using a 10 point Likert scale (1- insufficient, 10- completely sufficient, n/a – not applicable) the extent various resources (human resources, digital resources, financial resources, IT infrastructure, network of cooperation partners, technical and material base) were currently sufficient for the needs of the organization. Second, taking into consideration the growing digitalization trend, respondents were asked to further deliberate on their satisfaction with their organization's ability to effectively use various digital resources (business software, digital communication tools, software for creation of digital content, online store, website, and social networks/platforms) by using a 10 point Likert scale (1-not satisfied, 10- completely satisfied, n/a – not applicable). To establish the presence of statistically significant relationships between resource sufficiency and different dimensions of performance, an additional question (adapted from Salavou, Cohen, 2021) regarding the performance (social, economic, environmental etc.) of the respondent's social enterprise was used. The data of respondents' answers were analysed with SPSS software applying such statistical methods as descriptive statistics (indicators of central tendency or location (arithmetic means, mode, median)), indicators of variability (range, variance, standard deviation, and standard error of mean), independent samples t-test for testing statistical hypothesis, and correlation analysis.

While this research provides valuable and practical implications for policy makers, it also has delimitations as it was able to capture and characterize only the social enterprises with the official status, leaving plenty of space for further investigations given the presence of the de-facto social enterprises (often operating as non-governmental organizations or associations) in the Latvian social entrepreneurship landscape. The research paper is further structured in the following way. The first section examines the academic literature pertaining to previous research with regards social entrepreneurship and resource challenges of social enterprises in the performance context and highlights the current situation within the social entrepreneurship landscape in Latvia. The second section reveals and discusses the results of the research, followed by conclusions and recommendations.

Literature Review

The exceptional capacity of social entrepreneurship to provide sustainable results in the social and economic domain continues to attract the interest of both the public sector as well as the academic community of which the latter have also expressed a certain level of scepticism (Morris, et al., 2020; Dacin, et al, 2011) towards the field. Nevertheless, social enterprises, often referred to as "change agents", "mission leaders" and "opinion leaders" (Abu-Saifan, 2012, p.25), have been praised for being able to rectify the failures of capitalism (Baglioni, 2017), drive innovations (Monroe-White, Zook, 2018), promote sustainable development (Bartha, Bereczk, 2019), and tackle various social and economic problems (Bandyopadhyay, Ray, (b) 2019) all of which have contributed to the massive spread of the social entrepreneurship movement across the world, earning high appreciation and support for the field also within the European Union (Social, n.d.). The world-

known professor and author of competitiveness theories Michael Porter (Driver, Porter, 2012) perceives social entrepreneurship and its values as the new norm that will increasingly take over the world, transforming capitalism which has lost its legitimacy. Researchers, among other areas of investigation, have closely monitored and actively engaged in conceptual debates (Defourny, Nyssens, 2017; Young, Lecy, 2014; Dato-on, Kalakay, 2016), followed the global development of the field (Bosma, et al, 2016; Tkacz, 2016) and explained the differences of the phenomenon in different geographical contexts (Kerlin, 2010). The topic has been analysed from a variety of theoretical lenses, among others, such as the resource based view (Bacq, Eddleston, 2018), stakeholder theory (Lumpkin, Bacq, 2019), agency and stewardship theories (Bacq, et.al. 2011), institutional theory (De Beule, et al, 2020), and complexity theory (Goldstein, et al, 2008). Lately a variety of topics related to social enterprise performance have gained prominence. A considerable body of research has been devoted, among others, to the aspects of performance measurement and impact measurement (Costa, Andreus, 2021; Öncer, 2018; Lortie, et al, 2021), elucidating numerous challenges on the topic and at the same time revealing commitment among the academia to contribute to these challenges thus helping social enterprises to be more effective at delivering social value in their societies and bringing about the desired and often much needed social change.

The topic of resource sufficiency is particularly a critical performance aspect for social enterprises as they are operating with a hybrid mission which requires them to be even more innovative and efficient compared to conventional enterprises. Researchers (Satar, et al, 2016; Bandyopadhyay, Ray (a), 2019) have accentuated limited resource availability (e.g. low marketing budgets, inadequate business skills etc.) among social enterprises which often leaves them at a significantly lower position in terms of competitiveness (Dobele, Pietere, 2015; Casno, et al, 2021). Furthermore, social enterprises need specific marketing knowledge and skills (Satar et.al, 2016; Singh et al, 2015; Casno, et al, 2020) to market their products well. They are also faced with challenges associated with access to capital (Castellas, et al, 2018), and ability to attract skilled, digitally savvy specialists (Prodanov, 2018; Casno, et al, 2019) and establish cooperation with the various stakeholders (Timofejevs, et al, 2021) in the social entrepreneurship ecosystem. The aforementioned resource challenges contribute to shorter life-spans of social enterprises compared to their commercial counterparts (Berbegal-Mirabend, 2021), confirming the importance of the resource aspect in the context of social enterprise performance. However, there is a dearth of quantitative studies pertaining to evaluation and analysis of resource and skills availability among social enterprises and the ability of social enterprises to use these resources effectively. Especially in Latvia the field of social entrepreneurship is yet relatively under- researched and quantitative studies regarding social entrepreneurship are scarce.

There have been many positive developments in the field of social entrepreneurship in Latvia over the past years, most notable of which was the adoption of the Social Enterprise Law in 2017 (Saeima, 2017) and effective as of April 1, 2018. Despite the fact that the social entrepreneurship field in Latvia historically developed on the foundations of the non-governmental sector (Līcīte, 2018), Latvia chose a rather narrow approach to institutionalization of the field, requiring that social enterprises must adopt the organizational form of a limited liability company to earn the official status of a social enterprise which reflects in a rather moderate but yet steady growth of the field, reaching 216 social enterprises as of December 31, 2022 (Register, 2022). Although the number of social enterprises in Latvia is slowly growing, existing research reveals that they are operating, among other predicaments, with insufficient marketing (Līcīte, 2018; Casno, et al, 2020) and digital skills (Casno, Sloka, 2021; Sloka, Mikhailova, 2020), and financial challenges (Timofejevs, et al, 2021). Social enterprises are also finding it challenging to engage in partnerships with other stakeholders in the social entrepreneurship ecosystem (Timofejevs, et al 2021). The recognition of social entrepreneurship within Latvian society has not reached its momentum yet (Timofejevs, et al 2021; Casno, Sloka, 2022), however, at the same time a significant proportion of social enterprises are not revealing their social enterprise identity to the wider public (Casno, Sloka, 2021; Casno, Sloka 2023). The aforementioned resource challenges and inability to use resources effectively prevent Latvian social enterprises from reaching their full potential in social value creation and is therefore a significant topic to explore, especially from the quantitative point of view which allows monitoring of progress and implementation of proactive actions when necessary.

Research results and discussion

Overall, resource availability does provide a challenge for Latvian social enterprises as the arithmetic means for all resource categories fall below 7. A particular impediment for social enterprises, as reflected in Table 1, is the shortage of financial resources, followed by lack of technical and material base and insufficient network of cooperation partners.

Table 1

Main indicators of descriptive statistics and variability for the evaluation of the question “To what extent the available resources currently are sufficient for your organization’s needs?”

		Human resources	Digital resources (e.g. various systems, software, online store, etc.)	Financial resources	IT infrastructure (e.g. various IT devices)	Network of cooperation partners	Technical and material base (e.g. buildings, work equipment etc.)
N	Valid	43	43	43	43	43	43
	Missing	24	24	24	24	24	24
n/a		0	0	0	1	3	0
Mean		6.16	6.60	5.07	6.24	5.78	5.70
Standard Error of Mean		0.435	0.348	0.377	0.404	0.420	0.389
Median		6	7	5	6.50	6	6
Mode		6	7; 8	5; 7	5;8	8	5; 7
Standard Deviation		2.853	2.280	2.473	2.621	2.655	2.550
Variance		8.140	5.197	6.114	6.869	7.051	6.502
Range		9	9	9	9	9	9
Minimum		1	1	1	1	1	1
Maximum		10	10	10	10	10	10

Source: Author’s own construction based on author’s (will be indicated after reviews) designed and conducted survey in 2022, Evaluation scale 1-10, 1 – insufficient, 10 – completely sufficient, n/a – not applicable, n=67

While Latvian social enterprises have on average indicated the highest satisfaction with such resource categories as digital and human resources and IT infrastructure respectively, there is yet plenty of room for improvement. However, a rather considerable variability is observed in the data across all resource categories, indicating that the particular conditions among social enterprises differ rather extensively. Work integration social enterprises, as reflected in Table 2, on average reveal even harsher circumstances regarding resource availability, with arithmetic means for several resource categories falling even below 5.50.

Table 2

Comparison of arithmetic means for the evaluation of the question “To what extent the available resources currently are sufficient for your organization’s needs?” by work integration status of the respondents

Does your organization employ people from the groups at risk for social exclusion?		Human resources	Digital resources (e.g. various systems, software, online store, website etc.)	Financial resources	IT infrastructure (e.g. various IT devices)	Network of cooperation partners	Technical and material base (e.g. buildings, work equipment etc.)
Yes	Mean	5.75	6.19	4.25	5.50	5.00	5.00
	N	16	16	16	16	16	16
	Standard Deviation	3.173	2.198	2.236	2.503	3.183	2.422
No	Mean	6,00	6,63	5,32	6,63	6,06	6,47
	N	19	19	19	19	18	19
	Standard Deviation	2.848	2.543	2.829	2.929	2.363	2.547
Total	Mean	5.89	6.43	4.83	6.11	5.56	5.80
	N	35	35	35	35	34	35
	Standard Deviation	2.958	2.367	2.595	2.763	2.791	2.564

Source: Author’s own construction based on author’s (will be indicated after reviews) designed and conducted survey in 2022, Evaluation scale 1-10, 1 – insufficient, 10 – completely sufficient, n/a – not applicable, n=67

These results are consistent with previous indications in the academic literature about the particular challenges of work integration social enterprises; however, as evidenced by the rather high variability in data, considerable differences exist in resource availability with the particular group of work integration social enterprises as well. While the aforementioned differences in resource availability by work integration status are not statistically significant, as revealed by the results of the independent samples t-test in Table 3, they do provide significant implications for policy makers and support organizations.

Table 3

Results of the independent samples t-test for the comparison of arithmetic means of the evaluations of the extent respondents find various categories of resources sufficient for their organizations’ needs by work integration status of the respondents

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Standard Error Difference
Human resources	Equal variances assumed	0.774	0.385	0.000	34	1.000	0.000	1.015
	Equal variances not assumed			0.000	32.121	1.000	0.000	1.022
Digital resources (e.g. various systems, software, online store, website etc.)	Equal variances assumed	0.039	0.844	-0.270	34	0.789	-0.220	0.815
	Equal variances not assumed			-0.271	33.983	0.788	-0.220	0.811
Financial resources	Equal variances assumed	2.205	0.147	-1.129	34	0.267	-0.963	0.853
	Equal variances not assumed			-1.145	33.416	0.261	-0.963	0.841
IT infrastructure (e.g. various IT devices)	Equal variances assumed	0.491	0.488	-1.215	33	0.233	-1.132	0.931
	Equal variances not assumed			-1.232	32.987	0.227	-1.132	0.918
Network of cooperation partners	Equal variances assumed	3.480	0.071	-1.106	32	0.277	-1.056	0.954
	Equal variances not assumed			-1.087	27.478	0.287	-1.056	0.971
Technical and material base (e.g. buildings, work equipment etc.)	Equal variances assumed	0.050	0.824	-2.013	34	0.052	-1.709	0.849
	Equal variances not assumed			-2.014	33.585	0.052	-1.709	0.849

Source: Author’s own construction based on author’s designed (will be indicated after reviews) and conducted survey in 2022, Evaluation scale 1-10, 1 – insufficient, 10 – completely sufficient, n/a – not applicable, n=67

Furthermore, statistically significant positive correlational relationships, as reflected in Table 4, were established between the respondents’ evaluation of sufficiency of financial resources and their respective evaluation of performance in terms of the ability to increase the number of beneficiaries, to increase revenue from commercial activity, to increase other sources of revenue (grants etc.), to ensure the satisfaction of beneficiaries, and the ability to resolve the social problem/s significant for the organization.

Correlation analysis results between the respondents' indicated degree of financial resource sufficiency and evaluation of performance across certain dimensions

		Financial resources
Ability to increase the number of beneficiaries	Pearson Correlation	0.401**
	Sig. (2-tailed)	0.008
	N	42
Ability to increase revenue from commercial activity	Pearson Correlation	0.399**
	Sig. (2-tailed)	0.009
	N	42
Ability to increase other sources of revenue (grants etc.)	Pearson Correlation	0.394**
	Sig. (2-tailed)	0.010
	N	42
Ability to ensure the satisfaction of the beneficiaries	Pearson Correlation	0.323*
	Sig. (2-tailed)	0.037
	N	42
Ability to resolve the social problem/-s significant for the organization	Pearson Correlation	0.359*
	Sig. (2-tailed)	0.020
	N	42
Correlation is significant at the 0.01 level (2-tailed).**		
Correlation is significant at the 0.05 level (2-tailed).*		

Source: Author's own construction based on author's designed (will be indicated after reviews) and conducted survey in 2022, Evaluation scale 1-10, 1 – insufficient, 10 – completely sufficient, n/a – not applicable; Evaluation scale 1-10, 1 – very poor, 10 – excellent, n/a – not applicable, n=67

The aforementioned results underscore the importance of financial resource availability for social enterprises, also providing significant implications for policy makers and support organizations. Additionally, statistically significant positive correlational relationships were also identified between the respondents' evaluation of sufficiency of digital resources and ability to create social impact (Pearson correlation coefficient of 0.341, significant at the 0.05 level) and between the respondents' evaluation of sufficiency of the network of cooperation partners and the ability to increase the number of customers (Pearson correlation coefficient of 0.369, significant at the 0.05 level) and the ability to increase revenue from commercial activity (Pearson correlation coefficient of 0.575, significant at the 0.01 level). However, statistically significant negative correlational relationships were identified between the respondents' evaluation of sufficiency of technical and material base and the ability to ensure the satisfaction of the beneficiaries (Pearson correlation coefficient of -0.316, significant at the 0.05 level) and the ability to resolve the social problem significant for the organization (Pearson correlation coefficient of -0.372, significant at the 0.05 level). These results also reveal the importance of digital resource availability as well as a solid network of cooperation partners for enhanced social enterprise performance across certain dimensions. However, they also indicate that investments in the technical and material base which are often necessary for social enterprise growth and future sustainability may on average reduce the social impact of social enterprises for a certain period of time, reflecting the challenges of social enterprise hybridity.

Taking into account the growing pressure to digitalize and the importance of digitalization in enhancing the performance of an organization, social enterprises were requested to deliberate upon the extent they are satisfied with their organization's ability to effectively utilize several types of digital resources. Although digital resources on average were among the resource categories for which social enterprises indicated the highest sufficiency, their evaluations of the ability to use various types of digital resources effectively revealed that on average social enterprises have the least confidence in managing online sales platforms, using software for creation of digital content and using business software respectively, as reflected in Table 5.

Table 5

Main indicators of descriptive statistics and variability for the evaluation of the question "Overall, to what extent are you satisfied with your organization's ability to effectively use digital resources?"

		Business software (e.g. customer management tools, accounting software, survey tools etc.)	Digital communication tools (e.g. e-mail, e-mail marketing software, Whatsapp, Zoom, Google Hangouts et	Software for creation of digital content	Online store	Website	Social networks /platforms
N	Valid	43	43	43	43	43	43
	Missing	24	24	24	24	24	24
n/a		5	0	7	18	4	3
Mean		6.76	7.63	6.61	5.80	7.33	7.50
Standard Error of Mean		0.400	0,372	0.413	0.554	0.325	0.318
Median		7	8	7	6	8	8
Mode		5; 7; 8; 10	8; 9; 10	9	6; 9	8	9
Standard Deviation		2,465	2.440	2.476	2.769	2.030	2.013
Variance		6.078	5.953	6.130	7.667	4.123	4.051
Range		9	9	9	9	9	9
Minimum		1	1	1	1	1	1
Maximum		10	10	10	10	10	10

Source: Author's own construction based on author's (will be indicated after reviews) designed and conducted survey in 2022, Evaluation scale 1-10, 1 – not satisfied, 10 – completely satisfied, n/a – not applicable, n=67

On the other hand, social enterprises indicated the most confidence in using digital communication tools and managing social networks. Moreover, work integration social enterprises, as reflected in Table 6, indicated on average slightly higher satisfaction with their ability to effectively use all digital resource types, except software for creation of digital content.

Table 6

Comparison of the arithmetic means for the evaluation of the question “Overall, to what extent are you satisfied with your organization’s ability to effectively use digital resources?” by work integration status of the respondents

Does your organization employ people from the groups at risk for social exclusion?		Business software	Digital communication tools	Software for creation of digital content	Online store	Website	Social networks /platforms
Yes	Mean	7.00	7.59	6.18	6.44	7.69	7.79
	N	13	17	11	9	13	14
	Standard Deviation	2.550	2.476	2.926	3.395	1.653	1.188
No	Mean	6.56	7.47	7.00	5.60	7.32	7.00
	N	18	19	18	10	19	19
	Standard Deviation	2.854	2.695	2.521	2.547	1.827	2.560
Total	Mean	6,74	7.53	6.69	6.00	7.47	7.33
	N	31	36	29	19	32	33
	Standard Deviation	2.695	2.558	2.661	2.925	1.741	2.102

Source: Author’s own construction based on author’s (will be indicated after reviews) designed and conducted survey in 2022, Evaluation scale 1-10, 1 – not satisfied, 10 – completely satisfied, n/a – not applicable, n=67

However, the differences in arithmetic means, were found to be statistically significant only with regards work integration social enterprises’ evaluation of their ability to effectively use social networks, as reflected in Table 7, indicating a higher level of skills and competence with this particular digital resource among work integration social enterprises.

Table 7

Results of the independent samples t-test for the comparison of the arithmetic means for the evaluations of the question “Overall, to what extent are you satisfied with your organization’s ability to effectively use digital resources?” by work integration status of the respondents

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Standard Error Difference
Business software (e.g. customer management tools, accounting software, survey tools etc.)	Equal variances assumed	0.958	0.336	0.447	29	0.658	0.444	0.994
	Equal variances not assumed			0.455	27.594	0.652	0.444	0.976
Digital communication tools (e.g. e-mail, e-mail marketing software, Whatsapp, Zoom, Google Hangouts et	Equal variances assumed	0.399	0.532	0.132	34	0.896	0.115	0.866
	Equal variances not assumed			0.133	33.970	0.895	0.115	0.862
Software for creation of digital content	Equal variances assumed	1.006	0.325	-0.798	27	0.432	-0.818	1.025
	Equal variances not assumed			-0.769	18.844	0.451	-0.818	1.064
Online store	Equal variances assumed	3.638	0.074	0.617	17	0.545	0.844	1.368
	Equal variances not assumed			0.608	14.786	0.552	0.844	1.389
Website	Equal variances assumed	0.864	0.360	0.595	30	0.557	0.377	0.633
	Equal variances not assumed			0.606	27.600	0.549	0.377	0.621
Social networks /platforms	Equal variances assumed	5.702	0.023	1.064	31	0.296	0.786	0.739
	Equal variances not assumed			1.177	26.881	0.250	0.786	0.668

Source: Author’s own construction based on author’s (will be indicated after reviews) designed and conducted survey in 2022, Evaluation scale 1-10, 1 – not satisfied, 10 – completely satisfied, n/a – not applicable, n=67

While a rather considerable variability was observed in the data across all digital resource types, indicating that the particular abilities of social enterprises differ rather extensively, the aforementioned results nevertheless provide practical implications for organizations seeking to improve the performance of the sector. Furthermore, statistically significant positive correlational relationships were established between the indicated efficiency of digital communication tool usage and such performance dimensions as ability to create social impact (Pearson correlation coefficient of 0.341, significant at the 0.05 level) and ability to ensure the satisfaction of the beneficiaries (Pearson correlation coefficient of 0.420, significant at the 0.01 level) and also between the indicated efficiency of business software usage and such performance dimensions as the ability to increase revenue from commercial activity (Pearson correlation coefficient of 0.407, significant at the 0.05 level) and the ability to increase other sources of revenue (grants etc.) (Pearson correlation coefficient of 0.473, significant at the 0.01 level), further substantiating the significant role of digital technologies in furthering the performance of organizations.

Conclusions, proposals, recommendations

1. Shortage of resources remains a considerable challenge for Latvian social enterprises. In particular, social enterprises lack financial resources, technical and material base as well as a network of cooperation partners. However, there is plenty of room for improvement also with regards availability of other resource categories such as digital and human resources and IT infrastructure.
2. Resource sufficiency among the work integration social enterprises is even lower compared to the rest of social enterprises. Although these differences are not statistically significant, they are indicative of the additional burden in terms of operational complexity and associated higher costs that work integration social enterprises often absorb.

3. Among the various types of digital resources, social enterprises are the least satisfied with their ability to efficiently use their online store and software for creation of digital content, indicating particular areas for skills improvement. However, work integration social enterprises exhibit slightly higher satisfaction with effective usage of all types of digital resources except for software for creation of digital content.
4. Research results indicate significant correlational relationships between the availability of financial and digital resources and a network of cooperation partners and social enterprise performance across a number of dimensions.
5. The efforts of policy makers and support organizations involved in furthering the development of the field should primarily concentrate on developing solutions to enhance social enterprise access to various types of financing and strengthening the partnership network within the social entrepreneurship ecosystem.
6. Work integration social enterprises deserve particular attention from policy makers as they reveal lower resource sufficiency across all resource categories.
7. Additional skills training in online sales management, usage of software for creation of digital content and selection of the most appropriate business software have significant potential to increase the performance of social enterprises.

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LEADERSHIP STYLES IN A TIME MANAGEMENT FOR WORK-LIFE BALANCE IN FLOW

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Abstract. The third decade of 21st century has begun with new challenges appearing in the management field – such as Covid-19 pandemics and rapid technological development. Due to full or partial remote work, employee satisfaction with work has changed significantly, which has a direct impact on productivity and profits. For executives the issue of life and work balance has become particularly relevant. The aim of the research paper is to provide the analyses of the existing theoretic concepts and models of work-life balance, leadership, time management and to propose a matrix for managers of time management leadership styles for life-work balance in flow. A model of 8 leaders' types and 8 leadership styles in time management for work life balance in flow has been developed. This will provide in-depth insight into the attitude of different managers towards time and work and will allow to improve their productivity. The new typology of styles will allow authors to develop further a time management model that is relevant for any manager. Based on the developed matrix, questionnaires will be created – tests, by completing which the manager will be able to determine his time management style and received recommendations for improving productivity and achieving a life-work balance in flow.

Keywords: *Leadership, Time management, Work life balance.*

JEL code: J22, M12

Introduction

The aim of the work is to review the models of leadership, time management and positive psychology, to find commonalities and to develop a matrix of time management style leadership for work and life balance (from now on –WLB). A model of such styles will allow to develop a more precise model of a time management workflow system that would be appropriate for managers in this changing time. There is no fully suitable time management and workflow management model available for managers and leaders in this era of technological development. At the beginning of the 21st century, the society is facing the challenging factors such as rapid development of information technologies and Covid-19 pandemics that forces to reconsider what is new normal regarding WLB. However, theoretical and empirical literature of leadership is insufficient. It is necessary to consider the multidimensionality of leadership concept which differs if analysing it from various perspectives and circumstances (Pauceanu et al., 2021). Accordingly, authors analyse theoretical models applicable in management field within the context of time management, WLB and flow.

Leaders and managers, especially in the information age, must strive for efficient use of time resources, achieving strategically set goals. Time management is considered one of the modern skills that is necessary to successfully manage one's life, including organization, company. Leaders and managers must be able to manage information flows, make strategic decisions, using the time resource effectively. Consequently, there is a challenge of how to apply effective time management approaches in the management of companies in the information age. To find out, it is necessary to know the factors that affect effective time management and the ability to achieve the set goals. At the same time, the world has changed, since 2019 and the Covid-19 pandemic, which has fundamentally dissolved the boundaries between working life and private life (Lamovšek et al., 2022). Therefore, it is even more important to review leadership and time management approaches directly in the context of WLB.

In the study WLB is understood as the concept that represents the degree to which the work (professional) and non-work (private) life is perceived as harmonious that includes potential for effectiveness of the organization and satisfaction with life. Through the analysis of theoretical models of leadership, time management, WLB and flow, the study proposes a matrix of time management and leadership styles for WLB in flow, what includes a new definition of leadership styles and what will help to develop an appropriate time management model to increase the productivity of managers and enable obtaining WLB.

Research question of the study is – what new leadership styles are applicable to managers, considering the consequences of the pandemic and its impact on time management styles for managers in providing WLB? Considering that this research paper is in management field, it should be emphasized that research question will be analysed not as a person's characteristics, but as its strategic choice. In leadership, one of the important qualities is the ability to manage time purposefully in accordance with the vision and established strategy (Tracey, 2013).

The rapid development of technology has increased the speed and quantity of information flow, which is a significant challenge for managers to effectively manage the organizational processes, including internal and external communication, and strategically achieve the set goals. The Covid-19 pandemic has also changed the work environment, accessibility, and communication, ability of leaders and managers to adapt to new situation to effectively achieve organizational goals. Pandemic has increased the risks of burnout, turnover, stress, and overall well-being for employees (Morse and Dell, 2021). It has also changed the approaches of how time, work and tasks are managed (Carinal-Go et al., 2022).

Authors consider that existing leadership and time management theories are not fully applicable to the new situation, as new influencing factors have been identified, which have been facilitated by technological development and the Covid-19 pandemic. For instance, time for professional and personal life is no longer so strictly separated. The online mode can create a sense of "continuous availability". As a result, leaders' time management ability and the role of leadership in the organization increases. At the same time, there is a lack of research on how physical presence at home affects an employee's WLB, private and family life, and how leaders can situationally apply leadership styles to achieve effective use of time resources and increase productivity.

The environments of professional and private life have merged. Leaders must be able to situationally analyse what creates WLB and motivation to work in employees. The ways of physically monitoring how an employee works have changed. There is a lack of research on how leaders, in the situation of remote or hybrid remote work, can analyse the responsibility of employees and compliance with the work regime. It can be assumed that the role of communication, the role of reports, the role of motivation, the role of quality management, etc., is increasing. Also, communication has changed. There is a lack of research on how the ways and forms of communication have changed to give tasks and control their execution, as well as to communicate about the organization's vision, mission, and values daily. It can also be assumed that for some organizations, especially for business companies, it has become more relevant to use approaches and tools to record the employee's time, ensuring control. It is often the work environment that represents the values and culture of the organization.

One of the abilities of a leader is to build and unite teams, providing socialization and team building, but new challenges have created situational conditions in which employees working together may not have met in real life. However, it is socialization, a supportive and understanding team and people that are one of the influencing factors of WLB, which influence the motivation of employees to work. The authors are aware that until now there have been organizations and companies that have worked remotely. However, the pandemic has changed the business environment globally. It is not expected to return to the previous mode. Some employees want a hybrid work organization – both face-to-face and remote, but additional research is needed on the impact it has on WLB (Fazal et al., 2022, 3). Organizations, including companies, are adapting to the "new normal" changes brought by Covid-19 (Balasubramanian and Fernandes, 2022).

"New normal" – it is a work environment in which: (1) work can be organized both in person and remotely, (2) it is not always possible to clearly separate the space and time of professional and private life; (3) some employees no longer want to return to the physical work environment, as it was before; (4) leaders need to find new approaches to evaluate employees' abilities, motivation and performance, as well as what creates WLB for them, so that the company achieves the required results. Thus, the pandemic has raised the issue of leadership and WLB in the new conditions, which, in the opinion of the authors, can be solved directly with a systemic approach to time and work planning.

In order to conceptually develop the **model of 8 leaders' types and 8 leadership styles in time management for work life balance in flow**, which is applicable to "new normal" circumstances in the 21st century, the study conducts an analysis of the theoretical models of leadership, time management, WLB and positive psychology (flow) from the perspective of management studies, identifying and systematizing factors that influence leadership types and leadership styles.

1. Theoretical models of work and life balance

WLB ideas were initiated by industrialization, finding that the population was physically working too many hours, and this was affecting health and private life, demography (Cunningham, 1982, Gragnano et al., 2020, Oxtoby, 2014). Therefore, initially it is also an approach defining the separation of "work" and "life", which was characterized by a separate space, the individual's role in it and the time spent (Bello and Tanko, 2020). There is no single universally accepted theory and definition of WLB, and there is a lack of unified conceptual clarity that characterizes WLB (Thilagavathy and Geetha, 2022). There are diverse studies and conceptualizations of WLB, taking into account different perspectives, for example: WLB as a proportionate distribution of hours between work time and the rest of the time for the family (Anttila et al., 2015, Davis and Tuttle, 2017, Gragnano et al., 2020, Ruppanner and Maume, 2016); WLB as harmonization and balancing between "work life" and "family life" in order to reach the satisfaction (Moen and Yu, 2000, Shankar and Bhatnagar, 2010); WLB as an effective time management approach, promoting productivity (Koon, 2022); WLB as harmonization of work and private roles (Buddhapriya, 2005); WLB and employee burnout and demotivation prevention strategy (Nijp et al., 2012). WLB as stress management approach (Giauque, Anderfuhren-Biget and Varone, 2019); WLB as organizational policy and culture (Beauregard and Henry, 2009, Yang and Islam 2021) etc. The WLB practices implemented in organizations, which are applied by managers to their employees, are not sufficiently studied (Koon, 2022). WLB of leaders and managers are insufficiently studied in comparison to employees (Ugwu et al., 2016).

WLB is mainly studied directly from the employee's point of view to harmonize work and private life and reach the satisfaction. Otherwise, there are risks that the organization's performance and ability to achieve the set strategic goals and increase productivity will suffer (Zafrul, 2019). The concept of WLB was introduced in 1986, but its origins can be found already in the 20th century, in the 1930s (Zafrul, 2019). At least three common dimensions can be identified for the existing definitions and explanatory approaches of WLB: (1) conceptualization and explanation of work-life categories; (2) conceptualizing the state of "balance" and (3) identifying the influencers of WLB. Accordingly, "work-life" is explained, for example, as time allocation between personal life and professional life (Thilagavathy and Geetha, 2022, Zafrul, 2019). Work life and family life (Clark, 2000, Drobnič, Beham and Präg 2010, Friedman and Greenhaus, 2000, Greenhaus) – one of the most common approaches in management studies. Work life and personal life – Thilagavathy and Geetha invite researchers to include all the possible domains of "life" when conceptualizing WLB and test WLB theories again (Thilagavathy and Geetha, 2022). Division between home life and work life – one of the most common approaches in management studies (Singh et al., 2022, Thilagavathy and Geetha, 2022). Also work-life and non-work life roles (Buddhapriya, 2005).

Accordingly, "balance" is explained as, for example, time balance – hours and flexibility (Craig and Powell, 2011, Hill et al., 2001); involvement balance – psychologically; satisfaction balance (Greenhaus and Powell, 2003); satisfaction and harmony (Drobnič, Beham and Präg, 2010, Kofodimos, 1993); harmonization (Broers, 2005), as minimal conflict – between work and non-work roles (Lamovšek et al., 2022, Marks and MacDermid, 1996). In response to the question, what kind of predictors affect WLB, according to the literature review conducted by Sirgy and Lee in 2018, there is a division of two types of predictors: (1) personal predictors, for example, values, and (2) organizational predictors, for example, environment, organizational values, job characteristics, organizational support. For example, Lamovšek et al. introduces the model characterizing work – employee motivation and job satisfaction can be increased if greater "job enrichment" is offered, which in essence are these predictors – autonomy, support system, feedback, etc. (Lamovšek et al., 2022). In general, when conducting literature studies, it can be concluded that mainly WLB is analysed as life, where professional life (work) and personal life (family) form the two basic dimensions of WLB. Thus, the theoretical approach of WLB defines two basic coordinate axes for new model proposed: x – personal life, y – professional life.

In the first decade of the 2000s, there is a reorientation towards the organization responsibility in improving WLB. This is also the time when systems for measuring WLB are being developed (Fisher-McAuley et al. 2003; Pareek and Purohit 2010). Work-family research is still of great importance, but research questions are also developing that are directly related to leadership – supervision and personnel support in promoting WLB. At this time, WLB is being linked to productivity research and factors affecting WLB such as time management and workflow management, stress management, prioritization, shift duties, intention to quit, job satisfaction, etc., as well that it is directly associated with long working hours (Koon, 2022, Tracey, 2013, Zafrul, 2019). On the other hand, in the 21st century in the second decade, the focus of WLB research has changed from the responsibility of organizations to the responsibility of employees themselves. Organizational policies on WLB are also explored (Den Dulk et al., 2016, Hoffman and Cowan, 2008, Weale, Oakman and Wells, 2020). However, it basically studies employees, for example, their physical and psychological needs, environmental influences, social expectations, organizational cultures, norms of work ethics (McCarthy et al., 2013). In general, the feeling of satisfaction both at work and in private life and in the respective roles is considered one of the important influencing factors (Zafrul, 2019). Research results also show that there is a need to focus on employee well-being, which significantly affects employee performance (Singh et al., 2022). At the same time, it is possible to conclude that there is a lack of research directly from the perspective of leadership, analysing managers as leaders as a separate group of employees.

The application of WLB practices in organizations contributes positively to the results achieved by employees (Koon and Vui-Yee, 2022). A. Zafrul analyses how WLB creates benefits or added value for employees and how WLB practices help build managers' relationships with employees (Zafrul, 2019). One area that is being researched is how to "influence" employees or what helps to motivate them (Koon, 2022, Zafrul, 2019). Employee expectations and needs have been widely studied (Pareek et al., 2011, Thilagavathy and Geetha, 2022, Zafrul, 2019) to achieve WLB. Although leaders and managers can be employees of any organization at the same time, there is a lack of research analysing WLB from the perspective of the leader rather than subordinates. The role of the leader has been emphasized by Lamovšek et al., 2022. Through an extensive analysis of the WLB literature, Thilagavathy and Geetha have systematized into 5 categories the factors that affect the employee's WLB: (1) demand (work, family, personal, social); (2) resources, inferring that employees experience a WLB imbalance when there is an inability to equally allocate their resources to both areas, also supporting systems are significant, for example, at the level of organization and family, friends; (3) individual factors, such as working hours, job rotation, travel time to and from work, perception of work, perception of autonomy and trust in the work process; (4) organizational factors, such as working time flexibility due to family, work climate, etc. (5) culture – organizational and social culture.

WLB practices provided by organizations are valued by employees if they support employees to improve their lives on a personal level. For example, flexible working hours create added value for the employee, as a result of which employees are motivated to create higher performance in the organization (Anttila et al., 2015, Koon, 2022).

All in all, it can be concluded that time is a significant factor – time planning and time management approaches are one of the WLB criteria in organizations to create higher performance in the organization and motivate employees.

Csikszentmihalyi assumes that an individual is satisfied in life when he has reached a "flow" state, which can be compared to the WLB balance state. Csikszentmihalyi has accordingly developed the Flow model, which is depicted on coordinate axes: the x-axis depicts the level of skill, ability, capacity to act, while the y-axis depicts the level of challenge. The levels are graduated in three categories - small, medium, high. Accordingly, 8 states are obtained - 1) apathy, 2) boredom; 3) relaxation; 4) worry; 5) anxiety; 6) arousal 7) control; 8) flow. Achieving a state of flow requires a balance between challenges and goals. The author assumes that flow state creates both satisfaction and motivation to act and complete challenges (Csikszentmihalyi, 1997).

2. Leadership approaches and Leadership styles' theories

Leadership is a widely studied, complex and multidimensional phenomenon, which has a fundamental role in the operation and development of any organization to achieve the set goals and be successful. Leadership plays a vital role in any organization's ability to achieve its goals. Leaders are traditionally "creative, innovative, and capable of meeting challenges and making difficult decisions"; on the other hand, strategic leadership means additional leadership qualities – the ability to imagine and outline the future, the ability to support the organization's employees, the ability to adapt to changes. It is the ability of leaders to develop the organization's strategy, plan strategically, organize time and work, make decisions – lead according to the set goals (Abu Amuna, et al., 2021). Differences in the leader's behaviour allow us to draw conclusions about his productivity and job satisfaction (Reunanen and Kaitonen, 2016).

At the same time, there is no single definition of leadership in social sciences. To understand leadership research approaches and their characteristic elements, it is essential to know the stages of leadership research development.

Making analysis of leadership theoretical conceptions, author has chosen two main criteria – (1) the influential criteria for each leadership style; (2) accordingly, the leadership styles conceptualization approaches. However, it is important to understand the main approaches of how leadership theories have developed.

Initially, in the 20th century's 1930s and 1940s, leadership research was based on the study of leader characteristics, character traits, analysing and studying two basic approaches – in one case, that these traits are innate, and in the other – that leadership skills can be developed, they are acquired during the life due to the own experience. This approach was influenced by Great Man theory (Spector, 2016), which assumes that leaders are born and are usually men who are able to take over the power. In the 20th century's 1940s and 1950s, a theoretical approach to behaviour was developed, resulting from research on the characteristics of a leader, basically developing the assumption that one can become a leader. Consequently, effective leadership behaviour and the necessary skills and competences that leaders could learn in life are studied (Huczynski and Buchanan, 2001). Various behavioural traits are categorized, leadership styles are consequently studied.

Initially, one of the best-known behavioural theoretical approaches is Kurt Lewin's theory, which divides three basic leadership styles – authoritarian, democratic and laissez-faire leadership (Reunanen and Kaitonen, 2016). Based on the behavioural theoretical approach, models of leader behaviour have been developed later, which basically explain in a two-dimensional way whether a leader is: (1) task-oriented and (2) people-oriented, correspondingly developing 4 basic leadership styles (Reunanen and Kaitonen, 2016). These are two fundamental factors influencing the basic leadership style, which are schematically depicted as the x and y axes of coordinates with a value from low to high (Reunanen and Kaitonen, 2016). One of the best-known approaches that has been developed and widely used in research is Blake and Mouton's Managerial Grid. According to Blake and Mouton, the leadership style of the leader is determined by the two-level manager's concern 1) for people/employees – orientation towards building relationships (concern for people – relationships/human orientation), where the manager takes into account employees, their ideas, feelings and builds relationships, which are based on mutual trust, teamwork, 2) concern for production – task orientation, where the manager works to achieve specific goals and complete work on time, gives specific tasks, instructions (Blake and Mouton, 1982). Accordingly, Blake and Mouton have developed a model of leadership styles – the so-called "Managerial Grid", where axis represent: X axis – concern for production – task-oriented management, Y axis – care about people, relationship oriented management. Filling the test, depending on points of each of the axes, it is possible to determine one's leadership style. In total, 5 styles are stated – in each quadrant and in the middle: (1) Impoverished Management; (2) Task management; (3) Country Club Management; (4) Middle-of-the-Road Management and (5) Team Management – a management style where a high focus on both tasks and people is practiced (Blake and Mouton, 1982). The most effective management style, according to Blake and Mouton, includes a high focus on tasks, the implementation of the organization's vision and strategy – that is, the determination of professional goals, and at the same time with focus on people, employees, their well-being both in the organization and in their personal lives. Thus, it is possible to conclude that Blake and Mouton's model can also be analysed in the context of WLB, which provides for the search for balance, focusing on the achievement of employees' professional and private, personal, family goals, satisfaction with life.

In the next phase of the 20th century's 1960s, situational aspects gained significant importance in leadership research, and relevant theories were defined as social interaction theories, which are defined as situational leadership theories and social contingency theories. Social contingency was one of the first theoretical approaches, which predicts that the leader changes his leadership style, considering the abilities of the followers/employees and the context of the task (Huczynski and Buchanan, 2001, Reunanen and Kaitonen, 2016). It is an approach to leadership that rejects one-size-fits-all approach – the different followers/employees and the situation at hand must be considered. Therefore, the task of the leader is to evaluate each situation and adapt (Reunanen and Kaitonen, 2016). At the same time, the research of two dimensions of behavioural theories is continued – 1) task orientation and 2) people orientation.

Situational leadership is based on the understanding that each person reaches a certain level of maturity and thus can accomplish certain tasks. Hence, this level of maturity increases with experience. Consequently, there is a need for leaders to find out the employee's abilities and skills, to which the tasks are adjusted accordingly, promoting the employee's growth (Huczynski, Buchanan, 2001, Perales et al., 2012). Therefore, the leader must be able to adapt and apply different leadership styles considering the specific situation and the employee's abilities, as a result, by using different styles, productivity, efficiency and employee satisfaction with work and life can be achieved (Gaur and Katuse, 2022, Goleman, 2000, Silverthorne and Wang, 2001).

Given the ongoing changes, especially leaders need to consider the situation and situational changes when choosing a specific leadership style (Reunanen and Kaitonen, 2016, Silverstone and Wang, 2001). Leaders need to evaluate the individual situation and the skills of the employees to lead the organization in the desired direction in the future (Thompson and Glasø, 2015). In addition, it should be noted that employees like the work they do if they are properly guided (Gaur and Katuse, 2022). Therefore, it can be assumed that changing leadership styles according to the situation potentially also motivates employees to complete the necessary tasks, because otherwise, the inability of employees, which they are aware of, can contribute to demotivation.

When explaining situational leadership, the Hersey and Blanchard situational leadership model, which was described in the 20th century's 1970s, is widely used in academic publications and research (Perales et al., 2012). In addition to the two basic leadership axes – task orientation and relationship orientation, a situational assessment tool is used to analyse the readiness of the follower/employee to complete the work in the given situation. The readiness of the follower/employee is evaluated according to two criteria: (1) ability to complete the specific task - high or low; (2) willingness/confidence in oneself to complete the specific task - from low (insecure) to high (confident) (Perales et al., 2012). Hersey and Blanchard's (1996) situational leadership theoretical approach explains leadership styles by evaluating each situation and the follower/employee's ability and willingness to complete the task. Accordingly, 4 different leadership styles are applied: (1) directing (telling) – followers have low abilities and low willingness for the task; (2) coaching (selling) – subordinates' will is high, but their ability to complete the task is low; (3) supporting (participating) – subordinates' will is low, but abilities are high; the leader's task is to motivate and convince subordinates of their abilities, allowing them to make their own decisions; (4) delegating (observing) – subordinates want and are able to make their own decisions; decision-making power is transferred to subordinates and the leader interferes as little as possible; subordinates are the ones to take full responsibility (Hersey, Blanchard and Natemeyer, 1979, Reunanen and Kaitonen, 2016). Analysing this approach, the author concludes that the axis "will" includes motivational components and can be characterized as motivation to complete the task. And the other axis "abilities" are related to skills and competences, experience, professionalism.

Tero Reunanen and Jaana Kaitonen analyse more than 10 different approaches of situational leadership, identifying diverse leadership styles and features that leaders need, dividing the styles into behavioural approaches, social interaction approaches, integrative approaches, and emotional intelligence (Reunanen and Kaitonen, 2016).

It is possible to divide the theoretical approaches of social interaction leadership into at least three basic types of leadership: (1) autocratic/authoritarian management – the leader uses power "from above", makes decisions, gives tasks and ensures discipline; (2) democratic management – a type of leadership where employees are given the opportunity to participate in decision-making; (3) team management – all team members have the opportunity to participate both in the decision-making process and in the evaluation of results, where the team finds solutions to problems together (DuBouis et al., 2015, Reunanen et al., 2016).

During the 20th century's last decades, transformational leadership research has been developed, which means that leaders are able to inspire their followers/employees to actions that exceed what is expected of them (Reunanen and Kaitonen, 2016). Therefore, there is a question of how to deliberately influence employees/followers to achieve the desired result. Basically, two theoretical approaches are identified: (1) transactional leadership – building relationships with employees, giving them what they want and getting in return what the leader wants to achieve tasks and goals, and (2) transformational leadership – the leader builds relationships by being able to motivate and inspire, thereby achieving goals (Huczynski and Buchanan, 2001).

Although emotional intelligence is not considered one of the theoretical approaches to leadership, its characteristics are of fundamental importance in how leadership styles are classified, and leadership behaviour is characterized. An emotionally intelligent leader is able to create and maintain a positive work environment and atmosphere, which is essential for achieving the organization's goals (Goleman, 2000, Reunanen and Kaitonen, 2016). Goleman is the founder of the emotional intelligence approach – emotional intelligence is considered as one of the basic characteristics of an effective leader. David Goleman distinguishes 6 basic leadership styles, where each of them makes use of the key competencies of emotional intelligence in different combinations – self-awareness, self-regulation, motivation, empathy, and social skill. These styles are: (1) the coercive style; (2) the authoritative; (3) the affiliative style; (4) the democratic style; (5) the pacesetter style; (6) the coaching style (Goleman, 2000).

According to Reunanen and Kaitonen, the developed Leadership Styles ontology, which is based on literature studies of theoretical models of leadership, distinguishes such factors affecting leadership as: (1) low or high freedom (for example, in decision-making); (2) low or high employee/follower capacity; (3) low or high task orientation of the leader; (4) low or high leadership orientation towards people or building relationships; (5) low or high job complexity (Reunanen and Kaitonen, 2016). Therefore, the basic classic criteria are analysed and combined – such as task orientation and relationship orientation, as well as freedom, employee/follower abilities and work complexity, which reflect the assessment of the situational dimension.

3. Time management conceptual models

Goleman has argued that if we ask what a leader should do, then answers such as strategy, vision, mission statement, and organizational culture formation follow. But if it is asked specifically what precisely leaders do, then the answer is – they achieve results, which is also their work (Goleman, 2000). To be able to achieve these results, time management is a crucial skill. Effective time management can be explained by the ability to do what is planned in the specified time and quality. It is simultaneously a skill that reduces stress and promotes life satisfaction (Allen, 2001).

At the same time, considering global competition and an ever-increasing demand for immediate human resource availability, the role of time management at work is also increasing (Abu Amuna, et al., 2021). In order to draw conclusions about what skills and character traits an effective leader should have, researchers conduct tests, interviews, and collect biographical information about leaders (Yukl and Gardner, 2020).

Time management is one of the factors that determine success or failure in business and personal life. Time management is the personal ability to manage time in one's own life. Therefore, everyone's ability to manage time is the ability to have a sense of control, which helps to find inner peace and the ability to achieve results. On the contrary – if a person is not in control of his time – "stress, anxiety, depression" are induced. The author uses two time management models in his study – ones by D. Allen and B. Tracy. Analysing Tracey's approach, it is possible to conclude that motivation plays an important role in the ability to manage time and achieve results. Tracey identifies 4 elements as the keys to successful time management essentially include the ability to motivate the person – desire, decisiveness, determination, and discipline. The author of this work also puts motivation as the third axis, third dimension in the proposed model of Leadership styles in time management for WLB in flow.

The psychology of time management relates to the ability to control time. Tracey describes it as "Law of Control". It is the ability to be in status of being in control of the life. Accordingly, time management skills include the ability to arrange life events in such a way that this order corresponds to the defined importance in life. Satisfaction is also another basic dimension of WLB. The ability to manage time and be satisfied with life can be achieved when one has defined goals and understands one's values and vision of why it is important to do what one does (Tracey, 2013). And this is one of the essential characteristics of leadership. Only when there is clarity about goals, mission, and vision, it is possible to effectively manage time and strategically achieve what is intended. David Allen's (2008) model of leadership types includes analysing leader's ability to: (1) manage time and tasks while being in control (X axis); (2) determine the vision, creativity as perspective (Y coordinate axis). Accordingly, 8 types of leaders are distinguished - 1) victim / responder, 2) micro manager / implementer; 3) crazy maker / visionary leader; 4) captain & commander.

Time management is fundamental ability of leaders to achieve organizational results and productivity. Also, it is a significant ability of individuals, including employees, to manage their lives and reach WLB. Time management is a necessary skill for every leader and manager. The way leaders and managers plan the time affects the type and style of the leader.

4. Proposed model of leadership styles in time management for work life balance

Author has analysed models and theories of leadership, time management and positive psychology, systematized them and accordingly developed Leader's types and Leadership styles in Time management for work life balance in flow (see Table 1.). To achieve WLB and be in a state of flow, the manager must have a balance between control and perspective (Allen), between excitement and boredom (Csikszentmihalyi), between task orientation and relationship orientation (Lewin, Blake, Mouton). When defining the types of leaders, the author proposes to name the X axis as Work, it is routine, technical, reactive, and the Y axis as Life, it is exciting, creative, proactive. One cannot enjoy the same thing at the same level for a long time. People grow up either bored or frustrated; and then the desire to enjoy the life again prompts to expand skills and discover new opportunities (Csikszentmihalyi, 1990).

The author adds a third dimension, the Z axis – leadership, proactivity and motivation to achieve WLB, because leaders must show leadership both at work and in life, they must also be motivated and proactive. By adding the motivation dimension, the styles are also subordinated according to the leadership-motivation level. For leadership styles, author proposes to put hard skills, with no orientation for people, on the X axis, while the Y axis is soft skills, emotional intelligence. And Z axis is motivation to lead, leadership skills. The axis of motivation and proactivity marks a new dimension of leadership, which at the highest point of all axes allows to achieve the state of Flow Leadership style. To understand how to achieve the state of flow leadership, 8 leadership types and corresponding leadership styles are defined. Each of these eight styles has its own set of tools and actions that allow it to be used to create a WLB in an integrated manner.

Table 1

Leaders' types and Leadership styles in Time management model for work life balance in flow, R. Druvietis, 2022

Theory	X axis	Y axis	Z axis	1.quadrant	2.quadrant	3.quadrant	4.quadrant	5.quadrant	6.quadrant	7.quadrant	8.quadrant
Druvietis Leader's types	Work / Professional	Life / Personal	Motivation for balance	Observer	Planner	Dreamer	Manager	Enthusiast	Executor	Strategist	Leader in flow
Druvietis Leadership styles	Hard skills	Soft skills	Motivation to lead	Lazy leadership	Boring leadership	Dreaming leadership	Management leadership	Delegating leadership	Executive leadership	Creative leadership	Flow leadership
Blake, Mouton	Task orientation	Relationship orientation	-	Impoverished management	-	Country Club management	-	-	Task management	-	Team management
Lewin	Task emphasis	People emphasis	-	-	-	-	-	Laissez-faire	Autocratic	Transformational	Democratic
Goleman	-	-	-	-	Commanding / Coercive	Affiliative	Authoritative	-	Pacesetting	Coaching	Democratic
Hersey Blanchard, Contingencies	Ability	-	Motivation	Uncommitted Beginner	-	-	Disillusioned Learner	Enthusiastic Beginner	-	-	Mature expert
Situational Leadership	Directive	Supportive	-	Observing / Delegating	Telling	Participating	Selling	-	-	-	-
Hersey Blanchard, Situational Leadership	Leaders experience	Leaders Intelligence	-	-	-	-	-	Delegating	Directing	Supporting	Coaching
Allen	Control	Perspective	-	Victim	Micro-manager	Crazy maker	Autocrat	Responder	Implementer	Visionary	Captain Commander
Chizmanth yali	Skill	Challenges	Flow	Apathy	Boredom	Worry	Control	Arousal	Relaxation	Anxiety	Flow
Gallup	-	-	-	-	-	-	-	Influencing	Executing	Relationship	Strategic

Source: reviewed theories, author's construction.

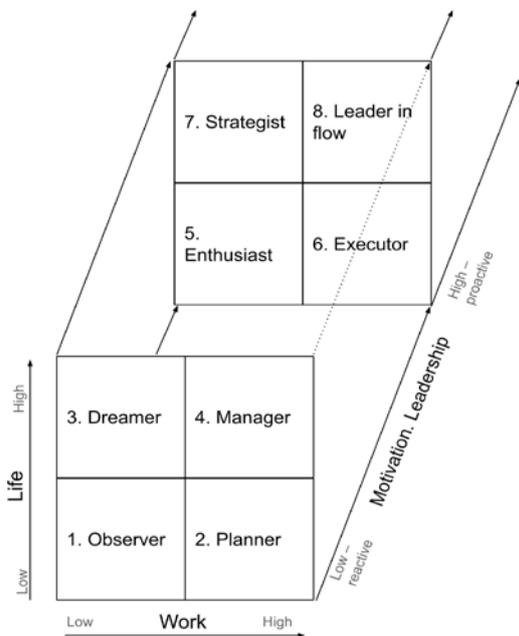


Fig. 1. Leader's types in Time Management for work and life balance in flow. Druvietis, 2022.

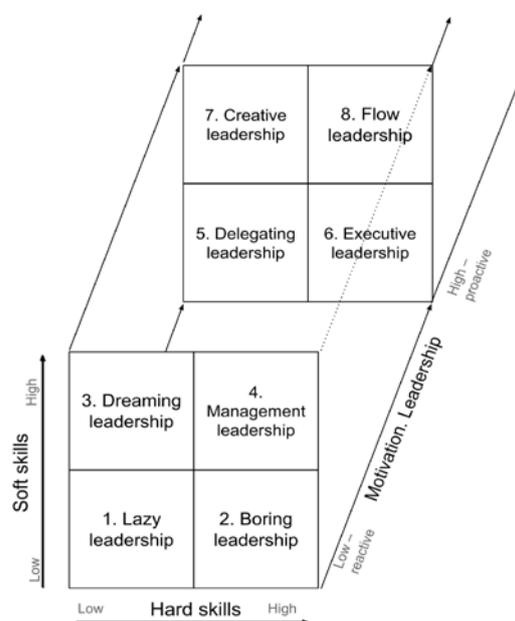


Fig. 2. Leadership styles in Time Management for work and life balance in flow. Druvietis, 2022.

The eight quadrants described by these axes broadly define the styles of response and leadership typically experienced with various combinations of low and high control and low and high perspective taking. The author puts forward 8 types of leaders in correlation with Table 1.: Observer – low work, low life, low motivation; Planner – high work, low life, low motivation; Dreamer – low work, high life, low motivation; Manager – high work, high life, low motivation; Enthusiast – low work, low life, high motivation; Executor – high work, low life, high motivation; Strategist – low work, high life, high motivation; Leader in flow – high work, high life, high motivation (Fig. 1.). Accordingly, 8 leadership styles for WBL are defined as follows: Lazy leadership, Boring leadership, Dreaming leadership, Management leadership, Delegating leadership, Executive leadership, Creative leadership, Flow leadership (Fig. 2). The obvious optimal state would be an elevated level on all three axis, the sector designated as 8. Flow leadership.

The matrix and following steps can be useful both as a map to assess leaders' condition, or a specific situation, and as a guide for improvements, raising productivity. It is expected to achieve more by following this system of leadership styles, focus on what can work best in different situations. The matrix is relative, situational, and fluid. How specific individuals experience the way through the quadrants are different experiences. Due to temperament and personality, it is possible for a leader to find himself in one state more than another. A leader can consciously move to another quadrant depending on what is to be done and what results are expected from subordinates.

Leadership style depends not only on the leader's type, but also on team and specific situation. Identifying leadership style helps to provide adequate guidance to employees and understand what decision-making strategies are to be implemented. Developing a distinctive leadership style, while being able to adapt the person's own method to specific circumstances, can help to improve personal and overall productivity benefiting teams and the company.

Conclusions

1. In accordance with aim of the research paper, the review and analysis of the theoretical models of leadership, time management, WLB and flow has been done and a new model of 8 leadership types and 8 leadership styles has been conceptualized. The results of the conceptual study allow to assume that motivation and proactivity are crucial factors in leadership in the post-pandemic information age to reach WBL. In the context when the boundaries between work and private life and space have merged and new skills, new knowledge and new leadership styles have developed to manage processes and teams. The ultimate aim of time management is to practise the Flow Leadership to be in harmony and balance.
2. By developing the new model, new knowledge has been created in the management field in the social sciences. Division of influential factors from theories analysed in three axis and 8 quadrants as in Table 1. is unique. It provides in-depth insight of the gap between previous theories and is applicable in post-pandemic situation. Z axis allows all analysed 4 quadrant models to add 3rd dimension – motivation and leadership ability factor, what is necessary in the new normal. Influencing factors are: 1) proactivity, reactivity, and motivation. Defining 8 types of leaders provides a new typology based on three influencing factors: (1) work, professional axis, (2) life, personal axis and (3) motivation for balance axis. Leadership styles based on three basic influencing factors: (1) soft skills, (2) hard skills and (3) motivation. The first 4 defined leadership styles do not achieve WLB because they are reactive and not motivated, while leadership styles 5 to 8 achieve WLB. At the same time, only the 8th style "Leadership in flow" achieves both WLB and flow state, which signifies harmony and balance and which every leader should strive for.
3. The study will help to develop the next phase of the research which is survey and questionnaires – tests, by completing which the executive will be able to determine time management style and receive recommendations for improving leadership productivity and achieving WLB.
4. A definition of leadership styles will allow authors to develop an appropriate time management workflow system to increase the productivity of managers and enable obtaining WLB in "new normal" circumstances in diverse situational contexts.

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TERRITORIAL VARIATION OF GENDER RATIO IN LATVIA - CAUSES AND IMPLICATION

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Abstract. Latvia has the highest ratio of women to men in the EU. However, such imbalance can be largely attributed to the gap in life expectancy. Previous studies have shown that particular attention should be attributed to the gender ratio within the prime working age population (25-54 years), as this age group has the most influence over the demographic, social and economic future of the country or region. Causes and effects of such differences deserve close evaluation from both academic and policy planning perspectives. This study aims to measure the extent of gender ratio imbalance among local populations in prime working age in Latvia and to evaluate possible causes and effects of the observed disparities. Authors use statistical and geospatial analysis tools and rely on official statistics for the local administrative units created after the 2021 administrative-territorial reform. Causes and effects of the observed imbalances are discussed using results of the population survey carried out throughout the country in 2021 within the framework of research project “DemoMig”. Study results clearly demonstrate the presence of gender ratio imbalance in many local municipalities. Larger cities and their suburban areas are strongly attracting economically active women, causing significant long-term demographic and socio-economic development risks for surrounding rural areas. Survey results highlight several plausible causes for such regional disparities, including gender-oriented employment options, living costs and accessibility of specific services or social activities. Territories with higher gender ratio imbalance in favour of male population face significant risks of further population decline.

Keywords: *demographic inequalities, gender ratio, regional development.*

JEL code: J11, J16, R12

Introduction

Sex ratio or gender ratio as a quantitative statistical indicator, characterizing imbalance among genders, varies not much due to methods of calculation, but more by territorial units and subgroups of population. Gender ratio in Europe is often defined as the number of females per 100 males. At the beginning of 2021 Latvia had the highest gender ratio (116.3) compared to average of the EU-27 countries (104.6), exceeding gender ratio in the neighbouring Lithuania (112.8) and Estonia (110.8) (Eurostat, 2022). Closer look at the international population statistics provides us partial explanation for such imbalance, which is largely caused by a notable gap in life expectancy between men and women.

Life expectancy of Latvian males aged 65 constituted 13.8 years and that of females – 18.6 years in 2021. (CSB, 2022) However, while further exploring regional and municipal level data, it becomes hard to miss yet another peculiarity – uneven regional distribution of gender ratio throughout the country. Gender misbalance becomes even more disturbing in the younger age groups. Previous studies have argued that particular attention should be paid to a gender ratio within the working ages, and particularly - to the prime working age group (25-54 years), which holds the most influence over demographic and socio-economic development of the country and its territorial units (Dahs, 2021; OECD, 2022). Determinants and implications of such differences deserve close evaluation from both academic and policy planning perspectives. Gender preferences for children in Europe have shown stable tendency towards a mixed sex composition, and therefore, should not be considered a factor. (Hank & Kohler, 2000)

Literature review demonstrates that territorial gender ratio imbalance in most cases is a local phenomenon caused by selective migration developments (ESPON, 2013). Such local imbalances are often connected to deficits in socio-economic conditions and may cause a further downward spiral in terms of demographic and economic trends. To avoid regional demographic and socio-economic degradation, it is important for academics and policy makers to monitor regional male and female balance in working and reproductive ages. Previous studies explain that demographic consequences of rural gender ratio imbalance can determine lower fertility and rapid population ageing. Other considerations include reduction of human capital, demographic decline, as well as negative effects on public and social life (Spoorenberg, 2016; Anderson & Kohler, 2015).

Considering the above, **this study aims** to determine extent of gender ratio territorial imbalance in prime working age in Latvia and to assess its determinants and consequences.

From the methodological perspective, authors primarily rely on statistical and geospatial analysis tools. Data for the study are obtained from official statistical sources. Territorial level data are used exclusively in accordance with the administrative structure of Latvia created after the 2021 administrative-territorial reform. According to this reform, at the beginning of 2022 there were 6 statistical regions and 43 administrative territories - municipalities, of which seven are cities that coincide with municipalities (Riga, Daugavpils, Jelgava, Liepāja, Jūrmala, Liepāja, Rēzekne, Ventspils). The next, lower level municipalities known as counties, include three more cities (municipality cities – Ogre, Jekabpils, Valmiera), 67 small towns and municipality rural territories. It is important to note that three cities - Jekabpils, Ogre and Valmiera - have acquired the special status of "municipal city" (“*novada valstspilsēta*”) later after the reform. Due to the comparability of the data, Jekabpils and Valmiera have been analysed separately, while Ogre is included in the group of small towns. Study also relies on the outcomes of the nationwide population socio-demographic opinion survey carried out in 2021 (within the research project “DemoMig”, n=1406), hereafter called – “DemoMig survey”.

Brief literature review

Academic research addressing imbalances of population gender ratio has progressed considerably in the past few decades, with research focus shifting from mere acknowledgement of gender ratio variations toward the analysis of social, economic, or demographic causes and effects of these disparities. Recent literature sources show greater emphasis on female role in migration processes and acknowledge different reactions of male and female population to changing social and economic conditions. (Pedraza, 1991; Taran & Geronimi, 2003; Pessar, 2005)

Some studies provide detailed review of the causes and effects of gender-specific internal migration flows within specific countries and regions (Krohnert & Vollmer, 2009; Aydiner, 2019), or focus on gender gap in economic activity. (WEF, 2022) Very few information sources address the regional gender ratio imbalance on the European level (see ESPON, 2013) and even less are available specifically for Latvia. As a rule, most of the reviewed sources focus on gender ratio imbalances among young adult or working age populations. This is done for two reasons - to avoid data distortions by the variations in life expectancy and to discuss future economic or demographic implications of the observed imbalances.

In year 1991, American sociologist Silvia Pedraza published an important groundwork paper “Women and Migration: The Social Consequences of Gender”. (Pedraza, 1991) In this study author touched upon many important questions regarding the role of gender in migratory intentions and explored causes and consequences of female or male-dominated migration flows. The role of women in global migration dynamics has been re-acknowledged and emphasised by Patricia R. Pessar in her 2005 work “Women, Gender, and International Migration across and beyond the Americas: Inequalities and Limited Empowerment”. (Pessar, 2005) While the study primarily addresses

gender aspects of international migration, it also highlights several important theoretical concepts concerning role of women in spatial demographic processes. Study concludes that there is an increased role of gender in the migration processes, alongside increased recognition by scholars and policymakers alike that female experience of migration differs from that of males.

The most extensive regional analysis of gender ratio imbalances in European regions available to date has been presented in 2013 by ESPON project “SEMIGRA - Selective Migration and Unbalanced Sex Ratio in Rural Regions”. (ESPO, 2013) Project has produced several highly valuable outputs, including detailed maps representing gender ratio among young adults in European countries on the NUTS 3 territorial level. Project report indicates that a surplus of young women is a predominantly urban feature in many European regions. Extraordinarily unbalanced sex ratios in each region seem to be the consequence of specific local conditions. Former Soviet countries and Eastern Germany in particular are displaying an extraordinarily high divergence level. Project team has emphasised that mobility of young women needs to be understood as an important feature for local economic development, as age- and gender selective out-migration from rural regions works against the overall aim of territorial cohesion and balanced regional development.

One of the most detailed studies on social and economic causality of young female migration from East Germany was published by German researchers Steffen Kroehnert and Sebastian Vollmer. (Kroehnert and Vollmer, 2008) In their 2008 paper “Where Have All Young Women Gone? - Gender-Specific Migration from East to West Germany” authors provide extensive analysis on the causes and effects of migration of young females from East to West German regions in the years following the reunification. Authors conclude that the disproportionately high emigration rate of young women from the East is mainly caused by the high female education level accompanied by a lack of demand for highly qualified female labour. The East regions which are most severely affected by emigration of young women have a labour market structure which does not conform to the wishes and life plans of young women. Considering the region, socio economic conditions and period under study, many parallels can be drawn between East Germany and former Eastern Bloc countries Latvia.

Although many of the studies have highlighted troubling disparities in regional gender ratio in the former Soviet territories, there is very little research available on the demographic aspects of gender ratio in Eastern European countries, the Baltic States and Latvia. Some very limited review of the gender ratio issues among the working age population was presented in 2021 paper “Challenges of depopulation in Latvia’s rural areas”. (Dahs, 2021) Access to the most recent geographically referenced statistical data combined with the available DemoMig survey results now make it possible for the researchers to begin fully exploring this important topic in Latvia.

Research results and discussion

Considering the noticeable gap in life expectancy for men and women in Latvia, before proceeding with and details analysis of the gender ratio issues, it is first necessary to determine the representative population age group to be used in this study. Figure 1 shows official data on the number of male and female inhabitants in Latvia by age in 2022.



Source: authors’ elaboration based on CSB, 2022 data.

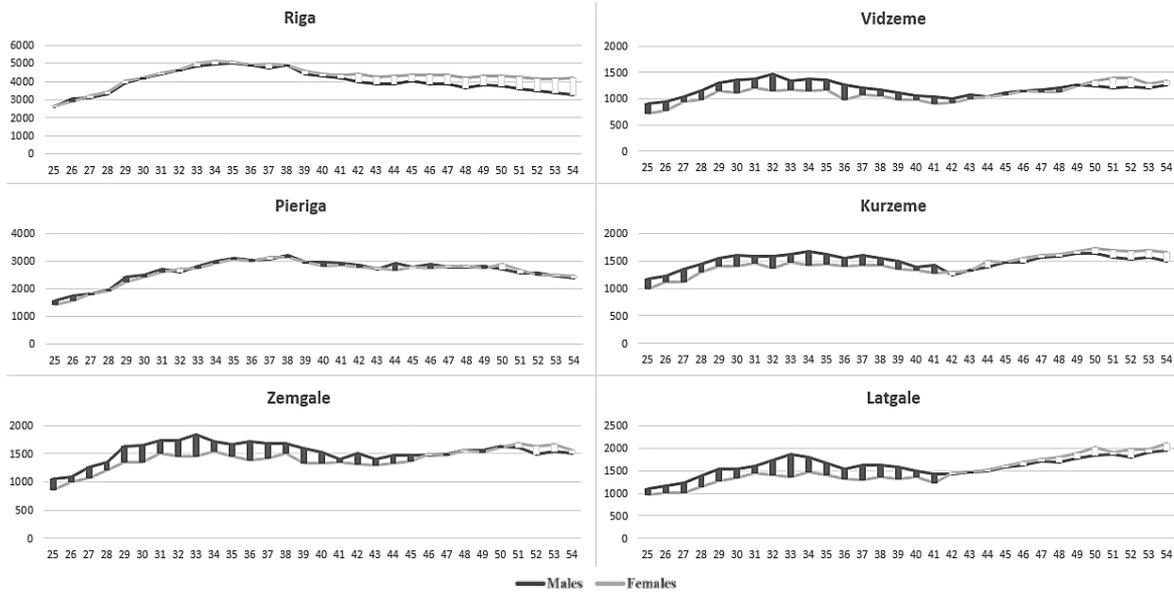
Fig. 1. Number of males and females by age in Latvia at the beginning of 2022

Considering the strong divergence in male and female population numbers after age 55, to avoid misrepresentation of data caused by this stark difference, author propose focusing on the numbers for prime working age group (25-54 years old) as defined by OECD employment statistics. (OECD, 2022)

In the following sub-sections authors analyse territorial gender ratio imbalances, discuss determinants and implications of these imbalances by using official territorial statistics and survey data. Considering the timeframe of the available statistical and DemoMig survey information it is reasonable to use municipal framework established in Latvia after the 2021 administrative-territorial reform, with special exceptions in regards to the cities of Jekabpils, Valmiera and Ogre, as explained in the introduction.

1. Defining the scale of regional gender ratio imbalance

Following the practice observed in the literature, authors begin by exploring the extent of regional gender inequalities among Latvian municipalities. When looking at the age and gender breakdown of 25-54 population in statistical regions (Figure 2), one can immediately notice some discrepancies.

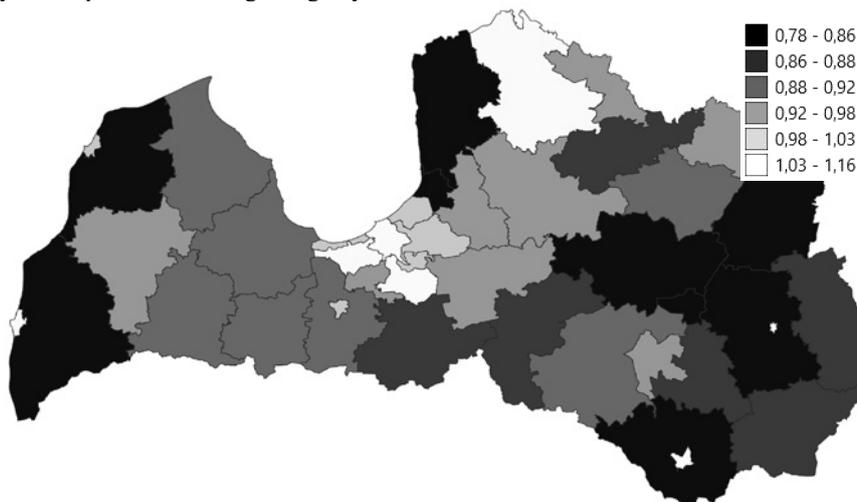


Source: authors' elaboration based on CSB, 2022 data.

Fig. 2. Number of males and females in statistical regions of Latvia in 2022 (by age in 25-54 group)

Charts show that only the Pieriga region maintains almost perfect gender ratio balance within all age groups. Riga city is the only region where there are less men than women at all ages with total 7% predominance. All other regions demonstrate larger shares of male population up to certain age, where local factors including, but not limited to high male mortality reduce male population share. Kurzeme and Latgale regions show the earliest and sharpest transition from male to female predominance at age 42.

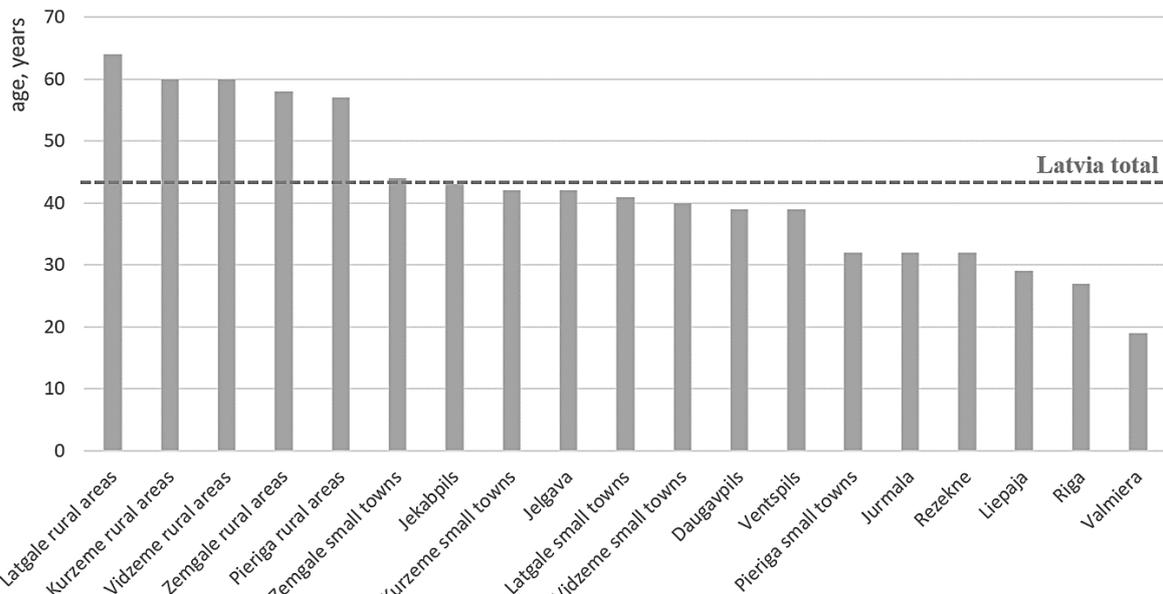
These observations highlight different underlining processes of male and female population dynamics and highlight the need to further explore differences among and within the statistical regions, while paying particular attention to various types of municipalities and considering their geographical, social and economic characteristics. Figure 3 below provides an overview of gender ratio (females to males) in age group 25 – 54 years in Latvia by municipalities at the beginning of year 2022.



Source: authors' elaboration based on CSB, 2022 data.

Fig. 3. Gender ratio (females to males) in age group 25 – 54 years in Latvia by municipalities and cities which coincide with municipalities at the beginning of 2022

On the municipal level, there is an evident and significant divergence of the gender ratio figures among the prime working age population. Outside the central regions of Riga and Pieriga, large contrasts can be seen between the big cities and their surrounding rural areas. It should be immediately noted that in this particular map Valmiera municipality displays high female-to-male gender ratio primarily due to the presence of a big population centre – Valmiera city within its territory. On the national scale, one can observe a classical centre-periphery divergence trend.



Note: Male and female age composition data are smoothed by 7-year moving average.
 Source: authors' elaboration based on CSB, 2022 data

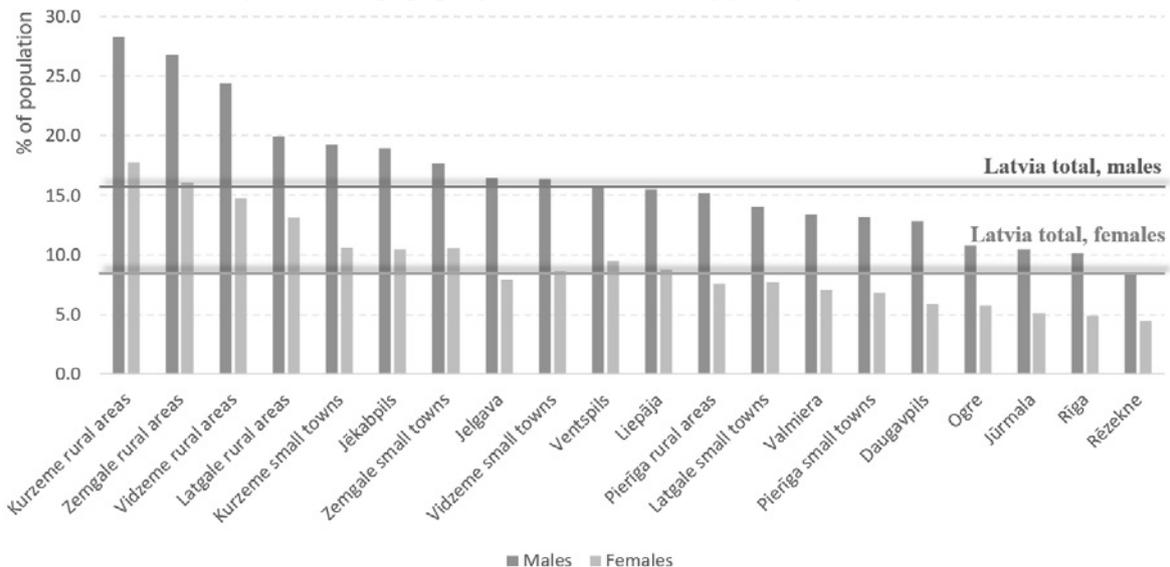
Fig. 4 Age at which women start to outnumber men in cities, municipality towns and municipality rural territories in Latvia by statistical regions at the beginning of 2022

To explore the differences between big cities, smaller towns and rural areas, authors use the latest regional population statistics for all age groups. Figure 4 shows age at which women start to outnumber men in cities, small towns, and rural areas in 2022. The contrast is quite dramatic - it highlights not only the stark differences between cities, towns, and rural areas, but also hints at different processes shaping territorial gender ratio in each statistical region. Zemgale region shows a stable situation with the smallest overall variation, while Vidzeme presents the largest. In the city of Valmiera, women begin to outnumber men at the 20 years age threshold. Pierīga region demonstrates almost no difference between its only big city (Jurmala) and smaller towns, as all these territories comprise peri-urban suburbs of capital city Riga. (Webster & Muller, 2009) Rural territories of Latgale region present the most problematic case – here women start to outnumber men only at age 64, when gap in life expectancy makes it unavoidable.

2. Causes of regional gender ratio imbalance

In this section, authors look at the available statistical and survey data to gain better understanding of causes and perspective of the observed regional gender ratio imbalances in Latvia.

Multiple literature sources (Ubels *et al.*, 2019; Truong, 1996; ESPON, 2013) have suggested the role of education and corresponding job opportunities among the main drivers of gender ratio imbalance. Figure 5 below shows the comparison of various territories by their respective numbers of men and women in the prime working age group who have attained only primary education level.



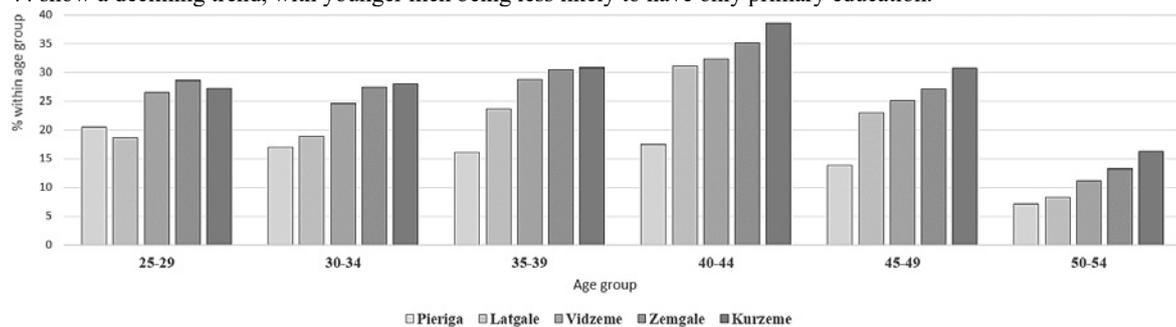
Source: authors' elaboration based on CSB, 2022 data.

Fig. 5. Share of men and women having basic or lower education in the age interval 25-54 years in cities, municipality towns and municipality rural areas of statistical regions in Latvia at the beginning of 2022

Situation in rural areas of statistical regions only partially correlates with the observed gender ratio imbalances. For example, rural areas of Latgale and Pierīga demonstrate relatively high education attainment among men and women, while still maintaining high male-to-female gender ratios. Other territories, particularly in Kurzeme and Vidzeme regions fall closer with the expected trend. This suggests the presence of more complex regional features and causes of gender ratio imbalance, which interact with education attainment level indirectly. (Krohnert & Vollmer, 2009)

Important additional observations can be found by looking at the education attainment levels within smaller age groups (Figure 6). Older age groups (45-54) show low numbers of men with primary education, that can be attributed to the specifics of the education system and a

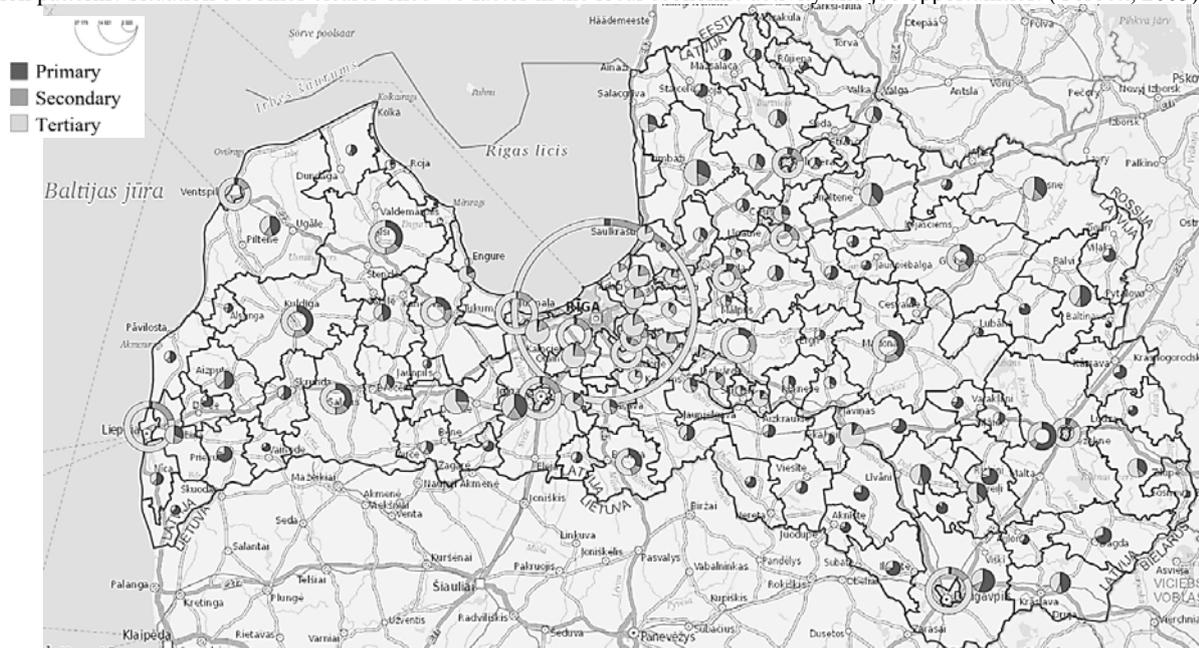
higher demand for skilled male labour in 1980-s. The worst situation can be observed in 40-44 cohort males, who concluded their education during economically and socially uncertain 1990-s. With the worrying exception of the Pieriga region, younger cohorts between age 25 and 44 show a declining trend, with younger men being less likely to have only primary education.



(!) Note: Riga region is excluded from the figure as it has no rural areas
Source: authors' elaboration based on CSB, 2022 data.

Fig. 6. Percentage of males having basic or lower education within 5-year age groups in the age interval 25-54 years in the rural territories of statistical regions in Latvia at the beginning of 2022

Observations lead to conclusion about a complex relationship between local education attainment figures, age structure, gender ratio and migration patterns. Situation becomes clearer once we factor in the local economic activity and job opportunities. (Corbett, 2005)



Note: Full interactive map available on-line (see Source)
Source: CSB, 2021

Fig. 7. Active market enterprises by sector of economic activity in 2020 (by pre-reform municipalities)

Figure 7 shows the number of economically active market enterprises grouped by the sector of economic activity they represent (Primary - natural resources and agriculture; Secondary - manufacturing, construction, and processing; Tertiary - services). This additional information sheds light on the nuanced relations between education attainment and gender ratio. One can see that largest differences in gender ratio appear between territories with mismatch in education levels and job opportunities for a specific gender.

This situation is further exacerbated by close geographical locations of territories with contrasting economic structures. For example, Ventspils city has a higher number of Tertiary sector enterprises (which traditionally offer better work opportunities for highly educated women) (Santos & Klasen, 2021), while its surrounding rural territories are heavily reliant on Primary economic sectors. Combined with differences in the local male and female education attainment levels, this creates social and economic pressure for the educated females to migrate from rural areas to the city, creating the observable gender ratio imbalance. The same picture is evident on a larger scale for the gender ratio dynamics between the Riga metropolitan area and peripheral regions. Overall, the role of education and employment opportunities in regional gender ratio in Latvia is quite high and corresponds to the previous observations from East German regions; where disproportionately high emigration rate of young women from the East was mainly caused by the high female education level accompanied by a lack of demand for highly qualified female labour. (Krohnert & Vollmer, 2009) Regional and sectoral differentiation in equal employment opportunities and remuneration is also an important factor to consider. (Blau & DeVaro, 2007).

With time, one can expect that younger cohorts of men with higher education attainment will somewhat reduce the social and economic preconditions for gender inequality in population centres, however, limited employment opportunities for highly skilled women may pose even greater obstacles for rural areas, unless solutions are found with help of improved mobility, equal employment opportunities and remote work possibilities. (Ubels *et al*, 2019; EIGE, 2022)

Despite the provided explanations, discrepancies in the data suggest the presence of other, more place-specific aspects of regional gender ratio imbalance. To illustrate some of these additional aspects, authors use selection of the answers given by female respondents to the DemoMig survey questions concerning choice of residence (Table 1).

Table 1

Most popular answers to the survey questions regarding the choice of current place of residence and main reasons for being dissatisfied with current place of residence among female respondents in Latvia in 2021 (%)

	Riga		Pieriga		Vidzeme			Kurzeme				Zemgale				Latgale				
	Riga	Jurmala	Small towns	Rural areas	Valmiera	Small towns	Rural areas	Liepaja	Ventspils	Small towns	Rural areas	Jelgava	Jekabpils	Small towns	Rural areas	Daugavpils	Rezekne	Small towns	Rural areas	
Why did you move to the current place of residence?	Moving in with husband / partner	24.2	26.8	32.5	24.1	25.0	26.7	31.0	29.0	15.0	24.6	18.6	20.4	31.7	19.1	26.3	33.0	22.2	30.8	44.4
	Work reasons	9.2	7.1	13.2	7.6	14.8	22.7	13.6	9.7	23.1	22.8	3.4	3.8	14.6	23.4	7.5	9.7	13.9	19.2	7.9
	Safer, pleasant environment	4.4	28.6	13.9	14.7	11.1	5.4	9.2	10.8	17.5	7.0	8.5	3.8	2.4	4.3	6.3	3.8	11.1	3.8	3.2
	Better transportation	5.5	3.6	6.0	5.3	7.4	2.7	2.3	9.7	2.6	5.3	1.7	5.7	7.3	2.1	11.3	1.9	5.6	2.0	9.5
	Better public services	2.1	5.4	5.3	2.9	3.6	5.4	3.4	3.2	7.5	1.8	1.7	11.3	2.4	10.6	5.0	3.9	5.6	7.7	3.2
	Smaller living costs	4.6	1.8	2.6	2.9	7.4	0.0	2.3	2.2	7.5	1.8	6.9	3.7	0.0	6.4	3.8	8.7	8.3	3.8	4.8
	For studies	4.1	7.1	2.0	2.4	10.7	8.0	2.3	3.2	2.5	1.8	0.0	5.7	2.4	2.1	0.0	7.7	5.6	5.9	0.0
What services or amenities do you miss most at the current place of residence?	Access to cultural events	42.3	49.2	46.9	43.3	37.8	48.8	47.4	34.3	42.6	37.7	50.0	44.6	48.9	43.6	58.9	52.8	46.7	61.4	61.5
	Meeting friends	35.3	48.4	48.0	41.1	43.2	43.0	39.8	33.7	44.7	29.0	43.7	55.4	51.1	58.2	52.3	48.4	38.6	68.6	56.4
	Public services	28.1	30.6	46.9	37.1	31.6	44.8	50.0	31.6	29.2	30.4	42.3	40.0	52.1	33.3	46.7	51.2	43.2	52.9	64.1
	Healthcare	28.9	24.2	36.4	27.2	28.9	34.9	34.0	25.5	18.8	30.4	25.4	28.1	36.2	24.5	46.7	44.1	43.2	54.3	44.9
	Acceptable living costs	32.5	45.9	27.4	24.8	35.9	38.4	26.8	24.2	42.6	25.0	15.5	30.3	43.5	30.2	39.8	41.3	33.3	40.8	35.1
	Work opportunities	18.7	32.8	25.0	20.4	24.3	32.6	24.7	27.3	31.9	32.4	22.5	15.6	31.9	14.5	36.1	40.5	37.8	39.4	48.1
	Transportation	27.4	22.6	26.0	25.4	35.1	23.0	30.6	29.0	21.3	25.7	22.5	23.1	38.3	24.1	42.1	30.2	33.3	32.4	43.6
	Safe and pleasant environment	25.2	30.2	27.4	23.4	35.9	18.8	15.3	22.4	31.3	30.4	15.5	19.7	44.7	16.7	30.6	41.7	35.6	35.7	37.7
	Schools	10.8	8.1	11.4	17.4	26.3	16.3	16.2	10.2	8.3	17.4	23.9	15.4	39.6	15.4	15.9	30.7	32.6	15.5	14.3
	Kindergartens	9.7	8.2	12.5	15.3	26.3	10.6	14.4	12.1	4.3	11.8	14.1	15.2	29.8	11.1	15.0	24.0	20.0	7.1	14.1

Note: Up to three answers were given to each question. Therefore, sum of answers by urban and rural areas does not add up to 100%. Source: authors' elaboration based on DemoMig survey data.

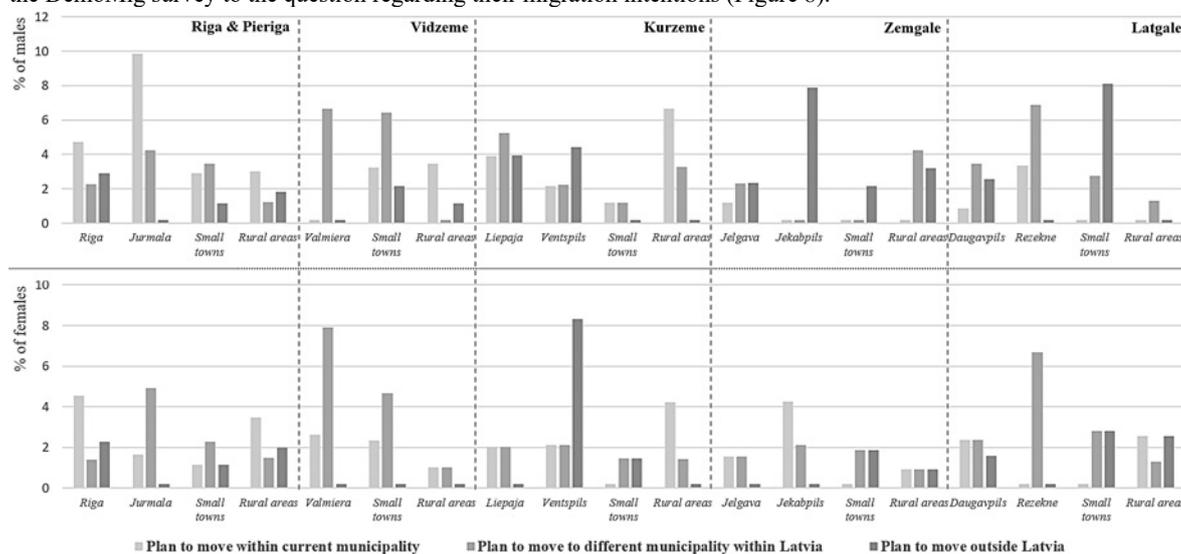
Questions asking women about their motives for choosing the current place of residence reveal that main drives are deeply personal - typically involving moving in with a husband or life partner. It is important to note, that these motives have very small territorial deviations, as women in couples have been found to show less intentions for mobility (Abraham *et al*, 2019). Further evident links have been observed between union dynamics (formation, dissolution) and mobility intentions. (Boyle *et al*, 2006)

Second most important reason for choosing current place of residence among women is often mentioned as work reasons. This motive has a significant territorial variation with highest response rates evident in cities and smaller towns and lowest in rural areas. Once again, biggest contrasts are observed in response rates between territories with contrasting economic structures, for example – cities / towns and their surrounding rural areas. This observation reaffirms the role of employment - education relation in female migration choices. Other reasons like living environment, transportation, living costs, public services and study opportunities show localised relevance only in particular territories.

When asked what they miss most at the current place of residence, large share of women in almost all territories have indicated access to cultural events, and social venues. This factor had somewhat smaller response rate only in some big cities – Liepaja and Valmiera. Economic reasons, including acceptable living costs and work opportunities once again show the highest territorial variation. Women residing in big cities outside Riga and Pieriga, often mentioned missing safe and pleasant living environment, placing it among the top arguments for possible return migration to smaller towns and rural areas. (Buzar *et al*, 2007)

3.Outlook and implications of gender ratio imbalance

After having established some of the primary drivers of gender ratio imbalance, authors proceed with discussion on perspectives of the observer situation. In order to expand the knowledge offered by statistical data, authors compare the replies of male and female respondents of the DemoMig survey to the question regarding their migration intentions (Figure 8).



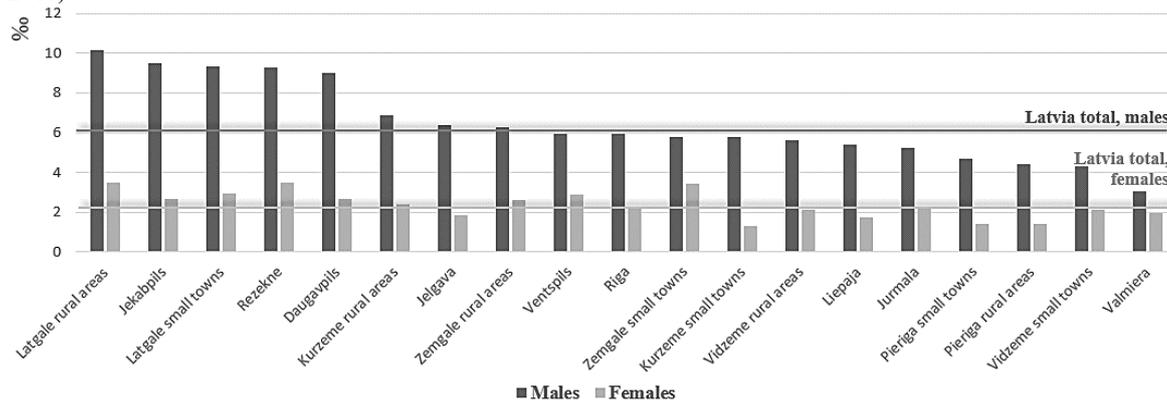
Source: authors' elaboration based on DemoMig, 2022 data.

Fig. 8. Expressed migration intentions of male and female residents in Latvia in 2021

DemoMig survey results show that men are more open to the ideas about changing the place of residence and are keener on emigrating abroad, while women primarily show elevated intentions for mobility between different municipalities. Some exceptions can be observed in cities outside Riga metropolitan area, where both genders show intentions to migrate to another territory within the country. Only in Ventspils city both male and female residents have shown equally high desire for emigrating abroad. Overall, territories with higher gender imbalance show somewhat increased migration intentions. Combining these results with previous observations, one can conclude that there is potential for both male and female return migration from cities to smaller towns and rural areas under the right conditions.

A worrying aspect is presented by divergence in rural male mortality rates, even within the prime working age group. Figure 9 below depicts Male and female mortality rates within the prime working age group in 2021 in different territories of Latvia. These figures loosely correlate with the education attainment levels and explain inter-regional differences in transition from male to female population majority (Figure 2). All territories of Latgale region demonstrate male mortality significantly above average value in this age group. Lifestyle choices,

social, economic and environmental factors should be considered among the probable causes for such trend. (Bye, 2009; Read & Gorman, 2010)



Note: Per mille (‰) - number of deaths recorded per 1000 residents
Source: authors' elaboration based on CSB, 2022 data.

Fig.9. Male and female mortality in the 25-54 age group in 2021

The limited information presented above is sufficient to support the conclusion that without economic transformation of the remote and rural areas, these territories will from even greater depopulation rates in the future due to increased male mortality, low birth rates and increased out-migration of younger cohorts of both men and women.

Table 2

Differences in male and female answers to the survey question about possible solutions to the current demographic problems in Latvia in 2021 (%)

Region	Answer option:			
	Strengthen health status and rise an active life span		Reduce an emigration	
	Males	Females	Males	Females
Latvia total	36.4	48.8	33.4	33.5
Riga	39.6	51.1	41.9	37.9
Pieriga	30.6	38.8	26.4	28.4
Vidzeme	46.7	57.3	31.1	34.7
Kurzeme	32.8	48.5	37.3	32.7
Zemgale	35.2	47.4	24.0	22.3
Latgale	36.1	51.4	34.2	39.3

Note: share of specific answer of males and females. Multiple choice question - up to 3 answer choices were possible, only two most popular answer options are presented in the table. As a result, sum of answers does not add up to 100%.
Source: authors' elaboration based on DemoMig survey data.

To better understand the expectations of the population for improvements in the future demographic situation, authors compare male and female respondents' answers to the DemoMig survey question regarding the necessary policy actions to promote a demographic development. Two answer options most applicable to the 25-54 age group are selected – strengthening health and increasing active life expectancy versus limiting emigration. According to the assessment of the importance of health, women's answers are significantly higher in all regions – the difference in Kurzeme and Latgale exceeds 15 points. The gender difference is significantly smaller in the answers about restricting emigration. Riga and Kurzeme show higher concerns among men, while data for Latgale indicate somewhat higher percentage among women.

Summarising the above, process of female migration in the country presents and interesting case for the life-course study and can be described in terms of consequent life choice priorities: (1) moving to the closest city/town with job opportunities matching education and needs, (2) moving to larger city with better infrastructure (services, culture, healthcare), (3) moving to smaller town, rural areas with better living environment.

Conclusions

1. Study results clearly demonstrate the presence of gender ratio imbalance among prime working age (25-54) population in many local municipalities. Outside the central regions of Riga and Pieriga, stark contrasts can be seen between the big cities and their surrounding rural areas. Overall core-periphery dichotomy was also observed.
2. Larger cities and their suburban areas are strongly attracting economically active women, causing significant long-term demographic and socio-economic development risks for surrounding rural areas.
3. Survey results highlight several plausible causes for such regional disparities, including gender-oriented employment options, living costs and accessibility of specific services or social activities.
4. According to survey data, men are more open to the idea about emigrating abroad, while women primarily show elevated intentions for mobility between different municipalities, further increasing the risk of local gender ratio imbalances.
5. Without economic transformation of the remote small towns and rural areas, these territories will suffer from even greater depopulation rates in the future due to increased male mortality, low birth rates and increased out-migration of younger cohorts.
6. Process of female migration in the country can be described in terms of consequent life choice priorities – (1) moving to the closest city/town with matching job opportunities, (2) moving to larger city with better infrastructure (services, culture and healthcare), (3) moving to smaller town or rural areas with better living environment.

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CONSTRUCTION MATERIAL COST TENDENCIES IN LATVIA IN 2015-2022

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Abstract. Paper looks at main construction material cost tendencies in Latvian market putting an special emphasis on metal and lumber materials. Comparison with United States market is done to evaluate the dependency of Latvian market to main global markets. Material trade industry expert evaluations are used for assessment of market structure and mean metal and lumber price forecasts up to 2026. The research was methodologically based on expert survey of construction material trade industry companies and professional associations in this field of activity and integration of these results with national statistics on comparable goods price changes. The results show varying effects of global prices on Latvian commodities with weaker effect on plywood and rolled steel.

Keywords: *construction costs, prices, construction material, inflation.*

JEL code: L47

Introduction

The key topics looked upon in this article are the costs of construction material and development of those. Authors use statistical data from several countries to overview the dynamics of main material cost positions. Additionally expert method is used to validate sample data on material costs and evaluate future growth. The analysis of material costs is of great essences for procurement procedures both for public and private sector. Construction projects are most frequently multi-year endeavours thus susceptible to price fluctuation. Successful budgeting of construction costs for several years in advance requires a base data on price dependencies to main global markets and forecasts for main positions. Thus results of this research can be used for gauging future procurement costs and providing indexing clauses for contracts.

Literature Review

The practical use of construction material cost analysis is of essence for procurement procedures. Thus, authors look into literature overviewing approaches to procurement procedures in construction and presence or lack of cost estimation and forecasting approaches. The example of procurement method analysis in Australia (Rahmani et.al. 2016) looks stages in procurement methods. In this case there is mention of costs but only in context of cost overruns. Authors believe that lack of cost forecasting is a con in this case.

There is also an overreaching analysis looking at different procurement research and one example is the critical review of procurement methods (Naoum et.al. 2015). The authors of this paper indicate a project being with a budget as one of the axioms of a successful construction project that directly links with the necessity of current research. The inflation component is also indicated as one of the problems faced by the construction industry, but it is cleared showed as outside of the main problems analyzed. Thus, this is another example of costs not being significantly included in the scientific analysis of construction industry procurement.

A growing role in cost cutting for construction projects is the implementation of prefabricated modules. Research done by University of Maryland Eastern Shore (Molavi et.al. 2016) researches the effects of prefabrication as a tool for reducing costs of construction. It is commendable how this research shows the advantages of this approach, but at the same time there is no financial evaluation on effect of material cost changes on prefabrication costs also indicating a need for wider research in cost tendencies. Another approach for cost reduction is procurement cooperation (Eriksson et.al. 2011) that looks possible relations – cooperating procurement procedures, collaborative climate. Cost decreases are facilitated by cooperation between different players, but cost forecasting is not mentioned.

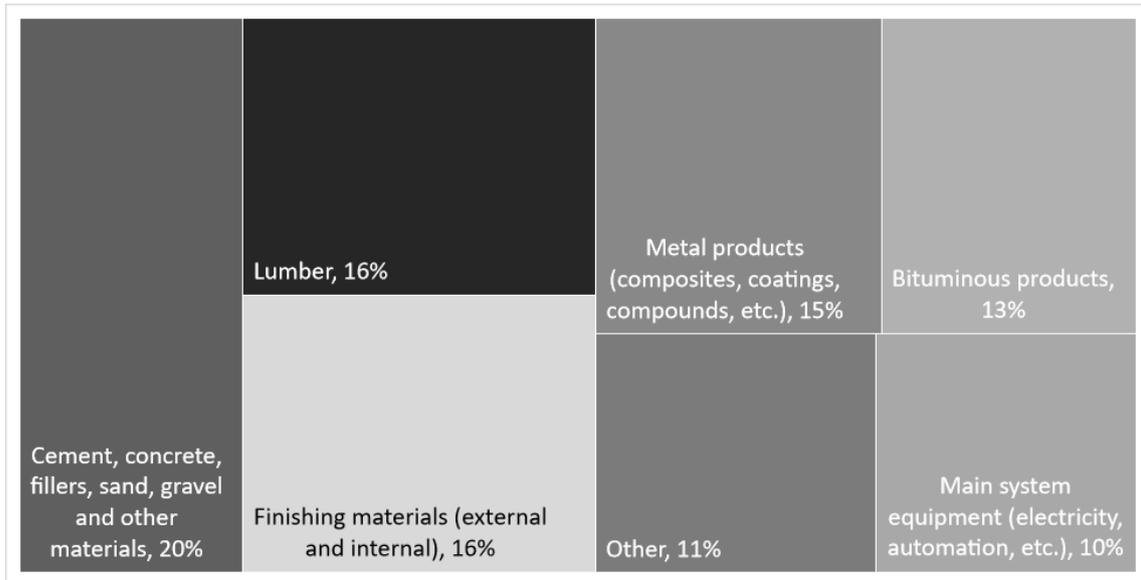
One of arguments for using expert methods for material costs forecasting is the systemic lack of such approach in literature. The forecasting field in construction cost area is developing and different approaches are being used. Amongst the proposed approaches we can mention forecasting of construction cost indexes based on VECM with Search Query (Moon et.al. 2018), seasonal autoregressive integrated moving-average model (Ashuri et.al. 2010), time series models (Hwang 2011), linear regression (Petruševa et.al. 2017), Hybrid Computation Models (Cao et.al. 2014) and dynamic regression models (Hwang 2009). There have even been proposals to use Google search functionality of Trends to forecast economic indicators, including construction costs (Choi et.al. 2012). But the use of expert evaluations has been lacking and indicates the necessity of further analysis in this direction. That also indicates the novelty of use of expert assessments for construction costs forecasts.

The construction industry as a whole is putting increased attention towards sustainable construction. This includes the necessity to estimate the Life Cycle Costs of a building. The estimation of these costs is mostly based on Net Present Value calculations and assessments from different existing projects (Biolek et.al. 2019), but a part of these estimations are construction material costs. That implies the necessity to use material costs as part of Life Cycle Costs assessment. The importance of material costs in the whole life cycle of a built is seen from the share of initial costs in the Life Cycle Costs. Different estimations can be found on this value. Research indicates that initial construction costs can vary in the range from 56% (Sterner 2002) to 65% (Bejrums et.al. 1986) and up to 74% (Berggren et.al. 2018) of overall Life Cycle Costs. These previous finding indicate that material costs, that are a significant part of initial building costs, are an important part of Life Cycle Costs and thus their tendencies and forecasting are integral for planning cost flow both short-term and long-term.

Taking the lack of expert methods in forecasting construction costs, authors believe that this is a field worth exploring and using in actual evaluation of construction material costs. Expertise has been used as a tool for evaluation and forecasting in different contexts. The experts and expertise procedure have been overall analyzed in scientific literature (Ericsson et.al. 2011, Ericsson et.al. 2018, Taylor et.al. 2015) as well as its role in decision-making processes (Dane et.al. 2007). Specifically in the construction industry expert methods have been mentioned in context of Delphi method (Hallowell et.al. 2010) but hasn't been used directly in cost forecasting.

Research results and discussion

Two principal components of construction materials are metal and lumber materials. The specific share of each construction material in overall sales of these materials is not available in Latvian statistical data. Hence, to solve the lack of this data, authors organised a survey of main Latvian enterprises and trade organizations involved in sales of construction materials. The research included 10 experts, amongst them eight were companies selling construction materials and two were professional associations in this field of activity. As a result (see Fig.1), it was determined, that the major position with a 20% share estimation is the category of filling materials like cement, concrete, and other fillers. These are used both in construction of buildings and also infrastructure objects. With an approximately equal share lumber products and finishing materials both have a 16% share in sales. Lumber category includes also all the products made from lumber and used in construction processes. Metal products constitute around 15% of the sales and include both composite materials of different metals, and also products made of predominantly metal. Bituminous products used mainly in road infrastructure constitute 13% of sale. The remaining positions are main system equipment constituting around on tenth of sales and other positions with 11% share.



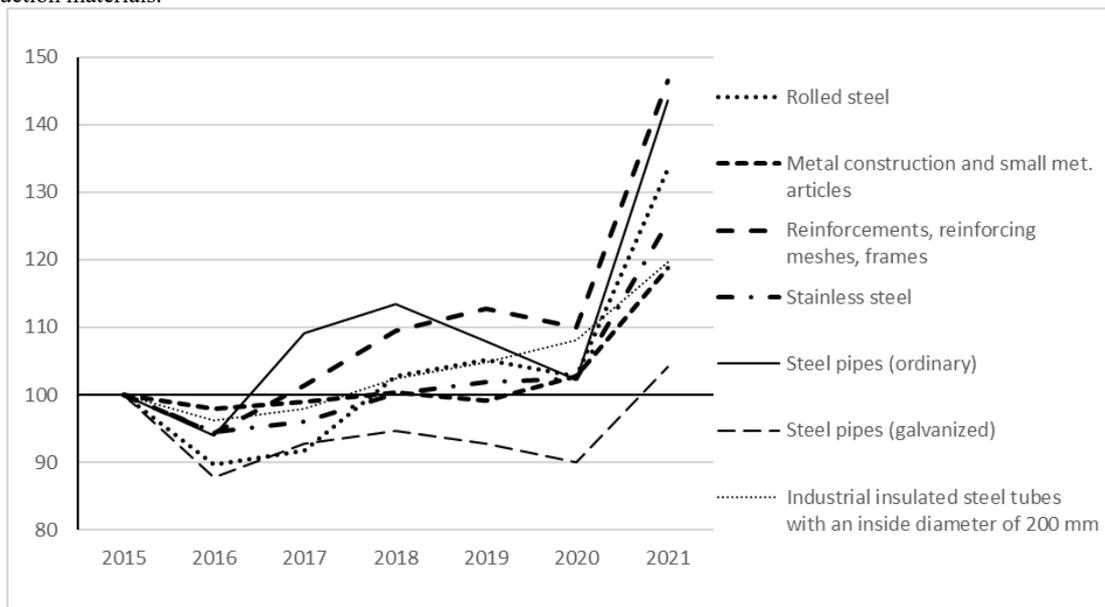
Source: author's construction based on survey of experts representing Latvian construction material trade companies and organizations.

Fig. 1. Structure evaluation of Latvian construction material sales in 2022 by turnover

Authors predominantly pay attention to metal and lumber construction materials. The reason for selecting these two positions can be explained by the topicality of the global economic and geopolitical developments in 2020-2022. Both the COVID-19 pandemic and Russo-Ukrainian war affected the global logistic chains. These chains mostly affected lumber and metal products, but to a lesser extent cement, finishing material, system equipment and other positions. This can be explained by specific logistical cases. For filler products, like sand, gravel, bitumen etc. the sources of these materials are often local or regional and they have much shorter delivery routes. As a result, these materials are less affected by global disruptions. At the same time lumber and metal products are often delivered across longer distances and by crossing several countries. Lumber products have long delivery chains due to different world regions having varied availability of developed forestry industries and specialisation in this field. Metal production requires high specialisation, access to cheap sources of electricity and ores, making this also a category of products produced by specialised countries and traded globally. As a result, above-mentioned geopolitical, epidemiological and logistic disruptions had a more profound effect on these two categories.

In the section of metal construction materials seven specific categories have been identified as having costs data growth data available in Latvian national statistics. These categories include rolled steel, metal constructions and small metal articles, reinforcements and reinforcing meshes and frames, stainless steel, steel pipes (both ordinary and galvanized) and industrial insulated steel tubes with an inside diameter of 200 mm. These products don't cover the whole spectrum of metal materials used in the construction industry but are a sample of typical materials used for monitoring cost tendencies.

Based on the data by Latvian Central Statistics Bureau, the highest cost growth in period 2015-2021 was reinforcements and reinforcing meshes and frames (see Fig.2). Overall, the growth constituted to 46.4% since 2015 and in the peak year of 2021 the costs increased by 33.1% year-on-year. The second highest cost growth since 2015 was observed for steel pipes (ordinary) at 43.5% since 2015 and 40.5% in 2021. This material had the single highest cost growth in 2021. At the same time some positions didn't show such significant cost increase. Notably galvanized steel pipes cost increased only 4.1% from 2015 and only by 15.7% in 2021 year-to-year, significantly below the average increase of metal construction materials.

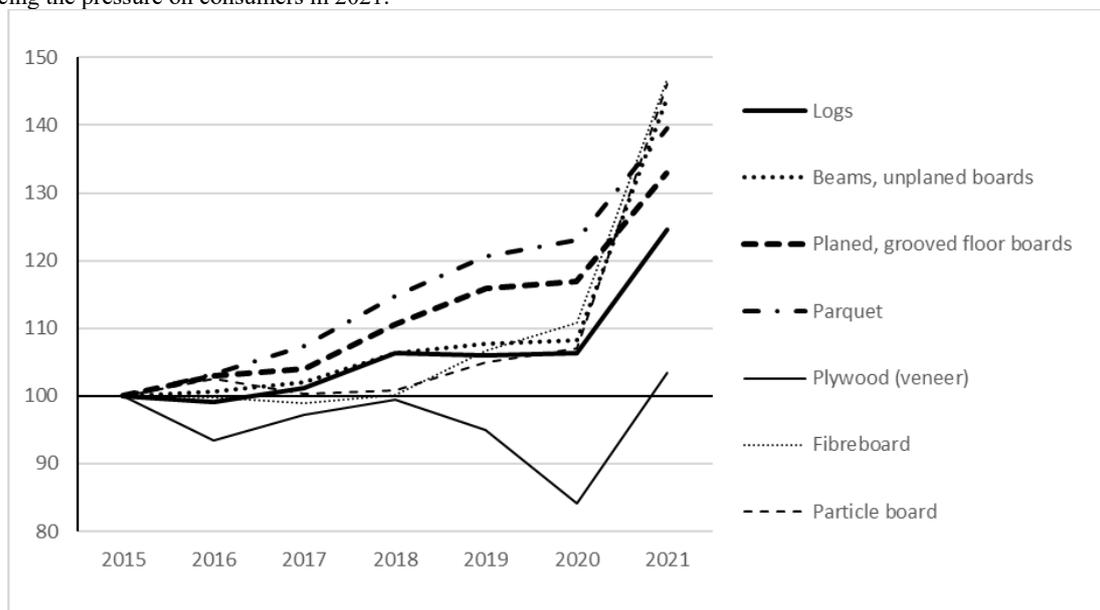


Source: author's construction based on Latvian Central Statistical Bureau data.

Fig. 2. Price changes index of main metal construction materials from 2015 till 2021 (2015=100)

Lumber products analysed in this paper include logs, beams and unplanned boards, planed and grooved floorboards, parquet, plywood, fibreboard and particle board (see Fig.3). These are the positions with costs data gathered by Latvian Statistical Bureau for monitoring of costs of lumber construction materials. Overall lumber products had a significant price increase in 2021 similar to the hike of metal construction

materials. The highest long-term effect has been observed for three positions – fibreboard, particle board and beams and unplanned boards. All these categories had a cost increase of 44-46% since 2015. At the same time the short-term hike in 2021 for these same positions was 33-36% year-to-year. This indicates the significant effects in 2021 compared to the whole 2015-2021 period. One year constituted the majority of cost increase for these lumber products in a 7-year period. Plywood was the only product with slightly lower overall cost dynamics. Even if the price increase in 2021 was 22.8% year-to-year, the overall long-term price increase since 2015 constituted only 3.4% in seven years. This remarkable humble price increase was buffered mostly thanks to a sharp price drop in 2020 when plywood costs decreased by 11.4% year-to-year, thus reducing the pressure on consumers in 2021.

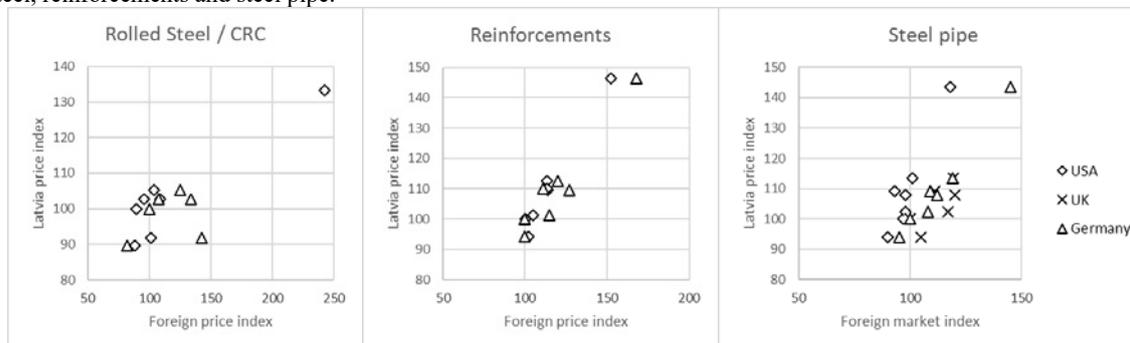


Source: author's construction based on Latvian Central Statistical Bureau data.

Fig. 3. Price changes index of main lumber construction materials from 2015 till 2021 (2015=100)

One of the questions stated by this article is the level of reaction of Latvian construction material prices compared to global commodity prices. Theoretically these prices should be more in-sync for materials with wide global logistic chains and less in-sync for more locally sourced materials.

Three metal products were chosen for this comparison (see Fig.4) based on data availability and the United Kingdom, Germany and United States were chosen as comparison country due to data availability and these being major global economic players. The chosen metal products were rolled steel, reinforcements and steel pipe.



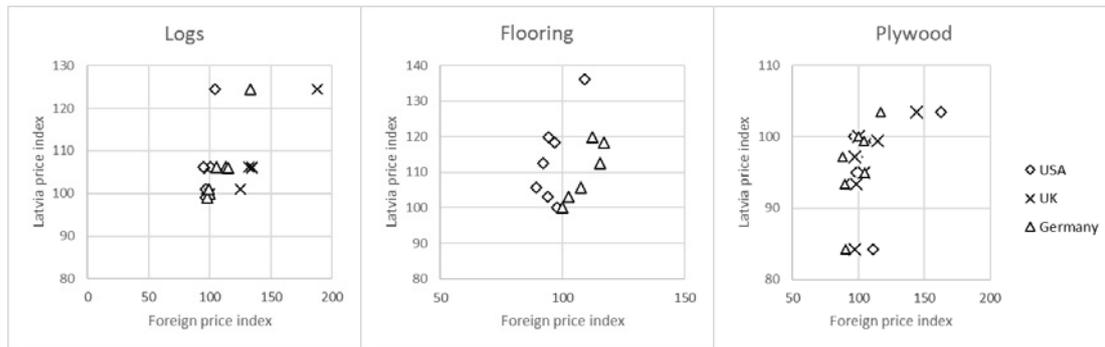
Source: author's construction based on Latvian Central Statistical Bureau, Statista and U.S. Bureau of Labor Statistics data.

Fig. 4. Price changes index comparison between United States, United Kingdom, Germany and Latvia for rolled steel, metal reinforcements and steel pipe from 2015 till 2021 (2015=100)

Two different tendencies can be observed in this comparative analysis. In the case of steel pipes and reinforcements there is a high level of synchronisation of price indexes between Latvian and selected foreign markets. When comparing reinforcement price indexes on average an increase of price index in United States by one point the index in Latvia increases on average by 0.96 points thus almost being in sync. It's less in sync with German market with 0.71 points effect. For the steel pipes an increase of price index in United States by one point the index in Latvia increases on average by 1.69 points, while for UK the effect is 0.62 points and Germany 0.98 points. At the same time when the price index for rolled steel in United States increases by 1 point the price index in Latvia increases on average by 0.24 points, while for comparison with German market by 0.08 points.

These observations can be interpreted in such a way that Latvian market is more independent in rolled steel supply but very connected to global markets for steel pipes. From the point of view of Latvian construction companies this can be used as a predictive indicator for construction inflation expectations. By monitoring the weekly and monthly United States prices bulletins the found coefficients can be used to estimate possible fluctuations of metal construction material costs in Latvian market.

For lumber category three construction materials were chosen for comparison (see Fig.5) – lumber logs, hardwood flooring and parquet (averaged in case of several types) and plywood sheets.



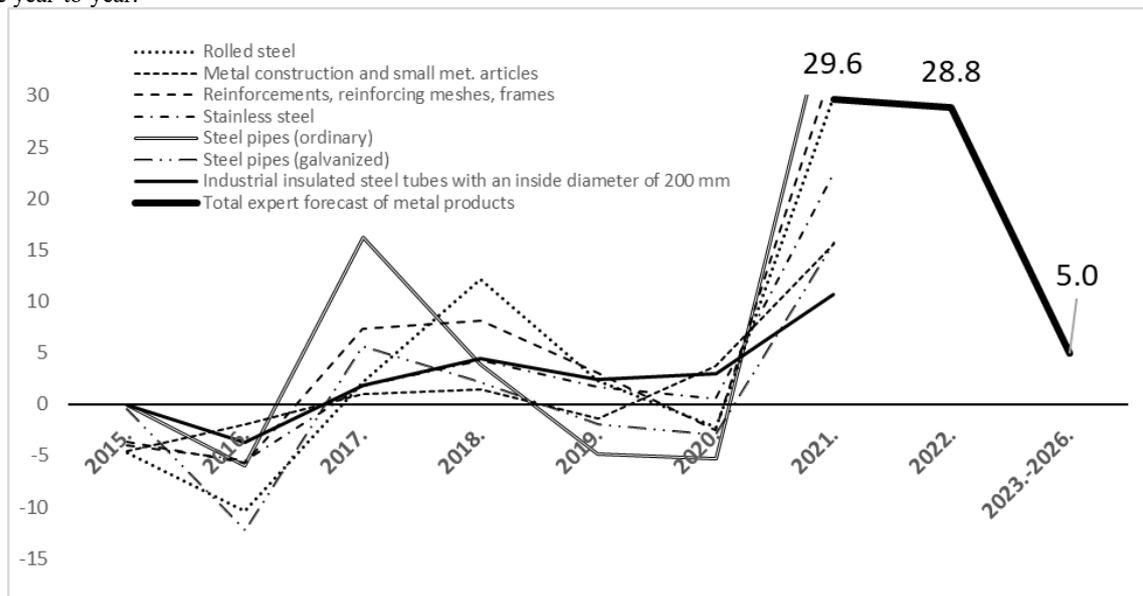
Source: author's construction based on Latvian Central Statistical Bureau, Statista, Kronus and U.S. Bureau of Labor Statistics data.

Fig. 5. Price changes index comparison between Germany, United Kingdom, United States and Latvia lumber logs, hardwood and parquet flooring and plywood sheets from 2015 till 2021 (2015=100)

Lumber pricing development has a much higher spectre of variance compared to metal construction materials. Prices for lumber logs varies a lot more in Latvia than it does in the United States and an increase on logs prices index by one point in United States results on average to an increase in Latvia by 2.12 index points – more than double. At the same European markets – UK and Germany, have a slightly lower effect with 0.30 and 0.66 respectively. Also hardwood flooring and parquet price data indicates a similar pressure from overseas markets and an increase in flooring price index in United States by one point on average shows an increase of 1.42 index points in Latvia and an effect of 1.08 for German market.

The situation with plywood is slightly different and there seems to very low reaction of Latvian market to the changes in pricing in foreign markets. For each increase of plywood price index in USA, UK or Germany by one point, the Latvian price index increases by meagre 0.11 to 0.40 index points. We can conclude that there is no price pressure by foreign markets demand. One of the explanations is the lower price of plywood per kg compared to logs and flooring thus making ocean cargo costs financially not sound. Another explanation is strong presence of plywood industry in Latvia capable of meeting the demand of local market.

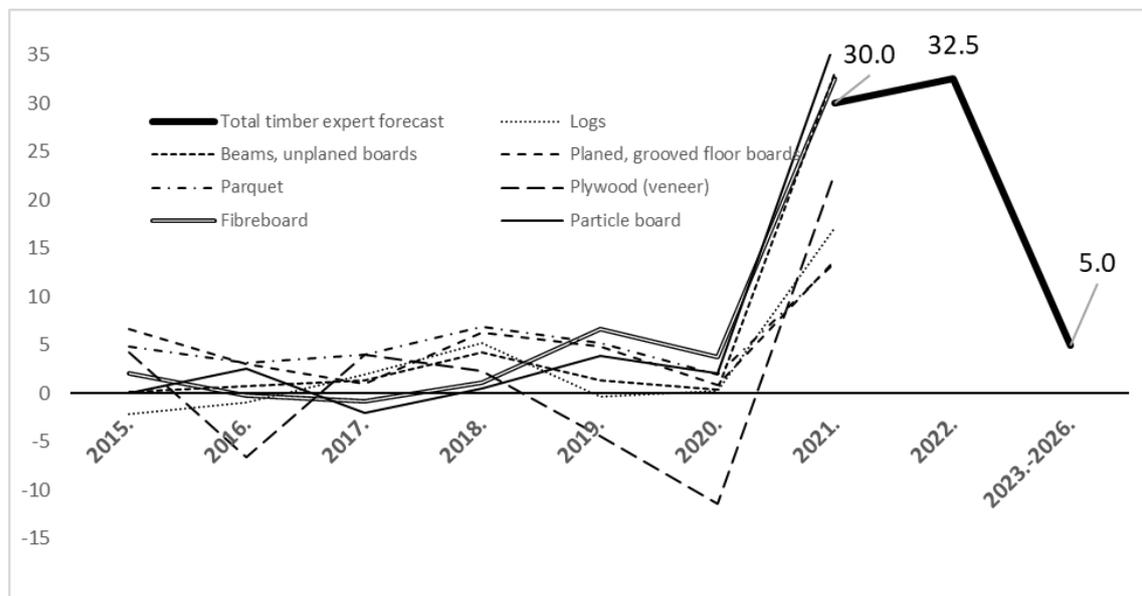
Essential part of planning construction tendering and procurement processes is cost planning. For this purpose a forecast of construction material costs is of essence not just for private construction companies and traders, but also for public sector representatives. An estimate based on assessments by construction material trade sector representatives was used for average forecast (see Fig.6). For metal materials the experts were used also for reverse forecasting and their evaluation of metal material average cost increase in 2021 by 29.6% year-to-year was conclusive with data in different metal material categories. Forward forecasting for 2022 indicates a cost forecast of 28.8% and for 2023 5.0% price increase year-to-year.



Source: author's construction based on Latvian Central Statistical Bureau and evaluations by construction material trade experts.

Fig. 6. Price changes year-to-year in Latvia for metal construction materials from 2015 till 2021 and expert forecasts from 2021 till 2026 (percent)

Overall lumber price increase was also forecasted based on expert opinion from the construction material trade industry (see Fig.7). The reverse forecast for 2021 was 30.0% increase that was conclusive with the data on lumber product categories for the highest cost categories. For year 2022 the expert evaluation was a price increase for lumber at 32.5%. For the period 2023-2026 the mean price increase was forecasted by experts at 5.0% per year.



Source: author's construction based on Latvian Central Statistical Bureau and evaluations by construction material trade experts.

Fig. 7. Price changes year-to-year in Latvia for lumber construction materials from 2015 till 2021 and expert forecasts from 2021 till 2026 (percent)

The overall situation in the construction industry based on the expert evaluations indicates a stabilisation starting from 2023. The extreme price increase observed in 2021 due to logistical disruptions caused by COVID-19 and in 2022 caused by multiple sanction packages levied against Russia due to invasion of Ukraine are expected to subside in 2023 and following years. Authors can speculate that expert evaluations are driven by the re-calibration of global logistical connections and push of companies to search for new suppliers of existing goods by circumnavigating existing sanctions affecting metal and lumber international sales.

Conclusions, proposals, recommendations

The tendencies in construction material costs indicate a stable period from 2015 to 2020 followed by turmoil in 2021 and forecasted continuation in 2021 followed by stabilization in 2022-2026. The COVID-19 pandemic had a lagged effect on construction costs. In first year of the pandemic there was no significant effect on the costs, but the second year of pandemic led to high cost increases. This can be concluded to be a result of initiation of stricter epidemiological measures that affected global logistics. The 2022 increase is mostly caused by global market re-adjustments after massive sanctions implemented against Russia, who are also significant global players in lumber and metal markets.

Authors propose to implement the resulting forecasts for lumber and metal costs in both private and public sectors. Private companies can use the analysis to evaluate the possible future costs for assessing the factors leading to higher costs and evaluating ROI of their construction projects. Public organization are significant in procuring construction of public housing, infrastructure and other projects and can use the analysis for mid-term budgetary planning and indexing of contracts.

The links found and also disproved for different products can be used by analyst to evaluate possible effects on commodities price changes in global markets on Latvian prices. The indicators can be used as ratios for calculating possible price on a yearly average bases, but also adjusted for monthly use.

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INWARD FOREIGN DIRECT INVESTMENTS ANALYSIS IN LATVIA: FIRM-LEVEL EVIDENCE

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Abstract. The aim of this article is to investigate the activity of foreign direct investors in Latvia and find out what is the main source of financing for foreign investors - new investments or reinvested earnings. To achieve the set goal, the methodology of Sixth Edition of the International Monetary Fund's Balance of Payments and International Investment Position Manual was used to define the types of foreign direct investment (FDI). This methodology was adapted to Latvian data. At the request of the author, Ltd Lursoft IT selected business data on all registered companies with foreign capital in Latvia since 2012 and aggregate data were used in the analysis. To conclude, foreign direct investment in Latvia flows mainly in the form of reinvested earnings, due to the profit earned from operating activities in Latvia. While new investments or greenfield investments in equity is lower compared to the amount of reinvested earnings.

Keywords: *foreign direct investment, greenfield, multinationals firms, investment climate.*

JEL code: O11, F21

Introduction

The intensity of foreign direct investment (FDI) in almost all countries of the world is moderate, determined by both the growing geopolitical risks and policy uncertainty, as well as structural changes in FDI patterns, economic industrial revolutions. Restrictions on the spread of Covid-19 were also a significant obstacle to cross-border investment flows. On a global scale, they slowed the implementation of both initiated and pre-planned investment projects. Thereby, on a global scale FDI flows decreased by third, namely 0.5 trillion US dollars to 1 trillion US dollars in 2020, a ten-year low level (UNCTAD, 2021). As the situation improves, in 2021 world FDI flows grew rapidly and were 64% higher than in 2020 (UNCTAD, 2022). However, the recovery of greenfield investment in industry remains fragile, especially in developing countries.

The effect of the COVID pandemic on FDI flows has been examined by some researchers. (Hayakawa, Mukunoki, 2021) argue the COVID-19 had significantly negative effects on the international trade of both exporting and importing countries. Moreover, pandemic has had heterogeneous effects across FDI-industries. By using panel data across 96 countries from January 2019 to June 2020, (Fu et al. 2021) concluded (1) that the pandemic reduced both the extensive and intensive margins of FDI; (2) COVID-19 mortality in home countries reduced extensive FDI margin; (3) FDI was more sensitive to host countries' pandemic situation for both OECD and emerging countries; (4) the service sector's FDI was severely affected by the pandemic than other sectors' FDI. While (Nawo, Njangang, 2022) investigate the impact of COVID-19 on FDI in 79 developed and developing countries and obtain results indicating that both the total number of deaths and cases are negatively correlated with FDI.

Although the inflow of FDI in Latvia was stable in recent years, in 2021 it even reached the historically largest volume. Analysing the inflow of FDI, it is important to know not only the total figure, but also the structure, as well as the "health status" of foreign direct investors at micro level. Knowing only the overall number of FDI dynamics could give a false impression of the business and investment environment. Thus, it is important to analyse the micro data of companies as well. In 2022, global investment environment received another significant shock. The war in Ukraine exacerbated the situation on the market of food and especially energy resources. Geopolitical uncertainty increased, especially in Central and Eastern Europe countries that have relatively significant historical and economic ties with Russia. Thus, it is likely to put significant negative pressure on this region FDI flows in the medium-term perspective.

FDI investments is an important financial instrument with a significant role in the development of economics, especially in countries where the local capital is limited. Such investments are subject to a variety of difficulties and opportunities and, therefore, FDI-related research will continue to be relevant in the future. Keeping in mind the unsuccessful approach leading up to 2008, prudent bank crediting policy prevents companies from obtaining the necessary flow of money for investments. The existing approach of the banks in issuing loans is much more careful. On the other hand, other types of financial instruments are limited; risk capital is very poorly developed in the Latvian market. The issuance of bonds is relatively expensive. The faster investment development is hindered by both demand and supply factors. In the light of low investment activity, it is very difficult to increase productivity. Until then, foreign direct investment can supplement local capital.

Since the restoration of Latvia's independence, Latvia has attracted 21.2 billion euro of foreign direct investment. This corresponds to 63% of Latvia's nominal GDP in 2021. There have been no studies on whether this significant FDI inflow was invested in the creation of new companies, or the so-called "greenfield" investments were made or in the takeover of existing companies. Moreover, there have been no studies regards FDI enterprises financial indicators. The aim of the article to evaluate the activity of foreign direct investors in Latvia, describing the economic indicators of companies for the last 10 years.

Objectives of the article:

1. To analyse the theoretical aspects of the foreign direct investment's movement.
2. To develop a methodology for the identification of greenfield and brownfield FDI.
3. To describe the dynamics of FDI and the accumulated volume in Latvia.
4. To analyse the economic activity of foreign direct investors

Methods of the article: analysis of scientific literature, statistical analysis.

Literature Review

FDI is the process whereby the residents of one country (the home country) acquire ownership of foreign assets for the purpose of controlling the production, distribution, and other activities of a firm in another country (the host country). Control or influence may be achieved directly by owning equity that gives voting power in the enterprise, or indirectly by having voting power in another enterprise that has voting power in the enterprise. Immediate direct investment relationships arise when a direct investor directly owns equity that entitles it to 10% or more of the voting power in the direct investment enterprise. Control is determined to exist if the direct investor owns more than 50% of the voting power (IMF, 2009). FDI flows consist of equity transactions, reinvestment of earnings, and intercompany debt transactions (OECD, 2022). United Nations Conference on Trade and Development FDI defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy in an enterprise resident in an economy other than that of the foreign direct investor (UNCTAD, 2019). The term "long-term" is used in the last definition to distinguish FDI from portfolio investment, which is characterised by being short-term relationships with the main goal of obtaining profit and not participating in the management of the company.

FDI represents one of the most researched phenomena in international business (Paul, Singh, 2017). Theoretical studies in FDI facilitates a better understanding of economic mechanism and behaviour of economic agents, both at micro and macro level encouraging cross border investments. Over the past 80 years, many researchers have tried to explain the phenomenon of FDI, while failing to determine a single, broadly accepted theory of FDI. All theories of FDI can be divided into two main groups: widely used theories and recent models and frameworks. Widely accepted theories include the following frameworks: internalization theory (Buckley, Casson, 1976; Buckley, Casson, 2009), the eclectic paradigm or Dunning's OLI paradigm (Dunning, 2001), the Product life-cycle theory (Vernon, 1966).

Most reviews of the FDI literature do typically focus on a specific subset of FDI only. For instance, (Meyer, 2004) surveyed the research on FDI spillovers in the context of emerging market economies. (Chan et al., 2006) examined the interdependencies between FDI and multinational enterprise foreign-market entry strategies. Blonigen (2005) reviewed past research on host country-specific determinants of FDI. (Casson 2000; Buckley, Casson, 2009) analysed the progress of FDI research and internalization theory.

Considering the reality and complexity of multinational enterprises, especially from emerging economies, including both their successes and, in some cases, their failure of economic development, a new theory has developed in recent years. The emphasis shifted from explaining the parameters that would stimulate firms to expand across borders, and investigating entry mode choice, to the multinational enterprise's internal organization and their network capabilities (Verbeke, Kano, 2015). Globalization has modified the 'ecosystem' in which firms exist: globalization allows accelerated internationalization and new opportunities for domestic firms to become multinational enterprises (Narula, 2012). The most recent FDI theories with substantial contribution to the literature of international economics, such as: linkage, leverage, learning model (Hobdari et al., 2017), springboard theory (Luo, Tung, 2018), conservative, predictable and pacemaker model (Paul, Sanchez-Morillo, 2019).

FDI theories could be broadly classified under macroeconomic and microeconomic perspectives (Denisia, 2010; Kaushal, 2019). Macroeconomic FDI theories highlight country-specific factors and align well with trade and international economics. Microeconomic FDI theories being firm-specific relate to ownership and internationalization benefits and incline toward industrial economics and market imperfections. These theories examine FDI motivations from the investor's viewpoint and connect with firm-level or industry-level perspective in decision making (Kaushal, 2019). With the development of new data processing tools and the availability of company data at the micro level, it shows new analysis possibilities and helps to solve issues related to FDI motivation and impact on home and host country economy. Analyses based on firm-level data have the potential to more credibly identify the effects of certain policies than studies using only aggregate (country or industry-level) data, and to describe the mechanisms behind the policy effect in more detail (Gal, 2013).

FDI has been widely accepted as an important vehicle for development because of FDI's positive effects on the host state's economy (Bao, et al 2022), including technology transfer, the introduction of new managerial skills (Denisia, 2010), increasing product quality (Lin, Lin, 2010), increasing institutional quality (Hyun, 2006), improving productivity (Liu et al., 2001) and promoting capital accumulation (Yao et al., 2016). An issue that has received limited attention in literature is that the growth effects of FDI are likely to depend on the direction of FDI flows (Sirr et al., 2018). Based on the neoclassical theory, FDI flows from more advanced to less advanced economies are expected to have the highest growth effect as the advanced countries is endowed with better cutting-edge technology and operational techniques. Therefore, the larger the gap between the country-pairs in endowments, the higher is the spillover potential through technology, human capital, and knowledge diffusion, allowing for a faster catching-up process (Schiff, Wang, 2008).

On the other hand, there have been studies that have challenged these findings. For instance, (Carkovic, Levine, 2002) argue that the exogenous component of FDI does not exert a robust, independent influence on economic growth. (Herzer, 2012) finds that, on average, the empirical effect of FDI on economic growth is even negative for developing countries, but there are large differences in the effect across countries. More specifically, an increase in the FDI-GDP ratio is associated with a long-run decrease in GDP in about 60% of the countries, while in about 40% of the cases, an increase in the FDI share is associated with a long-run increase in GDP. (Mehrara, Musai, 2015) findings indicate that FDI does not have any significant effects on GDP in short-run and long-run with no growth benefit for the recipient country. Recently, (Bilas et al., 2022), argue that the lack of a long-run equilibrium relationship between the real gross domestic product and FDI is robust.

FDI can take three different forms. Firstly, greenfield investment, which involves the creation of a new facility (Ashraf, Herzer, 2014). Secondly, extension of capacity. This type of FDI does not create a new economic activity but develop already an existing one. It is an investment in previously established direct investment enterprises in the form of an increase in share capital or reinvested earnings. (Bertrand, 2004). The third form is mergers and acquisitions which involve the purchase of assets of existing domestic firms (Ashraf, Herzer, 2014). The extension of capacity and mergers and acquisitions FDI is classified as brown field investments. Unlike brownfield investment that leases existing assets and facilities and transforms them to adapt to their needs, greenfield investment involves building everything from the scratch, and investors exert the highest degree of control over the facilities and land of the sponsoring company (Son Ha, et al., 2021). Greenfield and brownfield investment are fundamentally different on the ground that greenfield investors use their own technology, capital, and intellectual property (Hennart, Park, 1993). Countries with rule-based governance environment are more likely to attract brownfield investment as due diligence on the investment is more reliable, while countries with relation-based governance environment are more likely to attract greenfield investments as they allow full control and therefore a better protection of the investments with first-hand information (Alon et al., 2020).

Existing evidence strongly supports the importance of greenfield FDI to host economies, and greenfield has a significant impact on international technology spillovers. (Liu, Zou, 2008) find that foreign greenfield creates both intra-industry and inter-industry spillovers on innovation, and there exist only inter-industry spillovers from brownfield investments. (Nocke, Yeaple, 2007) develop an assignment theory to analyze the volume and composition of FDI. In their model, firms enter a foreign market through greenfield investment or cross-border acquisitions. In equilibrium, firms engaging in greenfield investment are systematically more efficient. Moreover, greenfield investment plays a vital role in transferring business from high-cost into low-cost countries (Chan et al, 2022).

Research methodology

Considering that there is no statistical data on the breakdown of greenfield and brownfield investments, there is a lack of information to answer the question, whether the current investment environment in Latvia is more favourable for foreign investors to buy local companies or establish new ones. Based on the current 6th edition of the IMF's Balance of Payments and International Investment Position Manual FDI definition and the theory discussed above, the author defined greenfield and brownfield investments as follows.

Greenfield investments arise in 2 cases. First, when a foreign investor establishes a completely new company in Latvia and all 100% of the company's shares are owned by a foreign investor. In this case, the amount of share capital is greenfield investment. Secondly, when a foreign resident establishes a completely new company in Latvia together with a Latvian resident, but on the condition that the foreign investor owns at least 10% of the company's shares. In the second case, only the part of the share capital that belongs to the foreign resident is considered as FDI. Brownfield investments can be identified when a foreign resident, invests in a company which already registered and operating in Latvia, provided that at least 10% of the capital shares of a company registered in Latvia that were previously owned by a Latvian resident were acquired. To paraphrase the above, the company's shares are sold, and the ownership of the shares is changed. In this case no new economic activity is created as opposed to greenfield investments. Based on this methodology, Lursoft IT Ltd specially selected the necessary data at the request of the author. Further analysis is based on data prepared by Lursoft IT Ltd and Bank of Latvia for period from 2012-2021. The Lursoft IT Ltd data cover almost 22000 companies in which at least 10% of the share capital is owned by foreign investors. It is important to point out that for some companies operating in Latvia, especially joint stock companies it is not possible to determine the true beneficial owner.

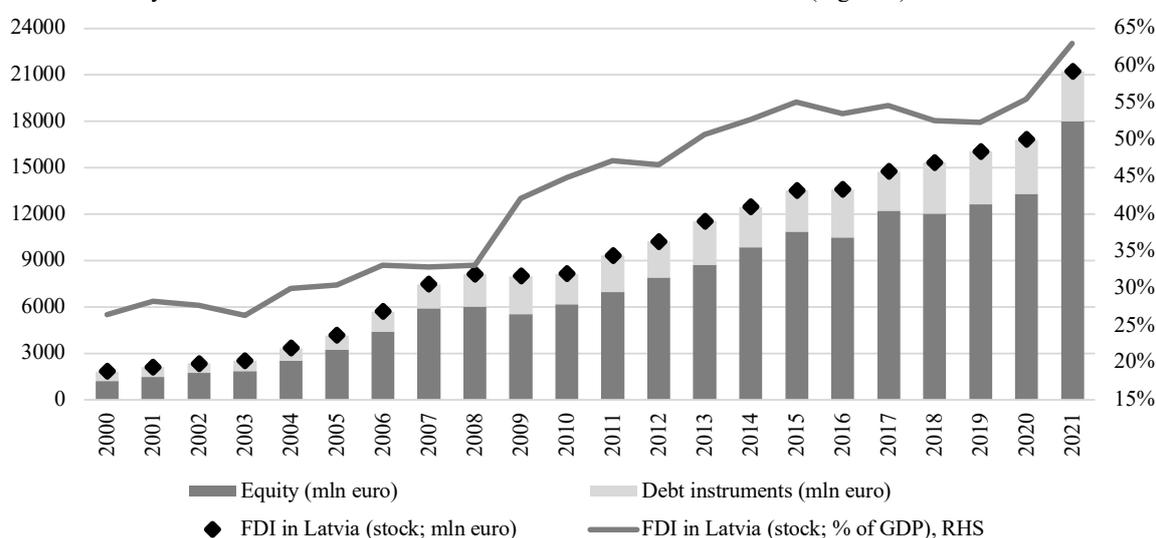
Therefore, it is not possible to identify the shareholder structure. Such firms were not considered in the data analysis. In addition, FDI in the form of debt instruments was not taken into account in the analysis.

Research results and discussion

Latvia does not lose its attractiveness in the eyes of foreign investors during the pandemic, which was in stark contrast to the impact of the global financial crisis. Although each foreign investor's decision is influenced by individual conditions, one of the reasons for the stability of FDI inflows could be the relatively smaller negative impact of the pandemic on the overall economic growth against the background of other European Union countries. In 2020, the GDP of the European Union decreased by 5.7%, while the drop in Latvia's GDP was almost twice as low, or 2.2%. In 2021, due to the base effect, the economy of the European Union grew faster than that of Latvia on average, but the gap was not significant, 5.7% as opposed to 4.1%. Thus, Latvia's economy exceeded the pre-pandemic level already in 2021, while the EU economy was lagging. In 2020, FDI inflows in Latvia were 880 million euro (or 2.9% of GDP). Particularly rapid growth continued in 2021, namely 2808 million euro (8.3% of GDP).

The intensity of FDI inflows has been volatile since Latvia joined the European Union. The inflow of FDI in Latvia rapidly intensified after accession to the EU. This was a positive signal for foreign investors, as by convincingly meeting all the Maastricht criteria, the Latvian state confirmed its readiness to integrate into a unified European economic system. Before the global financial crisis, in the years of rapid economic growth (2004-2007), attracted FDI net flows averaged 6% of Latvian GDP. With the onset of the global economic and financial crisis, the flow of FDI decreased significantly, including in Latvia. This is explained by the large losses of entrepreneurs during the period of rapid recession, which weakened the investment capacity, as well as reduced the desire to invest, because of which the intensity of FDI flows decreased to 1.7% of GDP in the period from 2008 to 2010. As the economic situation improves, as well as reforms aimed at streamlining the business environment, the inflow of FDI stabilizes. Since 2011, the net flows of FDI annually in Latvia have averaged 3% of GDP.

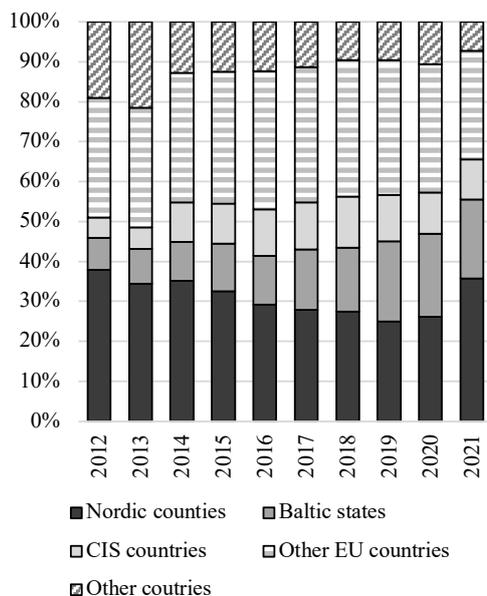
Since independence restoration Latvia has attracted 21.2 billion of euro of foreign direct investment (FDI), which is equivalent to 63% of Latvian GDP in current prices in 2021. It should be noted that 85% of total FDI amount was invested to the enterprise equity, in other words, they were no-debt flows. This means that most of the incoming FDI in Latvia were invested in the company's stock, capital shares, intellectual and real estate, thus promoting the growth of the Latvian economy and infrastructure development. The amount of accumulated FDI in the form of debt instruments by the end of 2021 was 3206 million euro or 15% of total FDI stock (Figure 1).



Source: author's construction based on Bank of Latvia and Central Statistical Bureau of Latvia data

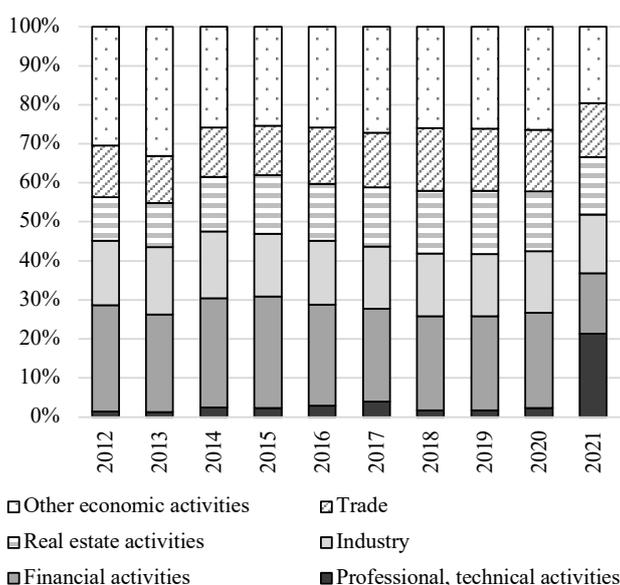
Fig. 1. The breakdown of FDI stock in Latvia (current prices, million euro) and FDI stock (% of Latvian GDP)

A handful of countries provided the lion's share of the cumulative FDI in the Latvia by the year-end 2021. However, the largest investors came from The Baltic Sea region and from countries with which Latvia had long-term and close trade cooperation, for example, The Netherlands and Great Britain (Figure 2). The share of incoming FDI stock from EU member states is very high, on average 73% during the last ten years. CIS countries substantially increased their FDI positions in the Latvia for last several years. However, CIS countries share in total cumulative FDI, except Russia, is very low. Sweden had the largest share of FDI stock by the end of 2021 – 28.2% or 6 billion euro. This could be explained by the fact that a significant part of the providers of financial services in Latvia are of Swedish origin. The share of FDI stock from other countries is significantly lower and more uniform, followed by the Estonia (12.3%), Russia (8.7%), Lithuania (7.6%), Germany (5.8%).



Source: author's construction based on Bank of Latvia data

Fig. 2. FDI stock in Latvia structure by groups of countries, %



Source: author's construction based on Bank of Latvia data

Fig. 3. FDI stock in Latvia structure by kind of economic activity, %

Services industries attract high foreign investors' attention. Accumulated FDI in service activities by the end of 2021 accounted for 81% in the economy of Latvia. Compared to the 2020, they increased by 28%, which was determined by the large investments in the professional, scientific, and technical services sector. In 2021, these industries share in the total amount of accumulated FDI jumped to 21.4%. Thus, it became the largest sector with accumulated FDI volume. While in 2020, the share of these economic activity was only 2.3% (Figure 3). Historically, most of accumulated FDI is concentrated in the financial and insurance sectors, which mainly represented by Latvian largest commercial banks in terms of assets. The share of this sector increased significantly during the period of 2005-2008 and since then steadily boiled in the range of 24%-28%. At that time, foreign direct investment in the financial and insurance sector was on average almost two times higher than in manufacturing. Such large investments in this sector can be explained by potentially high profit opportunities and weak competition from commercial banks owned by Latvian residents. In 2021, the share of financial and insurance sectors in total FDI stock dropped to 15.5%, from 24,4% in 2020.

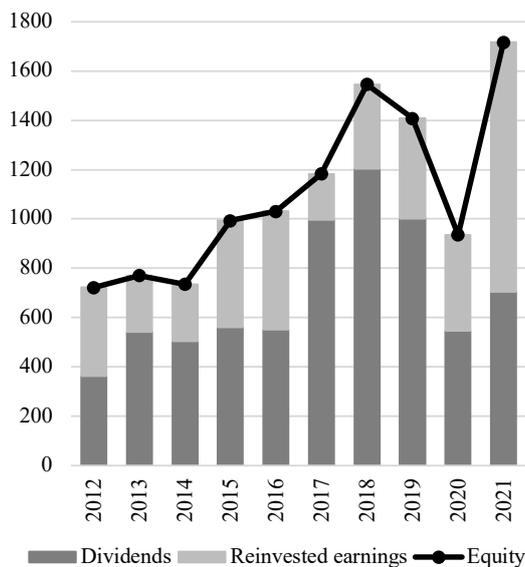
In 2021, accumulated FDI in the goods production sectors was 18.7%. Almost 11% of the total amount of accumulated FDI has been invested in the manufacturing industry, and it is mostly concentrated in low and medium-low technological economic activities, i.e., manufacture of food products, wood and products of wood, as well as manufacture of basic metals.

Most of the companies registered in Latvia with foreign capital, are fully owned by foreign residents. In 2021, three-quarters of economically active enterprises (companies that have not been declared insolvent and have a turnover greater than 0) in Latvia with foreign capital were fully subsidised by foreign investors. In 16.0% of cases, foreign investors held 50% or more of the company's capital shares, but less than 100%. In only 9% of cases, these were Latvian and foreign joint ventures, where the share of foreign investor shares ranged from 10 to 50%. In this case, the foreign investor acts as a minority shareholder. In the last 10 years the dominance of foreign investors in companies registered in Latvia with foreign capital increased. Foreign residents are increasingly choosing a corporate governance model where they have full control over the company. On the other hand, the management of companies together with a Latvian resident is not considered to be an attractive company management model.

The last 10 years were relatively profitable for foreign investors. The amount of profit from its core business in Latvia was growing. In 2020, the COVID-19 crisis had a negative impact on profitability, so the overall profit volume decreased by a third compared to the pre-pandemic level. Thus, the amount of profit returned to 2015-2016. The impact of the pandemic was significant, however short-lived, as already in 2021, the amount of profit reached 1717 million euros, or the historically highest amount earned by foreign investors (Figure 4).

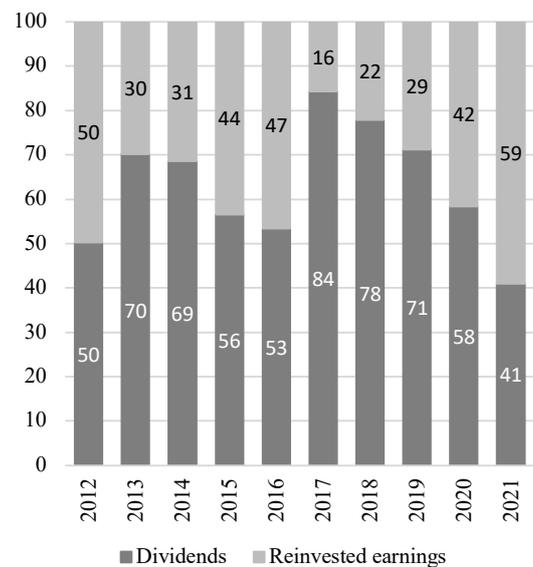
The profit distribution of FDI companies over the past 10 years was uneven. Based on data analysis, it could be concluded, that a greater part of the profit of FDI companies paid out to shareholders instead of reinvesting it in the development of the enterprise in Latvia (Figure 5). Reinvested earnings are those parts of the enterprise's profits or losses which, according to the shareholding, belong to the direct investor. Thus, even if no new foreign direct investment enters Latvia, the amount of FDI may still change at the time of profit distribution.

On average over the last 10 years, 63% of profits were paid out in dividends, while 37% were reinvested in the company. However, there were years when this ratio was even higher than in favour of paying out dividends. Thus, during the period from 2017-2019, foreign investors paid out an average of 78% of the profits to their parent companies. The increase in dividends pay out during this period could be explained by the tax reform, which entered into force on 1 January 2018.



Source: author's construction based on Bank of Latvia data

Fig. 4. Equity, dividends, reinvested earnings owned by foreign direct investors, million euro

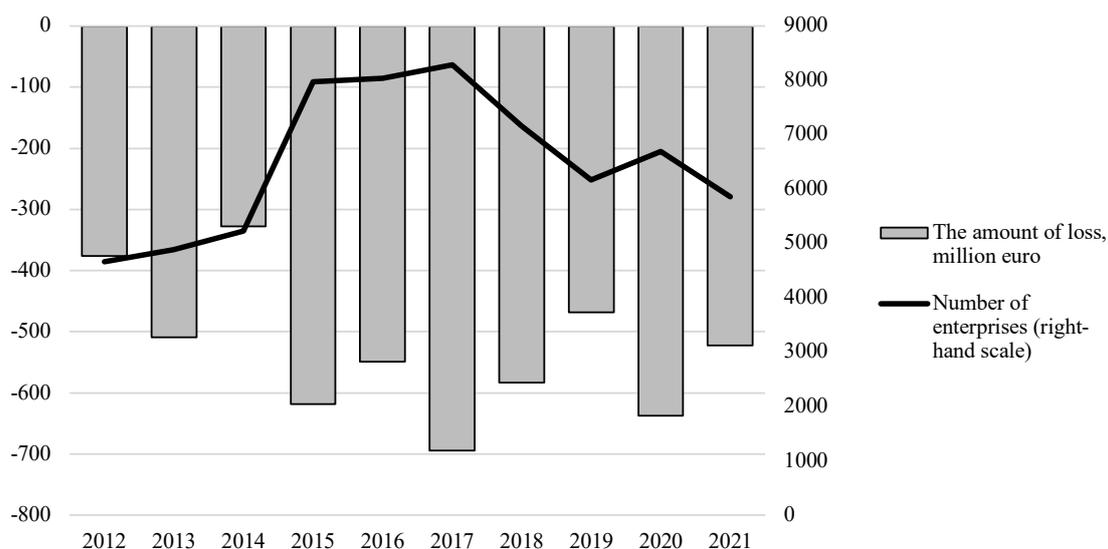


Source: author's construction based on Bank of Latvia data

Fig. 5. Share of dividends and reinvested profits in total volume of equity owned by foreign direct investors, %

The volume of dividends paid out to FDI firms in 2018 reached an all-time high - 1204 million euro. This amount of dividends is more than twice as high as in 2016, when the amount was 550 million euros. The significant increase in the dividends paid was recorded before the tax reform in 2017, when 997 million euro were paid out in dividends to FDI firms. Such a rapid increase in the amount of dividends paid can be explained by the fact that discussions on tax reform were started already in 2016, but at the beginning of 2017 the main directions of tax reform were known. Tax reform aimed to increase interest rates on dividends paid from 15% to 20%. It can be assumed that companies wanted to minimise their expenses by paying 15% tax on profits instead of the 20% rate that would be after 2018. The amount of dividends paid in 2019 decreased compared to the previous year, but was still at a high level and amounted to 1002 million euro. An atypical situation arises during the pandemic years, when the proportion of reinvested profit in the distribution of total profit has increased, especially in 2021. In 2021, 59% of the profit was reinvested in the development of the company by foreign investors. Perhaps this is directly related to COVID-19, as a result of which it was necessary to make changes in the operation of companies in order to adapt to the conditions of the pandemic.

Even though foreign direct investment companies are generally profitable, there are also FDI companies that have losses. For example, in 2021, there were 5856 companies with foreign capital, which worked with total losses of 523 million euro (Figure 6). In 2020, the amount of losses was higher than before the pandemic, however, in general, it cannot be said that the pandemic had a significant impact. It is not possible to know for sure whether it is the same companies that work at a loss from year to year. However, based on the data, it can be concluded that in recent years there has been a relatively stable number of companies with foreign capital that are operating at a loss. This indicates fierce competition in the Latvian market.

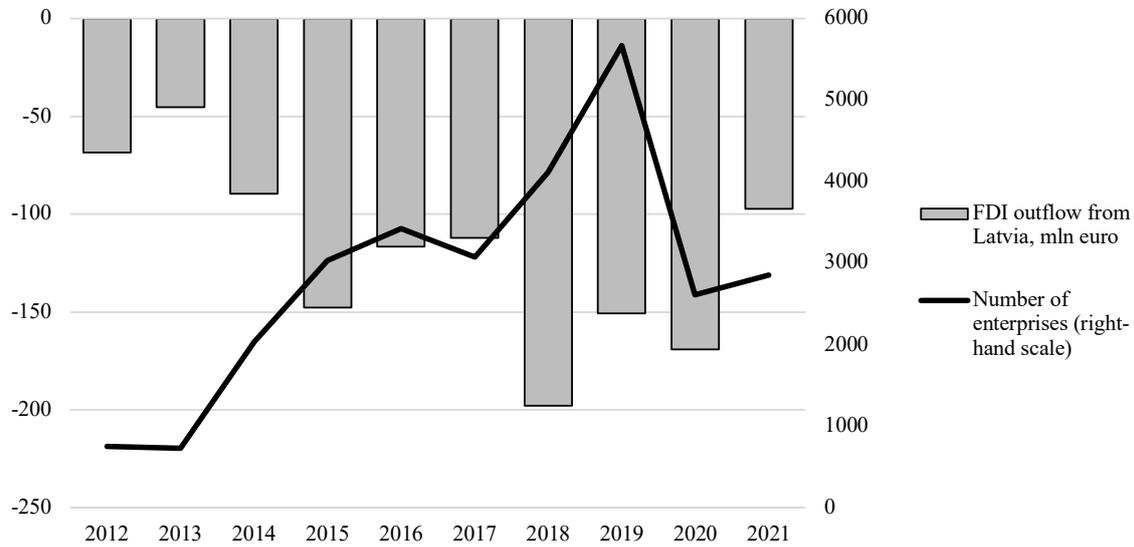


Source: author's calculations based on SIA "LURSOFT IT"

Fig. 6. Number of FDI enterprises operating at a loss and the amount of their losses in million euro

If a company with foreign capital is liquidated or the shares of a foreign resident are repurchased by Latvian residents, it means an outflow of foreign direct investment from the country. Figure 7 shows the number of companies and the amount of company shares in millions of euros that were sold to Latvian residents or liquidated. Starting from 2014, the investment environment both in Latvia and the other Baltic States was negatively affected by the deterioration of the geopolitical situation in the Eastern European region. Russia's illegal annexation of Crimea, EU-US sanctions against Russia and Russia's embargo on food imports from the EU and the US have destabilised the political and economic situation in the region. In 2014-2015 the outflow of investments increased significantly.

In recent years, the outflow of FDI from Latvia remained very high. Thus, in 2018, the amount of outflowing FDI from Latvia amounted to 198 million euro, in 2019 – 151 million euro, but in 2020 – 169 million euro. The decision to reduce the share capital or liquidate the company in 2019 was made by a record number of foreign direct investors – 5,669 companies. The author has already pointed out that in recent years, even though foreign direct investors in Latvia generally worked at a profit, both the amount of losses and the number of companies operating at a loss increased at the same time. Consequently, the growing outflow of foreign direct investment from Latvia in recent years can be explained by a deterioration in profitability. Strong competition, rising labour costs that outpace productivity growth, a shortage of skilled labour and an aging population that narrows potential consumption in the medium and long term are the main reasons why foreign investors decide to leave the Latvian market.

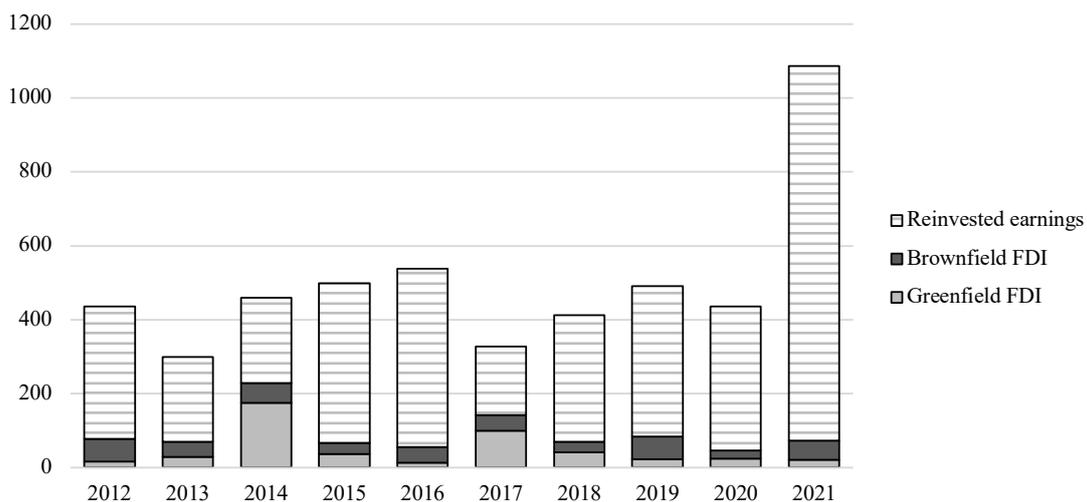


Source: author's calculations based on SIA "LURSOFT IT"

Fig. 7. Outflows of FDI from Latvia in million euro and the number of FDI companies that reduced their share of equity

Regarding greenfield investments, Figure 8 shows the amount of foreign direct investors' investments in newly established companies in Latvia by years. In 2021, the amount of investments of foreign direct investors in companies established in 2021 was only 21 million euro. The volume of this type of investment was also weak in the previous years, thus it can be concluded that the amount of investments in foreign capital of a company established by a foreign investor in Latvia is insignificant compared to the amount of reinvested earnings.

There are several reasons that could explain such low greenfield investment activity. Firstly, one of the difficulties in analysing greenfield investments is the time factor, namely how long foreign direct investment should be considered as greenfield investments. It is assumed that these may be 4 or 5 years after the establishment of the company, but there is no common methodology of this aspect. Given that there is no mutual understanding among scientists about the time factor, the author classifies incoming greenfield investments as an investment in the share capital in the year of formation of the company. If the time factor is applied to greenfield investments and it is assumed that the amount of reinvested earnings within four or five years from the establishment of the company is also greenfield investments (if the company has made a profit during this period), then the total amount of greenfield investments is clearly higher.



Source: author's calculations based on SIA "LURSOFT IT" and Bank of Latvia data

Fig. 8. Inflow of greenfield and brownfield investments, reinvested earnings in Latvia, million euro

Secondly, as already stated, there is no information on the shareholders' structure available for some joint-stock companies, therefore it is not possible to define the ownership of the capital and the volume of investments of these companies. Thirdly, most of the largest foreign investors have been operating in Latvia for a long time, therefore the amount of greenfield investments of individual companies must be sought in the year of establishment of the company which might be in the 1990s. Since the main source of FDI is reinvested earnings, it is possible that foreign companies, which have been working in the Latvian market for a long time, use the profits from the core business in Latvia for the realization of new projects instead of attracting new capital from the parent company.

Conclusions, proposals, recommendations

1. In recent years, the world has generally seen a weakening of cross-border investment flows, caused by increased geopolitical risks and the uncertainty of economic development, which is now also increasing in the context of the Covid-19 crisis and war in Ukraine.
2. Foreign direct investments inflow in Latvia were growing in recent years, which was not affected even by the pandemic. Foreign investors have growing profits, which they use mainly to pay dividends to shareholders. At the same time, there are enough foreign investors in Latvia who work at a loss.
3. The pandemic is likely to force a rethinking of the benefits and costs of globalisation for at least two reasons. The first is that the collapse of supply chains may force companies to look for domestic suppliers to avoid interruption. The second pertains to the importance of the domestic production of medical goods, which has been recognised following the scramble for personal protection equipment and the price gouging events of the early stages of the pandemic.
4. FDI flows are also affected by technological progress (for example, automation of production processes, digitization, etc.), which causes structural changes in business, including affecting FDI models and cross-border flows of FDI in medium term.
5. To improve the investment environment in the Republic of Latvia and increase the inflow of greenfield investments, it is necessary to reduce several obstacles. First, the size of the shadow economy needs to be reduced, as this will not only make economic and business processes more transparent, but will also increase tax revenues, thus increasing the economic flexibility needed to implement structural reforms. Secondly, structural unemployment needs to be reduced through targeted labour market and education system reforms and measures to promote innovation. The lack of highly qualified labour is one of the main challenges in the long term. Third, comprehensive reforms in the education and court system, speeding up court proceedings and legal improvements in the field of insolvency need to be pursued.
6. Energy policy is also one of the topical issues on the agenda of entrepreneurs. The uncompetitive price of electricity and gas will force companies to consider the implementation of new projects, especially in the manufacturing.
7. The following limitations relate to this research. This article does not provide an analysis of indicators characterizing investment environment, such as tax rates, labour availability and labour costs, the activity of regulatory authorities. Although these and other factors influence both the amount of profit of companies and the decision on profit distribution or reinvestment, this article is limited to the analysis of the incoming FDI inflow and the economic activity of companies with foreign capital. At the same time, the results of the article on the proportion of foreign companies' profit distribution between dividends and reinvestment outline possible shortcomings in Latvia's investment environment. Future research is recommended to address the limitations of this study.

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EVALUATION OF SUPPORT MEASURES IMPLEMENTED BY THE GOVERNMENT TO REDUCE THE NEGATIVE IMPACT OF THE COVID-19 CRISIS ON THE MALDIVIAN ECONOMY

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Abstract. In the Maldivian economy, the tourism is the major driver of economic growth, fiscal revenues, and foreign exchange earnings in Maldives. Because of falling of the tourist amount under the impact of COVID-19, the Maldives has suffered strongly, and it reflected on the macroeconomics' indicators. With the outbreak of the Covid-19 pandemic two "Economic Response Packages" has so far been implemented to alleviate the impact on households, workers, and businesses. The goal of this relief package is to ensure job security and livelihood of Maldivians over the course of the pandemic, it was reached. However, there are some macroeconomics' indicators that fell in Covid period because of objective reasons. The same fallings were in GDP PPP, and GDP per capita, they fell in 2020 and then they rose in 2021 but not enough. Import and export proportions changes was similar. And the balance of trade shows us a decline, too. In addition, we see a long-term trend of maintaining a negative trade balance, which is not good for the economy of state in the future. Also, state total debt reached 149 % from GDP in 2020, in 2021 it was 129% from GDP what is better but still that is very high amount what could negatively impact economy of Maldives. General findings – the most important thing, in my view, the government need to focus on improving the fiscal and debt position worsened by the Covid-19 crisis and on improving debt sustainability. The findings and analysis build on several data and information sources like official government institutions such as Ministry of Finance, Ministry of the Economic Development reports, data basis, and international organizations such as Word Bank, International Monetary fund documents.

Keywords: *Maldives, Covid -19, macroeconomics' indicators, GDP.*

JEL code: K29, E61

Introduction

Global crises cannot be predicted, and one cannot preventively insulate from global situation in advance. No country can survive in autarky, even the most protected countries still depend on external incomes from international trade and more importantly, it plays a critically positive role in the path to recovery. In the Maldivian economy, the tourism is the major driver of economic growth, fiscal revenues, and foreign exchange earnings in Maldives. Before the pandemic, Maldives had experienced rapid economic growth and development in recent years, supported by a dynamic tourism sector (TK Jayaraman, Makun, 2022). Because of falling of the tourist amount under the impact of COVID-19, the Maldives has suffered strongly, and it reflected on the macroeconomics' indicators. The COVID-19 shock has shed renewed light on the importance of strengthening the Maldives' resilience to external shocks by government decisions for stabilization and developing economies taking wider the processes on the state development in the future.

According to a statement from the Government of Maldives with the continuation of the adversities of the COVID-19 pandemic, the Maldives Monetary Authority (MMA) was proactive in implementing policy measures to mitigate the financial and economic disruptions arising from the COVID-19 pandemic, while supporting economic activity and maintaining price stability.

More than 2 years since cases were first reported, the COVID-19 pandemic remains an acute global emergency. Many governments face uncertainties about how to prioritize at a time when the pandemic appears to be in transition but when the risk of emergence of new variants and future surges remains real. Following a substantial rebound in the previous year, the growth prospects for the Maldivian economy in 2022 are surrounded by both downside and upside risks, with the former dominating the growth trajectory. Incoming high-frequency indicators signal moderation in the tourist arrivals, affected by the ongoing conflicts between Russia and Ukraine—an event that would adversely impact the tourist arrivals to the country.

The greatest challenges to preparedness for the next pandemic may well be political. The challenge is to ensure such concerns take in account for an adequate response. The success of any preparations for the next pandemic relies on the strength of countries' systems for detecting and responding to outbreaks. The risk is that, as COVID-19 becomes endemic, politicians may lose the will to fund and drive the measures needed to maintain and improve the state preparedness for another pandemic or other kind of crises such as war in Ukraine.

The aim of this research is to find out how the Maldives government reacted on the situation in the economy of the Maldives during the pandemic period, by analyzing correlation on macroeconomics' indicators with the government decisions as the objective of this research. In this research, there has been carried out the qualitative analysis how the government decisions have influence to the dynamics of the macroeconomics' indicators. Research question: Did the measures taken by the government ensure the achievement of the set goals for maintaining economic stability?

The research objects are that kind of decisions what was made by government of the Maldives and how those decisions impact economy of state, finding the correlation between decisions and macroeconomics' indicators. The research period is from 2017 to 2021. The findings and analysis build on several data and information sources like official government institutions such as Ministry of Finance, Ministry of the Economic Development reports, data basis, and international organizations such as Word Bank, International Monetary fund documents which you can see on these slides with references.

Literature Review

This study examines the works of some authors, such as T.K.Jayaraman, K. Makun, L. Von Trapp, I.Lienert, and J.m Wehner, regarding overcoming the consequences of the Covid-19 crisis, looking at the stabilization of the situation from a specific moment. However, this study differs sharply from all of them in that it analyses the economic situation in the perspective of its further development, because solving the problem caused by the crisis in the short term cannot neglect the aspects that the state must provide for its people in the long term. Therefore, official government policy documents, reports, regulatory acts have been used in the study to reflect and analyse this angle of the problem with a larger proportion.

Research results and discussion

Since the middle of March 2020, the Government of Maldives has put in place strict containment measures, including closing government offices and education facilities, closing eateries, imposing travel bans to and from resorts, quarantining all incoming travellers to the Maldives, and barring tourists who were transferred to resorts from travelling to any inhabited islands. Since the community outbreak, the Greater Malé Region and several islands were under a 24-hour lockdown with restricted movement, and a nationwide ban on travel and public gatherings was imposed. The lockdown-easing measures were implemented in a phased approach starting at the end of May 2020. Government offices and schools started gradually reopening on 1 July 2020. Travel out of the Greater Malé Region to other atolls remains restricted to essential travel with requirement of 14-day self-isolation upon arrival.

The tourism sector was the first industry to absorb the economic shock from the crisis, with impacts felt as early as February 2020. It was the first industry to completely shut down with cancellation of on-arrival visa to the Maldives, which effectively closed off the country's borders. In contrast, most businesses in other sectors ceased operations much later, with the onset of community transmission and subsequent lockdown in the Greater Malé Region.

This research reflects the Maldivian government's response to the events created by the crisis, with the aim of helping certain individuals to maintain at least some stability in conditions where the scope of opportunities for earning income for survival decreased drastically and processes stopped. There is no denying that the government's action has its own justification, and it follows from the results of the surveys that the citizens of the country are absolutely grateful for the support provided by the state, proving that there were no other options for action, in principle. However, looking in perspective and evaluating the country's macroeconomic indicators as a whole, it should be concluded that there has never been such a threatening situation in the country, when the national debt exceeds 149% of GDP, indicating a serious threat to the country's independence. Therefore, realizing that the chances of recurrence of crises are very high nowadays, the government must focus on preventing such threats, and in anticipation of a crisis in the future, make such decisions and act in such a way that such threats do not recur.

1.Support Measures Implemented by the Government

Government announced the Economic Recovery Plan, to support businesses and individuals severely impacted by the crisis. As part of the government's recovery plan due to the COVID-19 outbreak, Bank of Maldives partnered with the Ministry of Finance to support the implementation of the COVID-19 Recovery Scheme. This scheme allowed businesses financially affected by the COVID-19 pandemic to apply for financing. Bank of Maldives administered the funds to all resorts, as well as any other businesses with over MVR 10 million turnover. This is an unsecured facility provided at 6% interest per annum with a repayment period of 3 years with a grace period of 6 month, during which no interest or principal payments have to be made (Ministry of Economic Development Republic of Maldives, 2020).

With the uncertainties and continued challenges caused by COVID-19 pandemic, Ministry of Finance has announced the extension of the grace period to help sustain businesses and industry sectors in the country and speed up post-COVID economic recovery.

JobCenter was the primary avenue for applying for the Government's income support programme. It is likely that the majority registered in order to apply for the income support, 6 and a majority of those seeking income support are likely to have lost their source of income through redundancy or no-pay leaves. This could be a key reason why a large proportion of people in JobCenter reported being made redundant or put on no pay when compared with the findings of the resort management survey.

It is noted that the resort management survey covers the impact on payroll staff of resorts while the JobCenter data covers self-employed people, consultants and payroll staff of various operations within the tourism value chain in addition to resort establishments. This suggests that for the initial period of the closure of resorts (April-June 2020), job loss and full income loss was minimized for the majority of payroll employees working in resort establishments.

The resort management survey showed a high retention ratio of employees (96 percent payroll employees) with pay in resorts. This indicates that most of the 45,000 or so payroll employees in resorts, including the 22,000 local payroll employees, were not immediately affected with job loss between April-June 2020. A similar trend was also observed in the in-depth interviews held with resort workers. Out of 31 interviewees from 13 resorts, only one resort had applied redundancy across the board, except for the core team that would remain on the island during the period of the resort closure. All other resorts had different employee retention arrangements in place. However, feedback from interviewees indicated a possibility of redundancy after June if the resorts were not able to reopen.

The analysis of the JobCenter data showed that, of the total cases reported across all economic sectors, 68 percent faced complete income loss while 38 percent reported reduced pay at the time of reporting. For those impacted with no-pay leave, 70 percent lost income between MVR 5,000 and 14,999 (\$324 - \$973), while about 21 percent lost income of over MVR 15,000 (>\$973). Likewise, for those terminated, 75 percent lost income between MVR 5,000 and 14,999 (\$324 - \$973), and 18 percent lost income over MVR 15,000 (>\$973).

According to the in-depth interviews with 67 businesses, 42 percent of the businesses said they might have to suspend business within this year, while 40 percent of the businesses said that they have plans for expansion and diversification. Many, however, temporarily halted expansion plans because of the economic impact of the pandemic. About 55 percent of businesses interviewed acknowledged that they knew of other businesses that had completely shut down or are at risk of shutting down.

With the outbreak of the Covid-19 pandemic two "Economic Response Packages" has so far been implemented to alleviate the impact on households, workers, and businesses. Key components of the package were utility discounts for households and income support allowance for workers whose employment and earnings were affected by Covid-19.

The Government is taking measured steps to mitigate the socioeconomic impact of COVID-19 by supporting households and businesses while protecting the health of individuals during the COVID-19 pandemic.

To address the economic consequences of mitigating the virus, the Government has formulated an Economic Relief Package for different stakeholders of the economy.

The package is composed of various financial support and relief to individuals, households and businesses. The goal of this relief package is to ensure job security and livelihood of Maldivians over the course of the pandemic.

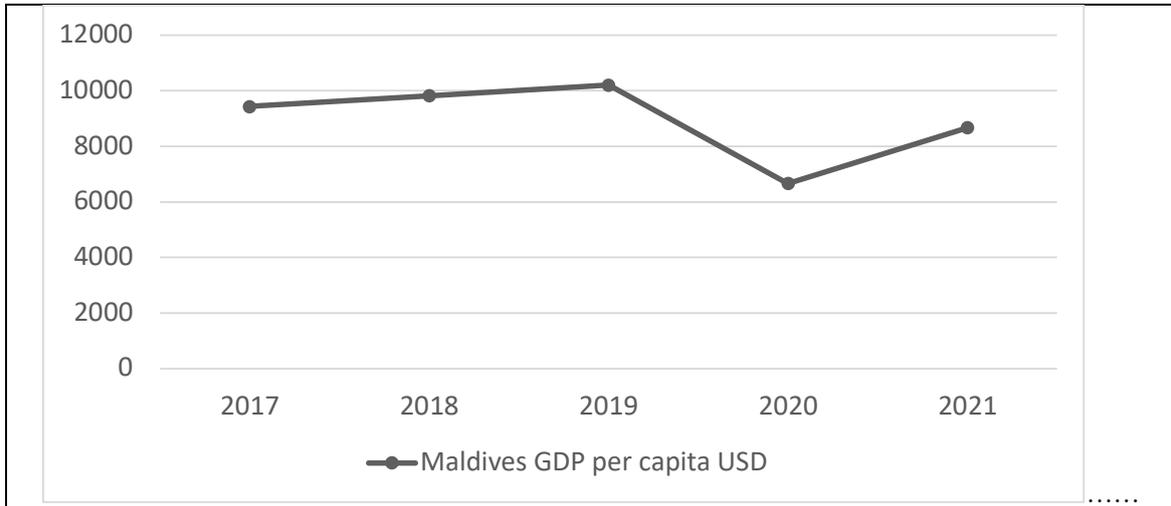
For example, Although the goal of the economic relief packages is to ensure job continuity for Maldivians, large-scale lay-offs and wage reductions have taken place. The Income Support Allowance has been rolled out to provide a safety-net to affected and displaced workers due to COVID-19.

The allowance will be paid out for 10 months (April 2020 – December 2020) to eligible individuals. Maldivians who: 1) are currently unemployed; 2) are on no pay leave; 3) had their salary deducted; 4) had their earnings affected (for self-employed/ freelance workers) due to COVID-19 related reasons may be eligible for benefits up to MVR 5,000, contingent on having been employed up until 1st December 2019.

2.The Dynamic of the Macroeconomics' Indicators

However, taking it in general, of course, that helps to pass the crisis but that is not enough for stability and long-term development because macroeconomics' indicators have not reached appropriate improvements. And some of them looks very bad.

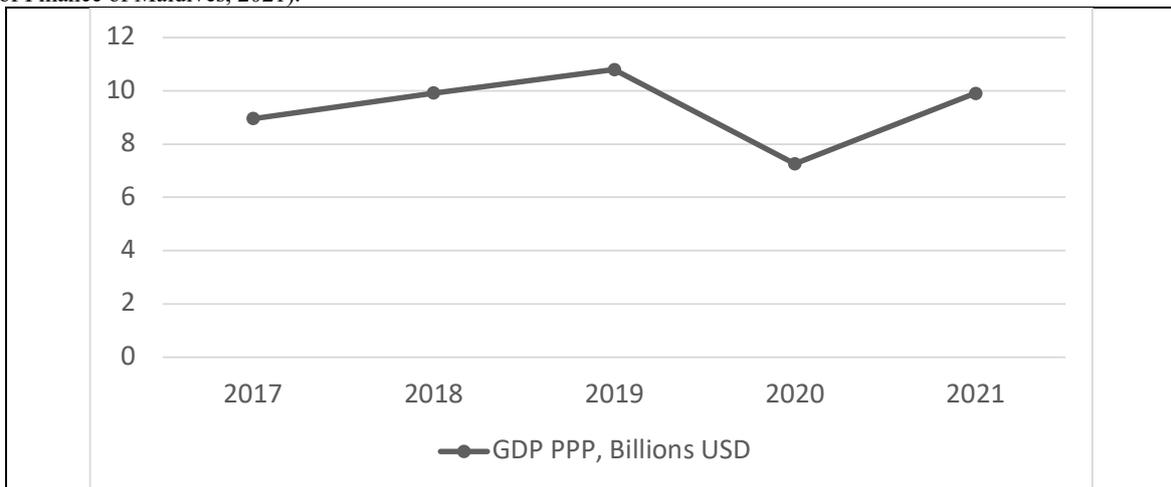
We can see that, there are some macroeconomics' indicators that fell in Covid period because of objective reasons. The same fallings were in GDP PPP, and GDP per capita, they fell in 2020 and then they rose in 2021 but not enough. Import and export proportions changes was similar. And the balance of trade shows us a decline, too. In addition, we see a long-term trend of maintaining a negative trade balance, which is not good for the economy of state in the future.



Source: author's construction based on Statistic data

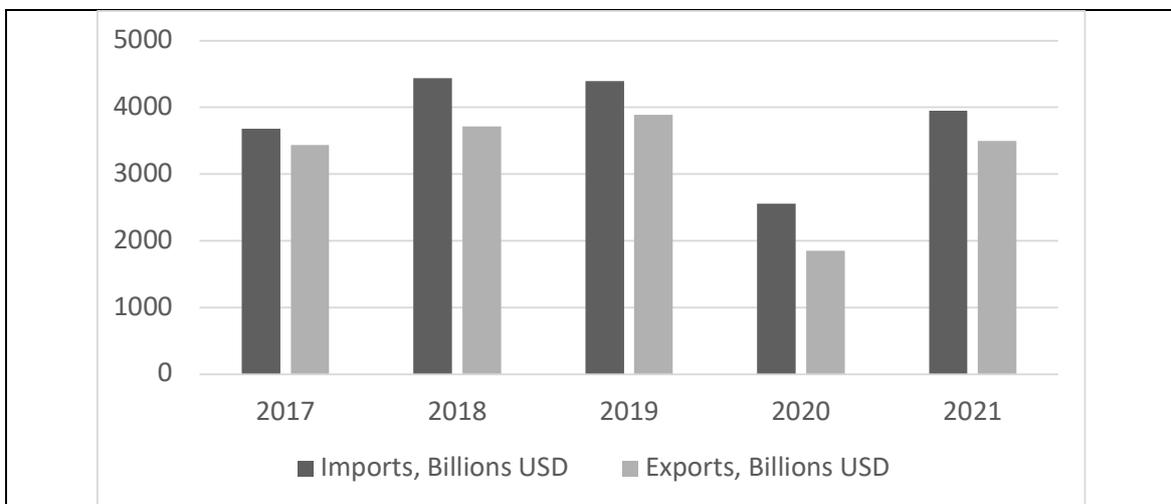
Fig. 1. Maldives GDP per capita USD, 2017-2021

With sharp declines in tourist arrivals and economic growth in 2020, the overall fiscal deficit (including grants) is estimated to exceed 27.5 percent of GDP in 2020 (Asian Development Bank, 2022). The 2021 budget envisages cuts in some spending; however, with revenues not recovering to pre-crisis levels, as well as larger capital expenditure, another large fiscal deficit is envisaged. Total public and publicly guaranteed debt continue to rise, possibly exceeding 130 percent of GDP by end-2021. This level is substantially higher than the one used in the last performed Debt Sustainability Analyses (DSA) conducted by International Monetary Fund (IMF) and World Bank staff, which already highlighted high risks with respect to debt sustainability. To respond to challenges posed by COVID-19, there is approved the suspension of certain provisions; these provisions include limitations on borrowing and the requirement to borrow only for national development projects (Ministry of Finance of Maldives, 2021).



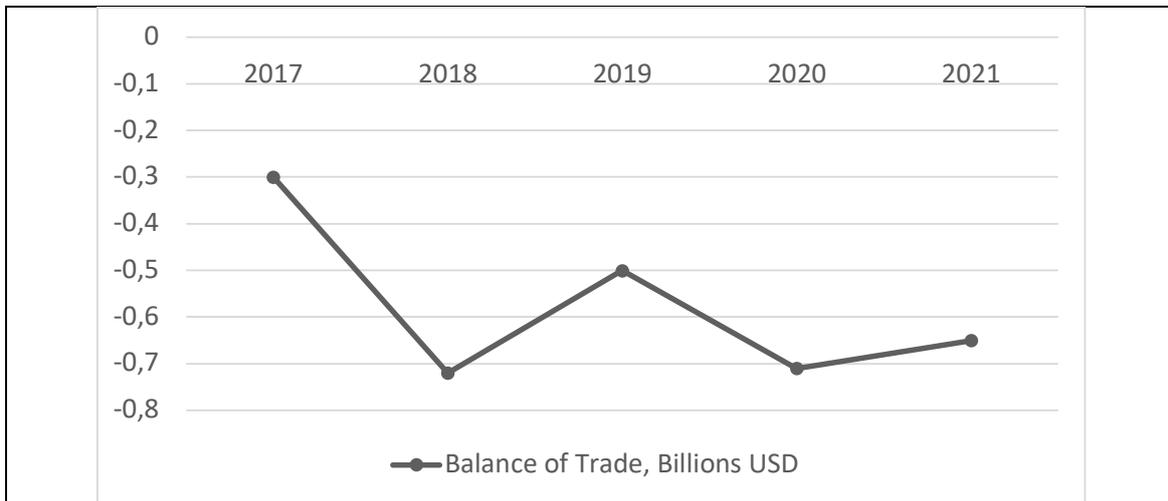
Source: author's construction based on Statistic data.

Fig. 2. Maldives GDP PPP, Billions USD, 2017-2021



Source: author's construction based on Statistic data

Fig. 3. Import/Export, Billions USD, 2017-2021

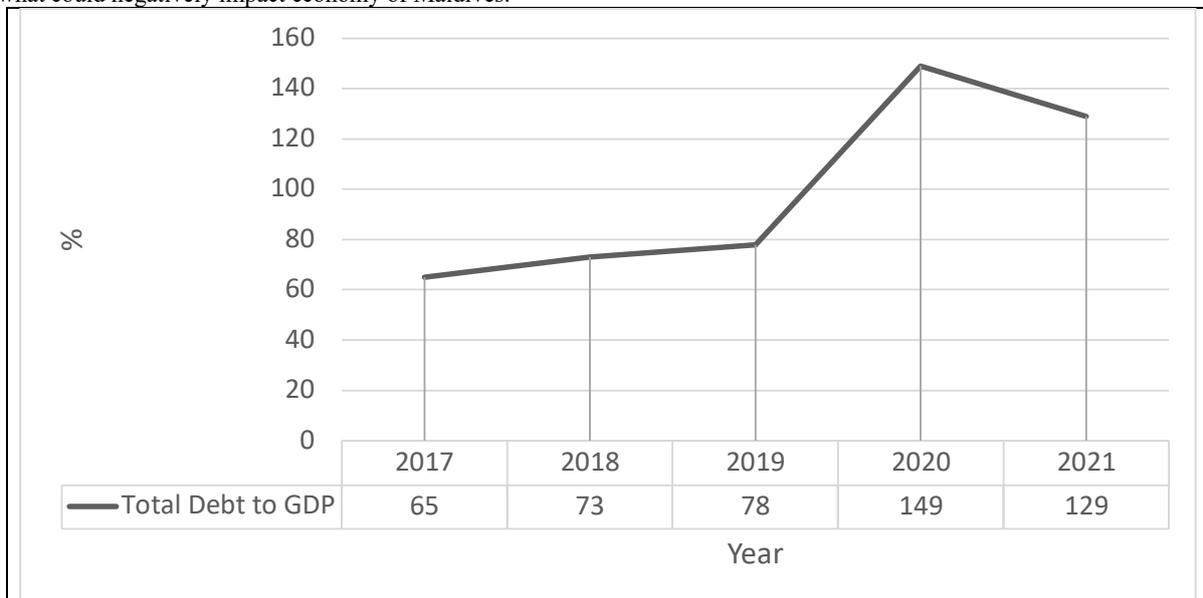


Source: author's construction based on Statistic data

Fig. 4. Balance of trade, Billions USD, 2017-2021

But there is one more macroeconomic indicator which shows difficulties for the state development in the future, that is the state debt which rose dramatically in Covid period, according to Annual report Maldives fiscal risk statement 2021, prepared by Ministry of Finance.

In this graph can see that it reached 149 % from GDP in 2020, in 2021 it was 129% from GDP what is better but still that is very high amount what could negatively impact economy of Maldives.



Source: author's construction based on Statistic data

Fig. 5. Total Debt to GDP, %, 2017-2021

But there is one more macroeconomic indicator which shows difficulties for the state development in the future, that is the state debt which rose dramatically in Covid period, according to Annual report Maldives fiscal risk statement 2021, prepared by Ministry of Finance.

In this graph you can see that it reached 149 % from GDP in 2020, in 2021 it was 129% from GDP what is better but still that is very high amount what could negatively impact economy of Maldives.

That means the government solved the Covid period problems in easy way, by borrowing money from the World bank and others. But that is dangerous because it threatens the independence of the country it is a big fiscal risk for state stability and growth. Nowadays, it is important to be fiscal independent (Von Trapp, Lienert, and Wehner, 2015).

Downside risks remain. The baseline projection accounts for the estimated impacts of the Russia-Ukraine war on the tourism and oil prices under the current trend, but further increases in global energy prices may cause an additional fiscal burden. Tourism could be adversely impacted by a persistent reduction in Russian and Ukrainian tourists and new waves of the COVID-19 infections could return, too.

Conclusions

1. In conclusion, there are number of the macroeconomic indicators such as GDP, debt, import, export, balance of trade, which is worth to improve adopting government decisions and activities that will help to reach the Maldives economic stability and growth in the long run, strengthening competitiveness and diversifying the economic base, and that way improving the quality of life of island communities.
2. Most important of that, in my view, the government need to focus on improving the fiscal and debt position worsened by the Covid-19 crisis and on improving debt sustainability.
3. It could be reached by: 1) Diversifying the economy and building a resilient economy; 2) Enhancing the fiscal preparedness for disasters and reducing fiscal risks.
4. While there is a need to reduce debt to a sustainable level by continuing fiscal consolidation efforts, there is also an ongoing need to support economic activity and limit the impact of the crisis on vulnerable social groups. There are fiscal policy trade-offs between 1) supporting infrastructure projects, while addressing environmental concerns, and 2) pursuing ambitious deficit-reduction plans to secure debt sustainability.

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ASSESSMENT OF THE QUALITY OF LIFE IN RIGA CITY

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Abstract. Improving urban quality of life now is increasingly in the top of the political agenda of modern cities. However, right policy treatment requires thorough analysis and correct diagnosis. The aim of this conference proceedings paper is to assess the quality of life in Riga city compared to the other European cities. By applying a Principal Component Analysis to the most recent Eurobarometer survey data we construct a composite quality of life indicator for 83 European cities. It reflects respondents' balance of replies to 40 questions of the Eurobarometer survey across several quality of life areas: safety, trust, environment, public transport, infrastructure, liveability, governance and economic prosperity. We find that in all these areas the quality of life in Riga tends to be lower than in the neighbouring capital cities Vilnius and Tallinn. While Riga performs rather well in terms of perceived environmental quality compared to other European cities, we identify a large room for improvement in the areas of social trust, quality of urban governance and how pleasant a city is to live. By applying Data Envelopment Analysis to build European urban quality of life frontier, we conclude that Riga has a big potential to raise urban quality of life even with its current GDP per capita level. Moreover, even the current population size of about 600 thousand people does not preclude a raise of the quality of life in Riga.

Keywords: *urban quality of life, urban life satisfaction, Eurobarometer survey, Principal Component Analysis, Data Envelopment Analysis.*

JEL code: O18, R11, R23, R5

Introduction

Improving urban quality of life now is increasingly in the top of the political agenda of modern cities. Nowadays, cities compete with each other for investment and human capital, both regionally and globally. Quality of life in the city is one of the main instruments in this competitive struggle (Morais and Camanho, 2011). An attractive, diverse and tolerant urban environment raises international profile and brings highly qualified people to the city. They, in turn, set up new businesses and attract representative offices of large corporations, promoting the city's economic development (Morais et al., 2013).

Riga lags behind neighbouring capital cities Tallinn and Vilnius in terms of gross domestic product per capita; moreover, this income gap tends to increase over time. Also, Riga is the only capital city in the Baltics which still faces a population decrease over the recent years. Thus, essential purpose of conducting this study is to analyse the possible contribution of urban quality of life to the difference in income and demographic trends between the Baltic capital cities.

To raise the quality of life, it is not required for Riga to become a multi-million metropolis first. On the contrary, in Europe, there is a negative association between living in a big cities and happiness, even taking into account observable control variables (Piper, 2015). Authentic and unique environments, healthy lifestyles and other non-economic dimensions of everyday life (such as community engagement, a culture of collaboration and participation, and social proximity) are among the advantages attracting highly skilled and creative people to small communities rather to the large urban centres (Selada et al., 2013). But there are many cosy cities in Europe to live in; to attract highly qualified and creative people to work and live in Riga, the city should offer a better quality of life than elsewhere.

While quality of life satisfaction often rises with income (at least until a certain level), income and well-being are “two very different concepts” (Goerlich and Reig, 2021). Indeed, the higher is income level, the less wealth matters for well-being. There is no universal definition of what is the urban quality of life, given its multidimensional and interdisciplinary nature. In the literature, urban quality of life is closely connected with such terms as a “sustainable city”, “smart city” or “urban development”, but none of them has universal definition either. While incorporating both objective and subjective well-being measures, urban quality of life could be generally defined as a combination of people experiences within the space they live in with their perceptions and feelings (Senlier et al., 2009).

Academic literature has a long tradition in studying the quality of life at a city level. This conference proceedings paper contributes to the evidence by focusing on Riga - a regional centre of the Baltics. The aim of the paper is to assess the quality of life in Riga city compared to the other European cities. We apply a Principal Component Analysis to the most recent Eurobarometer survey (conducted in 2019) data to construct a composite quality of life indicator for each of the 83 European cities, including Riga. This allows to create a ranking of the European cities and compare the quality of life between them. Afterwards, we apply a Data Envelopment Analysis to build European urban quality of life frontier, employing GDP per capita as an input and composite quality of life indicator as an output. It enables us to see by how much Riga could enhance its quality of life given its current income level. While this conference proceedings paper analyses also particular quality of life areas like safety, trust, environment, infrastructure or urban governance, it still provides a broad picture to the urban quality of life rather than an exhaustive assessment of each quality of life variable.

Literature Review

Urban quality of life studies differ substantially in their thematical scope and geographical dimension. Some studies focus on the quality of life in a particular city. For instance, Senlier et al. (2009) compare the life satisfaction in Kocaeli - one of the important industrial cities of Turkey - with ten other European cities of similar size. Other studies focus on comparing the quality of life between cities or municipalities within national boundaries. For instance, Goerlich and Reig (2021) rank 73 Spanish cities, while Loschiavo (2021) study the quality of life in 452 Italian cities. Many studies rely on international dimension. For instance, Węziak-Białowolska (2016) study factors related with quality of life satisfaction in 79 European cities. Some studies focus on a particular dimension of the quality of life. For instance, Giannico et al. (2021) study the relation between the prevalence of green spaces collected via satellite data and the quality of life in 51 European city. Branis and Linhartova (2012) study exposure to air pollution in 39 Czech cities, while Mariotti et al. (2021) study public transport perceptions of old people in two Italian cities – Milan and Genoa.

Being very much connected to the perceptions, feelings, and subjective values of the people, standard quality of life indicators usually include wealth and employment, housing and environment, physical and mental health, education and recreation, crime and safety, as well as social belonging (Nevado-Pena et al., 2019). Moeinaddini et al. (2020) argue that five most important factors of urban life satisfaction across European cities are feeling safe in the city, satisfaction with healthcare services, satisfaction with the state of streets and buildings in the neighbourhood, satisfaction with public transport in the city, and availability of retail shops. Mouratidis (2020) argues that, in general, urban environment can affect subjective well-being through housing satisfaction, neighbourhood satisfaction and commute satisfaction. Camagni et al. (2013) shows that city amenities are among the key factors that determine a city-specific “optimal” city size- achieved when marginal location costs equal marginal location benefits. Hybel and Mulalic (2022) show how in a general equilibrium model setup a quality of life index measures household's willingness to pay for local amenities. Okulicz-Kozaryn and Valente (2019) find a strong correlation between objective liveability and subjective life satisfaction across European cities. Generally, objective liveability rises from the East to the West, while subjective life satisfaction rises from the South to the North. Particularly, the North Western part of Europe, or more specifically Germany, the Netherlands, the UK, and Scandinavia constitute a large cluster of cities with high levels of happiness. Węziak-Białowolska (2016) report that satisfaction with the quality of life in the European cities is closely related to personal characteristics, such as age, health,

gender, educational level, period of time living in a city, as well as to the financial situation of a household and employment status. Mouratidis (2020) outlines that different quality of life elements are closely tight to each other. For instance, individual's health is likely to contribute to satisfaction with all other life domains - by posing constraints and limiting capabilities in life, it particularly can decrease satisfaction with job or neighbourhood.

There are several quality of life rankings at a city level, each of them containing dozens of indicators, often grouped into different categories and using different aggregation techniques (see, for instance, Kaklauskas et al., 2018). The ranking assessment of the cities helps to uncover particular urbanization processes in the city and compare its pace of development with the other cities, as well as to identify positive and negative transformation trends (Niemi et al., 2021). Not surprisingly, different categories and even rankings exhibit at least moderate positive correlation with one another. Particularly, quality of life is found to be positively related both with conventional prosperity measures such as GDP per capita (Akande et al., 2019) as well as with technology adoption measures such as ICT use (Nevado-Pena et al., 2019).

Data and methods

Given that urban quality of life is very much connected to the perceptions, feelings, and subjective values of the people, the respective literature mostly relies on the soft (i.e., survey) data. This conference proceedings paper is not an exception and is based on the most recent wave of the Eurobarometer survey, which was conducted in 2019 and consisted of 83 European cities (including Riga). These cities were selected for the survey by national governments, and tend to be the more populous cities in each country. In each city 700 respondents were surveyed; the structure of respondents by age and gender was in line with the structure of general population in a given city. Respondents rated different areas of the quality of life in their city, including safety and trust, infrastructure and governance, environment and economic conditions. Each quality of life area included several questions. Each respondent was asked whether they are satisfied with the respective quality of life area or whether they agree with the respective statements. Answers were pre-defined mostly using a 5-point Likert scale (very satisfied; rather satisfied; rather unsatisfied; not at all satisfied; do not know / no answer). Eurostat provides the percentage of respondents in each category as separate variables. We follow a conventional literature (for instance, Okulicz-Kozaryn and Valente 2019) to create one variable per every question in a given city. The respective variable ranges between a theoretical 0 when everybody is strongly unsatisfied to 100 when everybody is strongly satisfied.

Some caveats should be heard in mind when recalculating people's ordinal responses recorded in a 5-point Likert scale into a single numerical variable representing a balance of replies. Such recalculation intrinsically assumes that there is the same difference between each point of the Likert scale, i.e. the difference in opinion between "rather dissatisfied" and "very dissatisfied" is similar as between "rather satisfied" and "very satisfied", which might not be the case. Alternatively, one might reflect respondents' satisfaction with the share of "very satisfied" or "very satisfied and rather satisfied" respondents. This solution is not without drawbacks either. Particularly, it would drop a large amount of relevant information from the survey dataset, i.e. ignoring whether other respondents are strongly unsatisfied, rather unsatisfied or unwilling to answer the question. Results presented in this paper are robust to such changes in methodology.

Moreover, note that survey data reflect a subjective perception of the respondents compared to an imagined ideal situation. Residents of different cities tend to have different understandings about the latter. Moreover, the level of people's needs and therefore also the requested quality of life may change over time. For instance, respondents' satisfaction may decline even if improvement in a particular quality of life area is slower than expected. Indeed, raising prosperity might bring a parallel rise in aspirations, leaving life satisfaction at the previous level (Goerlich and Reig, 2021). Moreover, measures of subjective well-being might be biased with past experiences, which might not be relevant any more at the time of the survey.

In a world displaying a plethora of information, composite social and economic indicators have become extremely popular as a way to aggregate different dimensions in a single index, dimensions that would otherwise be difficult or impossible to compare (Goerlich and Reig, 2021). Different studies employ various weighting schemes to arrive at the composite quality of life indicators. Subjective weighting procedures involve either imposing arbitrary weights to different quality of life indicators, or quantify these weights through experts' opinion. A reasonable alternative to avoid subjective weighting is the application of Principal Components Analysis (PCA) on the quality of life indicators, thus, determining weights endogenously. This could be viewed as a compensatory approach of aggregation, where strengths displayed in some particular indicators can compensate for the weaknesses revealed by other indicators. Such a composite indicator is recognised to be a useful tool to consider all European cities in a global perspective, both distinguishing the high performing cities from the rest of group and identifying in which cities intervention is most needed to increase the quality of life (Morais and Camanho, 2011). Application of PCA to the Eurobarometer survey data allows to decrease dimensionality of this large dataset without a notable information loss. We obtain one numerical variable per each area of the quality of life per city (which represents the first principal component of PCA), and also a composite indicator of the quality of life in a given city, which is then re-scaled to a 0-100 points scale for representation purposes.

The use of PCA is justified by the value of Kaiser-Meyer-Olkin (KMO) criterion. KMO represents a degree to which each observed variable is predicted by the other variables in a dataset. In our composite quality of life indicator overall KMO equals 0.88, reflecting adequate sampling, while for each of the 40 variables in a correlation matrix it never falls below 0.70. In turn, the focus on the first principal component is justified by the fact that it is the first principal component that explains the largest part of the variance of any quality of life area.

Afterwards, we connect composite quality of life index with GDP per capita data via Data Envelopment Analysis (DEA) technique to construct an urban quality of life frontier. DEA is a non-parametric linear programming method to measure the efficiency of decision-making units. We employ GDP per capita as an input and composite quality of life index as an output to reflect an output-oriented technical efficiency of European cities (i.e., by which extent quality of life in a particular city could be raised given the current income level, given the performance of the peer cities). The ability of cities to transform wealth (measured by GDP) into quality of life is also one of the ways to assess the performance of city management (Morais and Camanho, 2011). In this setup, an urban quality of life frontier consists of "fully efficient" cities – cities which managed to achieve the best quality of life score given available resources.

It should be admitted that public spending per capita (purchasing power parity adjusted) in a given city might be an even better input measure. However, respective data are not available for the European cities. In this regard, GDP per capita (used as an input measure in this paper) may be viewed as a proxy of public spending per capita, representing a taxable income base.

Research results and discussion

We run PCA on the 40 questions of the most recent wave of the Eurobarometer survey to get a composite quality of life indicator for each of the surveyed 83 European cities. The value of composite quality of life indicator reflects the value of the first principal component of the PCA, normalized to 0 – 100 scale, where a value of 0 reflects the worst quality of life among European cities, 100 – best quality of life. Ten questions which are given the biggest weight in a composite quality of life indicator (i.e., ten questions with the highest factor loadings of the first principal component of the PCA) are shown in Table 1.

Table 1

Composite quality of life index: ten questions with the biggest factor loadings of the first principal component and the corresponding Kaiser-Meyer-Olkin criterion

Code	Question	Answers	Factor loading	KMO
Q2_01	Satisfied to live in my city	A (5)	-0.209	0.94
Q4_01	Neighbourhood where you live	S (5)	-0.207	0.93
Q4_04	The life you lead	S (5)	-0.193	0.92
Q1_06	Public spaces: markets, squares, pedestrian areas	S (5)	-0.192	0.91
Q1_05	Green spaces: parks and gardens	S (5)	-0.189	0.91
Q1_09	Noise level	S (5)	-0.187	0.88
Q2_07	Most people in my neighbourhood can be trusted	A (5)	-0.186	0.87
Q6_02	Public transport is safe	A (5)	-0.185	0.92
Q1_10	Cleanliness	S (5)	-0.180	0.89
Q2_06	Most people in my city can be trusted	A (5)	-0.179	0.91

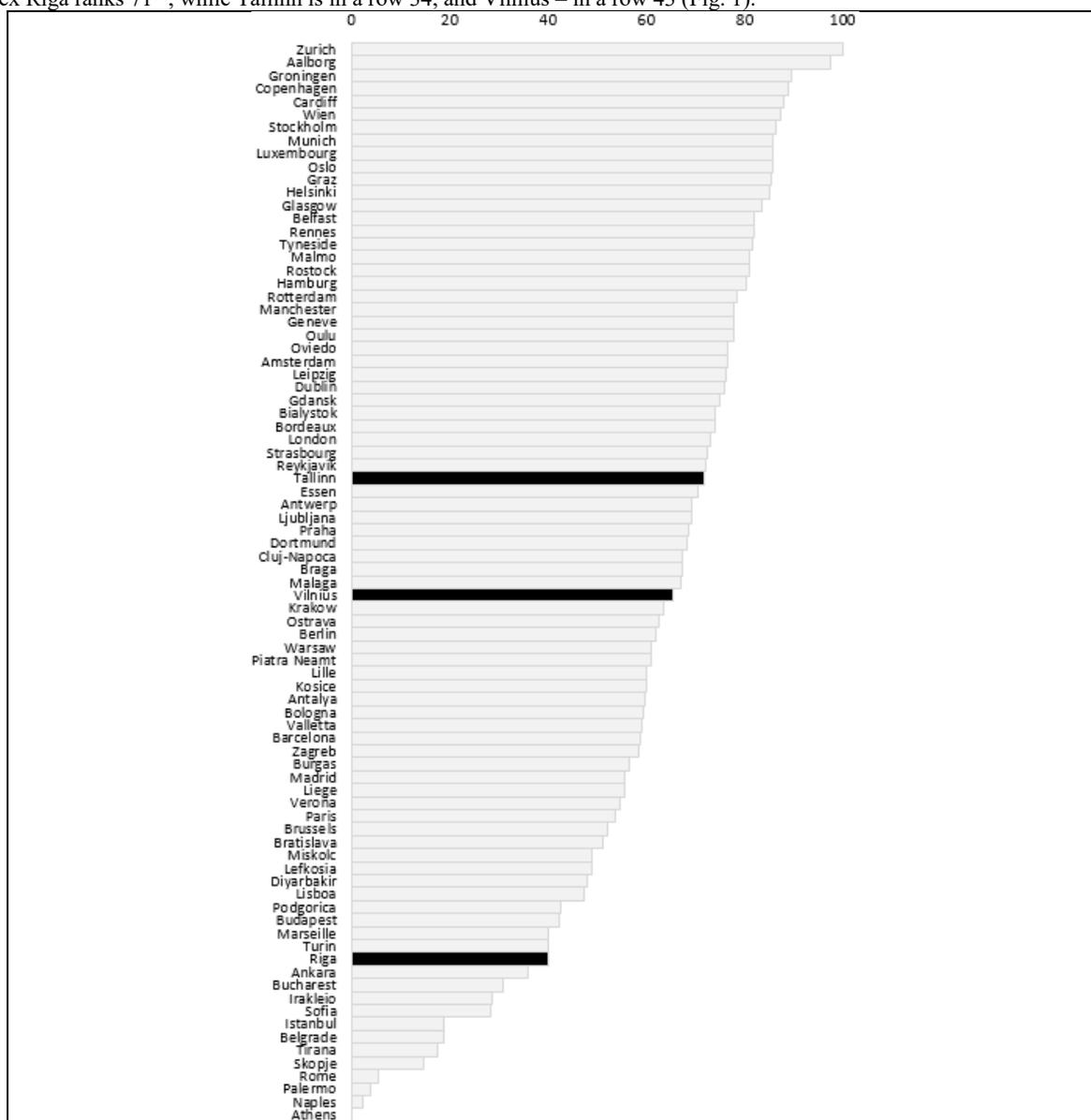
Notes. A (5): agreement on a 5-point Likert scale: Strongly disagree / Somewhat disagree / Don't know / Somewhat agree / Strongly agree.

S (5): satisfaction on a 5-point Likert scale: Very unsatisfied / Rather unsatisfied / Don't know / Rather satisfied / Very satisfied.

Data on the remaining 30 questions included in the composite quality of life index, but not included in the table, is available upon request.

Source: author's calculations based on Eurobarometer survey data.

The best quality of life is assessed in the following European cities: Zurich, Aalborg, Groningen, Copenhagen, Cardiff, Wien, Stockholm, Munich, Luxembourg and Oslo. In turn, the worst quality of life is assessed in the Southern European cities - Athens, Naples, Palermo, Rome, Skopje, Tirana, Belgrade, Istanbul, Sofia and Irakleio. In Riga, the quality of life tends to be lower than in many European cities, including neighbouring capital cities Tallinn and Vilnius. Among 83 European cities surveyed by the Eurobarometer, according to the composite quality of life index Riga ranks 71st, while Tallinn is in a row 34, and Vilnius – in a row 43 (Fig. 1).

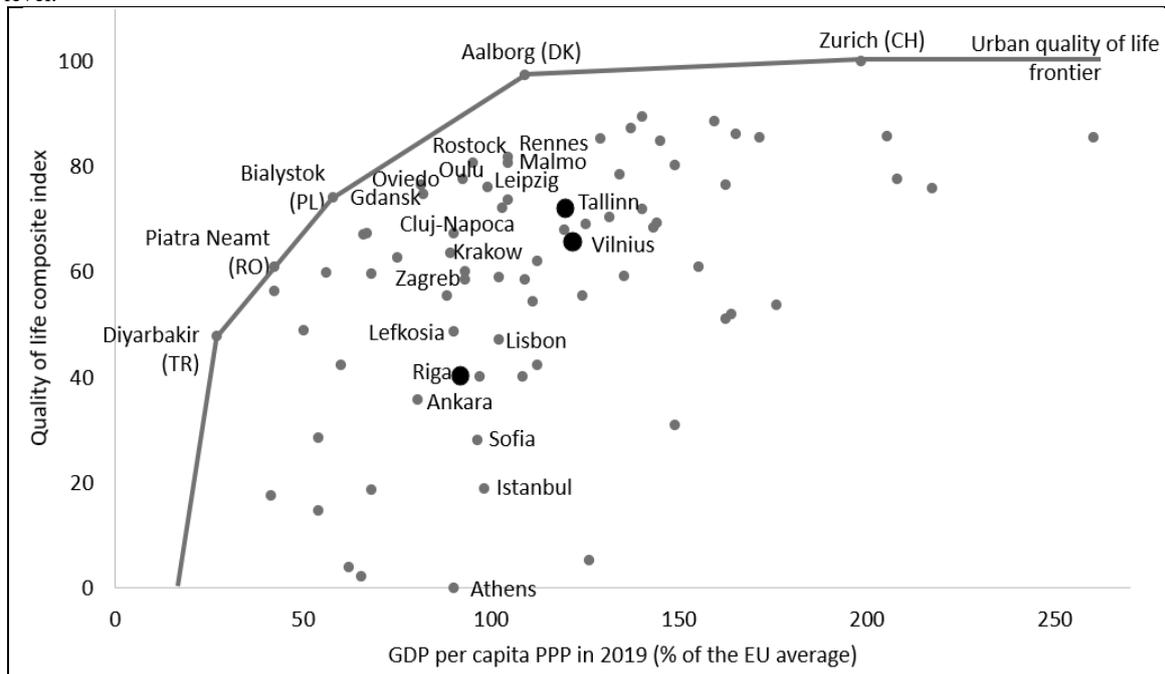


Source: author's construction based on Eurobarometer survey data.

Fig. 1. Composite urban quality of life index: ranking of 83 European cities (0 - 100 point scale, in 2019)

There is a correlation among European cities - the higher the income level, the better the quality of life. However, in terms of quality of life, Riga lags behind Tallinn, Vilnius and most European cities significantly more than in terms of the income level. A vertical distance between an observation of a particular city and DEA Urban quality of life frontier may be interpreted as an output-oriented technical

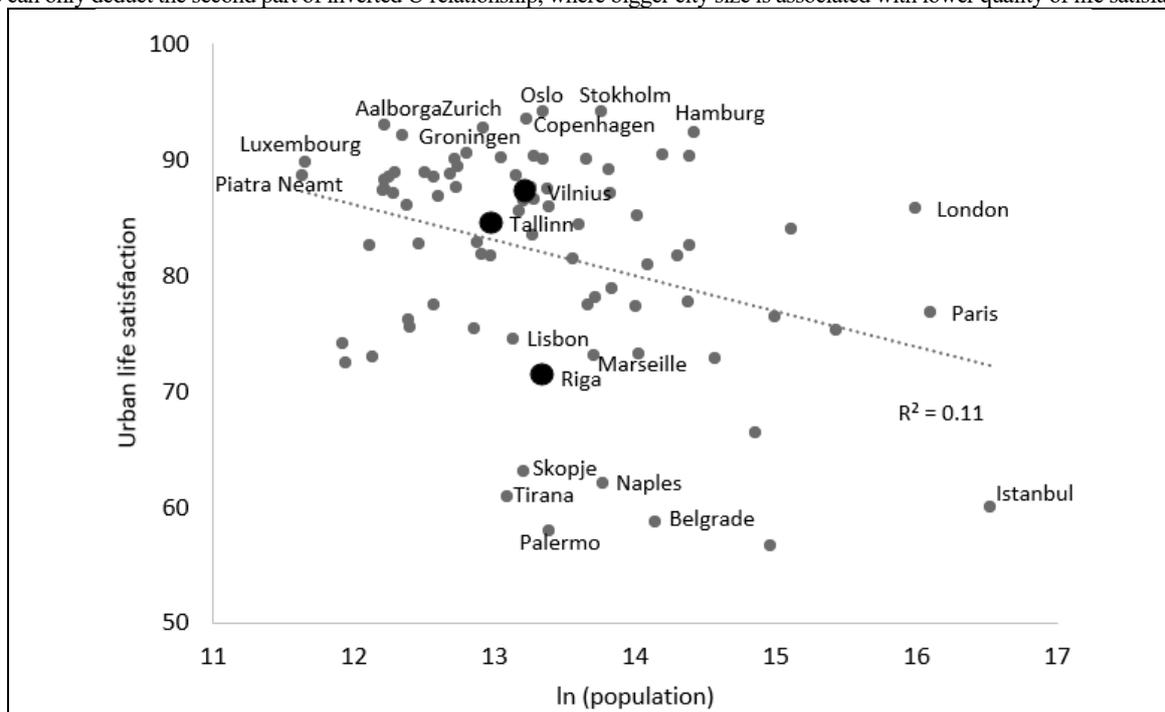
inefficiency. This means that even at the current GDP per capita level - between Bialystok (Poland) and Aalborg (Denmark) - residents of Riga can live a much happier life (Fig. 2). Many European cities with the similar GDP per capita as in Riga enjoy considerably higher quality of life (i.e., lower technical inefficiency) - Krakow, Gdansk, Rostock, Leipzig, Malmo, Oulu and many others. Riga municipality should regard these cities as peers and explore their practical experience and policies which allowed them to achieve better urban quality of life with similar GDP per capita level.



Note. Quality of life composite index reflects the value of the first principal component of the Principal Component Analysis (normalized to a 0-100 points scale), and reflects a balance of replies of 40 questions from the Eurobarometer 2019 survey.
Source: author's construction based on Eurostat and Eurobarometer survey data.

Fig. 2. Income level and urban life satisfaction in the European cities (in 2019)

Riga can significantly increase the quality of life even with its current population of slightly above 600 thousand residents. European cities whose residents are most satisfied with life usually are relatively small in size - Oslo, Copenhagen, Stockholm, Zurich or Aalborg (Fig. 3). The inhabitants of these cities are happier than in multi-million cities like London or Paris. Smaller cities may have several advantages that attract highly qualified and creative people from metropolitan centres: a clean, authentic and unique environment, better urban organization, a more comfortable rhythm of life, greater opportunities to stick to a healthier lifestyle, as well as social proximity and greater opportunities to participate in community life. Note that the relation between city size and urban life satisfaction is likely to be non-linear, possibly in a form of inverted U. On the one hand, megacities may suffer from over congestion. On the other hand, very small communities tend to lack basic amenities. As the latter are not observable in the Eurobarometer survey, we can only deduct the second part of inverted U relationship, where bigger city size is associated with lower quality of life satisfaction.



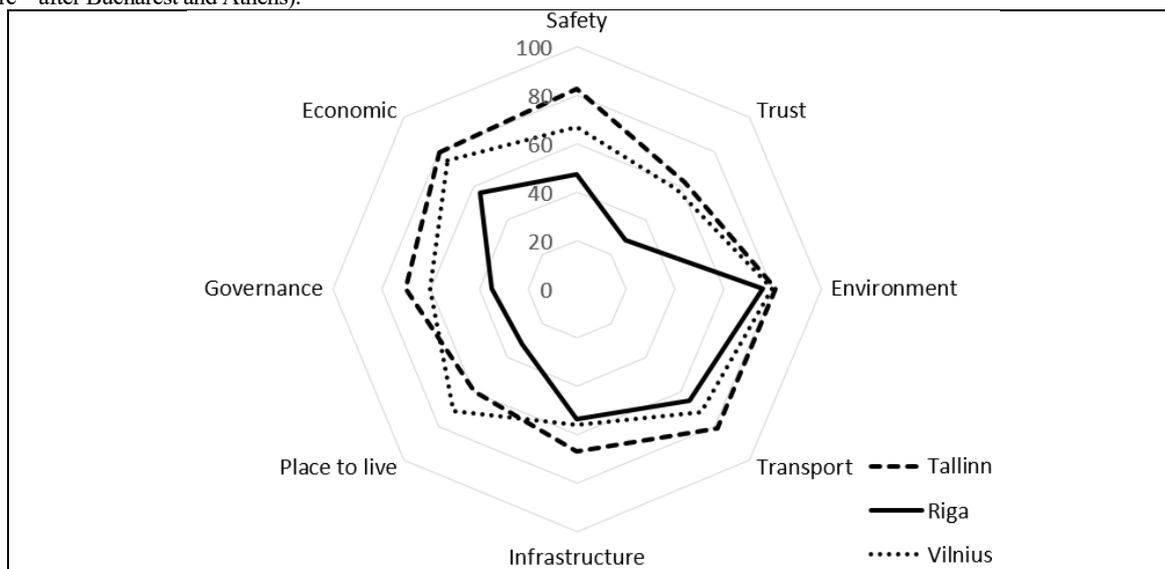
Note. X axis reflects a natural logarithm of city population size. Y axis reflects whether respondents in a given city agree with the statement "I'm satisfied to live in my city" (Eurobarometer question q2_01), recalculated to a 0-100 points scale (0 reflects strong disagreement, 100 – strong agreement).
Source: author's construction based on Eurostat and Eurobarometer survey data.

Fig. 3. Population size and urban life satisfaction in the European cities (in 2019)

Riga lags behind Vilnius and Tallinn in all areas of the quality of life. In some areas the quality of life gap is not large (e.g., environment) while in some areas it is considerable (trust to each other, urban governance and how pleasant a city is to live; Fig. 4).

The quality of urban environment in Riga is somewhat better than in the majority of the European cities. Within 83 European cities surveyed, Eurobarometer places Riga at the second quartile regarding satisfaction of residents with air quality, noise level, green areas and cleanliness. Although majority of Riga residents are rather satisfied with the quality of urban environment, there is a non-negligible share of unsatisfied respondents. The share of unsatisfied Riga residents varies from 13% on green spaces to 30% on air quality. One striking fact about the perceived environmental quality in Riga is the lack of progress over time. Ten years ago the quality of the environment in Riga was perceived as the best among the Baltic capital cities. Since then, Tallinn and Vilnius have made significant progress, while environmental improvements in Riga have been only modest. Therefore, currently satisfaction with the environmental quality in Riga is slightly lower than in Tallinn and Vilnius.

According to the perceived safety and trust to the surrounding people, Riga is located close to the Southern European cities like Rome, Marseille, Istanbul, Belgrade, Skopje and Bucharest. In this cluster of cities, safety and trust is greater than in Athens or Sofia, but lags behind Central European cities, not to mention the cities of Northern Europe. The fact that Riga is seemed by its inhabitants as one of the most unsafe capital cities in the European Union, points to a large room for improvement in the respective area. Riga is located in the lowest quartile according to almost all perceived safety and trust indicators. Values of several indicators are considerably lower than the European average, particularly regarding the confidence in the local police force (4-th lowest score among 83 European cities – just after Athens, Sofia and Skopje) as well as trust to people living in your neighbourhood (3-rd lowest score – after Bucharest and Athens).



Note: 0 – worst score among 83 European cities; 100 – best score.
 Source: author’s construction based on Eurobarometer survey data.

Fig. 4. Quality of life in the Baltic capital cities by area (0-100 points scale; in 2019)

Rather low position of Riga in a perceived quality of urban governance is evident across all indicators of urban governance. Even in those areas of city governance where Riga's performance is relatively good - the easiness of procedures, speed of solving requests and the availability of information online – perceived quality of governance is worse than in about three quarters of European cities surveyed by the Eurobarometer. In turn, in the areas where the evaluation of Riga residents is the most critical - the prevalence of corruption and whether fees collected by the local public administration are reasonable – Riga is in the 8th and 6th place, respectively, from the bottom, among 83 European cities. Almost 40% of Riga residents do not agree with the statement that the fees charged by the local public administration are reasonable - this figure is three times higher than in Vilnius and ten times higher than in Tallinn. Also, 45% of Riga residents are fully convinced regarding the presence of corruption in the work of local public administration, which is twice more as in Tallinn and three times more as in Vilnius.

One of the fundamental factors behind migration of young people from Riga to Pieriga is that they do not perceive Riga as a good place to live. Every third respondent in Riga does not believe that a city is a good place to live for young families with children, which is twice more than in Tallinn and four times more than in Vilnius. The result is a shortage of young people in the city's age structure, which also means a low birth rate. In the neighbourhood of Riga the age structure of the population is younger than in the city itself; this situation is the opposite to Vilnius, which enjoys a younger population than the neighbourhood area.

Someone could argue that the survey data might just reflect the annoyance of Riga residents. However, ten years ago, Riga residents were not annoyed – according to the previous Eurobarometer of 2012, life satisfaction of Riga residents was close to the scores recorded in Tallinn and Vilnius, with Riga even ahead of its neighbours in some areas (for example, urban environment). The fact that the current quality of life in Riga city lags behind Vilnius and Tallinn is reflected also in a continuous population decline in Riga (while population of Vilnius and Tallinn started to increasing again over the most recent years) and a somewhat slower economic growth rate than in Vilnius and Tallinn.

Conclusions, proposals, recommendations

Conclusions:

1. Principal Component Analysis is an efficient tool to compute a composite quality of life indicator based on the results of the most recent Eurobarometer survey. This is shown by the high value of Kaiser-Meyer-Olkin criterion of a computed composite quality of life index (0.88), reflecting adequate sampling.
2. The overall quality of life in Riga tends to be lower than in the neighbouring capital cities Vilnius and Tallinn. This observation goes hand-in-hand with the growing income gap between Riga and two other Baltic capital cities as well as with different demographic trends over the recent years.
3. While Riga performs rather well in terms of perceived environmental quality compared to other European cities, there is a large room for improvement in the areas of social trust, quality of urban governance and how pleasant a city is to live. Thus, a focus on the latter areas is essential to improve the overall quality of life in Riga.

4. Riga has a big potential to raise urban quality of life even with its current GDP per capita level and population size. A lack of fundamental reason why the quality of life in Riga should always remain lower than that in Vilnius and Tallinn calls for policy action in this regard.

Proposals and recommendations:

1. Ensuring better urban quality of life should be given more priority in urban policy agenda in Riga.
2. Practical experience of the European peer cities, which managed to achieve better urban quality of life with similar GDP per capita level (such as Krakow, Gdansk, Rostock, Leipzig, Malmo and Oulu) should be explored by the Riga municipality.

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NEWCOMERS IN LATVIAN COUNTRYSIDE: ECONOMIC AND SOCIAL POTENTIAL

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Abstract. The paper focus on increase of urban to rural migration in recent decades, which led population growth in many rural communities in Latvia's countryside. The Covid-19 pandemic, with its restrictions, has also indirectly encouraged the move of city dwellers to the countryside. Newcomers as a separate category of rural residents receive special attention in scientific literature and research. The potential of newcomers has been studied in Latvia to a limited extent. The aim of research is to evaluate the impact of newcomers in various rural territories of Latvia. The study was conducted using the qualitative research approach - focus group interviews and semi-structured interviews. The results of the study reveal the experience of successful use of the economic and social potential of newcomers in the rural areas of Latvia. The vision, knowledge, skills and experience of newcomers enrich and empower local communities, contribute to the spread of remote work in the countryside, the creation of new economic practices, the development and recognition of places/territories. Newcomers are a significant human resource asset for any rural community, especially in remote and depopulated rural areas.

Keywords: *newcomers, rural territories, counterurbanisation.*

JEL code: R11, A14

Introduction

In recent decades, urban to rural migration flows have led population growth in many rural communities in Latvia's countryside. The Covid-19 pandemic, with its restrictions, has also indirectly encouraged the move of city dwellers to the countryside. This research as the part of National Research Program project "Cutting-edge knowledge and solutions to study demographic and migration processes for the development of Latvian and European society" (DemoMigPro) VPP-LETONIKA-2021/4-0002 focuses on the evaluation of the impact of newcomers in various rural territories of Latvia.

The results of the study reveal the experience of successful use of the economic and social potential of newcomers in the rural areas of Latvia. The vision, knowledge, skills and experience of newcomers enrich and empower local communities, contribute to the spread of remote work in the countryside, the creation of new economic practices, the development and recognition of places/territories. Newcomers are a significant human resource asset for any rural community, especially in remote and depopulated rural areas.

The study was conducted using the qualitative research approach. The results of focus group interviews and semi-structured interviews were used. As part of the focus group, development experts and representatives from the NGO Latvian Rural Forum, the Ministry of Economy of the Republic of Latvia, the Union of Latvian Municipalities, the Latvian Rural Education and Consulting Centre, the Community Cooperation Network "Sēlijas Salas", etc. were interviewed; semi-structured interviews were conducted among newcomers in the countryside and among representatives of rural municipalities. The published and unpublished materials of the NGO "Latvian Rural Forum" were also used - document analysis. A total of 74 interviews were conducted in 2018-2022.

Literature Review

The broader framework for the analysis of the topic is provided by the process of counter-urbanization and rurbanization, restructuring of urban and rural populations, changes in infrastructure, global and regional changes, as a result of which the question of viability, well-being and social resilience of rural areas is brought up. Since current rural area development projects are aimed at the involvement of local residents and are called "community-led" or "area-led initiatives", newcomers as a separate category of rural residents receive special attention in scientific literature and research.

The phenomenon of newcomers in social sciences is studied in the context of counter-urbanization processes (Mitchell, 2004). Increasingly, cases are observed when families rooted in cities move to less urban areas, incl. rural areas. Relatively speaking, three types of out-migrants are distinguished depending on their motivation to move. The first type is called pragmatic out-migrants, because their desire is to maintain employment, cultural and social ties with the city, but they are looking for more comfortable and pleasant living conditions. The second type of out-migrants is called displaced urbanites, because their move to the suburbs or the countryside is not voluntary. For financial or other reasons, they are forced to leave the cities, but they do so with regret. The third type of out-migrants is called happy movers, because they consciously try to move away from the problems of cities and look for the "ideal countryside" to break ties with the city and start a relatively new life (Karsten, 2020).

Newcomers in suburban and rural areas are not a homogeneous social category. This is confirmed by their different motivations to move to the countryside, as well as their different economic, cultural and social capital. Pro-rural migration is thus a complex and multi-layered process. Considering the trends of depopulation and infrastructure decline in rural areas over the past decades, counter-urbanization processes are mostly perceived in a positive light, as they result in an increase in the number of rural residents and can stimulate economic and social activity in the countryside. A frequently heard discourse in the context of newcomers is the accentuation of their economic and social capital with the aim of attracting residents to rural areas and using the potential of newcomers in the development of places and regions. Therefore, the question of the integration of newcomers into rural communities, the creation of a sufficiently attractive environment and infrastructure, as well as a corresponding level of well-being, so that newcomers consider the possibility of moving to the specific settlement in the countryside and staying there for a long time, is brought up. In this way, the mobility trajectories of citizens can be influenced with the help of political instruments (Berg, 2020).

As mentioned above, motives for migration to the countryside are often related to practicing a city-specific lifestyle in a healthier and more pleasant environment, ideas about a "rural idyll", a change in lifestyle, and various events during the life cycle. For example, the study of new arrivals in the Czech Republic shows that people of retirement age, those whose children have grown up (empty nesters) also tend to move to the countryside. Mostly due to ideological beliefs, young people also choose rural life (Dopitová, 2016). Other studies show that so-called white collars or members of the middle class who can afford remote work, most often move to the countryside. This means that with this category of people comes a certain amount of capital and entrepreneurial skills that are useful for the local community and the development of the area. In other words, the potential of newcomers is evaluated depending on how they localize various types of extra-local or external resources, thus contributing to the economic and social sustainability of the given territory. Newcomers are expected to have entrepreneurship, knowledge and creativity, provided by their relatively high human, social and financial capital. For people who have moved to the countryside, entrepreneurial activities are often not the main goal; more important is a change in lifestyle and the opportunity to realize your ideas in an attractive and peaceful environment. Newcomers often choose relatively underdeveloped places and start their business there, especially in remote work conditions. In this context, there is talk of a "new economy" in the countryside, characterized by knowledge-intensive and high value-added economic activities, which are a known alternative to the usual economic activities in the countryside (Piša, Hruška, 2019). Theoretically, a distinction is made between "rural entrepreneurship" and "entrepreneurship in the rural", where the latter is more rooted in the rural environment and community (Bosworth, Finke, 2019). This means that economic activities in the countryside have the potential to become

increasingly diverse. The same applies to agricultural production: due to the different level of education and experience of newcomers, economic activities in the agricultural sector are also diversified, such as small-scale farms, eco-friendly companies, etc. Newcomers more often than local residents use various digital solutions, create virtual communities for selling their products, etc. (Monllor i Rico, Fuller, 2016). Diversification of economic activities to a certain extent relieves traditional industries in rural areas, helps to cope with various social and economic challenges. For instance, a study in Scotland on the production and distribution of local food allowed the identification of impacts of different scales and types in the local community and region (Thomas Lane, Jones et al., 2016). If until now spatial accessibility or proximity has served as the most important factor for promoting competitiveness and introducing innovations, which are mostly associated with cities, then the results of current research reveal the impact of various creative activities and companies (e.g. business incubators, co-creation places) on knowledge exchange, entrepreneurship processes and wider community cohesion (Merrell, Rowe et al., 2022; Merrell, Füzi et al., 2022). Today's co-locating services, i.e. rural service hubs, operate in a similar way, which at the same time solve the problem of service availability in rural areas, create new jobs, and promote cooperation between different social agents (Goodwin-Hawkins, Oedl-Wieser et al., 2022).

The potential of newcomers can also be evaluated in the context of empowerment. Taking into account the depopulation trends, the shrinking of infrastructure in rural areas, the question of rural development perspectives is brought up. Empowerment in this sense is used as a process in which rural communities move from a position of helplessness to some control over the decisions made. This includes defining problems, identifying existing resources, creating solutions. Theoretically, the empowerment of rural areas can be initiated and achieved by endogenous and exogenous factors (Steiner, Farmer, 2018). In such a context, it is essential to identify what role newcomers play in the empowerment process - whether they participate in promoting the development of the place together with local residents, i.e. endogenously, or whether they come as external influencers of the situation, i.e. exogenously. To a certain extent, nowadays we can talk about new rurality, thanks to the new "energy" that the newcomers insert into the local society. As a result, the so-called agro-social paradigm emerges, which implies the entry of new social agents, the formation of social capital, the strengthening of ties between urban and rural areas, the pursuit of optimal quality food production, health improvement, settlement of abandoned places, etc. (Monllor i Rico, Fuller, 2016).

At the same time, in the literature, counter-urbanization processes are evaluated controversially. On the one hand, newcomers have the potential to diversify the economic environment of rural areas and generally develop places and regions. On the other hand, the population structure, lifestyle, and impact on the environment are changing in rural areas, which can cause significant changes and sometimes even threats to the cultural, social and natural heritage of rural areas. The functions of newcomers in this context may be different - some may use the rural environment as a dormitory and not get involved in its improvement, while others perceive moving to the countryside as an opportunity to return "to their roots" and try to make their own contribution to the rural environment. In general, however, counter-urbanization is treated as an important process in initiating socio-economic changes beneficial to the countryside (Creamer, Allen, Haggett, 2018).

The so-called new mobility paradigm can be defined as a culturally and socially determined movement, including in the analysis both the micro level (a sense of belonging to a place, a sense of home) and the macro level (changes in social, economic and political structures). Along with a physical move to another place of life, one should talk about its emotional, subjective meaning, possible representations of the place. In this sense, specific settlements are not just territories, but 'containers' full of meaning. Not only newcomers but also local residents attach importance to mobility. Theoretically, moving to the countryside is equated with the concept of "potential" or resource, that is, the knowledge, skills, and possible activities of newcomers are considered as those that can improve the economic situation of the place, enrich social relations. On the other hand, newcomers can also create some inequality in the local society (Nugin, Kasemets, 2021). Although rural communities are traditionally associated with stability, security and rootedness, global trends are also affecting rural areas and challenging this stability to some extent. In this sense, newcomers, on the one hand, look for traditional values in the countryside and are ready to realize their understanding of the countryside, but on the other hand, it is precisely the increased mobility that causes significant social changes and blurs the boundaries between cities and countryside. Studies show that the contribution of newcomers is not always positive, as changes in the composition of the population create a new hierarchy and a corresponding rearrangement.

The issues raised in relation to newcomers are related to a certain potential for social inequality, which is caused by different levels of education and income, the amount of power and prestige in society. For instance, the researchers warn against an overly pronounced tendency of policy makers to "put in order" a community or territory and create visible and quantifiable lists of resources. As a result, the community can be associated with the most vocal and visible members of the community or social groups and risks becoming exclusively available only to certain members of the community (the better educated, the wealthiest, who accordingly dictate their values and beliefs to the whole community). Newcomers might impose their vision of the countryside on the local population, who might become a somewhat marginalized social group. If so, the so-called the community-led approach contradicts itself because it assumes an apolitical and inclusive perspective. In the context of social inequality, changes in the social structure in rural areas during the last years have also been analyzed. Rural communities are expected to display traditional characteristics related to solidarity, a sense of belonging, etc., but it should be taken into account that counter-urbanization processes, in parallel with other global and local processes, significantly change both the objective composition of the rural population and the relations between residents. Often, the entire development of community life and territory is dictated by the needs and perspective of a narrow population group ("white settler") and the development of the place (Creamer, Allen, Haggett, 2019).

In the context of the aforementioned possible limitations, in the scientific literature, research and policy making, special attention is paid to the perspectives of the integration of newcomers. Policies are looking for different tools to make it as easy as possible for any newcomer (including refugees and other socially sensitive categories) to enter a certain community. Considering the different and diverse needs of newcomers, complex solutions and the involvement of various social agents are sought. For instance, ways to make information about services more accessible, community resource mapping, social support opportunities, mentor services, etc., are being created. (Making Rural Communities Home, 2018). A special role is played by social activities in the local community, which promote the social involvement/integration of newcomers. Newcomers are expected to contribute to the development of rural areas; therefore the prevailing discourse on the subject of newcomers emphasizes the need to integrate newcomers into local communities in various ways. Integration is analyzed through social (including civic) involvement in local-scale activities, which at least theoretically require time and money, motivation and opportunities. Thus, it is possible to increase social capital and strengthen solidarity in the community. One of the tools promoting integration is the so-called third places, or places where people meet without homes and workplaces. These can be cafés, community centres, beauty salons, etc., but they are united by the opportunity for people to feel psychological comfort (Dopitová, 2016). Regarding alternative forms of employment/business, the role of cultural events and other cultural resources in rural areas is emphasized both in the theoretical literature and in the materials of various projects. Namely, through participation in cultural events and creative activities, communal capacity, sense of belonging and identity are strengthened (Arts and culture in rural areas, 2016). Integration processes of newcomers are also brought up to date through generational renewal in the context of rural regeneration. Generational renewal in rural areas is actualized both in agricultural and non-agricultural aspects, that is, in parallel with the involvement of new people in agricultural production, alternative forms of business and other forms of employment should also be considered in order to attract new people in particular (Murtagh, Farrell et al., 2020). In the case

of success, newcomers feel an emotional belonging to the physical and social environment, accept the existing order and act accordingly (Haartsen, Stockdale, 2017).

Rural migration is discussed from various points of view. One of the aspects to be studied and analyzed is related to the relationship between migrants and the rural community. Nowadays, we no longer talk about stable, sustainable communities, but about fragmented social groups where people can freely join and separate again. This process is called 'networked individualism' (Nugin, Kasemets, 2021). Thus, the integration of newcomers into the rural community/society cannot be viewed as a linear, predictable process. The weakening of social ties and anonymity also finds its place in rural areas, which are traditionally associated with strong social communities. Therefore, it is important to study the impact of the so-called mobile lifestyles on communities in rural areas (Nugin, Kasemets, 2021). Both from the point of view of the integration of newcomers and the development of rural areas, it is essential to update the cooperation opportunities of the involved agents. The term "co-creation" is increasingly used to describe joint cooperation, implying the involvement of equal social agents in creating a "fairer, more sustainable and socially closer society". The experience of various experiments shows that co-creation requires a certain rearrangement in perception and usual social structures, but it is definitely a tool for promoting territorial growth (Leino, Puumala, 2021). An interesting theoretical and practical approach to the integration of newcomers has been developed by researchers in the Netherlands. Namely, using the approach of social rhythms, ways are sought to overcome the "social mix" of various interests and lifestyles in a certain area. Policy makers and community representatives should try to create a polyrhythmic environment that signifies the coexistence and tolerance of different rhythms (Meij, Haartsen, Meijering, 2021).

Summarizing the findings mentioned in the literature review, it can be concluded that significant structural changes are currently taking place in rural areas as a result of counter-urbanization processes. Not only the structure of the population is changing, but changes are also being observed in the relations between local residents and newcomers, in cooperation models and in the very paradigm of rural understanding.

Research results and discussion

The results of the research generally confirm the theoretical knowledge about the potential contribution of newcomers to the development of rural areas. Interviews with newcomers allow creating a rough social portrait of the newcomer. In Latvia, families with children, couples without children aged 35-55 move to the countryside more often. Proximity to nature, clean and safe environment, more peaceful life dominates as important motives for moving. They are obliged to learn new skills, but those are mostly related to life in the countryside. Newcomers are characterized by having diverse sources of income, new employment and lifestyle models, being bolder attractors of external funding, strengtheners of local communities, belonging to place and community, often double occupancy.

Regarding the economic contribution of newcomers to rural areas, it should be said that newcomers to rural areas mostly work in private business, continuing their previous occupation before moving to rural areas or starting new economic activities. One of the motivations of several newcomers to move to the countryside was initially related to their desire to engage in business and earn money from it. For instance, a newcomer from Riga, who has moved to Viļķene parish, who has a degree in accounting-financing, is purposefully working on the development of a relatively large organic blackcurrant growing company. By trying different types of business, the most economically advantageous type of entrepreneurship is sought. Gradually, as a result of 5 years of searching and trying, the choice was made in favour of growing blackcurrant and sea buckthorn seedlings as a source of profit: *"Maybe it sounds rude to talk about making money, but you can't live in the countryside if you have nothing to live on"*. (D.K., 2018)

Creation of some newcomers' businesses was stimulated by the needs of locals. For example, a young family moved from the peri-urban territory to the deep countryside in Latgale, Šrēdere parish 5 years ago and after some time opened the laundry "Pērle". The idea of a laundry business came to the family quite by accident when they were still living in Olaine. The business was started in the village's former shop premises with a few washing machines and irons. Currently, it has turned into a serious business with a wide range of clients: *"We started with small capacity; there were a few washing machines, a few dryers and a small iron-roller. The beginning was like this: well, if it doesn't happen, then there won't be big losses. Soon we felt that the number of equipment was not enough for us. Demand became greater than our capacity. And we realized that we have to grow"*. (A.R., 2022) Now the service is provided not only in the immediate area, but also in further regions and even in Lithuania, which the entrepreneurs themselves refer to as the export of their services.

Another newcomer, who moved from Mārupe district to Tērvete district, thinks similarly about local needs and an empty business niche: *"I am a car mechanic by profession. Together with a friend, we opened our own garage 15 years ago, but of course, we rent the premises. I have friends and relatives living in Auce, so I looked at that area. All kinds of thoughts were running through my mind about the fact that the service could also be moved to the countryside! People often complain that there aren't many places to get their car repaired! The plan is to stay here, of course. I also want to build a service here, because the barn is made of stones, it won't collapse! Only the roof needs to be replaced and that's it! I'm not in a hurry, but I want to be in time before I retire so that I can enjoy my old age here"*. (K.B., 2020) As can be seen, the motivation of newcomers is shaped by both rational and irrational considerations. In addition to a purposeful business, the motivation for moving to the countryside is also the desire to spend one's old age in the countryside, to be with one's family, etc. In certain cases, even life in the countryside turns out to be more profitable and more comfortable than in the city: *"It gives me great satisfaction that my parents live with me and I can take care of them. My husband works in construction and his hobby is making furniture. In order to develop this hobby a bit more, when we lived in the city, we thought of maybe renting something, but it was not very profitable. Now, in the countryside, we have built a hangar near our house so that we can do it. He supplies his products to my relative's husband, who has his own company, and he sends all his works, equipment and furniture to Denmark, so my husband is also very happy that he can bring joy not only to us in the family, but also to someone else"*. (P.M., 2018)

Business projects started in rural areas are not always successful. There are cases when started projects have to be stopped or reduced, but in general the activities of newcomers in the countryside can be recognized as diverse and creative. They affect both agricultural production, such as growing vegetables, and crafts, such as pottery, and the service sector, such as horse breeding, ecotourism, etc. According to the answers of the informants, agricultural production can be profitable even in small volumes, because people in Latvia value local production: *"From the beginning, people thought that it was not home grown and were suspicious because the product in the city markets is mostly imported from Poland. I let the buyers taste and feel the difference. Its taste is completely different compared to the imported Polish product!"* (E.V., 2019) In the rural areas of Latvia, the exchange of produced products is also characteristic, which is seen both as "archaism" and as an opportunity to strengthen social ties between rural residents. In general, families living in rural areas diversify their sources of income. There are business projects that bring the main income, and there are those that people develop for their own enjoyment: *"Most of the dishes are sold, and even if you can't really call it a business, at least it is possible to recoup the time and materials invested, and the benefit is the joy and sense of well-being you get from doing what you like. There are many small additional supports, financial bridges that give a sense of security when the big business sometimes fails"*. (I.A., 2021) Along with traditional ways of farming and business, new ideas are also being developed in the countryside. For instance, inspired by the idea of rural tourism, a family in Dzērbene organizes festivals on various topics, allowing their guests to express themselves creatively: *"We give them a place here, they come and everyone puts their "I" into action. They can just be*

special personalities, or they can be musicians, for example, and then they play their music. Maybe they are potters and lead pottery workshops, or they are cooks, and then "chef madness" happens, or they are photographers, and then a photo album is created as a result. People create the festival themselves. The festival takes shape depending on what kind of people come to it." (R.A., 2021)

Other newcomers in the countryside work in local state or municipal institutions, as well as non-governmental sector institutions. At work, they both use previously accumulated knowledge and skills, and learn new ones, for example, in project management. Among the newcomers, there are relatively many who work remotely or participate in projects and activities of various scales, where the place of residence is not important. It is not uncommon for people who have moved to the countryside and continued their previous occupation for a while to notice business opportunities in their immediate surroundings. Thus, a newcomer in Vecumnieki is gradually developing his business in the production of apple juice and is thinking about further development prospects: *"We have an apple orchard next to us. To save it, we started renting. The apples were falling, we had to think about what to do with them, and it slowly grew to the idea that we could produce juice seasonally. My dream is to give up my computer work and work only with apples, but I have not been able to organize it fully"*. (K.U., 2018) In general, it can be concluded that economic relations between newcomers and local residents are formed organically and naturally. It is often said about the newcomers that *"they have found a way to be in contact with the outside world and continue the previously started things without leaving their country homes"*. (J.L., 2021)

Economic activities in the countryside are closely related to social relations and integration in the local community. Although today communities cannot be considered long-term and stable, the results of the study confirm that newcomers generally successfully integrate into the local society, and relations between the involved social agents are formed fluidly, depending on the situation. In Latvia, there are several examples when newcomers have become community leaders and promoters of local development. This can happen due to a "new perspective" on the resources of the place and the entrepreneurship to develop something that has never existed before. The development leader-incomer sees the development potential, scenario and values more clearly than locals. Place development becomes a mission for him or her as a personality. For instance, one of these types of people developed a new community from the unemployed people in an "empty" place: local school was closed years ago, no shops, no post office, no jobs, no services. Searching for opportunities to develop local place, a woman-newcomer created community cooperation network based on thematic tourism in small rural settlements becoming a promoter of economic and social growth. She (along with some associates) used the approach of collective creation of culture-based place development strategies.

Events, projects, business activities, which often take place in the homes of newcomers, attract the attention of local residents. In general, the interviewees acknowledged that local residents like these activities because they are relatively new and unseen to them: *"We thought that the locals might also like it. Locals like it and are interested in what's going on here because it's something different. One neighbour calls me Weirdo."* (K.U., 2019) The mentioned quote confirms that the newcomers also focus on the local society, involving the local municipality, municipal institutions: *"We created a small music festival "Naive Music Open Air Festival", organized an open air cinema evening with live cello music, and showed "The Little Prince". In order to organize it, we cooperated with the Vecumnieki County Council, the Vecumnieki County People's House, organized several creative workshops - a clay workshop, a tea ceremony, a wind chime workshop, a henna workshop, etc."* (P.K., 2019)

Newcomers come to the countryside with their own vision and understanding, knowledge, skills and experience. There are cases where this previous experience is directly used, but relatively more successful are those in which joint development of ideas takes place in cooperation with the local population. The idea of social support, security and sense of belonging in the countryside is not just a theoretical knowledge; its existence is emphasized by all research participants. Also, by showing possible alternatives, newcomers inspire and empower local residents who, for various reasons, have not dared to start their own business or be active in any other way.

As the interviewed local government managers and specialists emphasize, counter-urbanization processes in the rural areas of Latvia have become highly visible in recent years, which has been further accelerated by the Covid-19 pandemic. Moreover, moving to the countryside is not just driven by romantic feelings these days: *"It makes sense that people are increasingly moving to rural areas due to the pandemic. The reasons are different. Many people who work in the customer service and education sectors have lost their jobs and found themselves in a difficult material and moral situation. The pandemic has been going on for two years and no one knows when it will end. Conscientious people, realizing that they cannot work as fruitfully as before, look for the application of their abilities in completely different spheres of activity. Farming seems like a good way out. More and more people are turning to parish councils in different counties to get advice on what they could do in agriculture."* (A.K., 2021) The above confirms that the structure of the population in rural areas is currently changing significantly. Experts predict that *"in the next 10-15 years, relatively rich people who will be able to afford it will live in the countryside, while the poor, on the contrary, will move to the cities in search of social benefits and social housing"*. (N.A., 2021) The obvious contribution of newcomers to the development of rural areas is already being highlighted, that is, the renovation of houses and areas, as well as the improvement of the demographic situation, supplementing the county budget, are a significant benefit. This is followed by economic, social and cultural activities: *"Speaking of the local residents...I think that they definitely get people who deliberately want to live in the countryside, also invest resources, work and it is very valuable that such people come to the countryside; they help to maintain and organize the environment in which the locals live and this is definitely valuable. And yes, in the countryside we are happy for every newcomer, because it is promising for the entire rural area."* (R.H., 2022)

When it comes to the possible integration of newcomers into rural communities, the interviews do not note significant conflicts or inequalities that arise as a result of population restructuring. Perhaps this is because the lack of people and other resources in the countryside has been so great until now that local governments and communities value anyone who is ready to invest their various resources in the development of the respective place: *"New working people who declare their place of residence in the county are those who supplement the county budget; the same with companies. But that's not all; young people are really inspiring, because they spread a lot of innovative ideas, new companies are often formed already during school. New people, new ideas, new growth"*. (M.S., 2020) Representatives of local governments also note the fact that several settlements and counties have become recognizable and popular directly as a result of the newcomers' activities: *"During these years, the family has successfully found its niche in business, developing hemp cultivation and producing everything possible that can be produced from hemp. For this family, the municipality created a 1 km long access road to the property. We are unequivocally grateful to this family for their contribution to the promotion of the county."* (J.V., 2021)

Evaluating the current and researched situation in Latvian countryside in the context of newcomers, it must be said that newcomers are considered important drivers of rural development/revitalization. Therefore, the discussion on how to support and strengthen newcomers so that "they don't burn out" is encouraged. On the other hand, even more support and attention is needed to strengthen joint cooperation between local residents and newcomers: *"A good example is when a newcomer does not disrupt what already exists, but integrates and expands it"*. (J.D., 2022) It is this aspect that is considered the main resource for future development: strengthening social ties between all people and institutions living in the respective territory in order to jointly achieve the creation of a unified rural policy, infrastructure improvements in rural areas.

Conclusions, proposals, recommendations

1. The situation found within the framework of the conducted research confirms the experience of successful use of the economic and social potential of newcomers in the rural areas of Latvia.
2. The motivation to move to the countryside varies, and the desire to start one's own business can be more or less conscious. At the same time, typical paths can be observed that describe the situation of newcomers and their integration into the local community. Namely, certain economic or social activities cause a chain reaction, attracting cooperation partners, enabling the development of technological and social innovations.
3. Newcomers are a significant human resource asset for any rural community, especially in remote and depopulated rural areas.
4. The vision, knowledge, skills and experience of newcomers enrich and empower local communities, contribute to the spread of remote work in the countryside, the creation of new economic practices, the development and recognition of places/territories.
5. The borders of the community are permeable, social agents of local, national and international scale can be involved in it. Theoretically, it is possible for every newcomer to be integrated into the local society and find his or her niche of economic and social activities.
6. The countryside attracts remote workers, as a result of which the rural employment structure changes. The countryside as itself is in the middle of the process of restructuring; newcomers are considered as a perspective through which explore and analyse economic and social changes in countryside.

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THE ROLE OF URBAN COMMUNICATION IN CIVIL SOCIETY INVOLVEMENT IN CITY PLANNING AND DEVELOPMENT

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Abstract. In most democratic countries the civil society involvement in city planning and development plays important role, the decision-making process should be transparent and focused on society involvement. It reveals the growing need for the urban communication improvement and especially in digital field. Municipalities are facing the challenge how to create inclusive urban communication model where the interests of citizens, industry professionals and developers would be respected. The aim of this paper is to study the urban communication cases from science literature and to do research about existing urban communication practices in Riga, Vilnius and Tallin. The purpose of this paper is to develop recommendations how to improve urban communication practice and rise civil society involvement in city planning and development. In order to achieve the objective of the study, various research methods were used: 1) scientific literature review; 2) qualitative and quantitative research methods: expert interview, comparative analysis, descriptive and inferential statistics analyses. Main conclusions: 1) public consultation internet portals facilitate the civil society involvement in city planning; 2) the contradictory development proposals attracts the biggest society interest; 3) the laws and municipal regulations impacts public participation level; 4) urban consultation process must include the complex communication tools to avoid disproportion of one's groups interest dominance and the focus must be on digital solutions.

Keywords: *Urban communication, Urban public, public consultation, citizen participation, city planning and development.*

JEL code: R58

Introduction

Today, around 57% of the world's population – 4.4 billion inhabitants – live in cities, according to the World Bank data (2021). If we are looking at the Baltics – 68% of population in Latvia, 69% in Estonia and 68% in Lithuania live in cities (2021). The urbanisation is a growing trend and by the year 2050 nearly 7 of 10 people will live in cities. This puts significant pressure on urban planning, as every built-up area affects the population for generations to come. To tackle this problem urban communication plays a very important role – cities cannot afford to develop while ignoring the interests of residents, every square meter of land that is built-up-area in the city must be discussed and focused on sustainable city development. Urban communication plays an important role in sustainable city planning and development (Flyvbjerg, 2012; Hardwick, 2012; Cohen, Wiek, 2017), it helps to rise the dialogue between city politicians, bureaucrats, city developers, investors, and citizens and especially the neighbourhood. The meaningful and trustful dialogue proceeds to better future solutions and city development.

In the Baltic States, urban communication has not been studied and publicly discussed, the discussions were only in comprehensive format about the necessity to rise society's participation in political process, but without focusing on how to improve urban communication process. During the last years there have been more and more publicly visible protests of grass-roots activists against some development projects, against planned changes in territory planning or against the planned tree cut, etc. But still there were no studies and discussions about the role of urban communication in public consultations process and sustainable city development with inclusive policy regarding citizens, and especially neighbourhood.

The aim of this paper is to study the urban communication practices and develop proposals for improving the urban communication of municipalities in the context of city development and territory planning, based on theoretical findings about the role of urban communication in city development and analysis of public consultation practices in Riga, Vilnius, and Tallinn. Theoretical studies answer the question how urban communication process in city planning and development could be improved? What kind of factors influence public participation level? And what are the main mistakes of local governance in the urban communication process? Are there any real possibilities to make public participation inclusive and sustainable and how it could benefit a competitive and sustainable city development in the future?

A hypothesis has been put forward for the research: the urban communication in city planning and project development depends on local regulations and laws as well as on provided digital solutions for society involvement in public consultation process.

The following research has been done to answer the questions and prove the hypothesis:

1. The study of theoretical literature and analysis of case studies.
2. The collection and analysis of statistical data about public consultations in Riga, Vilnius, and Tallinn during the period from January 1, 2020, till November 1, 2022.
3. The analysis of transparency and convenience of online tools used in public participation process in Riga, Vilnius, and Tallinn municipalities.
4. The review of scientific literature and obtained data from Riga, Vilnius, and Tallinn municipalities, to develop proposals for further improvements in urban communication process in sustainable and inclusive city development.

This article represents the starting point of urban communication process analysis in Riga, Vilnius and Tallinn city planning and project development. It presents the findings about public consultations online processes in the three Baltic capitals and will help to develop a roadmap for an effective urban communication process organization in the future.

Literature Review

Urban communication is a relatively new discipline in scientific literature. The pioneer was Richard Meier, who first started to research the role of urban communication in city development in his book "A Communications Theory of Urban Growth". Meier considered that urban communication development and growth of cities are closely related. He didn't claim that economic factors and business innovations are more important than urban communication in city development but stated that knowledge of urban communication is one of the key factors influencing the growth of a city. Even though there was no Internet and social media in 1960s, Meier pointed out that there should be a solution for the excessive amount of information overloading urbanites and saw it as one of the biggest challenges in healthful development of cities.

Obviously, the noise and overload of messages is one of the critical issues in the quality of communication, which was described by such classics of communication science as Wilbur Schramm, Claude E. Shannon, Charles E. Osgood (Schramm, 1954; Shannon, 1948; Osgood, 1954). With the growing role of the Internet and social media in urban communication, the tension of interests between urban economic developers and grassroot activists increases (Sussman, 2012). The biggest challenges are limited opportunities to communicate emotions in digital environment by using tone of voice, mimicry, gestures, touches – emotion-creating forms of communication used in face-to-face communication, characteristics (Hogg, Graham, 2014; Praude, Salkovska 2015). Thus, signalling to the other party that I share your feelings, or I hear your concerns, etc. Nevertheless, the convenience and choice of online tools is the future of urban communication and there should be found effective solutions how to replace non-verbal communication elements in digital environment.

Since 1960s, there have been many new studies about the role of urban communication in city development and regional and global competitiveness, and, no doubt, cities fiercely compete to attract the attention of global and regional investment flows (Holcomb, 1981; Beauregard, 1981; Harvey, 1989; Davis, 1999; Gibson, 2004; Lowes, 2007; Logan, 1987; Molotch, 1987). Aspects of regional development are examined by the author Biruta Sloka (Sloka *et al.* 2019; Sloka, Vilcina 2009).

Efforts have been made to define the concept of urban communication, but there is a widely held belief that no single definition can accurately capture the complex intellectual and procedural aspects that distinguish this field of study. (Aiello, Tosoni, 2016). The authors Aiello and Tosoni (Aiello, Tosoni, 2016) discuss three conceptual heuristics the city as context, the city as medium, the city as content. Urban governance and urban communication reflect the political reality (Oakley, 2007), and it includes economic, cultural, and social fields. It is a manner of intervention, a medium that uses space of the city as a communication tool (Sakakibara, 2011) – starting from graffiti art as a form of self-expression and format of social communication, even though it is illegal (Deutsch, 1998); the city architecture and design is another important form of urban communication; the vibrant art life is an important part of urbanism (Miles, 2004); specific urban communication forms which are characteristic to different cultural identities based on *race*, gender, age, sexual orientation who live in different city areas (Squires, Kubrin, 2005); and finally the communication between citizens, grassroots activists and politicians, bureaucrats, quasi-public agencies and investors, developers, city planners, etc. (Gleeson, 2001; Gleeson, Darbas, 2004; Lawson, 2004). City planning cannot move without communication (Selle, 2005). Urban communication addresses the synthesis of political-economic and cultural policy to explore the conflicts of interests between different stakeholder groups in the city (Flyvbjerg, 2012), the tensions in communication between citizens and city developers attract media attention, and this factor is particularly facilitated by social media. The sustainable development of cities is influenced by the successful creation of a dialogue between city development planners, development project implementers and residents, as emphasized by Colleen Hardwick, Miguel Amado, Catarina Vitorino, E.B.Moura, Vítor G. da Silva, (Hardwick, 2012; Amado, Santos, Moura, Silva, 2019). Researchers Matthew Cohen and Arnim Wiek (Cohen, Wiek, 2017), identify six problem factors in the successful provision of citizen participation: institutional support; person's individual circumstances; previous negative experience, lack of knowledge and skills; insufficient level of awareness of the population about sustainable development; the population lacks the knowledge to follow the complexities of expert discussion. Ensuring transparency and citizens' involvement in the discussion of development projects is an integral part of a democratic society (Flyvbjerg, 2012; Mieg, Töpfer, 2013). The authors agree that important part of sustainable urban communication is involvement of civil society and transparency of the city development process.

As civil society develops, the influence of citizens is growing significantly. Civil society contributes to national and local policy planning, the local community plays an important role in public discussions of neighbourhood development projects, especially on municipal level. A good practice in local governance is the creation of civil councils where representatives of civil society set up priorities in transportation, public safety, health, cultural life, etc. (Hall, 2002; Evans, Joas, Sundback, Theobald, 2006). The political issues where local community can contribute include all spheres of political agenda, and we can distinguish three biggest categories: cultural life, social issues, and economic development. The urban communication is integral to all three spheres: be it cultural and art life with unique urban characteristics to the city or social customs which are common to different social, ethical, racial groups or other groups in the city, or social-economic relations and communication patterns characteristic to the city. This paper will focus on urban communication patterns in social-economic context and especially analyse what are these factors that impact the quality of public participation in public consultations process and sustainable city development.

Sustainable practice on municipal development level determines inclusive urban communication with citizens. Most commonly public participation in city planning and development is regulated by law or municipal regulations. The law or local regulations determine the criteria when the public deliberation process before the city development projects and building permit insurance is mandatory. The level of public engagement and the democratization of policy making can differ quite a lot even between democratic countries, starting from formalism to essential civil society involvement. The authors will look further and analyse the public participation level in three Baltic capitals.

In the authors' paper, quantitative and qualitative research method was used in order to achieve the objective of the study. For the study, the authors approached Riga, Vilnius and Tallinn municipalities city planning and architecture departments for information support about publicly available official databases with the register of public consultations. (The list of public databases is published in the bibliography.) The authors performed a descriptive and inferential statistical analysis to find meaningful patterns and trends of public participation process during the period from January 1, 2020, till November 1, 2022. Moreover, the authors conducted an expert interview among Riga city officials who possess substantial experience in engaging residents of Riga in public consultation regarding city planning and development. The authors conducted open-ended interviews with Inese Andersone, the Chairwoman of the Riga City Development Committee and leader of the Riga neighbourhood development commission, as well as Gvido Princis, the former architect of Riga (2012-2022), who has substantial expertise in the involvement of neighbourhoods and civil society in city planning and development.

1. The analysis of transparency and convenience of online tools used in public participation process in Riga, Vilnius, and Tallinn

The positive fact is Riga and Vilnius have online databases where information about public consultation processes is published and everyone can easily follow the process. Tallinn do not have public consultation online database, but Tallinn city portal contains all announcements about comprehensive plans (*üldplaneering*), detailed spatial plans (*detailplaneering*) and building design specifications (*projekteerimistingimused*) which will include information about public discussions, but there is no search option for the public consultations, and this makes public participation process complicated.

Riga and Vilnius involve civil society and especially neighbourhood in public consultation process via online tools and direct consultation meetings as well. This is a clear signal that municipalities are working on public inclusion process which is an important part of successful urban communication. In Tallinn case the situation is different, the published documents about building design specifications (which include information about public consultation process) states that in most cases citizens have to visit in person municipality to get access to the documents and to participate in public discussions. All three capitals Riga, Vilnius and Tallin offer information about public consultation process only in Latvian, Lithuanian or Estonian languages which serve local citizens, but do not support the goal of being transparent and open to the potential foreign investors and developers. Even though the modern technologies solve the problem with automatic translation very well, it is almost impossible to find these databases if you use English keywords like “public involvement in city planning in Vilnius”, “public consultation in Riga”, “public participation in Tallinn” and similar combinations of keywords.

The next important observation was that databases provide only a part of the important information about public participation level (Table 1). Neither in Vilnius, Riga and Tallin databases provide information about results of public consultation process – how many citizens supported the initiative and how many were against it? The public opinion votes in support or against development project initiative is one of the criteria how the society can express its views. A good urban communication practice would mean that voting results and suggested proposals from the citizens should be easily publicly available. Also, it is not a good practice to create two or more overlapping databases, like for example Riga municipality done. Riga has another one database that belongs to Riga City Council Development Department and offers more detailed

information about development projects than the central database, but you can find the information in this data base only if you know the precise address of the object and this database does not publish the full list of public consultations. Therefore, authors do not evaluate this database as such who satisfies the need for transparency as it does not publish the full list of public consultations. This is a good attempt to make the public consultation process more transparent, yet improvements must be done, and two separate data bases have to be linked together.

The main database of public consultations in Riga city is more transparent as it provides the total number of expressed opinions in each public consultation case. In comparison, database of Vilnius does not provide such an important information which indicates the level of public relevance and sensitivity of development project initiatives, and Tallin do not provide any statistics at all. Unfortunately, the authors can only assume that the cases which attracted the biggest interest from the society were most sensitive and most probably the society has an opposite view on the proposed project development. The authors do not have online access to minutes where public voting and expressed opinion results were documented, the only information what was online published that these development projects included plan of number of tree cuts. The analysis indicated that all public consultations with the highest rate of public participation were related to the development proposals which included tree cut permissions.

To compare the transparency and convenience of public participation in all three Baltic capitals, the authors created a table where public participation via online portals is compared and get a score depending on the services and information provided (Table 1).

Table 1

Comparison of transparency and convenience of online tools used in public participation process in Riga, Vilnius, and Tallinn

Service and information provided by eRiga.lv, Vilnius.lt, and Tallinn.ee portals	Riga eRiga.lv	Vilnius Vilnius.lt	Tallinn tallinn.ee
1. The whole list of open public consultations	YES	YES	YES
2. Archive - closed public consultations.	YES	YES	NO
3. Opportunity - to express citizen's opinion online	YES	YES	NO
4. Public consultation discussion is available in online format	YES	YES	NO
5. Archive of person's expressed opinions in past	YES	NO	NO
6. Visualisations of the proposed development project	NO	YES	NO
7. Statistics – total number of expressed opinions is publicly seen	YES	NO	NO
8. Detailed statistics about voting results– how many citizens voted in support and how many voted against the proposal	NO	NO	NO
9. Municipality decisions after the public consultation process is closed	NO*	YES	NO
10. Information besides national language is also in English	NO	NO	NO
Total Score	6	6	1
Maximum score is 10 points. Each "YES" counts as 1 point			

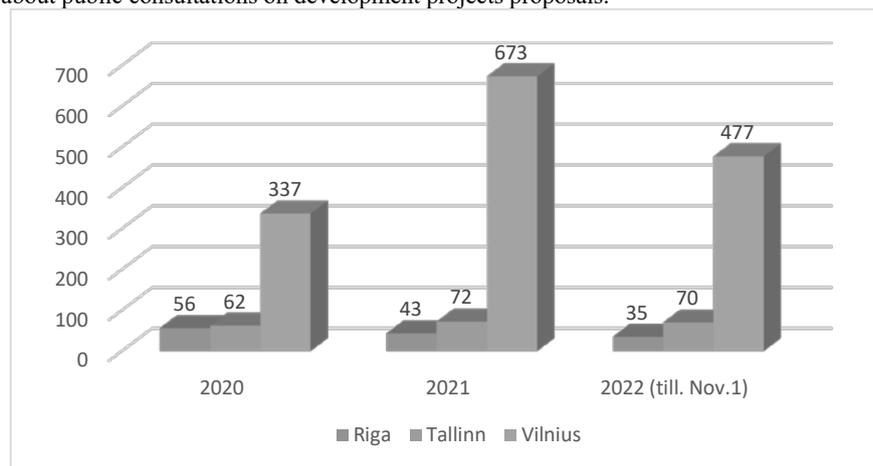
Source: authors' construction based on analyses of Riga, Vilnius and Tallin official internet portals: eRiga.lv, Vilnius.lt, Tallinn.ee.

*The information about the results of public consultation process and decisions taken by Riga municipality is published in another online portal www.rdpad.lv/Mekletaji/apsprisanas/, but it does not provide the whole list of projects, instead you have to enter specific address or keyword.

Since Tallinn do have online public consultation portal where citizens could express their opinion, it gets the lowest score. We can see from Table 1 that all Riga and Vilnius have similar score – 6 from 10, which means that they have created online portals that support public participation process, but many improvements still should be done to make it more user friendly and transparent unless the local government wants to involve the society in urban development process just formally.

2. Public participation level in Riga, Tallinn, and Vilnius during the period from January 1, 2020, till November 1, 2022

To analyse the public participation levels in Riga, Tallinn, and Vilnius the authors collected statistical data from online public registers in Riga, Tallinn, and Vilnius about public consultations on development projects proposals.



Source: authors' construction based on statistical analyses.

Fig. 1. Number of public consultations in Riga, Vilnius, and Tallinn on development project proposals

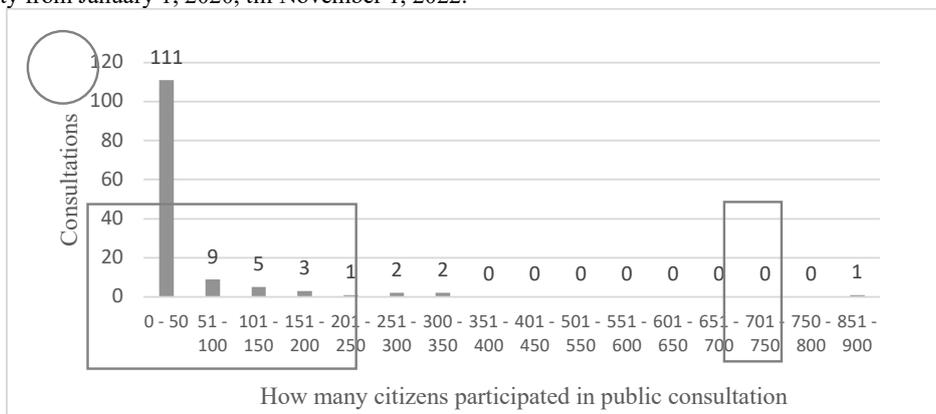
The results show significant differences between Vilnius and two other capitals Riga and Tallinn, as Vilnius has public consultations rates more than 5 to even more than 10 times higher than Riga and Tallinn (Figure 1). If we compare the number of residents in 2021, then we see that Riga has even a slightly bigger population: 627,763 in Riga and 539,978 in Vilnius, Tallinn 448,770 (World Population Review, 2022).

This led the authors to further question: why has Riga more than ten times smaller public participation rate than Vilnius? One of the answers is the difference in laws and regulations between Riga, Tallinn, and Vilnius. Lithuanian laws and Vilnius municipal regulations determine a wider scope of situations when public consultations are mandatory. Riga city had a different approach. There are fewer cases stated by laws and regulations, but instead Riga city actively works with neighbourhood organizations and involves neighbourhood representatives in city planning and development discussions. Riga municipality has created an official Riga neighbourhood development commission with the aim

of creating a more professionally oriented dialog between the municipality and neighbourhoods. These consultations are not included into online database.

3. Results of research on public participation activity in Riga city

Only Riga published the number of residents who participated in public consultation process. To analyse the citizens participation level in public consultations about project development proposals in Riga city the authors did statistical data analyses about public activity in public consultations in Riga city from January 1, 2020, till November 1, 2022.

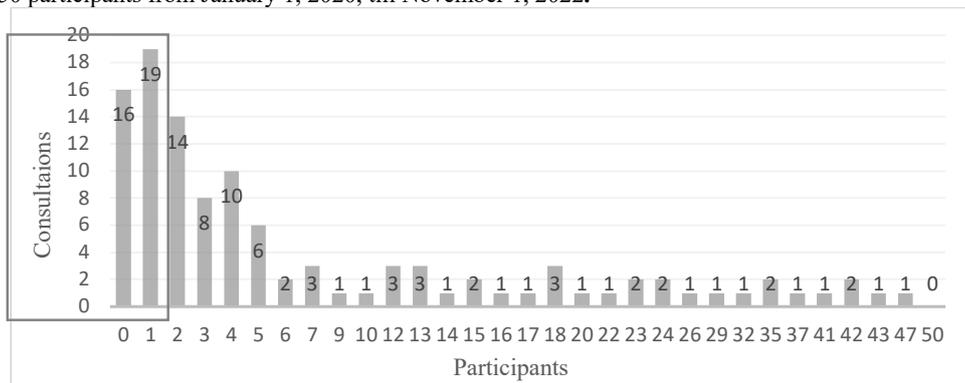


Source: authors' construction based on statistical data analyses.

Fig. 2. Number of public consultations and public activity in Riga city January 1, 2020, till November 1, 2022

The analysis of Riga's 134 public consultation results (from January 1, 2020, till November 1, 2022.) shows a dominant tendency: 82.34% of all the consultations had just 0 – 50 participants. Only 16.42% had 51- 350 participants and there was one extra case with 823 participants (Figure 2). This was the public consultation about 28 lime tree cut permits because of Brasa overpass reconstruction project. The results show that the high interest from the society is only in limited cases studies and all these cases were related to tree cut permits according to detailed data analysis in Riga city public database. In a majority of cases the public interest does not exceed 50 citizens, which indicates that these are very local cases.

Due to fact that most of the public consultations do not exceed 50 participants the authors decided to look in more detail and to analyse exact level of citizens activity in public consultations about development project proposals in Riga. The authors analysed the participation level in the group from 0 - 50 participants from January 1, 2020, till November 1, 2022.



Source: authors' construction based on statistical data analyses.

Fig. 3. Participation level analyses in the group from 0 - 50 participants from January 1, 2020, till November 1, 2022

Figure 3 shows more detailed information about the group size of 0 to 50 participation activity level. Detailed analysis reveals that in most cases - 65.77% (73 cases from 111 public consultations in group size 0 – 50 participants) the participation level was even smaller – 0-5 people. The results indicate the low level of interest from civil society and leads to the question how to improve the urban communication process and do municipalities need to strive for quantity or a better focus on quality like work with neighbourhood organizations which can more dedicatedly represent the interests of local community.

4. Results of interviews with experts

The authors conducted interviews with Riga City Development Committee Chairwoman Inese Andersone, who also leads the Riga neighbourhood development commission, and Riga city's former architect Gvido Princis.

The results of interviews with experts G. Princis and I. Andersone indicated that it is even more important than quantity to reach the quality of the discussion between experts, neighbourhood representatives, investors, and municipality. The simple voting system on the municipality's online portal serves only partly to the necessity of civil society involvement and development of urban communication. The development projects could face very complex problems and to organize a qualitative dialogue with the aim to finding the best solution for the interests of all stakeholders it is crucial that the participants are ready to invest personal time into discussion process and have the necessary knowledge and understanding about sustainable urban development. For this, the best suits a mix of public involvement instruments starting from consultative councils or commissions where all stakeholders are represented and even more important are innovative IT solutions which provide easily accessible information and transparency about planned development projects.

5. Key findings from the scientific literature studies about the best and worst practices in urban communication

Examples from many countries of the world have been analysed in the scientific literature, however, the authors chose the most suitable works for the Baltic region, whose experience and practice can be applied to our region as well.

The first author is Bent Flyvbjerg, who researched real history of corrupt city planning in his hometown, Aalborg, Denmark (Flyvbjerg, 2012). The next author is Colleen Hardwick, she studied the best public consultation practices and local area planning initiatives in the city of Vancouver (Hardwick, 2012). And finally, Matthew Cohen and Arnim Wiek researched 24 case studies around the world and studied typical

misalignments between the public participation process and the local context, including the lack of policy maker support, adverse personal circumstances of participants, low collaborative capacity, and mistrust, among others (Cohen, Wiek, 2017).

The example of Aalborg, Denmark, with corrupt political leadership that ignored the interests of the citizens, proves that an effective solution is the involvement of the media and the use of social media to raise awareness and create public pressure on politicians in order to improve city planning and development processes. Experiments with attracting media attention prove that journalists and public greatly reflect to “tension points” of potential conflicts between residents and city governance, which further leads to changes in policy (Flyvbjerg, 2012). However, media and public attention do not solve all problems. Reaching a consensus between stakeholders is a very complicated and resource consuming communication process. Too often consensus is an illusion created by disregarding power and true consensus is rare in matters of large-scale policy and planning (Flyvbjerg, 2012).

The city of Vancouver has invested into the research to find the effective ways how to involve civic society in city planning and development. Vancouver follows the principle that fully involving its citizenry is core to its success. But nevertheless, even if there is political will to involve the citizens in city planning and development, the practical side is rather complicated and to date the engagement methods do not achieve genuine participation in city planning (Hardwick, 2012). Also, there is still lot of criticism about the public involvement in city planning from professionals and this will be discussed later in this paper. The two main conclusions from the Vancouver experience and from 23 global case studies done by Matthew Cohen and Arnim Wiek, (Cohen, Wiek, 2017), which are applicable to the Baltic States, are:

- *The public hearing as a primary tool for participation is losing its relevance* with an increasing popularity of the internet and social media. This experience is fully applicable to the Baltic States, where according to the World Bank data in 2020 - 89% of population in Latvia and Estonia, and 83% in Lithuania are using the internet.
- Participating in time consuming meetings and hearings has become very difficult in terms of cost of time and transportation. Especially for individuals with tight time schedule like students, young parents, professionals. This makes public hearings easily manipulated or at least less objective because there will represent only a part of the civic society voice, either those who represent specific interests and therefore invest their resources and attend meeting or those who have much more free time, like, for example retired people (Hardwick, 2012; Cohen, Wiek, 2017).
- *The future must focus of online public consultation and develop user friendly online solutions* (Hardwick, 2012; Cohen, Wiek, 2017). This is the way Riga and Vilnius are also following by providing open databases about public consultations and giving access to other city planning documentation. The identity verification is an important steppingstone for public involvement via online tools. This gives an opportunity to express the opinion electronically and for the municipality it is easy to verify the identity of the person.

6. Key criteria that affect urban communication and public involvement

Urban communication is a complex process which very much depends on local governance motivation to involve civil society in city planning and development. The authors have developed the key criteria which are the most important in urban communication based on scientific research results (Hardwick, 2012; Cohen, Wiek, 2017).

1) Institutional support is very important

Without institutional support the involvement of local society in city planning and development process is not possible (Cohen, Wiek, 2017). And this could lead to conflict situations between society, municipality and investors or developers.

2) The previous negative experience impacts the future

The previous negative experience in public consultation process, like, for example, situations where public opinion at the end was not respected by the municipality and developers, will reduce trust in the future public consultation process. Therefore, it is very important not to ignore the expressed public opinion.

3) Give an equal voice to all groups

Certain groups of people have more time to participate in public consultations process, while others have no time to invest in public activities and their voices will not be heard. It is important to use a mix of urban communication methods to wind out the opinion on all groups in the neighbourhood.

4) To be time efficient

One of the biggest criticisms is an opinion that public consultation process is extremely time consuming and even time wasting. Avoid long hours of discussions, stick to schedule, use data analysis, and mix of different urban communication tools to be efficient in conducting public opinion and finding consensus between different interest groups.

5) Lack of experience can question the quality of citizens' participation

In many cases cities face challenging problems that are not easily solved without professional knowledge. The public lacks expertise and quite often it becomes too complicated to understand the professional discussion and even more complicated to participate in it in a meaningful way. In such a situation the public can be consulted, but the final decision should be left to experts. The task of politicians is to monitor that public interests are respected.

The authors' hypothesis for the research that “the urban communication in city planning and project development depends on local regulations and laws as well as on provided digital solutions for society involvement in public consultation process” has been proved by the conducted research data and the scientific literature case study about urban communication practices around the world.

Conclusions, proposals, recommendations

After the analysis of existing urban communication practices in Riga, Tallinn and Vilnius and studying scientific literature about urban communication practices around the world, the authors have developed key recommendations based on research findings for a better urban communication practice in the Baltics.

Key conclusions

1. Riga and Vilnius have both developed in digital public consultation portals, which facilitates the civil society involvement in city planning and improves urban communication process. Tallinn does not have a digital online public consultation portal.
2. The results of the experts' interviews indicated that besides the online portals where public can follow and participate in public consultation process there must be more complex solutions for civil society involvement if the city really is interested in public feedback. The involvement of neighborhood representatives in consulting commissions is one of the solutions that works well.
3. The laws and municipal regulations influence the participation level very much.
4. The public participation level in urban communication in most cases is from 0 to 5 participants in Riga (there are no data about Vilnius and Tallinn), which is rather low and signals that either the information about public consultation does not reach the target audience or there are other factors like lack of time or other. It needs to be researched further.
5. The public consultation cases with the highest participation rate show that all these cases are related to tree cut issues which leads to conclusion that people are more active when they disagree with the proposed solution.

Proposals how to improve urban communication

1. Add 'public consultation' category to the city's official portal and standardize it.
2. Do not make several online portals who overlap, connect them, and make user friendly.
3. Add visualisations about planned development projects.
4. Inform and notify. Add an online notification system based on citizens' physical address, this will help to reach the target audience and avoid the problem of citizens missing information about public consultations.
5. Collect feedback. Organize discussion forums, conduct polls and surveys, and address the target audience from neighbourhood to avoid distortion of responses in case of too wide sample of respondents. Use focus groups where neighbourhood members are represented.
6. Create a virtual meeting room to increase the accessibility and reach those who have no time to attend neighbourhood consultation committees in person.

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THE DETERMINANTS OF FINANCIAL DEVELOPMENT IN EMERGING MARKETS: A PANEL DATA ANALYSIS

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Abstract. The purpose of this study is to analyze the determinants of financial development for emerging markets and the main focus of the study is to explore which factors affect financial development and economic growth in developing countries, and what impact these factors have on the financial development of these emerging markets.

For the design of this study, quantitative methods were applied through secondary data that were collected and processed from the annual statistical reports of the World Bank, the International Monetary Fund, the OECD, the European Central Bank, Eurostat, etc. Whereas, in the analysis part of the literature review, many scientific studies of different authors have been analyzed that have researched the topic of financial development in the economies of different countries. This study includes data for a period of 16 years (2005 - 2020) which will be analyzed through panel econometric models.

Based on the econometric results of this study, we can conclude that non-performing loans, natural resources, market liberalization, GDP per capita, inflation and interest rates have a statistically significant impact on the financial development of emerging markets by determining the amount of broad money and the volume of bank loans and deposits in the financial systems of these countries.

The empirical results of this study will serve as good scientific and empirical evidence for future studies that will be carried out in the field of financial development and economic growth, but also as practical evidence for the governments of different countries of the world in function of the drafting of strategic macroeconomic policies which will positively affect the financial development of emerging markets.

This paper presents real and consistent results in relation to relevant conclusions. The analyzed period (2005-2020) is a convincing period for drawing competent conclusions and recommendations.

Keywords: *financial development, economic growth, broad money, deposits, loans.*

JEL code: G21, B22, E44, N2, O11

Introduction

When it comes to financial development and the determining factors of financial development, it should be known that these play a very large role within a country. Financial development is the one that has a great impact on the part of economic development of a country, therefore a great importance should be given to this part. Financial development includes the development of the banking system as well as the restructuring of the financial market, which is a very important element, it also claims the economic financing of a country in the best possible way, the rational distribution of resources and the diversification of risk which is a quite important element. Conversely, a financial system that is not well structured reduces the chances of financing and developing the economy, affects the strengthening of financial oppression and encourages the part of speculation (Khalifaoui, 2015).

The development of a financial system in the proper way is a cornerstone of economic development. The stages of development and the share of the financial sector are key elements that distinguish are developing and developed economies. The financial system is a very important element of a country's economy, because it is responsible for the distribution of resources in a rational way. Well-functioning financial intermediaries can positively influence economic development through various channels such as: reducing inflation and transactions, improving resource allocation, increasing savings rates and promoting the development of markets and instruments that enable risk sharing and facilitate economic growth (Elsherif, 2015).

Financial development is an important process that ensures improvement in the quantity, quality and efficiency of financial intermediation services. It is measured as domestic credit to the private sector as a percentage of Gross Domestic Product (GDP) (Takyyi et al, 2013). In general, financial development is defined as increasing the efficiency of the allocation of financial resources and the monitoring of capital projects, through encouraging competition and increasing the importance of the financial system. It is known that the size, structure and efficiency of a financial system determines financial development. Financial development of a country occurs when financial instruments, markets and intermediaries restructure the effects of information, implementation and transaction costs. A financial sector that is well developed and functions efficiently and effectively plays a major role in the economic development of a country. Starting from what financial development affects the economy, its development and direction, it is important to investigate and understand the factors that determine it (Huang, 2006).

Determining factors of financial development there are a large number of factors or variables that affect financial development, each of them has an importance in the financial development of a country where their impact can be positive or negative. Some of the variables that influence financial development are: GDP per capita, inflation, interest rate, natural resources, problem loans, open economy, human capital, government borrowing, investment rate, bank deposits, economic growth, level of income, population level and religious, linguistic and ethnic characteristics. The correlation between financial development and economic growth in an economy, especially in developing countries has important political implications in financial sector reforms (Aziakpono, 2011). Financial development is part of the private sector development strategy to stimulate economic growth and poverty reduction. Economic growth is one of the main benefits associated with financial development. Quite a large number of researchers have shown that financial development leads to economic growth through means such as savings, capital accumulation, technology and foreign capital (Benyah, 2010).

Literature Review

Financial development can be defined as increasing the efficiency of the distribution of financial resources and the monitoring of capital and investment projects, by encouraging competition and increasing the importance of the financial system (Huang, 2006). The size, structure and efficiency of a financial system determines economic development. One of the ways we can tell if there is such a development is through market liberalization and financial liberalization, which is a process that protects inefficient financial institutions and creates pressure for the

financial infrastructure to be reformed, thus leading to a sustainable financial system. This form increases access to finance as information asymmetry can be mitigated while adverse selection and moral hazard will be reduced.

The factors that determine the success of financial development usually depend on a stable macroeconomic environment, a proper regulation of the banking system of each country, an efficient, legal and institutional financial market. The rate of savings and high investment are not the only guarantee of the success of a financial system, the case of the disappearance of the Soviet Union, in which savings and investment were important, but were not used efficiently and properly, confirms the result not good that was achieved from this case. Thus, a country's financial system plays a key role in ensuring that savings are invested in an optimal, appropriate, well-analysed and less risky way (Khalfaoui, 2015).

The early literature on financial development can be traced back to McKinnon (1973) and Shaw (1973), who argued that financial development can be hindered in its operation by various constraints that can be imposed by government on financial systems such as interest rates, price ceilings, credit programs, reserve and liquidity requirements and these can adversely affect the quality and quantity of investment (McKinnon, 1973; Shaw, 1973).

Guiso et al, (2000) discussed the important role that social capital has in financial development. In areas of the country with high levels of social trust, households invest less in cash and more in stocks, use more checks, have higher access to institutional credit, and use less informal credit. In these areas, firms also have more access to credit and are more likely to have multiple shareholders.

According to the authors Takyi and Obeng who studied the determinants of financial development in Ghana, using quarterly data from 1988-2010, they found in their study that there is a strong relationship between trade openness of financial development, inflation, per capita income, reserve requirements and government borrowing. The results show that trade openness and per capita income are significant. Inflation, interest rate and reserve requirement have negative effects on financial development in both short term and long term, indicating that these variables negatively affect financial development in Ghana (Takyi and Obeng, 2013).

Based on the authors Ductor & Grechyna (2015) who in their research analyzed the interdependence between financial development and real sector production and the effect on economic growth. They used panel data from 101 developed and developing countries during the period 1970-2010, from the results it is shown that the effect of financial development on economic growth depends on the growth of private credit compared to the real growth of production. The results also suggest that the effect of financial development on economic growth becomes negative, if there is a rapid increase in private credit, which is not accompanied by an increase in real production (Ductor & Grechyna, 2015).

According to Valickova, et al that through a study that used a meta-analysis of 67 empirical studies finds that financial development is strongly related to economic growth. It was discovered there that the development of the financial sector plays an important role in economic development. The development of the financial sector promotes economic growth through capital accumulation and technological improvement thus increasing the rate of savings, providing information about investments, optimizing the allocation of capital, pooling savings and facilitating and encouraging inflows of foreign capital (Valickova, et al, 2015).

Financial development consists of multiple aspects, policies and institutions that lead a country towards monetary intermediation and efficient and stable markets, as well as deep penetration into the economy. Seetanah (2009) emphasized the role of financial development in promoting economic growth. He in his study also emphasized the importance of factors that promote financial development. Past empirical evidence has proven that financial development is influenced by many factors and by analyzing the methodologies of past researchers it would be useful to conclude that financial development has a positive impact on economic growth (Seetanah, 2009).

Law and Demetriades (2006) used several dynamic models to identify the determinants of financial development. 43 countries were analyzed for the time period of 21 years from 1980 to 2001. From the analysis of the study we come to the conclusion that market liberalization, investment rate, interest rate is the most effective determinants of financial development. Furthermore, the results derived from the analysis proved that trade and market capitalization played a more efficient role in promoting the financial development of middle-income countries, but less efficient in low-income countries.

Bist and Read (2018) investigated the long-run relationship between financial development and economic growth using panel data cointegration analysis in 16 selected low-income countries using annual time series data from 1995 to 2014. Result of dynamic OLS estimation shows that financial development has a significant positive effect on economic growth.

De Gregorio and Guidotti (1995) analyzed and explained financial development at two levels. According to them, financial development is the most appropriate reason for the growth and improvement of financial services that affect economic growth, while on the other hand, financial development is offered as a replacement for the administration of the financial part.

According to the author Romer (1986-1990), during the research he emphasized that the new economic theories raised in the economic aspect gave a new impetus to the connection between economic growth and financial development, being connected by the fact that the behavior of savings directly influences the equilibrium level of income, as well as that of economic growth, reflecting here a connection that exists between economic growth and financial development (Greenwood and Jovanovic, 1990) and (Bencivenga and Smith, 1990).

Scientific research methodology and econometric model specification

The main purpose of this study is to analyze the determinants of financial development for developing economies. The data that will be used in this research are secondary data obtained from the World Bank, the International Monetary Fund, the OECD, the European Central Bank, Eurostat, etc. Likewise, during the research process, the empirical findings of studies by different authors regarding the determinants of financial development were analyzed. This study includes panel data for a period of 16 years (2005 - 2020) which will be analyzed through econometric models. The main importance of this paper lies in the fact that it will be aimed to present real and sustainable results to obtain an answer regarding the determinants of financial development in developing countries. The number of developing countries included in this study is 15.

Authors such as Badeeb and Lean (2017), Takyi and Obeng (2013), Benyah (2010), Ductor & Grechyna (2015), Adamu and Kargbo (2011), Khan, Qayyum and Sheikh (2005), La Porta, Silanes and Shleifer (2002) and many other authors analyzed in their studies the determinants of financial development and economic growth.

The developing countries analyzed in this research are: Brazil, Sierra Leone, Costa Rica, Jamaica, Egypt, Morocco, China, Indonesia, Thailand, Turkey, Chile, Ghana, Pakistan, Bolivia and Colombia. Through the panel data that have been applied in this study and the included variables, three econometric models have been built and separate hypotheses have been raised for each model. The verification of the validity of the hypotheses of this study was carried out by applying the following statistical tests: linear regression, random effect, fixed effect, Hausman - Taylor Regression, GMM Model - Arellano Bond Estimation, Generalized Estimating Equations (GEE Model), ARCH – GARCH Model and Nelson's E- GARCH Model.

Research Questions:

1. How have GDP per capita, interest rates, inflation, non-performing loans, natural resources and market liberalization affected the broad money of emerging markets?
2. What effect has GDP per capita, interest rates, inflation, non-performing loans, natural resources and market liberalization had on bank loans in emerging markets?
3. What is the impact of GDP per capita, interest rates, inflation, non-performing loans, natural resources and market liberalization on bank deposits in emerging markets?

The hypotheses of this study are as follows:

- H1:** Non-performing loans, natural resources and inflation have negatively affected the broad money of emerging markets.
H2: GDP per capita, interest rates and market liberalization have positively influenced the broad money of emerging markets.
H3: Non-performing loans, natural resources, inflation and interest rates have negatively affected bank loans in emerging markets.
H4: GDP per capita and market liberalization have positively influenced bank loans in emerging markets.
H5: Non-performing loans, GDP per capita, inflation and interest rates have had a positive impact on bank deposits in emerging markets.
H6: Natural resources and market liberalization have adversely affected bank deposits in bank deposits of emerging markets.

For testing the hypotheses, quantitative methods were applied based on secondary data. To analyze the determinants of financial development, it is necessary to take into account many other factors that explain the factors of financial development. For the specification of the econometric model, we are based on several studies by different authors who have analyzed research similar to ours.

Table 1

Description of variables included in econometric model

Variables	Variable Description	Data Source
Dependent variable (Y ₁)	Broad Money (M2)	World Bank Annual Reports (2005 – 2020)
Dependent variable (Y ₂)	Loans (L)	World Bank Annual Reports (2005 – 2020)
Dependent variable (Y ₃)	Deposits (D)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₁)	Non-performing Loans (NPL)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₂)	Natural Resources (NR)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₃)	Market Liberalization (ML)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₄)	Gross domestic product per capita (GDP per cap)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₅)	Inflation (INF)	World Bank Annual Reports (2005 – 2020)
Independent variable (X ₆)	Interest Rate (IR)	World Bank Annual Reports (2005 – 2020)

Source: Data processing by authors (2022)

The econometric models of this study are as follows:

Model 1:

$$M2 = \beta_0 + \beta_1 NPL_t + \beta_2 NR + \beta_3 ML_t + \beta_4 GDP\ cap_{it} + \beta_5 INF_t + \beta_6 IR + \gamma_{it}$$

Model 2:

$$L = \beta_0 + \beta_1 NPL_t + \beta_2 NR + \beta_3 ML_t + \beta_4 GDP\ cap_{it} + \beta_5 INF_t + \beta_6 IR + \gamma_{it}$$

Model 3:

$$D = \beta_0 + \beta_1 NPL_t + \beta_2 NR + \beta_3 ML_t + \beta_4 GDP\ cap_{it} + \beta_5 INF_t + \beta_6 IR + \gamma_{it}$$

Where:

M2 – Broad money

L – Loans

D – Deposits

NPL – Non-performing loans

NR – Natural resources

ML – Market liberalization

GDP per cap - Gross domestic product per capita

INF – Inflation

IR – Interest rate

γ – stochastic variables (other factors not considered in the model)

i – code dhe *t* – time period.

Econometric analysis and study findings

In this part of the study, the results will be presented through econometric analysis, where in this part the hypotheses presented in the research will be tested and we will try to get answers to the research questions presented earlier. Initially, this part will analyze the econometric results of linear regression, fixed effect model, random effect model, Hausman Taylor Estimation, GEE Model and GMM Model, then it will continue with the Johansen Test for Cointegration, Vector Autoregressive Models (VAR), Wald Tests of Granger Causality, ARCH – GARCH Model and Nelson's E- GARCH Model. All these results will be extracted through the STATA program. Econometric analysis will be done in developing countries and the results will be analyzed for the three models presented in the paper.

Table 2 will present the econometric results and findings of the study for the variables included in the research. To test the hypotheses of this study, we applied six statistical tests through the Stata program and they are: linear regression, random effect, fixed effect, Huasman – Taylor Regression, GMM Model – Arellano Bond Estimation and Generalized Estimating Equations (GEE Model).

$$M2_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 NR_{it} + \beta_3 ML_{it} + \beta_4 GDP\ cap_{it} + \beta_5 INF_{it} + \beta_6 IR_{it} + \gamma_{it}$$

$$M2_{it} = -0.190731NPL_{it} - 0.5320861NR_{it} + 0.0989ML_{it} + 0.5970GDP\ cap_{it} - 0.2631INF_{it} + 0.2752775IR_{it} + \gamma_{it}$$

Table 2

Econometric results and empirical findings for the first econometric model for emerging markets

Variables	Linear Regression	Random Effects – GLS Regression	Fixed – Effects Regression	Hausman – Taylor Regression	GEE Model	GMM Model
M2	-	-	-	-	-	-
NPL	-1.069408*** (0.009)	-.1964167 (0.180)	-.1788922 (0.218)	-.1908115 (0.189)	-.1910176 (0.170)	-.190731** (0.014)
NR	-1.400422** (0.022)	-.9019002*** (0.000)	-.8857319*** (0.000)	-.8980136*** (0.198)	-.8969518*** (0.000)	-.5320861*** (0.000)
ML	.0515999 (0.519)	-.0416402 (0.216)	-.0460145 (0.170)	-.0429084 (0.198)	-.0429788 (0.179)	.0989619** (0.023)
GDP cap.	1.804165*** (0.004)	.7178019*** (0.000)	.7341457*** (0.000)	.7218801*** (0.000)	.7228601*** (0.000)	.5970175*** (0.000)
INF	-3.250721*** (0.000)	-.1124403 (0.539)	-.0726646 (0.689)	-.1019169 (0.575)	-.10018 (0.565)	-.2631601*** (0.004)
IR	-.6488861** (0.017)	.1406932 (0.339)	.1638749 (0.264)	.1453052 (0.320)	.147793 (0.291)	.2752775*** (0.000)
Const.	100.191*** (0.000)	81.213*** (0.000)	80.699*** (0.000)	85.613*** (0.000)	81.138*** (0.000)	83.138*** (0.000)
R Square	0.8877	0.8417	0.8420	0.8722	0.8744	0.8755
Adj.R ²	0.8691	0.8552	0.8611	0.8455	0.8414	0.8633

Source: Authors' calculations in STATA (2022)

A clarification: P-values shown in parentheses: *** indicates statistical significance at the 1% level; ** indicates statistical significance at the 5% level and * indicates 10% statistical significance.

Based on the econometric results in the table above, we can conclude that some of the independent variables are significant at the 1%, 5% and 10% levels. For interpretation purposes, we will be based on the GMM Model, where in this model all variables are significant.

β_0 - If all other factors are constant, then the value of the broad money will be **81.13** units.

β_1 - If non-performing loans increase by one unit holding all other variables constant, then M2 will decrease by -0.190 units. This statement is correct as it is within the 5% confidence interval, because (p-value = 0.014 < 0.05). If it is analyzed from the economic point of view, we say that at the moment when the country is faced with bad loans, loans that are taken from different borrowers to different banks and are not returned, these loans automatically turn into bad loans which will directly affect the performance of the bank and to the reduction of broad money within the country. Mismanagement of non-performing loans of classified assets systematically increases the credit risk and the loss in the interest margin of banks and financial institutions. Non-performing loans affect the profitability of banks and therefore hinder lending and financial development.

β_2 - If natural resources, increase by one unit while holding other variables constant, M2 will decrease by -0.532 units. This statement is correct since the significance value (P-value = 0.000 < 0.01) is at the level of statistical significance. When it is treated from the economic prism, we can say that, when it comes to developing countries, then as we know, natural resources require a large amount of funds that must be allocated for their processing. Therefore, the governments of these developing countries must finance large projects that aim to process natural resources in order to develop their economy. Through the use of natural resources, these developing countries can make capital investments that will positively affect their economic growth. Taking into account the political risk that characterizes some of the developing countries, then consequently the capital projects focused on the processing of natural resources will have a higher level of risk and as a result the amount of broad money in the financial systems of these countries will decrease in the short term.

β_3 - If market liberalization increases by one unit holding other factors constant, then M2 will increase by 0.0989 units. The statement is correct because the significance value (P-value = 0.023 < 0.05) is at the level of statistical significance. Market liberalization has a positive and significant impact on financial development. Increasing market liberalization is generating demand for new financial products, including financial instruments for trade finance and hedging risks. Indeed, the more the stock market is liquid and efficient, the more sources of financing the economy is available and less expensive, thus market liberalization improves financing conditions in the stock market and promotes financial development.

β_4 - If GDP per capita increases by one unit holding all other variables constant, then M2 will increase by 0.597 units. This statement turns out to be correct since the significance value is within the statistical significance range (P-value = 0.004 < 0.01). As the real income of an individual increases, individuals contribute positively to financial development through savings or purchase of financial products from the country's financial market. This means that the increase in the level of personal income encourages the use of financial institutions, therefore the increase in per capita income is important for financial development.

β_5 - If inflation increases by one unit holding other factors constant, then M2 will decrease by -0.263 units. This statement is correct since the significance value 0.004 < 0.01 is at the level of statistical significance. The inflationary environment is one that negatively affects financial development by reducing the money supply and limiting financial resources for investment projects within the country. We say that high inflation is related to the opportunity cost of holding money, which affects the reduction of the efficiency of financial institutions and therefore reduces development in the financial sector.

β_6 - If the interest rate increases by one unit holding all other variables constant, then M2 will increase by 0.2752 units. This statement is correct since the significance value (P-value = 0.000 < 0.01) is within the confidence interval. By increasing interest rates, banks have the opportunity to attract more money and influence the part of financial development.

Table 3 presents the econometric results which will be analyzed through six statistical tests which are included in the tabular part of the second model.

$$L_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 NR_{it} + \beta_3 ML_{it} + \beta_4 GDPcap_{it} + \beta_5 INF_{it} + IR + \gamma_{it}$$

$$L_{it} = 80.1977 - 1.7778NPL_{it} - 0.6891NR_{it} + 0.1545ML_{it} + 0.9808GDPcap_{it} - 3.7580INF_{it} - 0.6149IR_{it} + \gamma_{it}$$

Econometric results and empirical findings for the second econometric model for emerging markets

Variables	Linear Regression	Random Effects – GLS Regression	Fixed – Effects Regression	Hausman – Taylor Regression	GEE Model	GMM Model
L	-	-	-	-	-	-
NPL	-1.77782 (0.000)***	-.827052 (0.015)**	-.6482452 (0.060)*	-.7384163 (0.030)**	-.7632057 (0.022)**	-.0931263 (0.720)
NR	-.6891961 (0.233)	-.7816785 (0.173)	-.6856807 (0.240)	-.7571425 (0.186)	-.751263 (0.183)	-.3144326 (0.484)
ML	.1545492 (0.042)**	.0089836 (0.907)*	-.0378151 (0.633)	-.009593 (0.901)	-.006959 (0.927)	.0204071 (0.885)
GDP cap.	.980899 (0.097)*	-.7767081 (0.068)*	-.8891403 (0.036)**	-.8219382 (0.050)**	-.8183774 (0.049)**	.1911803 (0.472)
INF	-3.758002 (0.000)***	-1.293124 (0.002)***	-.9314391 (0.031)**	-1.139828 (0.007)***	-1.164048 (0.005)***	-.0303795 (0.919)
IR	-.614922 (0.017)**	-.0462871 (0.887)	.1488779 (0.688)	.0334231 (0.920)	.0194038 (0.953)	.231118 (0.413)
Const.	80.19779 (0.000)***	70.5918 (0.000)***	68.75426 (0.000)***	67.69925 (0.001)***	70.01264 (0.000)***	74.04788 (0.000)***
R Square	0.8700	0.8513	0.9030	0.8677	0.8655	0.8874
Adj.R ²	0.8537	0.8482	0.8555	0.8454	0.8578	0.8674

Source: Authors' calculations in STATA (2022)

A clarification: P-values shown in parentheses: *** indicates statistical significance at the 1% level; ** indicates statistical significance at the 5% level and * indicates 10% statistical significance.

From the results presented above, we see that all variables are significant at the 1%, 5% and 10% confidence level. Our results in the second model will be interpreted through linear regression.

β_0 - If all other factors are constant, then the loan value will be 80.19 units. The statement is correct since the values are within the confidence interval because (P-value = 0.000 < 0.01).

β_1 - If non-performing loans increase by 1 unit holding all other factors constant, then the loan will decrease by -1.77 units. This statement is correct since the significance value (P-value = 0.000 < 0.01) is within the confidence interval. This result occurs because when the number of non-performing loans increases, banks are more reluctant to grant loans and this also affects the reduction of loans from financial institutions.

β_2 - If natural resources, increase by one unit, holding all other factors constant, then credit will decrease by -0.689 units. This statement is not correct as (P-value = 0.223 > 0.05) is not within the confidence interval.

β_3 - If market liberalization increases by 1 unit holding other variables constant, then credit will increase by 0.154 units. The statement is correct since the significance value (P-value = 0.042 < 0.05) is at the level of statistical significance. The increase in trade liberalization has the potential to stimulate financial development, through market liberalization the opportunities for the circulation of goods and doing business increase, so individuals need more money and the easiest way to secure it is through taking loans. from the banks.

β_4 - If GDP per capita increases by 1 unit, holding other factors constant, then credit will increase by 0.9808 units. This statement is correct since the significance value (P-value = 0.097 < 0.10) is at the level of statistical significance. Through the increase in the demand of individuals for goods and services, the need for financial means also increases, which most individuals can secure through credit, which affects the development of the financial system by creating demand for financial products, thus influencing the deepening of the financial sector which in turn promotes further growth.

β_5 - If inflation increases by 1 unit, keeping all other factors constant, then the credit will decrease by -3,758 units. This statement is correct since the significance value (P-value = 0.000 < 0.01) is within the statistical confidence interval. When we analyze the economic aspect based on the results of the research, we see that inflation seems to be the result of a strong competition in the excessive granting of interbank consumer loans. While in developing countries, inflation negatively affects financial development through a bad monetary policy that systematically hinders the granting of loans and also results in a decrease in financial development.

β_6 - If the interest rate increases by 1 unit, keeping other variables constant, then the loan will decrease by -0.6149 units. The statement is correct since the significance value 0.017 < 0.05 is at the level of statistical significance. This is argued that the high interest rate set by the country's central bank has the potential to widen the interest rate differential of banks. This means that the higher interest rates of the banking sector discourage savers due to low returns on deposits and thus limit financing for potential borrowers.

Following this study, the econometric results for the third model will be analyzed and the equation part of the model will also be presented.

$$D_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 NR_{it} + \beta_3 ML_{it} + \beta_4 GDPcap_{it} + \beta_5 INF_{it} + \beta_6 IR_{it} + \gamma_{it}$$

$$D_{it} = 80.1977 - 1.7778NPL_{it} - 0.6891NR_{it} + 0.1545ML_{it} + 0.9808GDPcap_{it} - 3.7580INF_{it} - 0.6149IR_{it} + \gamma_{it}$$

Table 4

Econometric results and empirical findings for the third econometric model for emerging markets

Variables	Linear Regression	Random Effects – GLS Regression	Fixed – Effects Regression	Hausman – Taylor Regression	GEE Model	GMM Model
D	-	-	-	-	-	-
NPL	.1464076 (0.000)**	.0954575 (0.002)***	.0889134 (0.006)***	.0972927 (0.002)***	.0956164 (0.002)***	.0578866 (0.063)*
NR	-.2210372 (0.000)***	-.0223569 (0.675)	-.0144462 (0.790)	-.0235752 (0.659)	-.0225594 (0.666)	.0417088 (0.414)
ML	-.0130047 (0.111)	.0137124 (0.056)**	.015585 (0.035)**	.0136956 (0.057)**	.0136666 (0.052)**	-.0171656 (0.346)
GDP cap.	.1515024 (0.017)**	.0532762 (0.172)	.0485447 (0.218)	.0534342 (0.172)	.053395 (0.163)	.0466599 (0.136)
INF	.5807004 (0.000)***	.3104726 (0.000)***	.2969925 (0.000)***	.3118578 (0.000)***	.3108061 (0.000)***	.2596187 (0.000)***
IR	.081938 (0.003)***	.120263 (0.000)***	.1217015 (0.000)***	.1216335 (0.000)***	.1202249 (0.000)***	.0735421 (0.004)***
Const.	3.302277 (0.000)***	2.625193 (0.014)**	2.607572 (0.000)***	1.9201 (0.349)	2.626064 (0.000)***	3.6457 (0.000)***
R Square	0.9097	0.8814	0.8819	0.8575	0.8954	0.8547
Adj.R ²	0.8944	0.8058	0.8630	0.8477	0.8874	0.8444

Source: Authors' calculations in STATA (2022)

A clarification: P-values shown in parentheses: *** indicates statistical significance at the 1% level; ** indicates statistical significance at the 5% level and * indicates 10% statistical significance.

Based on the results presented above, we see that all variables are significant at the 1%, 5% and 10% confidence level. Our results in the third model will be interpreted through linear regression.

β_0 - If all other factors are constant, then the value of deposits will be 3,302 units. The statement is correct since the significance value is within the confidence interval because $0.000 < 0.01$.

β_1 - If non-performing loans increase by 1 unit, holding all other factors constant, then deposits will increase by 0.1464 units. This statement is correct since the significance value (P-value = $0.000 < 0.01$) is at the level of statistical significance.

β_2 - If natural resources, increase by 1 unit holding all other factors constant, then deposits will decrease by -0.221 units. The statement turns out to be correct because the significance value (P-value = $0.000 < 0.01$) is within the confidence interval. Since natural resources require a large amount of funds that must be allocated for their processing and use, then developing countries also need financial means to allocate them for these resources and this has the effect of reducing the level of deposits because the money in places destined to the part of deposits, in most cases, is used to meet the needs of the part of natural resources or other things.

β_3 - If market liberalization increases by 1 unit holding all other variables constant, then deposits will decrease by -0.013 units. This statement is not correct since the significance value (P-value = $0.111 > 0.05$) is not at the level of statistical significance.

β_4 - If GDP per capita increases by 1 unit holding all other factors constant, then deposits will increase by 0.151 units. The statement turns out to be correct because the significance value (P-value = $0.017 < 0.05$) is within the confidence interval.

β_5 - If inflation increases by 1 unit, keeping all other variables constant, then deposits will increase by 0.5807 units. This statement is correct because the significance value (P-value = $0.000 < 0.01$) is in the confidence interval. It is known that high inflation rates hinder long-term contracts, negatively affect information asymmetry and moral hazard, and that inflation hinders financial development and the level of deposits in the banking system.

β_6 - If the interest rate increases by 1 unit, keeping all other variables constant, then deposits will increase by 0.811 units. This statement is correct because the significance value (P-value = $0.003 < 0.01$) is at the level of statistical significance.

Econometric Results of Nelson's E – GARCH Model

Following this scientific paper, the econometric results of the Nelson's E - Garch model for developing economies have been analyzed. Through this econometric model, it has been analyzed whether non-performing loans in these countries have influenced the volatility of broad money, bank loans and bank deposits. So, the research question of the ARCH-GARCH analysis is as follows: How have non-performing loans and other determinants affected the volatility of financial development in emerging markets?

Table 5

Econometric results of Nelson's E – Garch model between non-performing loans and broad money for emerging markets

Z-Score	Coef.	Std. Error	z	P > z	95% Conf. Interval	95% Conf. Interval
NPL	2.437953	.1114771	-21.87	0.000	-2.656444	-2.219462
cons.	84.32716	.7423102	113.60	0.000	82.87225	85.78206
ARCH L1.	1.082609	0.383942	28.20	0.000	1.007358	1.15789
EARCH L1.	0.590143	.2788407	2.12	0.034	0.436252	1.136661
E-GARCH (L1)	-0.1728375	.1364934	-1.27	0.205	-.4403597	.0946847
E-GARCH (L2)	0.1408375	.0440816	3.20	0.001	.0544533	.22725
E-GARCH (L3)	-0.1427786	.0547779	-2.61	0.009	-.2501413	-.0354159
E-GARCH (L4)	-0.095136	.0234627	-4.05	0.000	-.1411221	-.04914499
cons.	1.704721	.2031465	8.39	0.000	1.306561	2.10288

Source: Authors' calculations in STATA (2022)

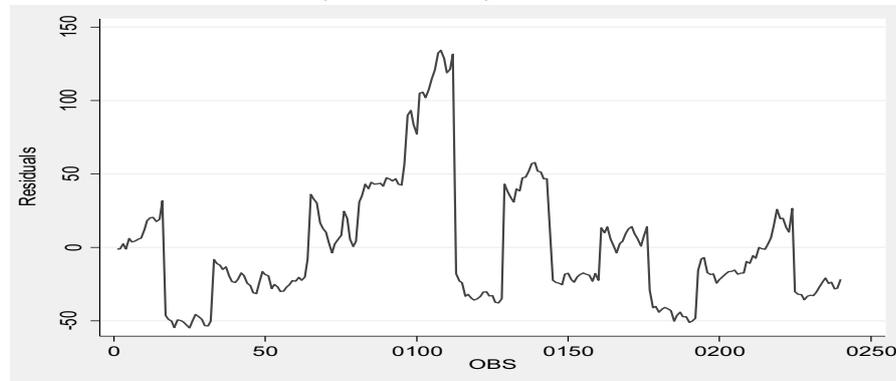
From the results of the Nelson's E-Garch model, we can conclude that non-performing loans affect the decline in the value of financial development. So, with the increase of non-performing loans, the volatility of broad money in developing economies increases (P-value = $0.000 < 0.05$).

In the dynamic time constant (L2) we have a positive and significant correlation (P-value = $0.001 < 0.05$). When non-performing loans with dynamic time lag (2) increase by 1 unit, then the value of broad money volatility in 2020 will increase by 0.14 units. Based on this

econometric result, it can be concluded that developing economies have not properly managed non-performing loans, because as a result of the increase in problem loans, we have also had an increase in the volatility of broad money.

Such an effect does not result in the constant (L3). This constant has a negative and significant correlation (P-value = 0.009 < 0.05). When NPLs increase by 1 unit with dynamic time lag (3), then the value of broad money volatility will decrease by -0.14 units. From the obtained result, we can say that even though banks in developing countries for the analyzed time period have been faced with the increase in problem loans, these countries have followed efficient financial policies that, despite the increase in problem loans, have managed to reduce volatility of broad money.

In the dynamic time constant (L4) we have a negative and significant correlation (P-value = 0.000 < 0.05). When non-performing loans with dynamic time lag (4) increase by 1 unit, then broad money volatility will decrease by -0.09 units. If we have an effective management of non-performing loans, it will affect the reduction of the volatility of broad money.



Source: Authors' calculations in STATA (2022)

Fig. 1. Volatility of time series data for the variable non-performing loans and M2 for emerging markets

Table 6

Econometric results of Nelson's E – Garch model between non-performing loans and bank loans for emerging markets

Z-Score	Coef.	Std. Error	Z	P > z	95% Conf. Interval	95% Conf. Interval
NPL	-5.573739	2.60e-06	-2.1e+06	0.000	-5.573744	-5.573734
cons.	92.01693	.0000337	2.7e+06	0.000	92.01686	92.01699
ARCH L1.	-.4253477	.0440087	-9.67	0.000	-.5116032	-.3390921
EARCH L1.	-1.383524	.1323428	-10.45	0.000	-1.642911	-1.124137
E-GARCH (L1)	.3917635	.0911193	4.30	0.000	.2131729	.570354
E-GARCH (L2)	-.4708558	.0492009	-9.57	0.000	-.5672878	-.3744239
E-GARCH (L3)	.6713969	.05097049	11.25	0.000	.5543775	.7884163
E-GARCH (L4)	-.2213285	.0265047	-8.35	0.000	-.2732769	-.1693803
cons.	1.817104	.2437181	7.46	0.000	1.339426	2.294783

Source: Authors' calculations in STATA (2022)

From the results of the Nelson's E-Garch model, we can conclude that non-performing loans affect the decline in the value of bank loans. So, with the increase in non-performing loans, the volatility of loans in developing economies increases (P-value = 0.000 < 0.05). In the constant (L1) we have a positive and significant correlation 0.000 < 0.05. With the increase of problem loans by 1 unit, the volatility value of bank loans will increase by 0.39 units. So, on the basis of this, we say that developing countries have not followed a proper system for the control of non-performing loans because it can be seen that with the increase of these non-performing loans, the volatility of bank loans also increases.

A time constant (L2) does not have such an effect. With this constant Z we have a negative and significant correlation 0.000 < 0.05. So, when non-performing loans with dynamic time lag (2) increases by 1 unit, then the volatility value of bank loans will decrease by -0.47 units. On the basis of this econometric result, it can be concluded that developing economies have followed an appropriate credit policy in terms of non-performing loans in the two-year period, because regardless of the increase in non-performing loans, it has influenced the increase in credit capacity in developing countries.

Such an effect does not exist in the constant (L3). Here we have a positive and significant correlation (P-value=0.000 < 0.05). When non-performing loans with dynamic time lag (3) increase by 1 unit, then the volatility value of bank loans will increase by 0.67 units. Based on this, we can say that developing countries should be more careful in the management of non-performing loans because as a result of improper management in the three-year period, we have also had an increase in the volatility of bank loans. In the constant (L4) we have a negative and significant correlation (P-value = 0.000 < 0.05). With the increase of problem loans with time delay (4) by 1 unit, then the volatility value of bank loans will decrease by 0.22 units. From this obtained result, it is concluded that developing countries have had more care for the four-year period for non-performing loans, by managing these non-performing loans with care, developing countries have managed to reduce the volatility of bank loans.

How have non-performing loans and other determinants affected the volatility of deposits in developing countries? To answer this question, it should be analyzed if non-performing loans have an impact on the volatility of deposits in developing countries.

Table 7

Econometric results of Nelson's E – Garch model between non-performing loans and bank deposits for emerging markets

Z-Score	Coef.	Std. Error	z	P > z	95% Conf. Interval	95% Conf. Interval
NPL	.2575739	.0182462	14.12	0.000	.221812	.2933358
cons.	5.031143	.1562354	32.20	0.000	4.724927	5.337359
ARCH L1.	1.220871	.1854199	6.58	0.000	.8574543	1.584287
EARCH L1.	.8914267	.3145951	2.83	0.005	.2748317	1.508022
E-GARCH (L1)	.0165742	.128568	0.13	0.897	-.2354144	.2685628
E-GARCH (L2)	.2149191	.1506702	1.43	0.154	-.080389	.5102273
E-GARCH (L3)	-.437649	.2745109	-1.59	0.111	-.975684	.1003825
E-GARCH (L4)	-.5360341	.1838142	-2.92	0.004	-.8963003	-.1757649
cons.	-2.801458	1.097294	-2.55	0.011	-4.952114	-.65088013

Source: Authors' calculations in STATA (2022)

Based on the econometric results of the Nelson's E-Garch model, we can conclude that there is a positive and significant correlation between non-performing loans and the value of bank deposits (P-value=0.000<0.05).

In the time constant (L4) there is a negative and significant correlation (P-value=0.000<0.05). So, when non-performing loans with dynamic time lag (4) increase by 1 unit, then the value of deposit volatility will decrease by -0.53 units. Such an economic phenomenon shows that developing countries during this period of time have had a good management in terms of problem loans, because despite the increase of these loans, there has been no increase in the volatility of deposits, but we have had a decrease in the volatility of deposits. So, as a result of this, we have the possibility of increasing the deposits of households and enterprises.

Conclusion and Recommendations

1. It is known that a well-developed financial sector is a key factor for a healthy and well-diversified economy. From what was said, it is clear that financial development is a very important element for every country in the world, this was clearly seen on the basis of the research done by us, where it was seen how developing economies and countries in transition attached great importance to financial development and economic development. Where during the research we were able to see in many studies of other authors how these two variables were related to each other and in the largest percentage of cases they affected each other positively.

2. The findings of our study show that the independent variables in the first econometric model for emerging markets: GDP per capita, market liberalization and interest rate have a positive impact on broad money, which in our case represented financial development. Meanwhile, non-performing loans, natural resources and inflation have a negative impact on broad money. In the second econometric model where we had bank loans as a dependent variable, GDP per capita and market liberalization have a significant impact and are significant at the level of 1%, 5% and 10% and have a positive effect on bank loans. While non-performing loans (problem loans), natural resources, inflation and interest rates had a negative impact on bank loans. When we are in the third econometric model where the dependent variable is bank deposits, variables such as GDP per capita, non-performing loans, inflation and interest rate have a positive impact on bank deposits and are significant at the 1%, 5% level and 10%. However, natural resources and market liberalization had a negative impact on bank deposits in emerging markets.

3. According to the econometric results, there is a causal relationship in the long term between non-performing loans and financial development (broad money, bank loans and bank deposits). Based on this result, we can conclude that non-performing loans cause negative long-term effects on the amount of broad money and bank loans during the later time period. Whereas, an increase in non-performing loans will cause in the long term an increase in bank deposits in developing countries, but such an increase in the volume of deposits will cause an increase in interest expenses at commercial banks and causing a decrease in profitability of commercial banks. Therefore, it is recommended that the commercial banks of developing countries manage with a high efficiency the level of non-performing loans in order to have a positive impact on the sustainable financial development of these countries.

4. According to the results of the ARCH-GARCH analysis, we can conclude that non-performing loans have a positive impact on the increase in the volatility of broad money and the volume of bank loans in developing countries. Whereas, the increase in non-performing loans has a negative impact on the decrease in the value of the volatility of the level of bank deposits in developing countries. It is worth noting that the profitability of commercial banks and the efficiency of international financial markets in developing countries largely depends on the quality of management of non-performing loans by commercial banks. Therefore, through this study we recommend that the Central Banks of these countries, but also all commercial banks, advance appropriate credit and monetary policies that will positively affect the efficient management of non-performing loans and increase the profitability of these commercial banks in function of sustainable financial and economic development of these countries.

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BUBBLES, CONNECTIONS, AND INFLATION: NETWORK OF TWITTER COMMUNICATION ABOUT INFLATION IN LATVIA

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Abstract. Inflation in euro area and especially in the Baltic states since the end of 2021 has become not only a significant topic of economic analysis, but also subject of conversations among people of any background. Latvijas Banka as a part of European Central Bank (ECB) council works for the aim of 2 per cent inflation over medium term and communicates with society through different channels including social media and Twitter.

This paper focuses on measurement and analysing communication network of discussions in Latvian in Twitter mentioning inflation (also price increase, cost increase and similar phrases). Analysis is done over one calendar year (November 2021 – October 2022) and indicates that during months with higher inflation, discussion activity mentioning price increase has also been higher.

The main contribution of this paper is visualizing of Twitter users' connections based on interaction among them with retweets and replies. Communication graph shows that users of this social media tend to form bubbles that vaguely connect to others. A distinct communication bubble is formed among Bank of Latvia, several economists, and media. Discussions in this bubble predominantly differs from discussions in other groups and more often mentions economic terms like, for example, interest rates and forecasts. Other bubbles recurrently talk about situations people face in everyday life, like price increase for energy products and food. Weak connections among bubbles indicates that communication of central bank in Twitter might not be the most efficient way to reach full audience and other communication methods might be needed.

Keywords: *inflation, network analysis, communication efficiency.*

JEL code: E31, D85, D83

Introduction

Network theory has evolved from social network to social media network analysis, fundamentals set by early researchers has been enriched and tested upon new data available. This paper focuses on social network analysis based on Twitter user discussions in Latvian about currently very important topic – inflation.

Inflation in Latvia, likewise in euro area since mid 2021 has increased rapidly. First effects on prices due to pandemics has been overlaid by the remarkable changes in costs of resources due to the war in Ukraine. These changes in consumer prices have been a hot topic both in news media as well as in social media networks, including Twitter. Analysis of social media network discussions allows to expand our knowledge not only about the discussion frequency changes, but also the structure of communication network. Twitter can be both used to express one's own experiences as well as a tool for central bank and government institutions to communicate with inhabitants to inform, explain and to some degree to form audience expectations.

This paper focuses on analysing Twitter content about price increase, published over one year period (November 2021 to October 2022). Due to privacy restrictions, analysis is done on public records. The number of Twitter users in Latvia in 2022 reached 159 thousand (Datareporter, 2022), i.e. around 10% of population 13 years and older. Surely, that does not represent the whole population, but as this social media platform is used for discussing topical question, data collected are useful for researching networks of these users. It should be taken into account that the aim of using different social media platforms varies and Twitter globally is the leader in case people are looking for possibilities to keep up to date with news and current events (Datareporter, 2022) therefore that could be viewed as a proxy for news sharing and news receiving social media platform.

Publications in Latvian language are selected in case they talk about price increase. Tweets in Russian or other languages even if published by users in Latvia is out of the scope of this research. The dimensions of price increase can be wide – mentioning inflation, prices going up, increasing costs etc. In total 28.5 thousand unique original tweets were selected, the overall activity, including retweets reached 43.6 thousand entries. Analysis period focuses on rapid changes in inflation in Latvia (from 7.4% year over year in November 2021 to 21.7% in October 2022), and Latvia is particularly interesting case as inflation rate in it is one of the top of euro area countries (Eurostat, 2022). Analysed period shows rapidly changing environment, including a period of monetary policy change and several rounds of fiscal support packages to mitigate inflation effects.

The aim of this paper is to identify inflation communication networks and communication bubbles in Twitter in discussions in Latvian language. This paper mainly focuses on visualization and analysis of main user relations and information flows in Twitter in discussions about inflation. Nevertheless, there is kept in mind a special role of Latvijas Banka as the central bank of Latvia and member of the European system of Central Banks. Latvijas Banka is a member of the European Central Bank (ECB) Council which makes decisions about monetary policy in euro area. ECB is targeting an inflation rate of 2% over the medium term (European Central Bank, 2021) and one of the factors that might influence price increase is inflation expectations. If people are expecting higher prices, service providers and sellers of some products could indeed rise prices. Therefore, managing inflation expectations is one of the indirect jobs also from central banks. This research would allow us to describe the ease of Latvijas Banka communication in this social network for reaching inhabitants of Latvia that is essential in this high inflation environment to inform about monetary policy decisions and to manage inflation expectations.

Therefore, three research questions are formulated and will be tested later in results and discussion section:

- 1) Is it true that by increasing inflation rate, there are more discussions about price increase in *Twitter*?
- 2) Do *Twitter* users in Latvia, when communicating about inflation, form communication bubbles?
- 3) If bubbles are formed, do topics about inflation discussed in them, differs?

To answer these questions, data are collected, statistical methods are used to check causality and correlations, network graph is plotted, and topic analysis is used, implementing these methods with R and Python analytical tools and applying quantitative analysis methods with a glance to qualitative methods for deeper understanding of the results. This is a novel method to analyse inflation communication in Latvia and gives us better understanding of social media network formation and connections for monetary policy communication.

Literature Review

Social network theory has roots in sociometric analysis, which uses mathematical graph theory, as well as interpersonal relations traditions which talk about formation of cliques, and anthropology that explores structure of communication in society (Scott, 1991). Social network theory indicates actors as nodes and connections among them as links. Burt (1999) points out the role of opinion leaders who carry information across boundaries between groups. Since the first researches social network analysis has developed in different directions. As explained in Liu et al. (2017), two-step flow of communication hypothesis focuses on personal influence from people's social contacts and friendship networks that influence their decisions, theory of weak ties evaluates the role of weak social ties that may help to distribute further some ideas and the theory of diffusion of innovations discusses innovation diffusion between individuals in the social system. Wellman (1988) identified basic principles of network analysis: people behaviour are best predicted not by their demographic characteristics, but the relationships with other,

therefore focus of analysis should be on these relations and one should remember that individual actors (nodes) are not independent, as well as the flow of information and resources between people depends not only on their relationships in a group, but also on their relationships with all others and groups sometimes have rather fuzzy boundaries.

With development of web scraping and data analysis technics, researchers have delved into the rich data of social media. Therefore, Twitter has become a valuable resource of data to be used in economic and communication analysis. Currently, as for the knowledge of the author, there has been no Twitter user network analysis for the topic of inflation in Latvia, but there are a variety of papers that has used parts of the analysis methods applied in this paper to research topics of wide variety in different other countries, mainly English speaking communities. For example, recently there has been analysis on Covid-19 vaccination communication networks (Gifu and Popa, 2021), as well as Twitter sentiment analysis is widely used for the topics of pandemics (Ansari and Khan, 2021; Osborne, 2022; Bonifazi et al., 2022). Calhan et al. (2021) analyses how public values are reflected in social media, but several articles have been interested in topics like what makes people share Twitter contents or have analysed content of Twitter communication (e.g. Weismuller et al., 2022; Bonnevie et al. 2020).

Due to structure of twitter data, it can be used for analysing wide range of topics – both ongoing and limited in time. For example, Vacek (2014) implemented node content analysis on topics related to just a single event – Library and Information Technology Association forum, but clearly showed that in case of rich data set, which is impossible to analyse manually, data processing with network and word popularity analysis can help to get the general understanding, identify main problems and ideas for further research. Likewise, Yun et al (2019) suggest how conversations on social media can be computationally analysed, they compared different methods, noting that automatic data processing and analysis could be useful, especially for large data sets. Other authors (Pinzon-Rios, Osuna-Soto, Barrera-Duque, 2020) combine qualitative and quantitative analysis at first classifying tweets based on qualitative features like having links of pictures and then applying regression to evaluate which features increase interest in tweets and could be more actively used for more efficient marketing strategies. Communication analysis often rely on qualitative data analysis which gives deep insight but only in a very narrow topic or data source. In case of big data (in this paper defined as large datasets of at least several tens of thousands of entries) manual processing of them would require extremely large consumption of time that could not take advantage of data affluence. Therefore, quantitative machine learning methods should be applied instead.

Focusing more on central bank communication, its channels and content of this communication are explored by numerous authors (e.g. Baranowski et al., 2020; Baskaya, Gulsen, Kara, 2012). Traditionally, researchers focus on news articles or central bank announcements. For example, Picault, Pinter and Reanult (2022) use articles from newspapers to construct sentiment indicator about European Central bank in context of predicting inflation expectations, but Benchimol, Kazinnik and Saadon (2022) give an example how central bank announcements can be used with machine learning text analysis methods. Central bank announcements in several countries were researched also by Szyzsko, Rutkowska and Kliber (2022) concluding that communicating tone of a central bank affect consumer inflation expectations, even when controlling for specific values like past inflation and industrial production index. But the conclusions can vary, for example, the research of Hansen and McMahon (2016) using textual analysis, investigating central bank communication statements, don't find its strong connection with real economic variables.

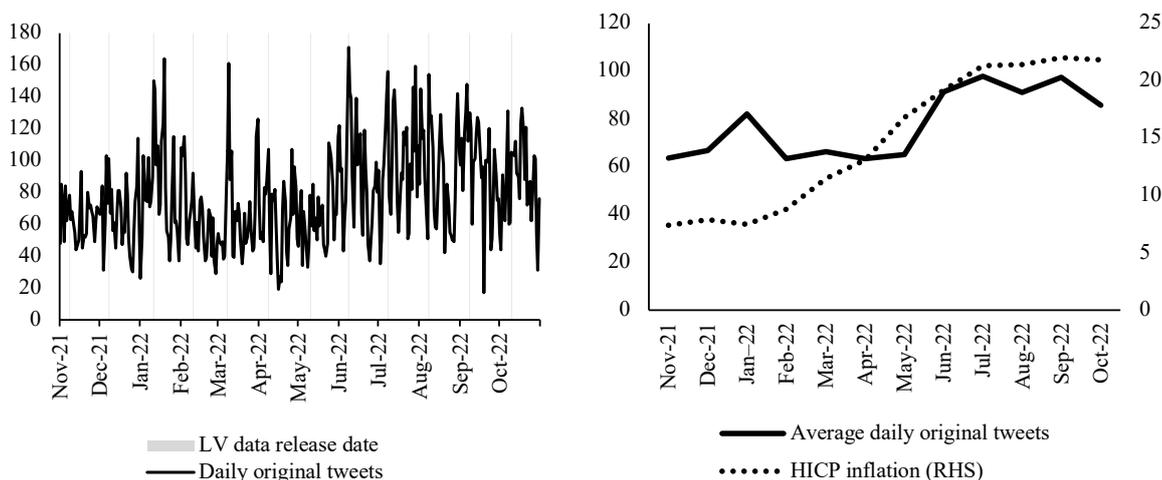
There have been also some analysis of central bank Twitter entries, but in other countries than Latvia. For example, European Central bank research talks about communication impact of tweets in English and German (Ehrmann, Wabitsch, 2021) and concludes that due to central bank communication different user tweets become more moderate, nevertheless the tweets with the most radical and harsh statements are the ones mostly discussed and retweeted. Moreover, research about Great Britain (Lamla, Vinogradov, 2021) finds that people that actively follow central bank communication in Twitter feels more confident about their knowledge, but their estimate about forecasted inflation tend to be higher and less accurate. Research on communication of Federal Reserve System (Gorodnichenko, Pham, Talavera, 2021) suggests that central bank communication via Twitter is more efficient than communication via Facebook, nevertheless indicating that more active to engage in discussions with central bank are economists and media than other groups. These research gives floor for further analysis and allows formulating research questions that would relate more specifically to Latvia and to step forward with construction and analysis of social media network for inflation discussions.

Research results and discussion

For this research, Twitter entries were collected for the period from November 2021 to October 2022. Public entries in Latvian language were selected in case they mentioned inflation. Criteria were wide including not only the term “inflation” but also discussion about “increasing prices”, “increasing costs” etc. Data were collected by using Twitter developer account and created a corpus of 28.5 thousand unique tweets, but the overall discussion activity including retweets reached 43.6 thousand. This gives as a rich material for analysing discussion frequency over time as well as investigating interaction among users by replying to each other's tweets or retweeting them.

1. Inflation rate and discussion rate

This sub-section focuses on testing the first research question: Is it true that by increasing inflation rate, there are more discussions in Twitter about price increase? The first glance on data shows that tweeting activity increase on days when new inflation figures are released (see Figure 1, left side), but overall users are tweeting about price increase on all weekdays, differing it from news in traditional media which are more actively published on workdays, but are quite silent on weekends. In general tweeting activity seems to be related to inflation level. In months when Harmonized level of consumer prices (HICP) or otherwise called simply inflation level rises, there are more tweets about inflation (see Figure1, right side). Note that users can write also about their own experience with rising prices, they do not necessary talk about inflation statistics.



Source: author’s construction based on Twitter data, data from Central Statistical Bureau of Latvia and Eurostat.

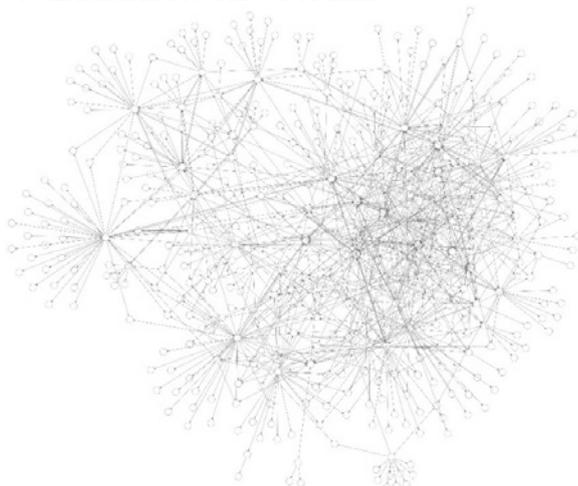
Fig. 1. Daily tweeting about inflation and HICP monthly year over year inflation rates for Latvia

There is a strong positive correlation between number of tweets and inflation rate ($r=0.77$). There was an exception in January 2022 when inflation decreased somewhat (-0.4 pp month over month), but there where rapid increase in tweets mentioning rising prices. That can be explained by the fact that actual prices would have risen also in January 2022, but due to government support measures, its rise was limited. People over that month faced higher prices that were later partially reimbursed, i.e., when they received bill for some services, it was with these support measures included reducing the price to be paid.

As the data shows, the first research question is true and that during periods of higher inflation, also discussion rate about price increase in Twitter is higher. Twitter data could be used as a first glimpse in the situation with inflation even before inflation flash data (first estimate before the final data release) is published. Nevertheless, one should be careful and, even if the insight could be useful, more analysis of different component price increase should be applied as the discussion activity alone could be subject to some biases as it was shown in months when government support measures for decreasing inflation were introduced. Therefore, this was a fair introduction on the amount and distribution of the data collected, but the main scope of this paper will be focus on exploring more about the relations withing these tweets, therefore connectivity graphs are constructed and discussed in next sections.

2. User connectivity graph for inflation discussions in Twitter

This sub-section analyses second research question and tests if Twitter users in, when in Latvian communicating about inflation, form communication bubbles; To answer that, user relation graphs were constructed based on large dataset of more than 43 thousand records over one calendar year. Nodes in the graphs represent Twitter users posting about price increase. Links are the sum of replies and retweets among users. Links are directed based on the direction of the flow of information. As there are in total more than 7.8 thousand users mentioning price rise in their tweets over this sample period, visually depicting total network would not add much explanation to the processes due to its complexity and including marginal users that might tweeted about price rise just once during the year. 11% of users tweeting about price increase does not by themselves interact with other Twitter users (but other might reply to them or retweet their ideas). 6.8% of interaction among users cease with just a single reciprocal action among two users. But overall interaction among users is high, 63% of interaction is among users where there have been at least 10 interactions between two of them.



Source: author’s construction based on Twitter data. Visualisation made by Tom Sawyer Software. Note: Links indicating replies or retweets over the period November 2021- October 2022 connecting 100 the most active users tweeting about price increase and users they interact with.

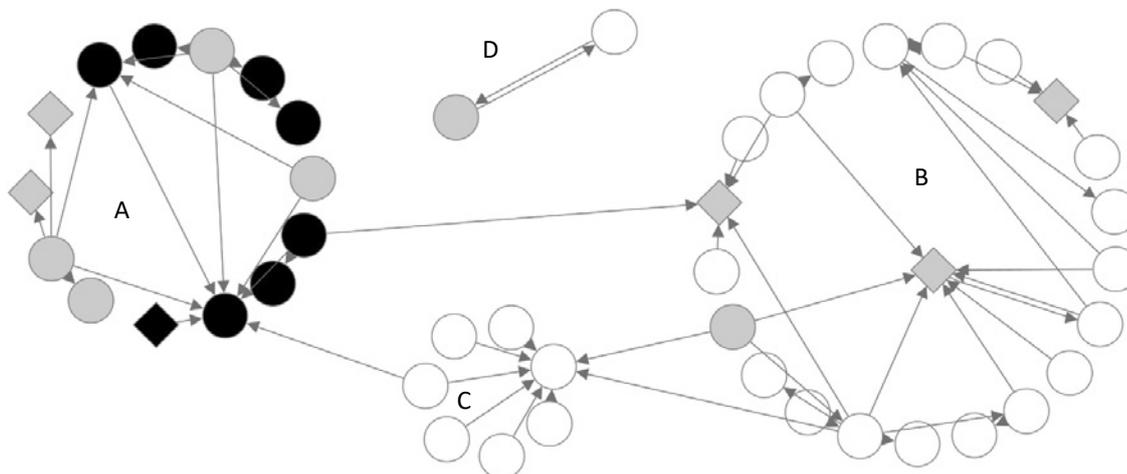
Fig. 2. Connections of users most actively tweeting about inflation in Latvia

To be able to analyse inflation discussion network in more detail, the one hundred most active users were selected to see who sets the agenda for inflation discussion in Twitter in Latvian. The most active users (with the largest number of tweets about price rise) were selected. Overall network of these active users and their interaction also with less active users are depicted in Figure 2. There are some indications that some of the less active users are connected to just a single active user indicating that they might receive some fragmented information in case information and sentiment for different node groups varies.

To be able to visually follow the flows of information more precisely, the graph of interactions of these one hundred most users were limited to the graph with only active users and links with five interactions among them. Figure 3 indicates those users (nodes) and links where the link to other active user is at least five replies or retweets over this sample period. Arrows in the graph show the flow of information from

which user to which user it goes (e.g. if a user is retweeting other user, arrow will be drawn from the author of the original tweet (source) to the retweeter (receiver of the information)).

If users in social media form bubbles that could disturb information exchange among people belonging to different bubbles. Of course, there might be situation of some bubbles overlapping, nevertheless exposure to tweets mainly from one bubble may lead to information segregation and different topics discussed in them leading to different sentiment and perception of the state of economy. The graph created in this research gives a justification for the hypothesis that Twitter users in Latvia when communicating about inflation, form bubbles. There can be distinguished four main bubbles, some of them are quite distant from others. In Figure 3 these bubbles are named with letter A to D for ease of further reference. Names of Twitter users are not included into the graph for simplicity and to keep data anonymous, but information about which user reflects particular node is available and will be used for analysis.



Source: author's construction based on Twitter data. Visualisation made by Tom Sawyer Software. Note: Symbol reference: black diamond – Latvijas Banka, black circle – media; grey diamond – economists; grey circle – business representatives; white circle – others. Links indicating at least 5 replies or retweets over the period November 2021-October 2022. Bubbles named with letters for further reference.

Fig. 3. Connections among users most actively tweeting about inflation in Latvia

All most active Twitter users from media (including representatives of TV, radio and printed press (circles filled with black colour in Figure 3) group together in a single bubble joined with Latvijas Banka (depicted with black diamond). This bubble also includes several economists (grey diamond) and business representatives (grey circle). This bubble seems like a circle that might transmit news and economic analysis (topics discussed in each of the circle will be studied in more details in next section of this paper). Bubble B is quite vast and includes some economists and one business representative, but also quite many users that have not indicated their profession and are depicted white in the graph. Even if some of them could work in economic sphere, they do not make direct association of their Twitter account with their profession and most of them are anonymous and use some nicknames. Bubble C is smaller, uniting some anonymous users and is mainly held together with a single user, they have just scarce interaction with other bubbles. Bubble D is quite specific formed by just two users that actively tweet about price increase, but interact mainly only with each other, ignoring other active Twitter users that talk about this topic. This structure of communication network is in line with similar conclusions in previous research (Gorodnichenko, Pham, Talavera, 2021) that point out that economists and media are more active in engaging in communication with central bank. To look more closely in each of these bubbles, in-bubble discussion will be analysed.

3. Bubble discussion analysis and comparison

This sub-section focuses on the third research question analysing, if topics about inflation discussed in different bubbles vary. To perform topic analysis, data with tweets in Latvian language were translated to English via automatic google translation and data checks proved that translation is good and usable in further analysis. Supplementary textual analysis is done on English texts, therefore it is possible to use widely tested language analysis dictionaries and tools available for research, analysis was done using R and Python tools. At first, standard data cleansing was implemented by removing stopwords and special symbols. There were removed also the most repetitive words that were included in selecting tweets like “inflation”, “expensive”, “price”, “increase”. Word clouds with the fifty most popular words or expressions were formed for each of the discussion bubbles identified in the previous section.

Conclusions, proposals, recommendations

1. Twitter data is a rich resource for researching social media communication. This research focuses on Twitter discussion in Latvia over one calendar year (November 2021 – October 2022) and adds to the knowledge about social media user interaction when discussing about inflation.
2. More active discussions about price rise happens in months when prices increase more sharply. There are some additional buzzes on Twitter about this topic also in months when prices were ought to increase, but the inflation was limited with the help of government support measures.
3. User graphs point out that there is a segregation in different bubbles with Twitter users discussing about inflation. Four bubbles of the most active users were identified joining users that interact more actively among each other by replying or retweeting but having less interaction with users from other bubbles.
4. Specific “Banks and media” bubble is formed from Latvijas Banka, users representing different media and some economists and business representative. They mostly reply and retweet each other and have limited interaction with other Twitter users. Other interest group bubbles are formed as well that has no or just partial interaction with other user bubbles, but these other groups do not have representatives of media and has limited number of economists or business representatives represented in them.
5. Analysis of the most often words used in tweets in different groups show that “Bank and media” bubble write more about current events, economic analysis, as well as often mention economic terms like for example “interest rates” as well as they pay attention to experts and forecasts. Discussions in other groups are more mundane. One of these groups mainly writes about energy price increase. Two other groups write about events in Latvia and cost increase, topics in these groups are not very specific.
6. User network analysis indicates that communication from the central bank and media might not fully suite the interest of full audience. Talking about monetary policy is important but should be explained and supplemented with easy-to-understand information that could be more attractive to wider audience.

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AN INSIGHT INTO THE SELECTION AND NOMINATION PROCESS OF SUPERVISORY BOARD MEMBERS IN STATE-OWNED ENTERPRISES

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Abstract. In order to start the nomination process of supervisory board members of state-owned enterprises (SOEs), the holder of state capital shares must make several decisions and take into account the guidelines that define the principles that the process of nomination and appointing candidates complies with the best corporate governance practices.

The study examines the decisions of the holders of state capital shares in the start of nomination process of members of the supervisory boards of SOEs. To evaluate the process, several tasks were set, which intended to study the initial selection and nomination process, including studying the role of the recruitment consultant. In order to obtain the necessary information, a survey was conducted, in which state representatives took part. The number of respondents was limited, and the anonymous survey was used to receive more reliable answers.

The results of the study showed that decision-making in the start of nomination process is very complex, as several decisions have to be made. In order to start the nomination process, it is important to carry out an evaluation of the work results of the existing supervisory board members, which should be carried out regularly during the term of office and before the expiration of their term of office, however, this is not always done. It could also be mentioned as an important condition in determining the appropriate level of recruitment consultant involvement, but the potential of the recruitment consultant is not fully used.

Keywords: *state-owned enterprise (SOE), supervisory board, nomination process, governance, complexity theory.*

JEL code: G30, G34, G38

Introduction

Despite the fact that the supervisory boards of the SOEs occupy an important place and role in the effective development of the SOEs, there are different opinions on the structure of the SOE on the part of officials of ministries, members of the management board and the supervisory board, taking into account their duties and the perception of the particular SOE (Wasowska & Postula, 2018). Therefore, holders of state capital shares, representatives of the holders of the state capital shares, the responsible employees of the holders of the state capital shares, and employees of the corporate governance units of the holders of state capital shares play a greater role in the process of selecting and appointing members of the supervisory boards as they provide the process of nomination of the member of the supervisory board of SOE, which corresponds to the best practice of corporate governance.

The best corporate governance practice means not only taking care of choosing the best candidates for the supervisory board, but also taking care of the development opportunities of the SOE (including concerning for the value of the company (Meiryani et al., 2022)). Given the specifics of the responsibility of the supervisory board, it is important to pay special attention to the selection of supervisory board members and, if possible, retain the best, if the term of office of supervisory board members of the SOE allows it.

It is concluded that insufficient knowledge and skills of a member of the supervisory board of SOE have a negative impact on the implementation of the tasks of a SOE, the achievement of financial (economic) and non-financial goals (Szarzec et al., 2022a). The selection of candidates involves constant transformation, as one must be able to anticipate future leadership trends and optimally use the potential of the quality of working life. The leader of organizational transformation - a member of the supervisory board of SOE - contributes to the achievement of the set goals if his/ her skills, knowledge and competencies are properly managed and used (Sabran et al., 2022). In addition, a member of the supervisory board of SOE, who has the skills of an organization transformation leader, will be able to constantly improve basic competencies in order to improve the quality and rate of economic growth of the SOE (Gross & Huang, 2013).

Considering the role of SOEs in the national economy of Latvia, it is important to assess the process of preparing and appointing supervisory board members in order to streamline the decision-making process and reduce problems associated with the selection and appointment of supervisory board members of SOEs. The authors of the article give an idea of the role of a holder of state capital shares to start the process of selection and appointing supervisory board members of SOEs in Latvia.

Taking into account the foregoing, the authors believe that from a scientific point of view, in this matter it is possible to use the complexity theory, which, although considered "a new form of scientific thinking" (Little, 2008, p. 22), helps to understand the degree of complexity of various processes, including the use of various questions to understand this degree (Mazzocchi, 2016). The complexity theory as a complex system is characterized by: self-organization, history and time, emergence, feedback, connectivity, interdependence, disequilibrium, new possibilities, creation of a new order and co-evolution (Mitleton-Kelly, 2003, ch. 2, p. 3). Therefore, in order to understand the degree of complexity of the nomination process of a member of the supervisory board of SOE, it is necessary to:

- Examine both the reasons for initiating the nomination process and the services of a recruiting consultant;
- Find out cases of decisions taken on the nomination or non-nomination of current members of the supervisory board for the next term of office.

The above research questions are part of a complex system, where understanding the synergy of different elements (i.e. the nomination process) and their dynamics play an important role (Eisenhardt & Piezunka, 2011), because the uniqueness of complexity theory lies in the fact that it attracts order and is able to identify different relationships (Levy, 2000).

The research method was chosen to take into account the risk that civil servants would not want to reveal the true information in an interview, therefore an anonymous questionnaire was made.

The study was conducted in order to find out what needs to be improved to start the process of selection and appointment of members of the supervisory boards of the SOEs in Latvia; and in addition to being able to explore the complexity of the nomination process from a theoretical perspective, the following tasks were planned to carry out during the study:

- To explore the reasons why the nomination process is initiated (following the submission of the supervisory board's self-assessment);
- To find out cases when a decision is made to promote the current member of the supervisory board or not to promote him/her to the next term of office;
- To explore what services a recruitment consultant provides in the process of selecting members of the supervisory board of SOEs.

It was planned that respondents of the study were - representatives of the holders of the state capital shares, responsible employees of the holders of the state capital shares and employees of the corporate governance units of the holders of state capital shares. At the same time, this was a limitation of the study, as the survey was intended for those representatives of holders of state capital shares, whose functions involve the governance of SOEs where supervisory boards have been established and are functioning.

Literature Review

Members of the supervisory board of the SOE constitute the core of the company, which is involved in the management of the corporate governance system (Zhang & Luo, 2022). Since the balance of efficiency and equity is one of the goals of the governance system (Zhang & Luo, 2022), an important aspect is the ability of a supervisory board member of a SOE to be competent and suitable for the position. Often, taking into account these aspects of the balance, the possibility of moving a supervisory board member to the next term of office is assessed. In addition to the above aspects, there are other reasons why a member of the supervisory board of a SOE is nominated for the next term of office, for example:

- Very good results of the supervisory board member's work;
- Knowledge of a member of the supervisory board in any field of activity of the SOE is fundamental;
- Scope of equivalent available candidates could be very limited.

Despite the above examples, it is additionally necessary to take into account the aspect that for the effective operation of the supervisory board of a SOE is necessary to ensure that the competence of a member of the supervisory board:

- meets the current strategic goals of the SOE;
- builds full set of necessary knowledge of the supervisory board.

Research shows that the results that a company can achieve are largely related to the diversity of the composition of the supervisory board, for example, with different backgrounds, education, experience, etc. (Szarzec et al., 2022b). Therefore, for the economic efficiency of a SOE, an approach is important, according to which the knowledge, skills and competencies of a member of the supervisory board of a SOE are in a sense unique and complement each other.

The supervisory board of the SOE is the cornerstone of governance (Thynne, 1998), where the processes associated with the enforcement and control that are characteristic of effective governance take place (Dragomir et al., 2021). Since there is a possibility that the quality of governance is overestimated by the companies themselves (Florou & Galarniotis, 2007, p. 981) (in this case, SOEs), the supervisory board may find itself in a situation of uncertainty or even in a deadlock, as it has difficulty in assessing the real risks and possible benefits (Melese et al., 2017). In order to be able to avoid such problems, it is important to develop an annual supervisory board self-assessment report based on the assessment of the supervisory board's performance. Based on the information included in the report, it is possible to identify the strengths and weaknesses of the supervisory board, as well as obtain information about the skills, knowledge and competencies of the supervisory board members that could be improved or are missing (Pārresoru koordinācijas centrs (Cross-Sectoral Coordination Center), 2022). Besides, the results of the report may be the trigger for the start of the nomination process.

Since the ownership of the SOE belongs to the state, which, with the help of supervisory board (in some cases - management board) tools, contributes to the control of the executive branch (Hanousek et al., 2007), in order for the nomination process to proceed as neutrally as possible and at the same time effectively, a recruitment consultant is involved. The recruitment consultant:

- contacts and encourages potential candidates to apply;
- evaluates received applications of candidates;
- ascertains the qualifications of the candidate, work experience, incl. evaluates the managerial competencies of candidates;
- gets professional references about the candidate, etc.

The governance process in SOEs consists of various actions that need to be effectively used (Strenger, 2004). For example, a high level of trust among employees in the management of the SOE must be achieved, thereby not only ensuring the process of communication among members of the supervisory board and representatives of the state (representatives of the holder of the state capital shares, responsible employees of the holders of the state capital shares, employees of the corporate governance units of the holders of state capital shares), but also facilitating the involvement of all necessary parties in a joint decision (Goergen et al., 2021). When achieving the goal of the SOE, making various decisions with the participation of not only the SOE's top management, but also the holders of state capital shares, representatives of the holders of the state capital shares, employees of the corporate governance units of the holders of state capital shares and responsible employees of the holders of the state capital shares, all parties involved benefit (Jevcuka & Ketners, 2011).

The course of the governance process is subject to established requirements in order to achieve the financial and non-financial goals of the SOE in a specific period of time. On the other hand, the slightest changes associated with the governance process affect the achievement of the goals of the SOE (Bris at al., 2008). For example, the results of a study by Miloud (2022) showed that if there is a "stronger governance structure" (for the company), "deviations from the" goal will be shorter (Miloud, 2022, p. 853). It should be further noted here that changes can also promote growth, for example Chhaochharia & Laeven (2009) concluded that corporate governance is positively affected by setting higher requirements than is common practice.

When selecting potential candidates for vacant positions on the supervisory boards of SOEs, it is guided not only by the fact that the competencies, experience, skills and knowledge of the selected supervisory board member contribute to the achievement of financial and non-financial goals of the SOE. The selection of potential candidates also focuses on the long-term perspective of the SOE, which contributes to the creation of a sustainable SOE (Ludwig & Sassen, 2022), as a strong link is created between the SOE and the interests of the state. In the context of the foregoing, it should be further noted that Haerani et al. (2020) recognised that SOEs must be sustainable in order to constantly develop their potential, as they work for the good of the nation and constitute the financial and economic pillar of the country. The sustainable growth of a SOE depends not only on the investments made, but also on an efficiently and transparently organised management process (Lopez et al., 2022, p. 690) and up-to-date, reliable and accurate information (Abdullah & Said, 2015) that can be used in the decision-making process of the supervisory board. At the same time, it should be taken into account that the sustainable growth of SOEs may be affected by the uncertainty of "economic policy" (Shaikh, 2022, p. 1504). Thus, the selection of supervisory board members of the SOE is critical to the further development of SOE.

It follows from the above that, from the point of view of complexity theory, the nomination process as a component of a complex system:

- Is dynamic, but able to maintain a state of equilibrium with changes (Tasaka, 1999);
- Is sensitive to slight differences (Anderson, 1999, p. 217);
- "Resists simple reductionist analysis, because" feedback cause changes (Anderson, 1999, p. 217);
- During interaction can create complex patterns with "relatively simple rules" (Anderson, 1999, p. 217), which indicates changes (new characteristics) at one of the levels of the hierarchy (Holland, 1995);
- Is self-organizing (Kaufman, 1993; Anderson, 1999, Murphy, 2000).

It is believed that since complexity theory explores rules that are both non-linear and causal, it is the dual principle of reasoning/ thinking that is used. Smith & Graetz (2006) emphasize the importance of duality in the context of complexity theory. Since the system of complexity theory is unpredictable and limited by ordering rules, within the framework of a particular study, it is applicable to the order of the nomination

process. On the other hand, the importance of dual principle of reasoning/ thinking is related to understanding the complexity of the nomination process.

Research results and discussion

In order to identify problems related to the start of process of selection and appointment of members of the supervisory board of the SOE, a survey was conducted, in which a sample of 44 respondents was created with all civil servants who were involved in SOE corporate governance processes. To receive more reliable answers the anonymous survey was used. A limiting factor was the lack of information about the real duties of potential respondents, since that affected the number of respondents who were able to answer the questions of survey.

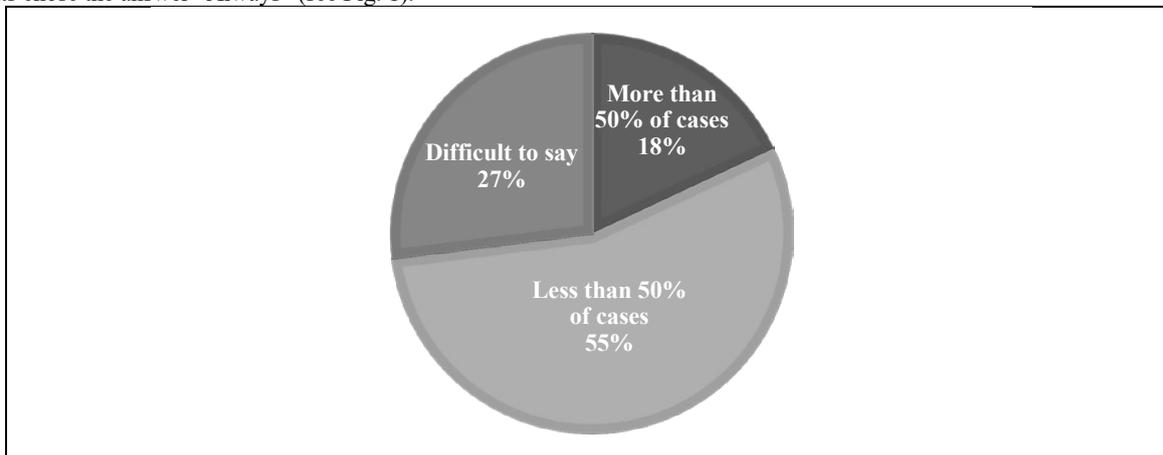
The representatives of the holders of the state capital shares (64%) and responsible employees of the holders of the state capital shares (36%) participated in the survey. None of the employees of the corporate governance units of the holders of state capital shares expressed their opinion, despite the invitation to take part in the survey. A total 11 respondents took part in the survey, which is 25% of all 44 respondents. 91% of the respondents supervised a large SOE, 9% – medium SOE. Respondents worked in the following SOE sectors:

- Energy (27.3%);
- Transport (27.3%);
- Health care (9.1%);
- Forestry (18.2%);
- Real estate management (9.1%);
- Other (9.1%).

The survey was anonymous and conducted using the *QuestionPro* survey software tool which was connected to the SPSS statistical software, which was used to analyze the survey data.

The authors would like to note that the lack of information about the duties of the position of a potential respondent (whether the person is involved in the election of a supervisory board member) was a deterrent to the survey.

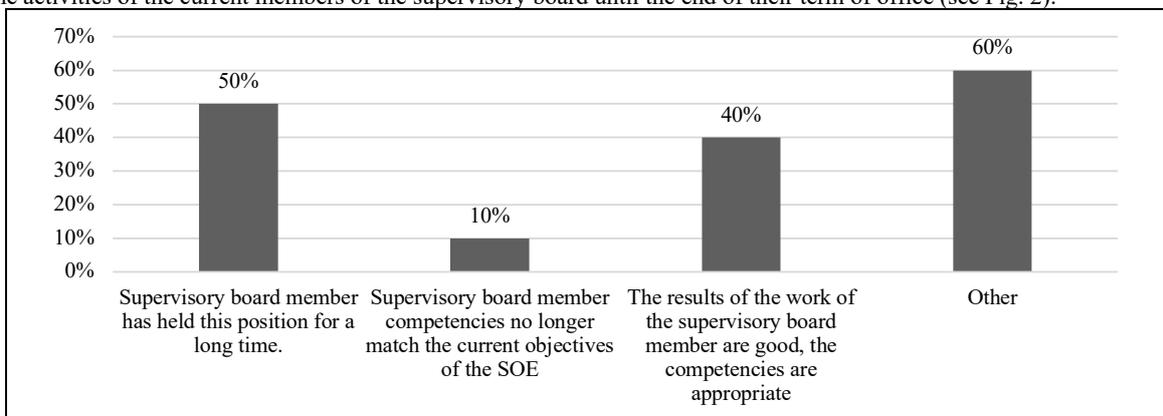
At the beginning of the survey, respondents were asked to answer questions related to the work of supervisory board members. When asked how often decisions are made to nominate or not nominate current supervisory board members for another term without assessing the performance of supervisory board members, the majority of respondents (55%) noted that such 50% of such cases, 27% of respondents found it difficult to answer the question, but believed that this was more than in 50% of cases - 18% of respondents. In other words, none of the respondents chose the answer "Always" (see Fig. 1).



Source: authors' construction based on data of the survey (n=11)

Fig. 1. Decisions on the promotion or not promotion of existing supervisory board members for the next term of office without assessing the performance of supervisory board members, %

Marking no more than three answers, the respondents answered the question about the cases when the decision is most often made not to evaluate the activities of the current members of the supervisory board until the end of their term of office (see Fig. 2).



Source: authors' construction based on data of the survey (n=11)

Fig. 2. Cases when it was decided not to evaluate the activities of current supervisory board before the expiration of their term of office, % of cases

Of the proposed options, the respondents most often (the % of cases - 60%) chose the answer option "Other", emphasizing the following:

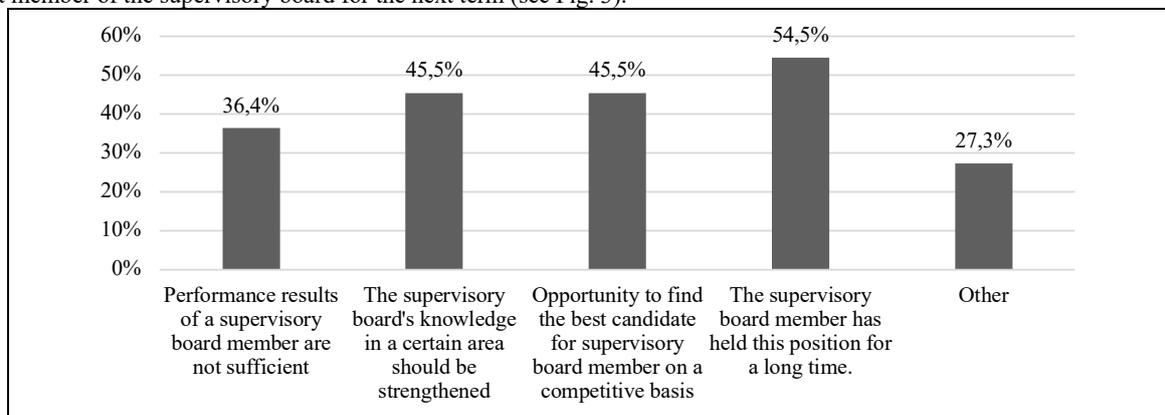
- "Temporary" member of supervisory board";
- "If a member of the supervisory board is appointed for a 'temporary' period, until a new one is elected through a competition";
- "In accordance with the legal framework, members of the supervisory board are elected to office through an open competition";
- "Evaluated";

- "The health sector does not have a long history of supervisory boards, as the first supervisory boards were appointed a year and a half ago";
- "The performance of supervisory board members is always evaluated to make a decision on their re-election / non-re-election for the next term of office".

On the other hand, from the other proposed answers, the respondents noted: the supervisory board member has been in this position for a long time (50% of cases) and the results of the supervisory board member's activities are good, the competencies are sufficient (10% of cases). The authors would like to note that none of the respondents chose the following cases in their responses as suggested in the survey:

- Results of activity of the SOE are insufficient.
- The contribution of the supervisory board member in the previous period was insufficient.
- The holder of state capital share does not have the resources/competence to carry out such an assessment.

Respondents, ticking no more than three answers, gave their opinion on the issue of cases when a decision is made not to promote an incumbent member of the supervisory board for the next term (see Fig. 3).



Source: authors' construction based on data of the survey (n=11)

Fig. 3. Cases when it was decided not to appoint the current member of the supervisory board for the next term, % of cases

Most often (percent of cases - 54.5%), the respondents preferred to mark the answer option that a member of the supervisory board has been in this position for a long time and this serves as the basis for the fact that the current member of the supervisory board is not promoted for the next term of office. The two proposed options for the question had an equal number of answers by respondents (percent of cases – 45.5%):

- The supervisory board's knowledge in a certain area should be strengthened;
- Opportunity to find the best candidate for supervisory board member on a competitive basis.

The proposed option of the survey answer on non-nomination of the current member of the supervisory board for the next term of office - the results of the activities of the supervisory board member are insufficient - was indicated the least (percent of cases – 36.4%). In the opinion of the respondents, this indirectly indicates that, it might be necessary to increase the competence of the supervisory board.

Some respondents (percent of cases - 27.3%) believe that there are other cases when a decision is made not to promote an incumbent supervisory board member for the next term:

- "Temporary" member of supervisory board";
- "Has not specific experience";
- "In accordance with the legal framework, members of the supervisory board are elected to office through an open competition".

When answering (marking only one choice of answer) about the reasons why the current member of the supervisory board is most often promoted to the next term of office, respondents most often (36.4%) preferred the answer - "Competency of a supervisory board member is necessary in any area of activity of the SOE". On the other hand, some respondents (27.3%) believed that the reason is the good work of the supervisory board member, and 18.2% believed that the chance of finding the best candidate for supervisory board in the competition is unlikely, and therefore the existing supervisory board member is promoted to the next term of office. 18.2% of respondents gave a different - their own opinion on a specific issue:

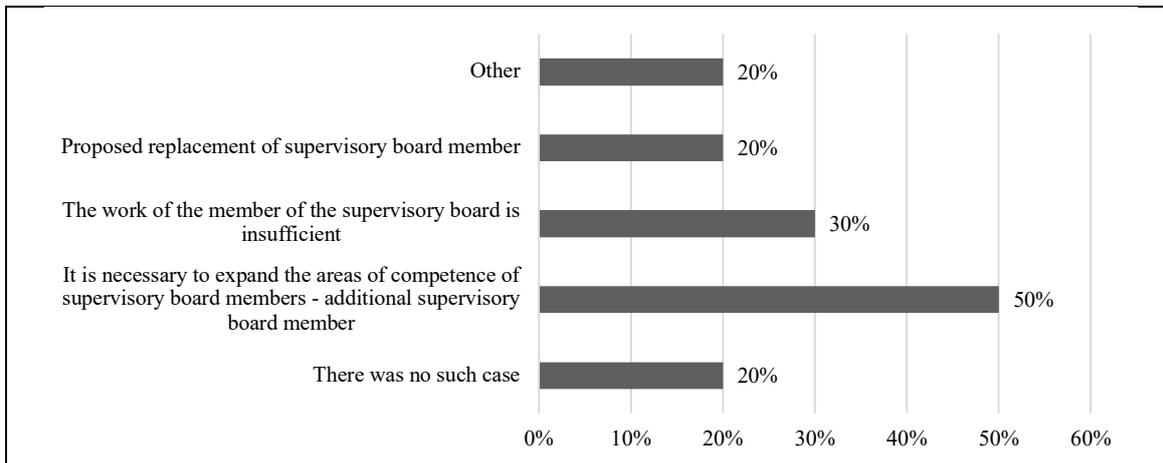
- "Assessment of activities, competencies, reputation and compliance with the requirements of a member of the supervisory board";
- "This situation has not yet occurred, as none of the supervisory board members or compositions have expired yet. The theoretical choice would be the second - about essential knowledge as a value".

As shown in Fig. 4, the most common reason (percent of cases - 50%) for starting the nomination process after the supervisory board self-assessment is the need to expand the areas of competence of supervisory board members - an additional supervisory board member; this is followed by an insufficient result of the work of a member of supervisory board with a percent of cases - 30%. The same assessment (the percent of cases - 20%) received the following statements based on proposed survey answers:

- There was no such case;
- Proposed replacement of supervisory board member.

None of the respondents chose the answer option - "Recommendation of the recruitment consultant". Some of the respondents wrote their version of the most common reasons for starting the nomination process after submitting a self-evaluation of supervisory board:

- "A member of the supervisory board is in power for several consecutive terms and the SOE needs new challenges for development";
- "In accordance with the legal framework, members of the supervisory board are elected to office through an open competition".



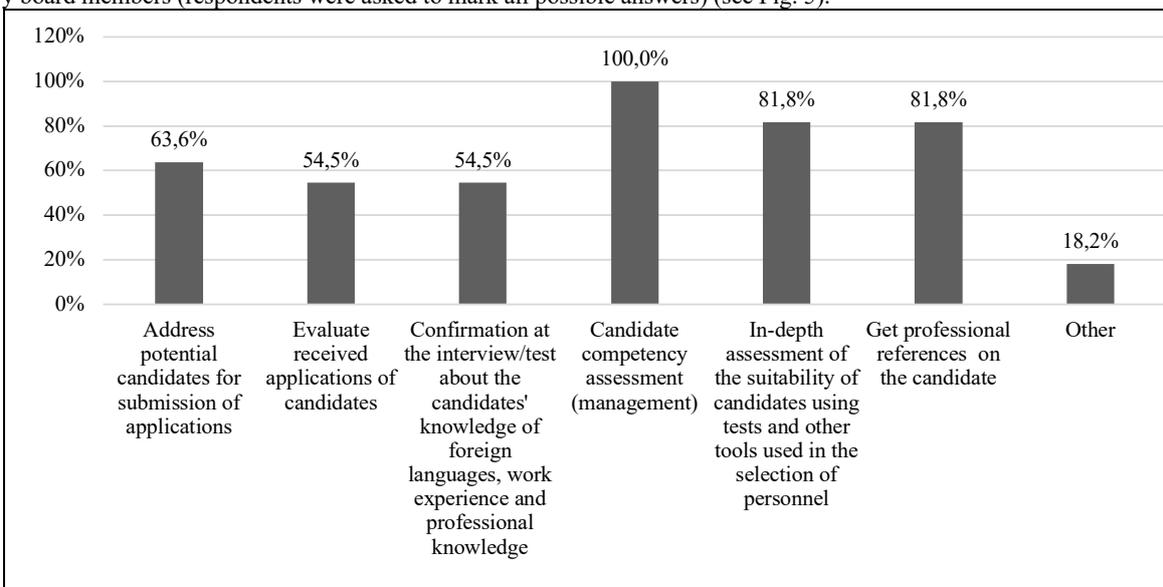
Source: authors' construction based on data of the survey (n=11)

Fig. 4. Reasons for starting the nomination process, % of cases (no more than three answers are marked)

In continuation, the respondents answered the question: “When does the process of selection and evaluation of candidates for members of the supervisory board usually begin, if a decision is made not to approve a member of the supervisory board for a new term?” 73% of respondents noted that there are 3-4 months left before the end of the term of office, 18% believed that it is 5-6 months before the end of the term of office, and 9% - more than 6 months before the end of the term of office. None of the respondents chose the answer option – “1-2 months before the end of the term of office”.

Estimating, on average, how long it takes to sign a contract with a recruitment consultant, the majority of respondents (73%) believed that it was 3-4 weeks; the rest of the answers were evenly distributed: 1-2 weeks (9%), 5-6 weeks (9%), more than six weeks (9%).

Respondents were asked to express their opinion on the choice of services provided by the recruitment consultant in the process of selecting supervisory board members (respondents were asked to mark all possible answers) (see Fig. 5).



Source: authors' construction based on data of the survey (n=11)

Fig. 5. Services of a recruitment consultant in the selection of supervisory board members, % of cases (all possible answers are marked)

All respondents believed that the assessment of the management competence of candidates is, of course, the service of a recruitment consultant. All other recruitment consultant services included in the question were highly rated. Two respondents additionally expressed their opinion about the services of a recruitment consultant in the selection of supervisory board members:

- “Participate in the nomination committee of candidates, give recommendations”;
- “The reputation check”.

Conclusions, proposals, recommendations

1. Within the framework of the study, a number of tasks were outlined, which were implemented:
 - After examining the services of a recruitment consultant (see Fig. 5), the authors came to the conclusion that it is necessary to increase the number of services related to address potential candidates and checking the skills, knowledge and work experience of the candidate (confirmation at the interview or/ and test). The results obtained allow us to conclude that at the moment not all the possibilities and opportunities of a recruitment consultant are used to the full in the process of selecting potential candidates. The organizers of the nomination process should make greater use of the resources of recruitment consultants - databases of candidates, experience in assessing the labor sector (private and public);
 - The fact that the potential of the recruitment consultant is not fully utilized is evidenced by the fact that recommendation of a recruitment consultant does not serve as a reason to start the nomination process after the submission of the supervisory board's self-assessment. The authors of the study do not believe that the recruitment consultant should play a leading role in this matter, but greater trust in the independent services of recruitment consultants should be encouraged;
 - Another task of the study was aimed at identifying cases when a decision is made to promote the current member of the supervisory board or not to promote him/her to the next term of office (see Fig. 1, Fig. 3, Fig. 4). The results of the work and competencies of a supervisory

board have a very strong influence on the future opportunities of the current supervisory board member in the supervisory board of a SOE. The process associated with the start of the selection and evaluation of candidates for SOE supervisory board members, in the event of a decision not to approve a SOE supervisory board member for the next term, is laborious, as it can take 5-6 months (18.2%) or even more than six months (9.1%).

2. The results of the study show that, despite the complexity of the start of nomination process in its various aspects, i.e. the assessment of existing board members, the decision on the promotion of existing supervisory board members for the next term, the involvement of recruitment consultants, and creation of nomination committee, the nomination process is characterized by a model of mutual interaction, which is characteristic of complexity theory. The governance process, implemented through the nomination process, creates an interaction of different levels and in this case, the interaction forms a different degree of complexity. According to the authors, it follows from the results of the study that the degree of complexity of the nomination process is related to the established procedures of the nomination process and the challenges of the procedure. The results of the study confirm the unpredictability noted in complexity theory, which is limited to a certain order or rules.
3. Taking into account the results of the study and the conclusions mentioned in the previous paragraph regarding complexity theory, the authors recommend further research on the complexity of the nomination process, while focusing on the coordination of this process and challenges faced by nomination committee related to the influence of the external and internal environment. The authors believe that a study of causal relationships would contribute to the improvement of the activities and principles of work of the nomination committee, which would lead to an increase in the efficiency of the nomination process itself.
4. Of great importance is the evaluation of the results of the work of the SOE supervisory board members. In more than 50% of cases, decisions to nominate or not nominate current supervisory board members for the next term of office are not made without results' evaluation. Only in certain cases, the results of the activities of current supervisory board members are not evaluated before the end of the term of office. This is the case, for example, where a supervisory board member has held the position for a long time or is a member of the supervisory board who is appointed for a 'temporary' period, until a new one is elected through a competition. At the same time, if a member of the supervisory board has been in office for a long time, this most often serves as the basis for making a decision not to promote this supervisory board member for the next term of office (26.1%).
5. The competency of a member of the supervisory board in one of the areas of a SOE is of fundamental importance, because it is precisely for this reason that the current supervisory board member is most often (36.4%) promoted to the next term of office. At the same time, the need to expand the competencies of supervisory board of a SOE is the most common reason (35.7%) for starting the nomination process after the presentation of the supervisory board self-assessment.
6. Taking into account the results of the survey, it can be concluded that the process of selecting and appointing members of the supervisory boards of the SOEs is aimed at making the decision on the best composition of the supervisory board.

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THE REVIEW OF COMPETENCIES OF SUPERVISORY BOARD

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Abstract. In order to implement the best strategic practice in the field of management of state-owned enterprises in Latvia, certain recommendations are followed. Taking into account the implementation of international principles of good governance, professional supervisory boards have been established and are operating in many state-owned enterprises in Latvia. In companies (state-owned enterprises), processes develop and change, so it is necessary from time to time to analyse the relevance (importance) of the competencies of management of state-owned enterprises.

Since members of the supervisory boards of state-owned enterprises must be competent, in order to determine the relevance of the competencies of members of the supervisory boards of state-owned enterprises, a study was conducted of the current competencies and knowledge of supervisory board members (including those competencies and knowledge required by their candidates). In the study authors used survey method with respondents from the supervisory boards of state-owned enterprises in Latvia. The authors propose to familiarize with the results of the study, during which the significance of various competencies was analysed and the true correspondence to the duties performed by members of the supervisory board of state-owned enterprises was clarified. The study showed that it is necessary to review a number of competencies and tasks of supervisory board members, as well as build closer cooperation with various stakeholders in improving the results of the state-owned enterprises achieving goals.

Keywords: *state-owned enterprise (SOE), supervisory board, corporate governance, competencies, Latvia.*

JEL code: G30, G34, G38

Introduction

State-owned enterprises (SOEs) play an important role in the development of the national economy (Kwiatkowski et al., 2022), therefore it is important that their leaders - members of the supervisory boards of SOEs - have the knowledge and skills that can contribute to the development of a SOE and build up its potential. Nowadays, when our daily lives are influenced by various external and internal factors, businesses (in this case - SOEs) must be ready to skilfully respond to changes in the environment and be able to use the productivity of companies to stimulate growth (Chen & Wang, 2022). Members of the supervisory boards of SOEs, as those responsible for the sustainable strategic direction of the company and the increase in the value of the company, should have different skills, knowledge, including different areas and experience, both local and international. For the owner, i.e. the state, who is responsible for the selection of supervisory board members must be confident that the process of selecting and nominating supervisory board members is not only effective, but will also result in capable professionals on the supervisory board of the company who will skilfully and profitably apply their knowledge.

Considering the role of supervisory board members in the development of SOEs, an effective, high-quality and transparent process of their selection and nomination is needed. This process should be updated regularly. After reviewing the analysis of SOEs in Latvia, there is also an opinion that SOEs have relatively weak supervisory boards and that the composition of supervisory boards should be improved (providing a variety of knowledge and skills in its composition), as well as the level of competencies, knowledge and skills (Maisuradze et al., 2020; OECD, 2017). An effective composition of the supervisory boards of SOEs is needed, as it might increase the value of the company (Agustia et al., 2022, p. 1521) and its performance, including financial goals (Saha & Maji, 2022).

The study was conducted to explore the importance of different competencies and find out the real relevance of the duties performed in the work of supervisory boards of SOEs in Latvia. As part of the study, it was planned to perform the main following tasks:

- To find out what knowledge and competencies are required for the current members of the supervisory board and which of them are the most important;
- To obtain an assessment of supervisory board members on less used competencies of supervisory board members;
- To evaluate the ability of the supervisory board to fulfil its tasks, based on the duties assigned to it.

Limitation of the study - the survey was intended for those SOEs in which supervisory boards have been established and are functioning. The respondents of the study were supervisory board members of the SOEs, who expressed their opinion both on the tasks that fall within the competence of the supervisory board, and on the competencies and skills needed by the supervisory board.

Literature Review

Supervisory boards are set up to ensure better performance of the SOEs and to achieve the financial and non-financial objectives pursued by the shareholder and the line ministry. Supervisory board members, in the rhythm of their daily lives, face various decision-making challenges, such as their transparency and ability to meet the overall strategic goals of SOEs, set financial and non-financial goals. The above activities are necessary to implement a company management model that emphasizes ethical principles, risk management, avoidance of conflicts of interest and conscientious performance of duties. In the context of the above, Maisuradze et al. (2020) identify several problems faced by SOEs – openness (low level), transparency (low level), accountability (low level), violations (e.g. in labour rights). In order for the members of the supervisory board of the SOE to responsibly fulfil their duties, as well as effectively solve problems, there must be a clear division of responsibilities and roles between them. Diversity on supervisory boards is important because it improves corporate governance (Pfeffer & Salancik, 1978) and supports effective debate and decision-making (Northcott & Smith, 2015). Booth-Bell (2018), analysing in detail the importance of diversity in the supervisory boards of SOEs, came to the conclusion that the following elements are important for the effective functioning of corporate governance:

- Communication (there must be clear sources of communication, including the exchange of information both outside the company and within the company);
- Access to various resources (resources and / or support from outside the company must be available);
- Legitimacy (accepted regulatory and labour legal framework);
- Consulting (should be able to advice, offering options for solving problems and giving advice on corporate governance, improving the efficiency of the company). (Booth-Bell, 2018, pp. 431-432).

Given these elements and the complex nature of SOE governance, which requires supervisory board members to have the variety of knowledge, skills and competencies, finding the right candidate for a supervisory board member can be difficult. To facilitate the process of selecting supervisory board members, independent recruitment organisations are engaged for SOE recruitment. Bezemer et al. (2012) believe that the need for such services will only increase as they not only facilitate the process of finding a candidate with diverse knowledge, but also provide support to company management through processes such as training and evaluation (Bezemer et al., 2012, p. 49). The use of independent recruitment services helps to diversify the critical composition of the SOE supervisory board and at the same time ensures that a

more suitable team composition is found, for example, based on the interests and experience of the candidates. Of note there are the findings of Dutschkus & Lukas (2022) on the importance of diversity in supervisory board members and its impact on the manager. The researchers claim that:

- The experience of its members is very important in the team;
- A team is more homogeneous if its members are more similar (for example, “socioeconomic roots or recreational interests” (Dutschkus & Lukas, 2022, p. 168), etc.).

The team of the SOE supervisory board must be able to work in a manner that provides the oversight function of the company and ensures effective decision making that ensures ethical compliance, transparency, and reduces the potential for conflicts of interest. Members of the SOE supervisory board (especially independent members of the supervisory board) should be able to assess risks and be able to defend the interests of the company (Sahabuddin & Hadianto, 2020). The skills required for SOE supervisory board members are special as they must be able to avoid asymmetric or incorrect information and confrontation while making strategic decisions (Rocca, 2007), in addition, according to Chen & Xu (2022), the “supervisory board as a whole has a comprehensive coordinating role for individual supervisors” (Chen & Xu, 2022, p. 13).

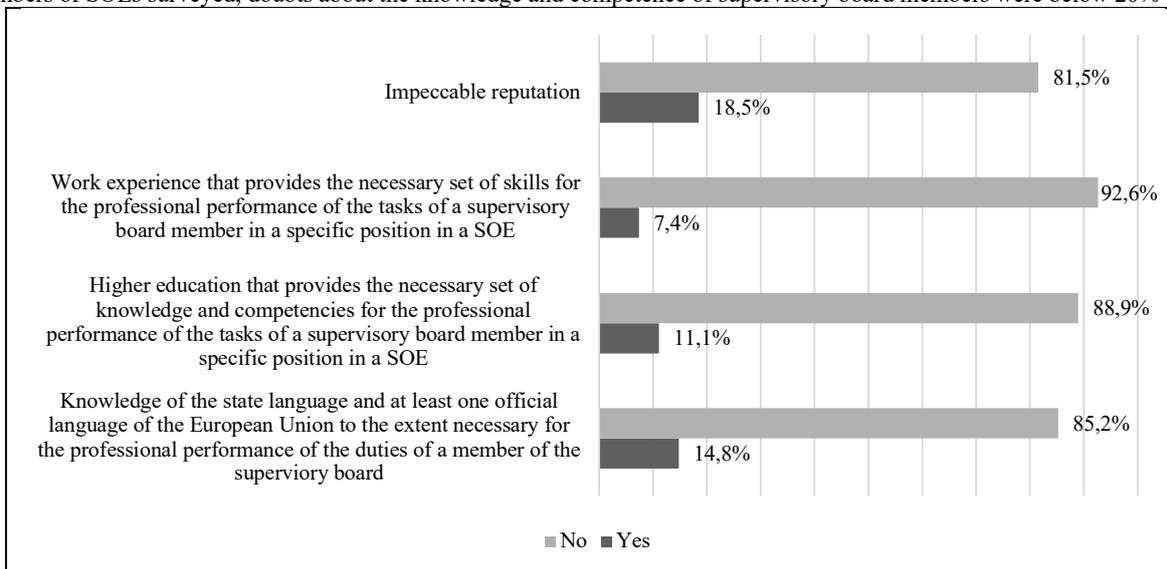
There is an opinion that diversity in the composition of supervisory boards increases the value of the company (Carter et.al., 2003; Ouni et.al., 2022; Grau & Bel, 2022) and sustainability (Arayakarnkul et.al., 2022), since strong synergy between supervisory board members contributes to the strengthening and increase in value (Carter et.al, 2003) and helps to achieve the strategic goals of the company (Cindrić, 2021), in addition, those companies where there are women on the supervisory board (or management board) are more successful in achieving corporate goals and incur less losses, including holding the position of manager (Miholić et.al., 2022). By the way, the participation of women on supervisory boards of SOEs should be encouraged as it improves the governance aspect of the company (Chouaibi et.al., 2022; Raimo et.al., 2022).

Since Latvia has a two-tier corporate governance structure, one of the duties of the members of the supervisory board of the SOE is to supervise “the management board” (Lakatos, 2020, p. 258). From this, in turn, it follows that the task of SOE supervisory board members is not only to control (supervise) the decisions made by the management board, but also that they must be responsible for the behaviour of the management board and, if necessary, must be able to prevent and / or resolve conflicts between the various parties involved in the operation of the company (Ilona et.al., 2019). Both layers of governance are important for making SOE work, for example, Kacanski (2020) believes that both layers of governance help understand “the evolution of corporate governance networks” (Kacanski, 2020, p. 100), while Dobija et al. (2022) in a two-tier system emphasizes the importance of a manager’s cross-national experience for the sustainable development of corporate behaviour.

Research results and discussion

27 (42% of all respondents (which also means - 42% of SOEs supervisory boards’ members)) supervisory board members from Latvian SOEs were anonymously surveyed. Participants of the survey represented various industries - communication, transport, energy, real estate management, healthcare, forestry and agriculture, and other sectors. The study used QuestionPro survey software tool, while survey data analysis was performed using SPSS (Statistical Package for the Social Sciences) statistical software.

The members of the supervisory board of SOEs are subject to a number of mandatory minimum requirements. Therefore, the opinion of the respondents was first clarified as to whether there is a reason to doubt that all current (including temporary) members of the supervisory board speak the necessary languages, incl. knowledge of foreign languages, relevant education, work experience, qualifications. Among the board members of SOEs surveyed, doubts about the knowledge and competence of supervisory board members were below 20% (see Fig. 1).



Source: authors’ construction based on data of the survey (n=27)

Fig. 1. Mandatory minimum requirements for supervisory board members, %

The least doubtful was the work experience of a supervisory board member, which provides the necessary set of skills for the professional performance of the tasks of a supervisory board member in a particular position in a SOE (7.1%). On the other hand, two issues raised the most doubts: impeccable reputation (18.5%) and knowledge of the national language and at least one official European Union language to the extent necessary for the professional performance of the duties of a supervisory board member (14.8%). 11.1% of the respondents questioned whether supervisory board members have a higher education that provides the necessary set of knowledge and competencies for the professional performance of the tasks of a supervisory board member in a specific position in a SOE.

Members of supervisory boards of SOEs were asked to express their opinion on the competencies set for current supervisory board members, marking all possible answers (see Fig. 2).

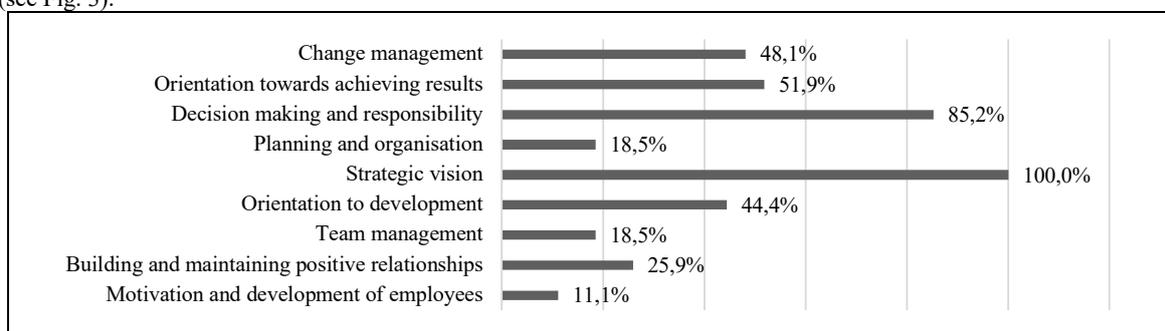


Source: authors' construction based on data of the survey (n=27)

Fig. 2. Competencies set for current supervisory board members, % of cases

Respondents most noted as competencies put forward for current supervisory board members: strategic vision (27 answers or percent of cases - 100%), decision-making and responsibility (24 answers or percent of cases - 89%) and orientation to development (21 answers or percent of cases - 78%); the following competencies were noted least of all: motivation and development of employees (5 answers or percent of cases - 19%), team management (11 answers or percent of cases - 41%), building and maintaining positive relationships (13 answers or percent of cases - 48 %).

In the next question, supervisory board members of SOEs identified the four most important competencies in relation to supervisory board members (see Fig. 3).



Source: authors' construction based on data of the survey (n=27)

Fig. 3. The most important competencies of supervisory board members, % of cases

Respondents considered the four most important competencies for supervisory board members to be: strategic vision (27 answers or 100% of cases), decision-making and responsibility (23 answers or 85% of cases), result orientation (14 answers or percent of cases - 52%), change management (13 responses or percent of cases - 48%). Few of the respondents chose the following four competencies of members of the supervisory board: motivation and development of employees (3 answers or percent of cases – 11%), team management (5 answers or percent of cases – 19%), planning and organisation (5 answers or percent of cases – 19%), building and maintaining positive relationships (7 answers or percent of cases – 26%). Respondents had the opportunity to additionally indicate whether there are any other essential competencies that supervisory board members should have. 24 respondents (89%) indicated that they should be, and three respondents expressed a dissenting opinion about them:

- Communication skills: the ability to communicate clearly and simply;
- Time management: the ability to independently and effectively plan and use time;
- Interaction: the ability to add more value from activities in several companies and organisations;
- Humanity;
- The ability to lead/motivate yourself and others.

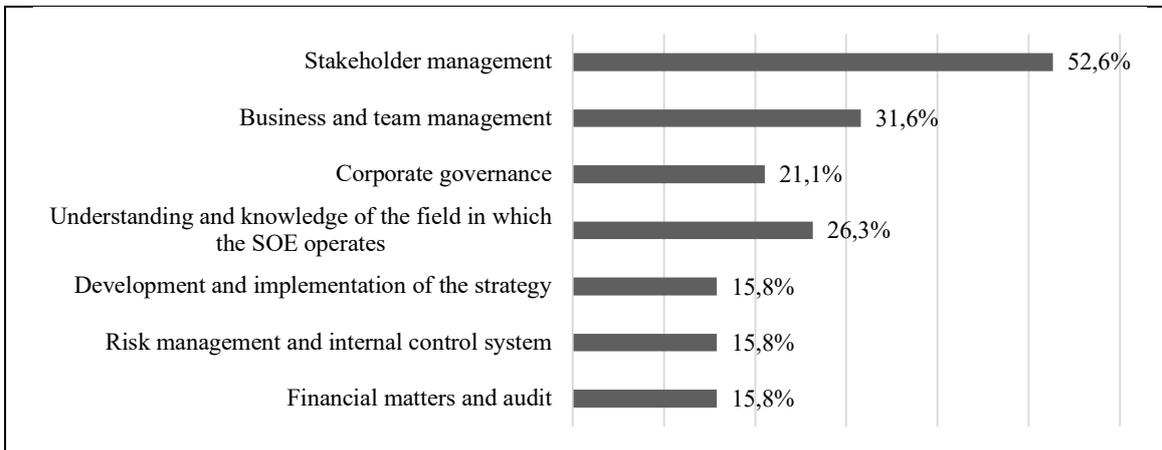
Comparing the obtained data on the competencies set for current supervisory board members of SOEs (see Fig. 2) and the most important competencies of the supervisory board members (see Fig. 3), the authors of the article come to the conclusion that in both cases, strategic vision, decision-making and responsibility were marked as the most important competencies. Comparing the data of the two above-mentioned survey results (see Fig. 2, Fig. 3) regarding the smallest number of cases mentioned by the respondents, the authors come to the conclusion that the motivation and development of employees are both considered such competencies.

Assessing knowledge in various areas, all 27 respondents believed that supervisory boards provide areas such as:

- Financial matters and audit;
- Risk management and internal control system;
- Development and implementation of the strategy;
- Understanding and knowledge of the field in which the SOE operates;
- Corporate governance.

In addition, it should be noted that, according to the respondents, the supervisory board members did not have knowledge in two areas - in the assessment in the field of company and team management, it scored 11.1%, and in the field of stakeholder management – 7.4%. When asked whether the supervisory board of the SOE should be familiar with any additional areas, 3.7% of respondents answered in the affirmative, specifically mentioning the direction of digital transformation.

As a continuation of the survey, members of the supervisory boards of SOEs were asked to express their opinion on areas that should not necessarily be familiar (see Fig. 4).



Source: authors' construction based on data of the survey (n=27)

Fig. 4. Areas that should not necessarily be familiar, % of cases

10 respondents (or percent of cases - 53%) believed that it is not necessary to know the stakeholder management field, the second highest indicator was in the field of business and team management - 6 respondents (or percent of cases - 32%), and the third place - understanding and knowledge of the field in which the SOE operates (5 respondents or 26% of cases). The least respondents noted the following areas: financial matters and audit, risk management and internal control system, development and implementation of the strategy; each of the fields was given the same assessment - 3 respondents, or the percent of cases - 16%.

The respondents rated how well the supervisory board fulfils its tasks on a 10-point scale (where "1" denotes Very weak, and "10" denotes Excellent) (see Table 1).

Table 1

Assessment of task performance (descriptive statistics)

Tasks of the Supervisory Board	Mean	Median	Mode	Standard Deviation	Variance	Maximum	Minimum
Consider the annual report of the SOE, the report of the management board and the proposals of the management board on the use of profits, prepare a report of the supervisory board on them and submit it to the meeting of shareholders	9.52	10	10	0.700	0.490	10	8
Approval of the annual budget and control over its fulfilment	9.41	10	10	0.747	0.558	10	8
Preliminarily consider all issues related to the competence of a shareholder or a meeting of shareholders or recommended for consideration at a meeting of shareholders at the suggestion of members of the management board or supervisory board, and give an opinion on them	9.30	10	10	1.137	1.293	10	5
Approve the medium-term operating strategy and monitor its implementation	9.22	9	10	0.801	0.641	10	8
Elect and recall the chairman of the management board and members of the management board	9.11	9	10	0.892	0.795	10	7
To carry out an annual self-assessment of the supervisory board's work	9.11	9	9	0.847	0.718	10	7
Approve the conclusion of the transaction between the SOE and the management board member or the auditor	9.04	10	10	1.594	2.540	10	4
Approval of the most important policies that define the principles of the SOE's activities in terms of risk management, conflict of interest prevention, anti-corruption, corporate governance and other issues	9.04	9	10	1.055	1.114	10	6
Monitoring the functioning of internal control and risk management systems, checking their adequacy and effectiveness	8.78	9	9	1.121	1.256	10	6
Determine the remuneration of the management board members	8.78	9	10	1.423	2.026	10	4
Providing the shareholder with proposals for improving the SOE's activities	8.74	9	10	1.228	1.507	10	6
Constantly monitor for the SOE's affairs to be resolved in accordance with the requirements of the regulatory legislation,	8.68	9	9	1.435	2.060	10	4

the SOE's charter, the decisions of the shareholders' meeting							
Represent the SOE in court in all claims brought by the SOE against members of the management board and in claims brought by members of the management board against the SOE	6.68	8	10	3.372	11.370	10	1

Source: authors' calculations based on data of the survey (n=27)

Analysing the responses of the respondents, the task of the board received the highest rating – to consider the annual report of the SOE, the report of the management board and the proposals of the management board on the use of profits, prepare a report of the supervisory board on them and submit it to the meeting of shareholders. Also highly regarded the following tasks of the supervisory board:

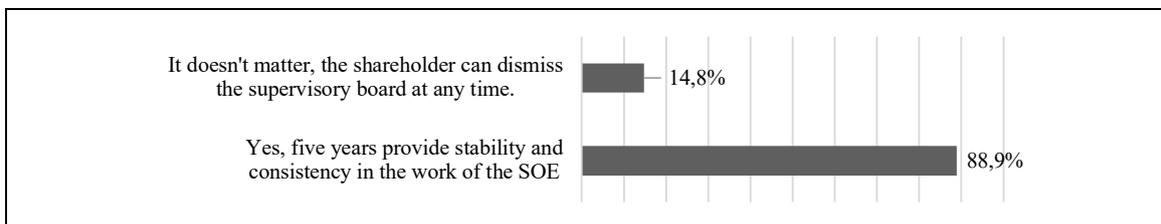
- Approves the annual budget and controls over its fulfilment;
- Preliminarily considers all issues related to the competence of a shareholder or a meeting of shareholders or recommended for consideration at a meeting of shareholders at the suggestion of members of the management board or supervisory board, and gives an opinion on them;
- Approves the medium-term operating strategy and monitors its implementation.

The authors would like to note that not all respondents gave their opinion on the tasks that needed to be assessed, for example:

- Constantly monitor for the SOE's affairs to be resolved in accordance with the requirements of the regulatory legislation, the SOE's charter, the decisions of the shareholders' meeting. There were no responses from two respondents. According to Table 1, ranked in descending order (the task with the largest arithmetic mean came first), the specific task took the penultimate place;
- Represent the SOE in court in all claims brought by the SOE against members of the management board and in claims brought by members of the management board against the SOE. There were no answers from five respondents, and according to the survey, this task of the supervisory board is in last place;
- Approve the conclusion of the transaction between the SOE and the management board member or the auditor. Response was absent from two respondents. Taking into account the mean, the problem ranks seventh.

For the purpose of a comprehensive analysis of information on the activities of supervisory boards of SOEs, the questionnaire included questions on self-assessment of the supervisory board and its external evaluation, as well as on the term of office of supervisory board members. When asked whether the supervisory board had conducted a self-assessment, 92.6% of respondents answered positively. On the other hand, only 37% of respondents answered positively to the question of whether the supervisory board had an external evaluation. If we analyse the data on the consequences of the self-assessment of the supervisory board or the results of an external assessment (changes in the composition of the board were proposed/implemented), then only 14.8% of respondents answered affirmative.

When assessing the sufficiency of the term of office of supervisory board members (see Fig. 5), respondents were able to give several answers. According to members of the supervisory boards of SOEs (88.9% of cases), five years is a suitable term for supervisory board members, as it ensures relevance and consistency in the activities of the SOE. In 14.8% of cases, the respondents agreed with the statement that the term of office of the members of the supervisory board does not matter, since the shareholder can dissolve the supervisory board at any time.



Source: authors' construction based on data of the survey (n=27)

Fig. 5. Assessment of compliance with the term of office of members of the supervisory board, % of cases

The authors would like to note that in this question, none of the respondents agreed with the following statements included in the question:

- Term of office should be reduced;
- Term of office should be set to one year and the composition of the supervisory board may be reviewed every year after a self-evaluation of the supervisory board.

At the end of the survey, respondents were asked for their opinion on whether supervisory boards should be established in all SOEs, including small companies. 66.7% believed that supervisory boards should not be created in all SOEs. The result of this answer confirms that the establishment of supervisory boards should continue to target large and medium size SOEs.

Conclusions, proposals, recommendations

Having studied the importance of various competencies and found out the real relevance of the duties performed in the work of the supervisory boards of SOEs, authors come to the following conclusions and recommendations:

1. One of the tasks of the study was to find out what competencies are established for the current members of the supervisory board and, which of them are the most important (see Fig. 2, Fig. 3). In addition to the above mentioned overview of study results, analysing the results of the particular tasks regarding the most important competency, it can be concluded that the most important competencies for supervisory board members of SOEs are related to the proficiency to make strategic decisions, which echoes the opinion of Rocca (2007) that decision-making, especially the ability to make strategic decisions, is an important role of corporate governance.
2. The study examined the presence of knowledge of various areas in the supervisory boards of SOEs, and also clarified their necessity (the second task of the study). The authors make the assumption that the results of the study, indicating a low assessment of knowledge in the field of management (see Fig. 4), are due to the fact that the members of the supervisory boards of SOEs might focus more on solving various strategic problems within the company, and thus their attention is diverted from the duties related to the development of the SOE. According to the authors conclusion, the aspect related to the daily duty range of a member of the supervisory board of a SOE should be developed separately and be the subject of further study.
3. The third task of the study was to find out the ability of the supervisory board to perform its tasks, based on the duties assigned to it (see Table 1). Based on the results of study, it can be concluded that the existing competencies in the supervisory boards of SOEs allow to perform specifically technical tasks in the best possible way, such as reviewing reports, approving the budget, and strategic tasks, such as approve the medium-term operating strategy and monitor its implementation. According to the authors, this indicates the need to

strengthen the cooperation function in the supervisory boards of SOEs, for example, by reviewing and improving the composition of the competencies of supervisory board members.

4. The results of the study showed that the holder of state capital shares does not have an internal order (in the form of an internal regulation, guidelines, instructions or catalogue), which sets the criteria or requirements for the creation of a specific of supervisory board member vacancy. Respectively, information with a list of competencies and knowledge for members of the supervisory board of the SOE will be included together. Such an internal order would have the following advantages:
 - There is an internal procedure for the holder of state capital shares to determine the criteria or requirements for a vacancy of the supervisory board member;
 - The following (collected) information will be in one place: (a) the necessary competencies for SOE as a whole; (b) information about in which cases knowledge of which field would not be needed or necessary.
- Therefore, SOEs, in cases where it will be necessary to start selection process of candidates for the SOE's supervisory board through internal procedures, will first of all evaluate the necessary fields that a vacancy of a supervisory board member of a SOE should incorporate (guided by the goals of the SOE, the expectations that the candidate for supervisory board member should be familiar with).
5. Supervisory board members are expected to gain more practical knowledge and skills that can be useful when working in a changing environment.
 6. There is a demand for experience, broader knowledge that goes beyond the formally acquired and allows one to run for the position of a member of the supervisory board of a SOE.
 7. Analysing the results on the question where areas were mentioned that should not necessarily be familiar with, the authors come to the conclusion that these are areas related to issues of approach to partnership management, since they relate to areas such as stakeholder management (percent of cases – 52.6%) and business and team management (percent of cases – 31.6%). According to the authors, despite the fact that the corresponding fields are required when announcing vacancies for the positions of supervisory board members (Vakanču informācija, Pārresoru koordinācijas centrs (Vacancy information, Cross-sectoral Coordination Centre), 2022), this trend indicates that the supervisory board members of SOEs may not see how the supervisory board can practically apply this knowledge, which is actually focused on the skills of effective management of various stakeholders, increasing the trust and credibility of the supervisory board of SOE. However, versatile knowledge helps to navigate the work of SOEs and understand their nature, not without reason Perrow (1967), writing about understanding the nature of the material, mentioned that this means the ability to better manage it and achieve greater "predictability and efficiency of transformation" (Perrow, 1967, p. 197).
 8. The authors believe that the survey revealed the risk of misunderstanding regarding the knowledge of the required areas in the performance of the duties of a member of the supervisory board of a SOE. According to the previously mentioned, the authors recommend paying more attention to several competencies and established requirements of members of the supervisory board of SOEs - motivation and development of employees, team management (ranked below average in importance), stakeholder management, understanding and knowledge of the field in which the SOE operates. It is necessary to analyse and evaluate in more detail why the members of the supervisory board of SOEs have the opinion that familiarization with the above areas is not mandatory, as well as to review the existing areas and make the necessary clarifications or additions.
 9. Despite the fact that the supervisory boards of SOEs are provided with knowledge in the necessary (certain) areas, the authors believe that there are additional risks in relation to such experience and impose requirements, such as building and maintaining positive relationships, financial matters and audit, development and implementation of the strategy. On this occasion it is necessary to update the discussion about what knowledge is really needed for the supervisory board as a whole, including taking into account the respondents' suggestions for additions (clear communication skills, time management, enhancing collaboration skills, digital transformation).
 10. Although, based on guidelines (Pārresoru koordinācijas centrs (Cross-sectoral Coordination Centre), 2020) it is desirable to conduct an external evaluation only once every three years (63% of supervisory board members of SOE surveyed have not undergone an external assessment of the supervisory board) and it is possible that the three-year cycle for respondents has not yet ended, in order to conduct an external evaluation of the supervisory board, it is necessary to pay attention to how the task of improving the efficiency of the supervisory board's work is included in the guidelines for the annual self-assessment of the work of the supervisory board - to conduct an external evaluation - is actually being implemented. It is necessary to carefully evaluate why no changes were made to the composition of the supervisory board as a result of the self-assessment or external assessment of the board.
 11. Improvements should be envisaged in the selection of applicants, since, although small, there are still doubts about the knowledge of the national and foreign languages, higher education, work experience, and the impeccable reputation of current (including temporarily appointed) members of the supervisory board.
 12. Finally, members of the supervisory board of SOEs should strengthen cooperation with all stakeholders in order to make the work of SOEs more efficient.

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THE ROLE OF THE HOLDER OF STATE CAPITAL SHARES DURING NOMINATION PROCESS

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Abstract. In order for state-owned enterprises (SOEs) to contribute to increasing national wealth and economic efficiency, they must use their potential. The activity of a competent and professional supervisory board of the SOE is of great importance for the development of the potential of a SOE. Effective management (supervisory board) of a SOE implements best corporate governance practices, which are based not only on risk management and management of the internal control system, but also on the management of parties involved in the activities of SOE. In order to ensure that all the necessary activities are carried out professionally and efficiently in the institutional environment of the management of the SOE, nomination committees are formed to carefully select the candidates of the supervisory boards. Since the economy develops in cycles, the SOEs must also develop, and hence the supervisory boards. Development is possible if the process of selection and nomination of members of the supervisory board of SOEs is controlled and, if necessary, updated.

The authors of the article propose to get acquainted with the results of a study on the implementation of the selection and nomination process for potential members of the supervisory board in SOEs in Latvia. Studying the effectiveness of the nomination process in SOEs, its authors came to the conclusion that the effective performance of the role of a holder of state capital shares requires a number of improvements related to decision-making and problem solving in the selection and appointment of supervisory board members of SOEs.

Keywords: *state-owned enterprise (SOE), nomination committee, supervisory board, Latvia.*

JEL code: G30, G34, G38

Introduction

The nomination committees are formed to select board members of SOEs, thereby ensuring an independent monitoring process for SOEs boards as a whole (Frankforter et al., 2012, p. 565). There are various options for the composition of the nomination committee. With regard to SOEs, it is accepted in Latvia that the composition of the members of the nomination committee usually consists of representatives of such organizations: holder of state capital shares, SOE, a subsidiary company, trade union, non-governmental organization (NGO) (an independent representative of the nomination committee), Cross-sectoral Coordinating Centre (CSCC), the line ministry (taking into account the specific sector of the SOE), or another institution. Why a CSCC representative is usually included on the nomination committee? The CSCC has been appointed as a coordinating institution tasked with establishing and maintaining a centralized selection of supervisory board members for SOEs, and is obliged to participate in all processes of selection and evaluation of members of the supervisory board (and management board) of SOEs (Saeima (Parliament of Republic of Latvia), 2014).

Members of the nomination committee are recruited with experience in various areas. The results of the study by Kaczmarek et al. (2012a) confirmed that the composition of the nomination committee is of great importance, as it has a strong influence on the future “composition outcomes” of the supervisory board (Kaczmarek et al., 2012a, p. 485). A diverse composition of the nomination committee is necessary for the full evaluation and selection of a candidate, which will result in the successful management of a SOE, as members of the supervisory board with high productivity abilities will be attracted. It should be noted here. On the one hand, high productivity has a lot to do with the company's pay policy (Vu & Yamada, 2020; Xiayan et al., 2021; Bezuidenhout, 2021; Lu & Niu, 2022), but on the other hand, the company's risk of loss can increase as labour costs rise (Nguyen, 2021). Performance of the SOE, including a sustainable remuneration policy in the company is linked to corporate governance mechanisms. For example, as Velte (2022) points out: “In line with the monitoring role of corporate governance mechanisms, incentive alignment between managers and stakeholders can be mainly achieved by sustainable management compensation systems” (Velte, 2022, p. 646). In addition, Johl & Salami (2017) indicated that there is a significant and positive relationship between company performance and sustainability (Johl & Salami (2017, p. 540).

Not all SOEs, which are limited liability companies, have established supervisory boards, as their creation must meet two criteria:

- The total amount of the balance (should be more than four million EUR);
- Net turnover (should be more than 21 million EUR) (Saeima (Parliament of Republic of Latvia), 2014).

Despite the fact that due to COVID-19 “the total turnover of SOEs decreased by 664.5 million euros. or -16.8% to euros 3.29 billion in 2020 and profitability decreased by -7.4 percentage points or -92.0% to 0.6% in 2020 compared to 2019” (Pārresoru koordinācijas centrs (Cross-sectoral Coordination Centre), 2021, p. 46), SOEs make a significant contribution to the Latvian economy. Since supervisory boards are established in large SOEs, whose annual contribution to the Latvian economy is measured in several hundred million euros per year, supervisory boards are considered SOE tools that help increase the productivity of SOEs and create the necessary growth (Chen & Wang, 2022).

Taking into account the important role of the nomination committee in the selection of members of the supervisory boards of SOEs, the authors of the article examine how effective the process of selecting candidates for the positions of members of the supervisory boards of SOEs is and look for possible solutions to improve nomination process.

The authors of the article propose to get acquainted with the results of a study on the implementation of the selection and nominating process for potential members of the supervisory board in SOEs in Latvia. As study's goal was to assess the effectiveness of the nomination process in SOEs, the following most important tasks were identified for the study:

- To explore the experience and institutional representation of the members of the nomination committee;
- To find out what is the optimal number of nomination commission members and the ratio between an independent and dependent member of the nomination committee;
- To find out whether it is justified to involve independent experts in the nomination process;
- To explore the time spent on the nomination process in various situations or actions, for example, if (a) a candidate nominated by the nomination committee is not approved, or (b) if additional methods of obtaining information must be used.

The respondents of the study were the representatives of holders of the state capital shares and the responsible employees of the holders of the state capital shares. The limitation of the study refers to the sample of respondents, since the study planned the participation of representatives who are involved in the governance of SOEs, in which supervisory boards have been established and are functioning.

Literature Review

In Latvia, the largest SOEs have a two-tier system, i.e. SOEs have both supervisory boards and management boards. There is an opinion that a two-tier system:

- Can limit “the role of the supervisory board” through consultation and oversight (Bozhinov et al., 2019, p. 389), while company survival is linked to key factors in supervisory board structure and characteristics (Chien et al., 2009, p. 379);

- Has impact diversity (Kusumastati et.al., 2022).

“Large SOEs” have “a centralized structure”, since they and the decisions they make are subject to state control, in addition, this also means that the decision-making culture in SOEs is based on compliance with state interests (Shen et al., 2020, p. 3).

As mentioned above, the composition of the nomination committee is formed in different ways, including from independent members of the nomination committee. In corporate governance, nomination committee members and especially the independent member play a very important role in adhering to the principles of good governance (Kolev et al, 2019). Good corporate practice means problem solving (Tran et.al., 2022), making fair and transparent decisions, therefore, nomination committee members should be guided in their actions by general corporate governance obligations, which provide that actions taken will not be aimed at abusing their position, will not undermine their authority and institution, will not misuse company’s resources (Kirkbride & Letza, 2003, p. 265). Good governance is important for large SOEs, according to Farooq et.al. (2022), it is large companies that benefit from the implementation of good corporate governance.

The composition of the nomination committee plays an important role “in the relationship between” the senior management of the SOE (representatives of the state) and the supervisory board of SOE (Shen et.al., 2022, p. 11). Thus, by stimulating the process of interaction between different levels, much-needed cooperation is created, strengthening the interaction (cooperation) between the state, which is the policy maker, and between the leadership of the SOE, which implements this policy (Hassan et al., 2022).

It is the responsibility of the members of the nomination committee to select supervisory board members of SOEs in such a way that the position of the members of SOEs is not even, so that there are no gaps (defects) (Kaczmarek et.al., 2012b). The duties of the members of the nomination committee include the selection of supervisory board members of the SOEs in such a way that the position of the supervisory board members of the SOE is not even, so that there are no gaps (defects) (Kaczmarek et.al., 2012b), as well as to supplement their (supervisory board members) knowledge, skills and competencies of each other. Not in vain Schiehl et.al. (2022) emphasize the importance of the “contextual conditions” of the company - when selecting candidates, it is also important to consider the context of the SOE - the area in, which SOE operates and the supervisory board's needs for specialized knowledge and expertise. There is a belief that nomination committees can strengthen the selection process for the supervisory boards of SOEs, thereby improving the survival chances of SOEs (Appiah & Chizema, 2016, p. 79). So, it can be assumed that not only holder of state capital shares is able to positively influence the financial results of a SOE (Puni & Anlesinya, 2020, p. 163), which only strengthens the place and role of the nomination committees for nominating candidates in the process of selecting and nominating members of the supervisory board of SOEs.

The governance of SOEs is characterized by various elements. According to the results of a study by Levy Yeyati & Negri, (2022), one of the most important elements to achieve successful business governance is “a competent management and an approach..”, an “..accountability mechanism” (the need for it) (Levy Yeyati & Negri, 2022, p. 8). By exercising the governance function of the SOE, the state implements the type of public administration activity that:

- Promotes the economic interests of the state;
- Follows the life cycle of SOEs, that is, their development and resources, to achieve the set financial and non-financial goals, which ultimately affect the indicators of the Classification of the Functions of Government.

SOEs have an institutional corporate governance environment, decisions of which, in cooperation with the state, are made on the basis of the resources available to it, guided by specified requirements (certain achievable financial and non-financial goals). Nomination committees, on the other hand, are a tool by which the development of SOEs is promoted, as it provides an assessment of the competencies of each applicant for the position of a member of the supervisory board of a SOE (Ministru kabinets (Cabinet of Ministers of the Republic of Latvia), 2020) in order to select the best, most professional supervisory board members of the SOEs.

Research results and discussion

For assessing the efficiency of the selection process of candidates for the supervisory board of SOEs, holders of the capital shares - representatives of the holders of the capital shares (64%) and the responsible employees of the holders of the state capital shares (36%) were surveyed anonymously. The questionnaire was also sent to employees of the corporate governance units of the holders of the capital shares, but no responses were received from them. Therefore, it can be considered that the opinion of the holders of the state capital shares is reflected in the study. The QuestionPro platform was used to conduct the survey, and Statistical Package for the Social Sciences software was used for data analysis.

25% of respondents took part in the survey, which amounted to 11 respondents out of 44 respondents. 9% of the respondents represented a medium-sized SOE, and 91% - a large one. The following sectors of SOEs were under the supervision of the respondents: transport (27.3%); energy (27.3%); health care (9.1%); forestry (18.2%); real estate management (9.1%); other (SOE operates in several sectors: communications, energy, real estate management, etc.) (9.1%).

Considering that members of the nomination committee are recruited with experience in various areas, the respondents were asked to answer – what, in your opinion, should be the percentage distribution of areas in which the members of the nomination committee have work experience? Please assign a percentage to each area, assuming that all three areas add up to 100% (see Table 1).

Table 1

Share percentage distribution of areas in which nomination committee members have experience

Experience Areas	Mean	Median	Mode	Standard Deviation	Variance	Maximum	Minimum
Human resource management, selection and assessment of competencies	26.27	30	20	8.259	68.218	40	10
SOEs' governance	32.82	32	30	5.980	35.764	40	20
Experience in the industry in which the SOE conducts business	40.91	40	40	7.063	49.891	50	30

Source: authors' calculations based on data of the survey (n=11)

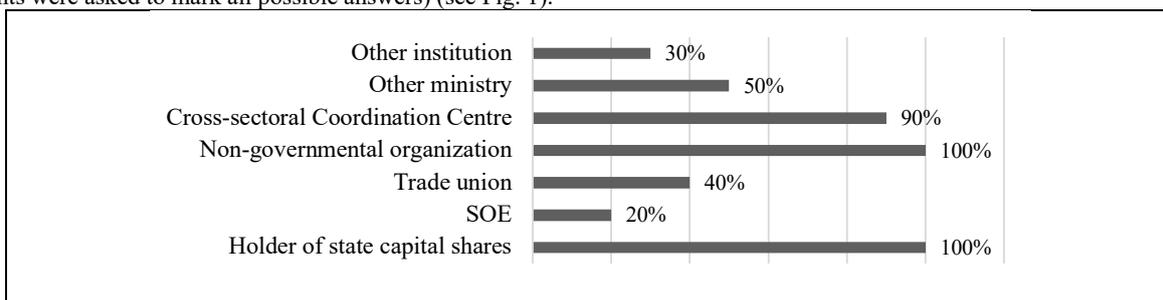
Analysing the answers of the respondents, the experience in the industry in which the SOE conducts business activities received the highest rating. Human resource management, selection and assessment of competencies received the lowest rating. The average results were obtained by the experience area of SOEs' governance (out of three options, taking the second place).

Respondents were asked to give their opinion on other areas in which nomination committee members should have experience. 45.5% of respondents in this question believed that there were no other directions, except for the three named, but other respondents mentioned the following:

- “The main thing is to understand the industry and be aware of its problems”;
- "Team Compatibility";
- "Team building";
- "Corporate governance";

- "In the case of the healthcare sector, members of the nomination committee should have an understanding of the processes in public administration. Although a member of the supervisory board is elected for a SOE, his activities are very close, for example, to the principles of public administration".

In continuation of the survey, the respondents were asked to indicate which institutions represent the members of the nomination committee (respondents were asked to mark all possible answers) (see Fig. 1).



Source: authors' construction based on data of the survey (n=11)

Fig. 1. Institutions represented by members of the nomination committee, % of cases

All respondents noted that the members of the nomination committee represent a holder of state capital shares (percent of cases - 100%) and an NGO (percent of cases - 100%). The CSCC nomination committee member is mentioned as the next highest scoring member (percent of cases - 90%). Members of the nomination committee from: other ministry (percent of cases - 50%), trade union (percent of cases - 40%), other institution (percent of cases - 30%), and SOE (percent of cases - 20%) received a lower score. Respondents were asked to mention other institutions, and they mentioned the following:

- "Other associations, funds, organizations";
- "Representatives of the industry";
- "A state or municipal institution responsible for a particular industry or closely associated with it."

The authors would like to note that none of the respondents, assessing which institutions the members of the nomination committee represent, chose the answer option in their answers: "Subsidiary company", "Other municipality".

On the other hand, the respondents proposed the following options as the optimal number of nomination committee members: (a) From three to five (9.1%), (b) Five (81.8%), (c) From five to seven (9.1%). The authors point out that this was an open-ended question, without any given answer options, to which the majority of respondents (81.8%) gave the same answer.

Taking into account the role of the CSCC in the affairs of SOEs, the respondents were asked to answer what is the optimal ratio of independent members with a representative of the CSCC and dependent members of the nomination committee (percentages assigned to each answer that add up to 100%) (see Table 2).

Table 2

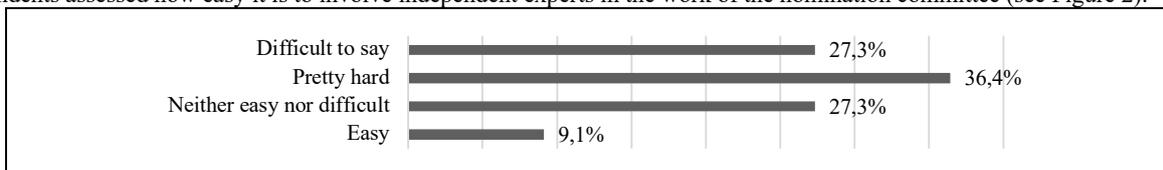
Optimal percentage distribution of the share of independent representatives of the CSCC and dependent members of the nomination committee

Members of Nomination Committee	Mean	Median	Mode	Standard Deviation	Variance	Maximum	Minimum
Independent members of the nomination committee	50.30	55	30	26.369	695.344	100	3
Dependent nomination committee members	49.70	45	35	26.369	695.344	97	0

Source: authors' calculations based on data of the survey (n=10)

In this question, the number of respondents out of all respondents was 10 (one answer was missing). Taking into account the results of the survey of the data in Table 2, the authors conclude that, according to the respondents, the most optimal percentage distribution of the share of independent members with representatives of the CSCC and dependent members of the nomination committee is 50% versus 50%.

Respondents assessed how easy it is to involve independent experts in the work of the nomination committee (see Figure 2).



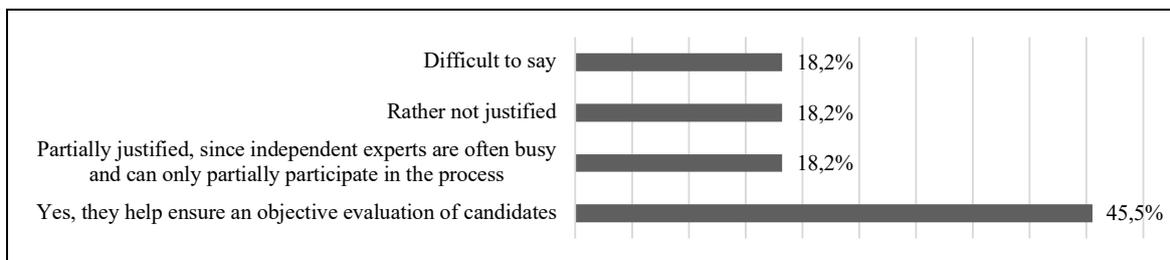
Source: authors' construction based on data of the survey (n=11)

Fig. 2. Involvement of independent experts in the work of the nomination committee, %

The majority (36.4%) considered it rather difficult; 27.3% of respondents believe that the involvement of independent experts is difficult or neither easy nor difficult, and only 9.1% preferred to answer that it is easy. None of the respondents chose the answers "rather easy" and "difficult to say".

At the same time, 45.5% of respondents believe (see Figure 3) that the involvement of independent experts in the work of the nomination committee is justified, since they contribute to ensuring an objective assessment of candidates, and 18.2% of respondents believe that the involvement of independent experts:

- "Partially justified, since independent experts are often busy and can only partially participate in the process";
- "Rather unjustified";
- "Difficult to say".



Source: authors' construction based on data of the survey (n=11)

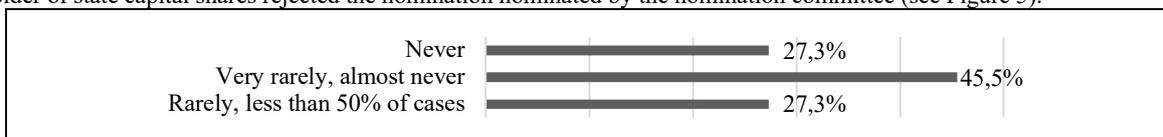
Fig. 3. Satisfaction with the involvement of independent experts in the work of the nomination committee, %

It should be noted that none of the respondents chose the answer proposed in the survey - "Yes, they make a significant contribution."

When asked about the timing of the establishment of a nomination committee, the opinions of the respondents differed. 63.6% of respondents believe that the average time to form a nomination committee is three to four weeks, while 27.3% believe that it takes one to two weeks. 9.1% of respondents were sure that this process takes five to six weeks. None of the respondents marked the answer option proposed in the questionnaire - "More than 6 weeks".

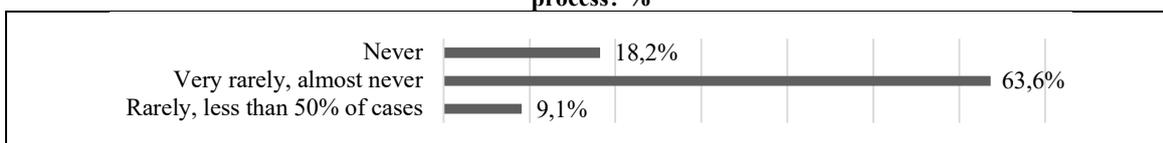
Continuing with the theme of the nomination committee and the nomination process, respondents were asked to rate how often the selection process had to be reorganized if:

- The nomination process ended unsuccessfully (see Figure 4);
- The holder of state capital shares rejected the nomination nominated by the nomination committee (see Figure 5).



Source: authors' construction based on data of the survey (n=11)

Fig. 4. Answers to the question: How often did you have to reorganize the selection process if it failed during the nomination process? %

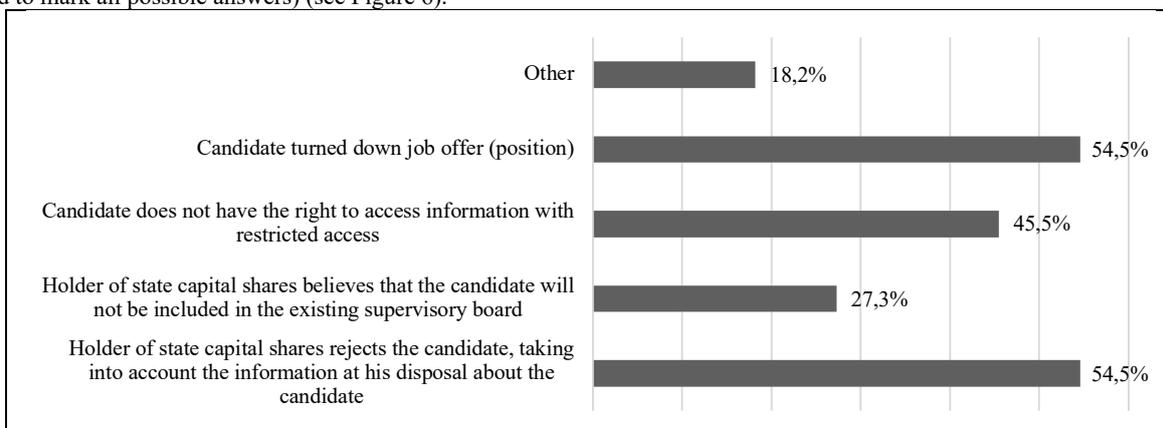


Source: authors' construction based on data of the survey (n=11)

Fig. 5. Answers to the question: How often did the selection process need to be reorganized if a holder of state capital shares rejected a candidate nominated by the nomination committee? %

Analysing the data, we can conclude that for both questions, the majority of respondents preferred to answer that only "very rarely, almost never", it was necessary to re-organize the selection of candidates. The results of the survey also showed that 27.3% of the respondents, if the nomination process ended unsuccessfully, "never or rarely", in less than 50% of cases, faced the need to re-organize the selection process. On the other hand, if a holder of state capital shares rejected a candidate nominated by the nomination committee, according to the data, 18.2% of respondents never had such a situation, and 9.1% - rarely, less than 50% of cases. It should be noted that in both questions, none of the respondents chose the answer included in the questionnaire - "Often, in more than 50% of cases". One respondent did not answer the question about the need to reorganize the selection process, that the holder of state capital shares rejected the candidate nominated by the nomination committee.

Since it is very rare, but there are cases when a candidate nominated by the nomination committee is not approved, representatives of the state were asked to provide answers on the reasons why the candidate nominated by the nomination committee was not approved (respondents were asked to mark all possible answers) (see Figure 6).



Source: authors' construction based on data of the survey (n=11)

Fig. 6. Answers to the question: What are the reasons for the non-approval of a candidate nominated by the nomination committee?

The majority of respondents chose two answers, which was the reason for not approving the representative nominated by the nomination committee:

- The holder of state capital shares rejects the candidate, taking into account the information he has about the candidate (percent of cases – 54.5%);
- The candidate turned down the job offer (percent of cases – 54.5%).

Another reason with a high score - the percent of cases – 45.5% - was that the candidate was not granted permission to access classified information. The lowest rating of respondents - the percent of cases – 27.3% - was applicable to cases where the holder of state capital shares believes that the candidate will not be included in the existing supervisory board. Several respondents expressed their opinion on this issue, and it was as follows:

- "So far there is no such experience";
- "A candidate nominated by the nomination committee is usually approved."

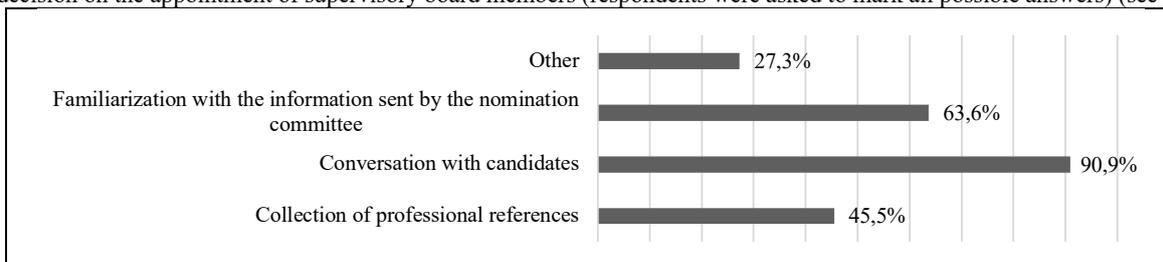
In addition, it should be noted that none of the respondents chose the following from all the proposed answers: "The candidate no longer meets the requirements" and "No agreement was reached with the candidate on the terms of the authorization agreement".

When asked how long, on average, it takes a holder of state capital shares to make a decision after the nomination committee has received candidates, an equal number of respondents chose two answers most of all:

- Less than a month (36.4%);
- From one to two months (36.4%).

A total of 27.3% of respondents believed that the decision of the holder of state capital shares is made within three to four months after the nomination committee receives the candidates. It should be noted that the respondents did not choose the following answer options from the proposed answers: "5-6 months" and "More than 6 months".

In continuation of the survey, respondents gave answers to the question of what methods of obtaining additional information are used before making a decision on the appointment of supervisory board members (respondents were asked to mark all possible answers) (see Figure 7).



Source: authors' construction based on data of the survey (n=11)

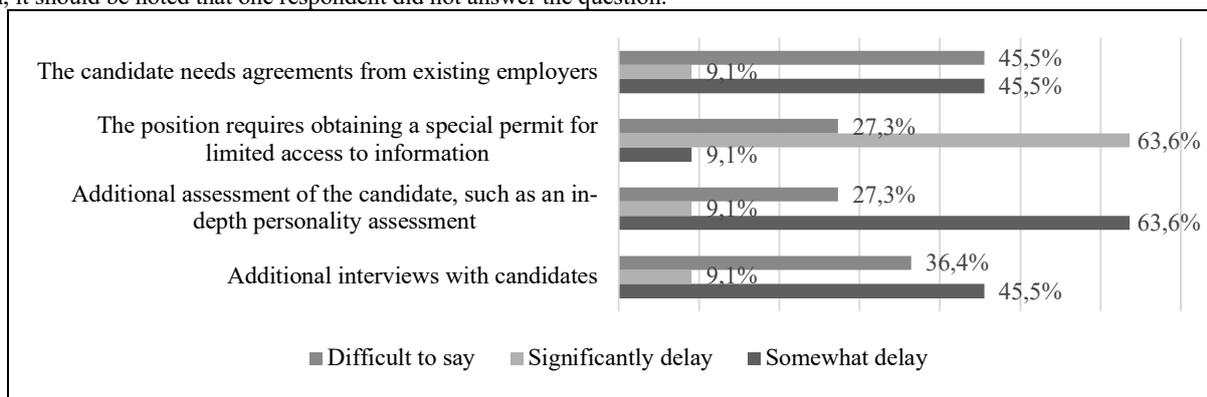
Fig. 7. Answers to the question: What methods of obtaining additional information are used before making a decision on the appointment of supervisory board members? %

The majority of respondents chose the "Conversation with candidates" method (percent of cases – 90.9%), followed by: "Familiarization with the information sent by the nomination committee" (percent of cases – 63.6%), "Collection of professional references" (percent of cases – 45.5%). Three respondents gave the following opinion on how to get more information: "Answer of the security agencies on admission to state secrets", "Information and conclusions of the security authorities in accordance with the requirements of regulatory enactments (Industrial safety certificate and other permits)", "Teamscope tool".

When asked what is needed to facilitate the decision-making about candidates, the respondents expressed the following opinion. 63.6% of respondents agreed with the statement about the need to revise the conditions for obtaining information on the restriction of the availability of special permits, and 18.2% believe that additional information is not needed. Two respondents took the opportunity to express their opinion on this issue, and it was as follows: "One should not rush to make a decision, since the procedure and terms for convening a meeting of participants must also be observed", "The process may take time, and this is normal."

Toward the end of the survey, respondents were asked to indicate what keeps holder of state capital shares from making a decision to approve a candidate for a position earlier (see Figure 8).

According to the respondents, the biggest delay (63.6%) in making a decision is to receive information about the limited availability of a special permit for a position. Additional assessment of candidates, such as an in-depth personality assessment, gets in the way a bit (according to 63.6% of respondents). Respondents found it difficult to say whether additional interviews with candidates (36.4% of respondents) and necessary agreements from existing employers (45.5% of respondents) serve as reasons for delaying the decision to approve a candidate. In addition, it should be noted that one respondent did not answer the question.



Source: authors' construction based on data of the survey (n=11)

Fig. 8. Delays making a decision on approving a candidate for a position sooner, %

At the end of the survey, respondents were asked to answer the question about the need to form supervisory boards in all SOEs (including small SOEs). The absolute majority of respondents – 90.9% - answered "No" (supervisory boards should not be established) and only 9.1% of respondents believed that supervisory boards should be established in all SOEs, including small ones.

Conclusions, proposals, recommendations

Based on the results of the study of the process of selecting candidates for members of the supervisory boards of SOEs, the authors have the following conclusions and recommendations:

1. As part of the study, several tasks were set:

- The first of them involved studying the experience and institutional representation of the members of the nomination committee (see Fig. 1, Table 1). It follows from the results of the study that the nomination committee is formed in such a way that various state and NGO (dependent and independent) institutions are represented in it. The authors believe that although the nomination committee is open, it operates in accordance with the principles of good corporate governance and follows certain rules in the selection and nomination process, which operates in closed system. Taking into account that the experience of the industry in which the SOE performs, and the formation of team compatibility is the main focus for the experience of members of the nomination committee, the authors of the article come to the conclusion that the nomination committee is characterized by a purposeful team focused on achieving the goal of the selection and nomination process.
 - The authors believe that the results of the study indicate the optimal number of members of the nomination committee, incl. ratio between government and NGO (dependent and independent) institutions (see Table 2), because the balance between the members of the nomination committee (NGOs and the state) and odd number of members of the nomination committee (5) constitutes the balance of the nomination committee.
 - The authors received confirmation of the expediency of involving independent experts in the nomination process to work in the nomination committee. Although it is difficult to attract such experts, they help to ensure an objective assessment of candidates (see Fig. 2, Fig. 3). These results are indicative of a fair selection and nomination process based on good governance principles in SOEs.
 - One of the most difficult issues facing the nomination process is the time spent on the selection process (see Fig. 4, Fig. 5, Fig. 8). For example, it is relatively common for the nomination process to either continue it by selecting another candidate (because, for example, the holder of state capital shares rejects the candidate) of the next nomination committee or to conduct an additional evaluation of the candidates, which also delays the selection process as a whole, etc. Since the nomination process is largely related to the aspect of cooperation, the authors believe that the parties involved in the nomination process should strengthen cooperation.
2. Given the high percent of cases where the candidate nominated by the nomination committee is not approved (the holder of state capital shares rejects the candidate, taking into account the information he has about the candidate; the candidate turned down job offer), the stage of the nomination process must be examined in detail before the nomination committee nominates the candidates; there is a possibility that some elements of cooperation between the nomination committee and other parties involved need to be improved.
 3. The holder of state capital shares need to strengthen cooperation with the nomination committee, since the results of the study showed that: (a) it will take several months for the holder of state capital shares to make a decision after the nomination committee has received the candidates; (b) disapproves of the candidate nominated by the nomination committee because the holder of state capital shares believes that the potential supervisory board member will not be part of the existing supervisory board. The authors believe that cooperation between the holder of state capital shares and the nomination committee should be strengthened, especially in the issue of approval/disapproval of a candidate nominated by the nomination committee.
 4. Authors also conclude that there is a need for cooperation among members of the supervisory board and representatives of the state (holders of state capital shares, representatives of the holder of the state capital shares, responsible employees of the holders of the state capital shares, employees of the corporate governance units of the holders of state capital shares), the authors recommend conducting a study assessing the strengths and weaknesses of such cooperation, which would not only make mutual cooperation more effective, but also contribute to the sustainable development of the SOEs and the achievement of SOEs' goals.
 5. The parties involved in the nomination process need to be inform of the terms and conditions for obtaining the special permit on admission to state secrets - thorough reputation check should be carried out during the selection process to prevent further risks and ensure the candidate's ability to apply for a particular position.
 6. The position of the CSCC in the process of selecting and nominating members of the supervisory board of SOEs has been strengthened (the CSCC was mentioned in the composition of the commission for nominating candidates, the percent of cases - 90%).
 7. Because there is a need to strengthen cooperation between the nomination committee and other parties involved, CSCC should consider:
 - To review the conditions and terms for reputation check for a potential member of the supervisory board of a SOE;
 - To develop closer cooperation with members of the supervisory board of SOEs and holders of state capital shares, holding regular discussions on issues important to both parties;
 - To analyse each of the stages of the nomination process, paying additional attention to the reasons of cases in the issue of non-approval of a candidate nominated by the nomination committee.

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APPLICATION OF MEASURES STRENGTHENING ORGANIZATIONAL RESILIENCE UNDER UNCERTAINTIES

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Abstract. Endless crises and environmental uncertainty force business organizations to look for management tools helping ensure business continuity. Therefore, the need to strengthen organizational resilience is increasingly emphasized. Unfortunately, it is not clear what management measures could be used to strengthen organizational resilience, how those measures should be applied in conditions of uncertainty. To reveal this, 381 respondents were interviewed from four Lithuanian organizations that engaged in different activities: production, trade, transportation and construction services. A combination of qualitative and quantitative methods was used. Different applications of the main four measures strengthening organizational resilience were identified. *Effective communication* fosters employees' self-identification with the company, both in the case of survival and growth strategies. *Diversity* can be promoted by increasing control measures and/or by strengthening employee autonomy. *Resilient mindset* of employees is developed by concentrating on the dimension of expected risks and on the connections of internal processes. *Knowledge sharing* is effective when it emphasizes lessons learned in the past and is related to increased tolerance for mistakes and the possibility of spontaneity. The article discloses the application of management measures that strengthen organizational resilience in organizations presenting different business areas. This reveals the conditions of uncertainty, its impact on various business spheres and different decisions of managers. The findings could be used in areas such as human resource management, development of managers' competencies, business continuity planning under conditions of uncertainty.

Keywords: *organizational resilience, employee resilience, management, uncertainty.*

JEL code: M1

Introduction

In the context of increasing contingencies, crises and changes related to them, the need for organizational resilience has increased (Sellberg et al., 2018). This is defined as an organization's ability not only to withstand adverse situations, but also to strengthen organizational abilities after such situations (Hillmann, 2021). The concept of the organizational resilience is closely related to the ability of anticipation when choosing a future direction. This choice of managers reveals their ability to foresight, insight, oversight, hindsight (Denyer, 2017). According to this, the means of strengthening organizational resilience can be focused on: improving effective communication, promoting diversity, fostering resilient mindset, motivating knowledge sharing (Knipfer and Kumo, 2021; Liang and Cao, 2021).

Organizations representing different business areas are affected by uncertainty differently. This leads to original managers' decisions: the selection of management measures and their combinations, their application and adjustment according to the ever-changing environmental conditions. There is no single recipe for choosing management measures, but it is believed that all of them are related to operational processes and human resources (Borekci et al., 2021). Employee resilience is considered to be the main factor determining the effectiveness of measures to strengthen organizational resilience (Chen and Zhang, 2021).

Many scientists have already studied the measures strengthening organizational resilience. In this context, the importance of communication was examined (Gabler et al., 2017; Knipfer and Kumo, 2021; Jankelova et al., 2021; Ramlachan and Beharry - Rarajan, 2021); the impact of diversity promotion on resilience was revealed (Shiranth and Joman, 2018; Neves et al., 2020; Hillmann and Guenther, 2021; Liang and Cao, 2021); ways to foster resilient mindset were discussed (Denyer, 2017; Prayag, 2020; Khan et al., 2020; Kartaburta and Ketpropakorn, 2021); the influence of knowledge sharing to organizational resilience was disclosed (Malik and Garg, 2020; Kogenhop, 2020; Linden, 2021; Matic, 2022). Considerable attention was paid to challenges related to fostering employee resilience. It was revealed that employees often understood reinforcement practices in different ways than managers expected (Young, 2020; Glaister et al., 2020; Borekci et al., 2021; Chen and Zhang, 2021; Rodrigues-Sanchez et al., 2021). The managerial principles of anticipating the future direction of activity were analyzed (Denyer, 2017; Beuren et al., 2020; Parnell et al., 2020; Wicker, 2021; Leta and Chan, 2021; Abdalla et al., 2021; Salas - Vallina et al., 2022) and the influence of various circumstances of uncertainty on organizational resilience were discussed (Santoro et al., 2020; Skoloudis et al., 2020; Low et al., 2021; Župerkienė et al., 2021).

No research has been conducted combining managers' expected future direction of activity and the resilience - strengthening measures applied in the organization. Therefore, this work aimed to reveal the measures of strengthening organizational resilience taking into account; 1) the anticipated direction of future strategy and the measures to strengthen the organization's resilience chosen by managers accordingly; 2) application of these measures under conditions of uncertainty depending on different business activities; 3) the impact of applied measures on the employee.

Organizational resilience, preconditions and measures of its strengthening

Organizational resilience is the systemic ability of an organization to resist a changing and unfavorable situation (Raetze et al., 2021, Hillmann, 2021). This includes the ability to recover from unexpected stressful and adverse situations; to improve and develop existing capabilities of creating new ones (Santoro et al., 2020; Young, 2020).

When analyzing the importance of anticipation in the context of organizational resilience, 4 stages are highlighted: foresight, insight, oversight, hindsight (Denyer, 2017). (1) *Foresight* prepares the vision for the future, so the managers must make decisions for the main future direction: survival or growth. This includes systematic monitoring of opportunities and potential risks, which could help to prepare the organizational activity for the unexpected events. The managers' assistance to employees is the most important in this stage (Neves et al., 2020). It consists of managers' efforts to prevent problems, to encourage employees to identify and report various mistakes that may turn into incidents (Liang and Cao, 2021). This can be facilitated by an open communication culture that encourages disclosure of operational weaknesses (Denyer, 2017; Skiranth and Joman, 2018). (2) *Insight* helps to interpret and react to the current situation, to pause and look back in order to identify the full picture of the situation (Leta and Chan, 2021). This is an attempt to perceive individual parts of the organization as a whole. The main aim is to bring clarity to the issues to be discussed; to define activity pathways that allow employees to share personal experiences and insights. It helps to analyze existing business models and to understand how they fit or conflict with the current situation (Parnell et al., 2020). This includes: systematic collection of information from various sources; evaluation of the operations and procedures used in an organization (Chen and Zhang, 2021). (3) *Oversight* helps to monitor the situation and to assess the changes. The main aim is to balance between the implemented strategy of the organization and changes in the business environment. This requires aligning the organizational culture with operational changes that reflect various risks (Abdalla et al., 2021). The managers' "appetite" for risk and their tolerance level for failure must be emphasized in this stage. (4) *Hindsight* helps to learn the right lessons from the past. A future outcome can only be improved if the organization changes the behavior that creates the outcomes. Development must be associated with continuous learning and this should not be limited by statistical indicators (Matic, 2022). At this stage, it is easy to succumb to the negative psychological effect – the culture of blame (Knipfer and Kumo, 2021). Analyzing events *post-factum* creates a bias toward current opinion based on events that are perceived in the past. Then it is very easy to fall into the "trap" of thinking (Denyer, 2017).

Organizational resilience includes the development of operations and relations through the interaction between the organization and its members (Borekci et al., 2021; Chen and Zhang, 2021). The purpose of building resilience among employees is to maintain hope and strength in a difficult situation. This requires managers’ support (Kantaburta & Ketpropakorn, 2021), consisting of effective communication, diversity, resilient mindset and knowledge sharing (Denyer, 2017; Al – Hawari et al., 2020). (1) *Effective communication*, or the ability to communicate effectively, is considered a key tool in crisis management (Ramlachan and Beharry - Ramraj, 2021). Managerial communication should reduce uncertainty caused by emotional responses from both: the outside public exposures and the internal employees' doubts. Lack of communication encourages employees to act accordingly to their individual understanding of the situation. If the organization's managers are unable to bring employees together and create a sense of "we", then employees begin to create this sense according to the patterns that reduce organizational resilience (Knipfer and Kumo, 2021). (2) *Promotion of diversity* is understood as the distribution of personal characteristics of employees among all the interacting members of an organization (Duchek et al., 2020). In this case, information is collected, and by analyzing it, different attitudes of employees towards the same phenomena or problems are identified. According to this processes the benefit is that the individual is able to perceive much more than he/she otherwise could while being alone (Duchek et al., 2020; Hillmann and Guenther, 2021). (3) *Resilience mindset* is understood as a lens through which organizational members see the world (Prayag et al., 2020). It is influenced by beliefs and values (Kantaburta and Ketpropakorn, 2021). Two types of mindset are emphasized: a) the fixed one, which indicates that individual's intelligence and talent are limited, i.e. "given" from birth; b) the growing one, which emphasizes that an individual is capable of learning everything he/she needs. Typically, employees with the fixed mindset avoid action and initiative during difficult times. Meanwhile, employees with the growing mindset view difficulties as a way to improve because they understand them as both challenges and opportunities (Bandura, 2005; Khan et al., 2020). It is the latter that is considered a resilience mindset (Denyer, 2017). (4) The importance of *knowledge sharing* is emphasized (Malik and Gargm 2020; Matic, 2022). Development of organizational - resilience knowledge is 1) the basis of improvisation, which is necessary for an effective problem-solving process; 2) the basis for the emergence of creativity that is necessary for innovation; 3) opportunities for improvement of the organization's members, a common understanding of continuous renewal; 4) a source of improvement of communication and synergy between the members of the organization; 5) motivation and ability to learn from mistakes (Kantaburta & Ketpropakorn, 2021).

Methodology

Four Lithuanian business organizations participated in the study. The organizations were engaged in different activities: production (A), trade (B), transportation (C), construction (D). Selection criteria: the number of employees - at least 100, the company's operating period - at least 15 years, the company's managers apply measures to strengthen organizational resilience and seek to improve their knowledge in this area.

It was decided to use a combination of qualitative and quantitative methods. With the help of a qualitative method, it was planned to find out what determines the choice of specific measures for strengthening organizational resilience, how those measures are applied, and what challenges are encountered by managers. With the help of a quantitative method, it was planned to identify the impact on employees of the applied measures that strengthen organizational resilience: how those measures are understood, how much they are supported, and what benefits of their application are visible. Anonymous surveys were used to interview employees of the organizations.

Findings and discussion

The total number of respondents – 381, which consists of 369 employees (A – 80, B – 89, C – 102, D – 98) and 12 managers (3 from each company). At the beginning of the research a pilot interview was conducted with managers in order to find out their anticipation related to the future direction of company’s activity and the orientation of measures strengthening organizational resilience.

Company A's managers anticipated the survival as the main aim of the organization's activity. Therefore, the management measures are focused on: analysis of the whole (not on separate problem areas) and the collection of relevant information; risk-based assessment; decision-making experience gained in the past. Company B's managers indicated the growth of activity as the main aim of the organization. In this case, management tools were focused on: identification of particular problem areas and analysis of internal processes; assessment of organizational culture; past experience related to problem identification and decision-making. Company C's managers had not chosen the goal of the activity's direction. Nevertheless, management measures were used to strengthen organizations resilience: identification of problem areas and assessment of relevant information; risk-based analysis; evaluation of past lessons. Company D's managers indicated the growth as a main goal for the activity. Management measures were focused on: analysis of the whole and evaluation of relevant information; assessment of the relationship between risk taking and operation processes; analysis of past lessons. The managers' anticipation and the orientation of management measures strengthening organizational resilience are presented in Table 1.

Table 1

Detailing managers' anticipation and management measures				
Direction of the activity and management measures	Production (A)	Trade (B)	Transportation (C)	Construction (D)
Foresight: - growth - survival - no choice of direction	X	X	X	X
Insight: - identification of problem areas - identification of the whole - collection and analysis of information - analysis of process	X X	X X	X X	X X
Oversight: - assessment of organizational culture - analysis of risk taking - evaluation of process connections	X	X	X	X X
Hindsight: - identification of problem causes - analysis of problem solutions - evaluations of learned lessons	X	X X	X	X

Source: author's insights based on Denyer, 2017; Knipfer, Kumo, 2021; Liang, Cao, 2021.

During the interviews, the managers of all companies revealed the reasons for their choices.

Company A manufactures and exports wooden garden and leisure houses. The managers explain: "the purpose of our activity's future - survival" (A1); "the market volume of our products is decreasing, as a result - income and profit is going down too..." (A2); "economic instability has stopped all development plans..." (A3). The managers believe that "changes in organizational culture could not influence processes whose origin is changes in the world economy" (A3). The managers "discuss with employees about the implementation of various product innovations, but never delegate decision-making to them" (A2).

Company B is engaged in selling essential food products. In a period of economic instability, this company is going through an upswing, so "activity growth is expected in the future: opening additional new stores, increasing the assortment of the most popular food products" (B1, B2). The managers experience a labor shortage, so "operational processes are analyzed in order to optimize them" (B3). It is emphasized that "increased workload affects the overwork and distraction of employees..." (B3); "this leads to increased conflict situations between staff members..." (B1). The managers reveal the need to improve the organizational climate: "to foster positive communication, to promote cooperation" (B3). It was mentioned that both "emerging problems and their possible solutions are actively analyzed together with the employees" (B1).

Company C carries out activities related to international cargo transportation in Europe. The managers could not give a clear answer regarding the company's future strategy because "everything depends on the circumstances that change every day ... (C1); "there is nothing to learn from, and what you know is not suitable today..." (C2). It is emphasized that "everything is built on risky decisions" (C3), which take place "here and now" (C1). It was mentioned: "Surprisingly, employees have become particularly clever: they figure out how to deal with difficult situations by themselves" (C3).

Company's D activity - construction and renovation of apartment buildings. The managers plan the growth of activity in the future, although "it does not look like it will be easy" (D1). The company has clearly defined guidelines for its competitive advantage: "We will always be competitive if we manage to adapt our processes to the ever-changing market" (D2). It was emphasized: "When things don't go well, we analyze the reasons together with the employees and try to learn from them ... " (D3)

In the next stage, anonymous employee surveys were analyzed. They revealed the attitude of the employees towards the measures applied by the managers. The details of the measures strengthening organizational resilience are given in Table 2.

Table 2

Detailing managers' anticipation and management measures

Measures and consequences of their application	Production (A)	Trade (B)	Transportation (C)	Construction (D)
Improving effective communication:				
- increased anxiety	15	58	20	12
- enhanced sense of "we"	60	29	27	75
- increased doubts	5	2	1	3
- other consequences	0	1	0	2
- no response	20	10	52	8
Promoting diversity:				
- increased autonomy	15	10	51	39
- increased control	75	65	29	38
- the popularity of the discourse	0	16	18	15
- increased doubts	0	3	0	4
- other consequences	0	0	0	0
- no response	10	5	2	4
Fostering resilient mindset:				
- fixed approach to possibilities	65	58	6	15
- changing approach to possibilities	25	13	51	75
- other consequences	1	2	0	2
- no response	9	27	43	8
Motivating knowledge sharing:				
- increased possibility of impromptu	0	16	40	32
- increased tolerance of mistakes	27	15	41	31
- increased opportunities for development	16	13	12	13
- increased adoption of innovations	35	26	3	12
- other consequences	5	17	2	6
- no response	17	13	2	6

Source: author's insights based on Denyer, 2017; Malik, Garg, 2020; Hillmann, Guenther, 2021.

The analysis of surveys and interviews revealed a complete picture of how measures strengthening organizational resilience are applied in a particular organization and how those measures affect employees.

In Company A, where the survival of the organization was chosen as the main perspective for the future, effective managers' communication strengthens the identity of the employees (60%) with the organization (Ramlachan and Beharry – Ramraj, 2021). Promoting diversity is understood as the collection and analysis of information in order to identify a complete picture of the current situation as a whole (Hillman and Guenther, 2021). In this case, managers do not care a lot about organizational climate, existing processes or procedures. Unfortunately, this promotion of diversity is not effective, as the main management tool is considered to be strong management control (Skiranth and Joman, 2018) by the vast majority of employees (75%). Managers do not take into account the opinions of the employees when making decisions. As a result, the majority of respondents (65%) see only fixed options (Khan et al., 2020). Current problems are solved using safe methods that have been proven in the past (Denyer, 2017). Nevertheless, 35% of respondents identify management innovation as an opportunity for development and knowledge sharing (Kantaburta and Ketpropakorn, 2021).

The future direction chosen **in Company B** is related to the development and growth of the activity. Nevertheless, the managers' communication increased anxiety of the employees (58%). Diversity is promoted by changing and correcting particular areas and processes related to problems (Dushek et al., 2020; Parneell et al., 2020). The vast majority of employees (65%) perceive such promotion of diversity as an increase in control. Although the managers seek changes in the organizational culture (Skiranth and Joman, 2018) through various employee motivation tools, 58% of the respondents see only fixed opportunities. Current difficulties are solved by taking into account previously

identified causes of problems, using methods proven in the past (Leta and Chan, 2021). Meanwhile, 26% of the respondents think that the most effective sharing of knowledge takes place when innovations are explained and introduced to employees (Denyer, 2017; Matic, 2022).

In Company C, managers have not chosen the direction of activity. That is the reason why 52% of the respondents do not understand the managers’ efforts to improve the effectiveness of communication (Neves et al., 2020; Jankelova et al., 2021). Managers focus on analyzing information that reveals internal problem areas (Chen and Zhang, 2021). In this process, the importance of individual employees’ opinions is emphasized (Prayeg et al., 2020). This is evidenced by 51% of respondents who feel increased conditions of autonomy (Skiranth and Joman, 2018). While managers are focused on managing risk instruments (Beuren et al., 2020), more than half of those surveyed (51%) see changing opportunities relevant to the future. Current difficulties are solved by analyzing the causes of the problems and drawing conclusions related to the lessons of the past (Hillmann, 2021). Furthermore, 40% of respondents understand the motivation of knowledge sharing as an increased tolerance for mistakes, and 41% - as an opportunity to make suggestions "on the spur of the moment" (Denyer, 2017).

The future direction chosen **in Company D** is related to the development and growth of the activity. The consequence of managers' communication is the strengthened identity of employees (75% of respondents) with the organization (Borekci et al., 2021; Kantaburta and Ketpropakorn, 2021). Diversity is promoted by analyzing information that reveals the overall picture of the entire situation (Hillmann and Guenther, 2021). For this, employees' opinions, suggestions, and various initiatives are used (Duchek et al., 2020). Furthermore, 39% of respondents emphasize management control measures, and 38% - increased autonomy (Skiranth and Joman, 2018). The managers focus on the management of risk measures, but at the same time analyze the relationships of existing internal processes with the expected future direction (Beuren et al., 2020). Therefore, as many as 75% of respondents see changing opportunities related to the future. Current difficulties are solved by analyzing the causes of the problems and drawing conclusions relevant to the lessons of the past. Additionally, 32% of respondents understand the motivation of knowledge sharing as an increased tolerance for mistakes, and 31% - as an opportunity to make suggestions "on the spur of the moment" (Denyer, 2017).

The results of managers' anticipation and application of measures strengthening organizational resilience are presented in Table 3.

Table 3

The results of managers' anticipation and application of measures strengthening organizational resilience

Anticipation / Measures and consequences of its application	Production (A)	Trade (B)	Transportation (C)	Construction (D)
Foresight/ Improving effective communication	Survival / Identity of "us".	Growth / Increase in anxiety	No Direction / Ambiguity	Growth /Identity of "us".
Insight/ Promoting diversity	Gathering information for the perception of the whole / Control	Identification of problem areas and processes / Control	Gathering information for the perception of the whole / Autonomy	Gathering information for the perception of the whole / Autonomy
Oversight/ Fostering resilient mindset	Concentration on risk/ Fixed view of possibilities	Concentration in organizational culture / Fixed view of possibilities	Risk concentration / Changing vision of possibilities	Concentration on risk and process relationships / Changing vision of possibilities
Hindsight/ Motivating knowledge sharing	Problem solving / Through innovation	Identifying and solving the causes of problems / Through innovation	Identifying the causes of problems; lessons / Through "impromptu" opportunities	Identifying and solving the causes of problems / Through "impromptu" opportunities

Source: author's insights based on Danyer, 2017; Hillmann Guenther, 2020; Liand, Cao, 2021.

Conclusions, proposals, recommendations

1. Effective communication conditions employees' identity with the organization, both when managers choose the direction of survival (Company A) and the direction of growth (Company D). Ineffective communication increases employee anxiety, even after choosing an operational growth direction (Company B). If the organization does not have a clear vision of the activity's direction, the managers' communication remains unclear to the employees (Company C).
2. Promoting diversity through information that reveals not only individual problem areas, but the whole situation, can be carried out both by increasing control measures (Company A) and by strengthening the autonomy of employees (Companies C and D). Increased control (Company B) can be applied in the identification of problem areas and processes.
3. Fostering an employee resilient mindset by focusing on risk leads to both a fixed view of opportunity (Company A) and a changing one (Company C). However, focusing not only on risk taking, but also on internal process connections, leads to a changing vision of opportunities (Company D). Employees' perception of opportunities remains fixed by concentrating only on changes in organizational culture (Company B).
4. Knowledge-sharing practices are ineffective if they are related to problem solving methods identified from the past (Companies A and B). The reason for this is that employees perceive knowledge sharing through implemented innovations (Companies A and B). In the cases where managers emphasize lessons learned in the past (rather than learning how to identify problems and make solutions), employees perceive knowledge sharing through the possibility of "spontaneous" application and greater tolerance of mistakes (Companies C and D).
5. The findings of this research could be used in areas such as human resource management, development of managers' competencies, business continuity planning under conditions of uncertainty.

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COVID-19 ECONOMIC CRISES AND FACTORS FOSTERING ECONOMIC RECOVERY AND EFFICIENT USE OF FISCAL RESOURCES

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Abstract. Covid-19 pandemic caught the world by surprise. On March 11th, 2020 World Health Organization (WHO) announced the global pandemic. Thus, in fact initiating the official beginning of various kinds of non-pharmaceutical interventions (NPI) and disease containment measures and reduction of mobility of population and slowing down business activities. Under these circumstances state governments had to come up with viable fiscal support packages for health sector and for the economy at large. It provided a unique opportunity to follow how different state governments coped with the consequences of suddenly imposed health and economic challenges and to compare why in some countries the depth of the crisis and speed of recovery from the crisis was different. In order to comprehend the complexity of various factors influencing the developments, this article aims to research economic and other factors defining the depth of the crisis and which of them made crisis worst and precluded economies from recovering sooner. Thus, requiring more financial and fiscal resources and increasing the outstanding public debt and debt service costs. Making potential future borrowing less attractive, decreasing the fiscal space and complicating future economic outlook even further. Author will be using regression method to compare various variables. Results prove that stringency and NPI measures were not only factors influencing the depth of the crisis. Research finding also indicate that the public debt could not be singled out as the only factor precluding the recovery and efficient use of fiscal resources. Governance, Quality of institutions, Trust in government policies are clear contributors to the efficient use of limited fiscal resources.

Keywords: *Covid-19 crisis, Fiscal policy, economic recovery, public debt; institutional quality.*

JEL code: E44, E62, H62, H63, O43

Introduction

Covid-19 pandemic caught the world by surprise. On March 11th, 2020 World Health Organization (WHO) announced the global pandemic. Thus, in fact initiating the imposition of various kinds of non-pharmaceutical containment measures and reduction of mobility of population and slowed down business activities in order to reduce the spread of lethal disease.

Covid-19 pandemic provided once in a life time opportunity to compare actions of various governments in the time of crisis, supporting economies with vast amount of fiscal resources and to draw conclusions about various factors influencing the depth of the COVID-19 economic crisis, also analyse the preconditions and factors safeguarding speedier recovery and return to the precrisis GDP levels, and allowing more efficient use of the limited fiscal resources. Thus, also containing the further negative increase of the public debt. Answering why in some countries the depth of crisis was more shallow and the recovery to the pre-crisis level sooner than in the others.

Sample of the OECD countries was used in the analysis.

Literature review provides overview of research in the field of economic analysis regarding GDP growth and the factors influencing growth. Public debt has been often mentioned and analysed as a culprit of the slow growth (Reinhart and Roof, 2010a; Alonso and Alves, 2014; Fall and Fournier, 2015; Kumar and Woo, 2015; Chadic, et.al., 2017). Opinions were divided (Herndon, et.al., 2013; Piscatorial, et.al., 2014).

Besides Public debt, Institutional quality, Government effectiveness and Trust in Government also requires close analysis regarding correlation to the depth of the crisis and economic recovery.

First section *Fall of the GDP and rise of the budget deficits* provides glimpse into the Covid-19 crisis impact on GDP, budget deficit and necessity to borrow to stabilize economy. However increased borrowing and spending did not secure GDP from falling in 2020.

Second section *Increasing debt levels and slower GDP growth* sheds light on the debate of debt and GDP relationship and reveals that debt has certain influence on GDP change or depth of the crisis in 2020 and also on the recovery of the GDP in 2021.

Third section *Public debt, the depth of crisis and speedier recovery*, discovers other factors playing the role in the crisis management and recovery.

Why there are countries having less severe and less shallow economic downturn in Covid-19 crisis and using less fiscal resources to recover than others? And why there are countries experiencing more severe economic downturn, slower recovery and are forced to use more sizable fiscal packages than others?

In the light of these questions author embarks on the analysis of the efficiency of the use of the limited fiscal resources and the study of the other factors defining the efficiency of the use of these precious fiscal resources, especially in the times of crises.

Fourth section *Governance, Quality of Institutions and Trust in Government* will reflect more on World Bank's Institute's research group's Worldwide Governance Indicators (WGI) and analyse the importance of the Quality of Institutions, particularly Government effectiveness, Trust in Government in overcoming the crisis.

Literature Review

Problem of the high and increasing debt is reflected in "Growth in a time of debt" (Reinhart and Rogoff, 2010a), asserts that there is a debt limit of 90% of GDP at which GDP growth slows and is impaired if debt continues to grow above that level. After some immediate criticism of this study, the authors (Reinhart and Rogoff, 2010b) provided an additional explanation for some of the data and assumptions.

Many economists agreed with Reinhart's and Rogoff's arguments and provided additional evidence that there is a negative correlation between GDP growth and debt-to-GDP ratios. (Cecchetti, et.al., 2011) postulated that there is a certain level beyond which debt growth weighs on the future: "Government debt has a consistently significant negative impact on future growth. And the impact is large: a 10 percentage point increase in the government debt-to-GDP ratio is associated with a 17-18 basis point reduction in subsequent average annual growth." (Baum, et.al., 2012) proclaimed that an increase in debt is not harmful in the short term and even has a stimulative effect on growth, but once a 67% debt to GDP ratio is reached, the results become blurred and when countries reach the 95% debt to GDP threshold, they begin to experience negative effects on GDP growth in the future. (Afonso and Alves, 2014; Fall and Fournier, 2015; Kumar and Woo, 2015; Chudik, et.al., 2017) have also set thresholds for debt to GDP ratios that exceed future GDP growth is slowing down. Research was complemented by analysis of the permanent and transitory effects of the public debt on the economic growth (Abubakar and Mamman, 2020) acknowledging negative effect of the debt on GDP growth, but emphasizing that short term rise of the debt would not be harmful.

However, there were analysts who challenged Reinhart's and Rogoff's "Growth in a Time of Debt" conclusions and carried out separate studies using the same datasets and stating that there is only minor correlation between the size of the public debt and GDP growth, but only small probability of causality if at all. (Herndon, et.al., 2013) claimed that Reinhart's and Rogoff's research was inaccurate and there was no consistency that 90% level is applicable for all countries and all the time. (Pescatori, et.al., 2014) did not find that there was any threshold which precludes countries to grow in the medium-term. Only important thing is trajectory of the debt and if it is declining then growth will resemble to its peers (Pescatori, et.al., 2014). However, (Panizza and Presbitero, 2012) were less adamant and careful with strict conclusions and stated only that: "it seems that advanced economies in our sample are still below the country-specific threshold at which debt starts having negative effect on growth", but in principle recognizing that there is a threshold. (Ash, et.al., 2017) criticized the selection of the data and

sample size, stating that outliers influence the results. The attempt to reconcile the work of several camps during the last decade and to summarize the issue was done by (Heimberger, 2021) who claimed that there is no universal threshold when debt is detrimental to the future growth for all the countries and the 90% is not a “magic” number.

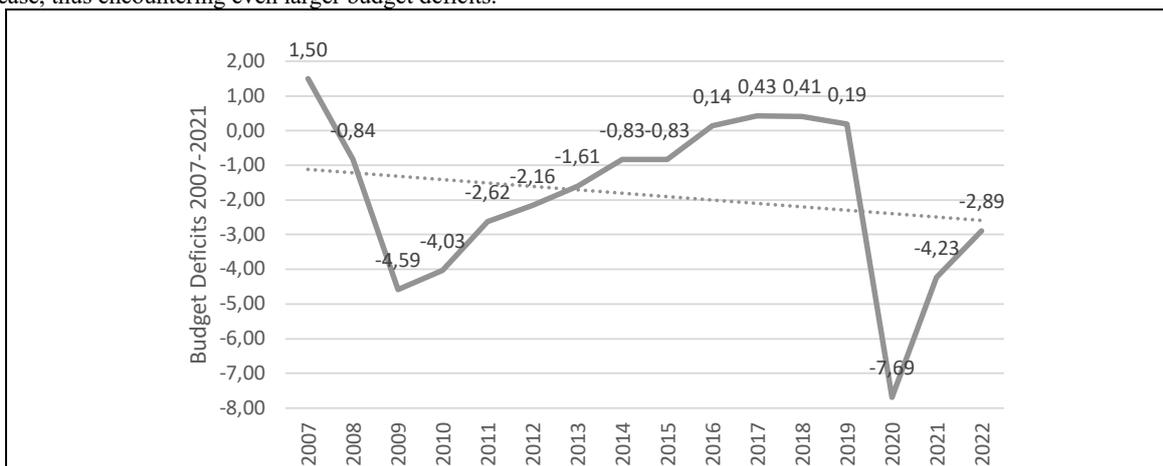
(Rodrik et. al., 2002; Rodrik and Subramanian, 2003; World Bank Institute, 2009) provide insight in the world of the Governance and Institutional quality. (Rodrik, et.al., 2002) research concludes that Institutional quality is more important factor than geography and trade. (Sapir, A., 2020) reveals that stringency had play certain role in the bringing economic slowdown. However, tourism and institutions, as well. (World Bank Institute, 2009) recognized that World bank research group WGI indicators “are now well established as one of the standard sets of measures that any researcher or policy analyst must consult”. The author uses these indicators to analyse the relevance of Governance and Quality of institutions also for the depth of the Covid-19 crisis and recovery from the Covid-19 economic crisis.

(Kaufmann, et.al., 2005) finds evidence of close correlation between income and governance.

Research results and discussion

1. Fall of the GDP and rise of the budget deficits

Governments implemented non pharmaceutical intervention (NPI) measures reducing spread of COVID-19 pandemic, thus substantially impairing economic activity, GDP growth, fiscal revenues and increasing budget deficits. Some countries in 2020 witnessed even double digit GDP decrease, thus encountering even larger budget deficits.

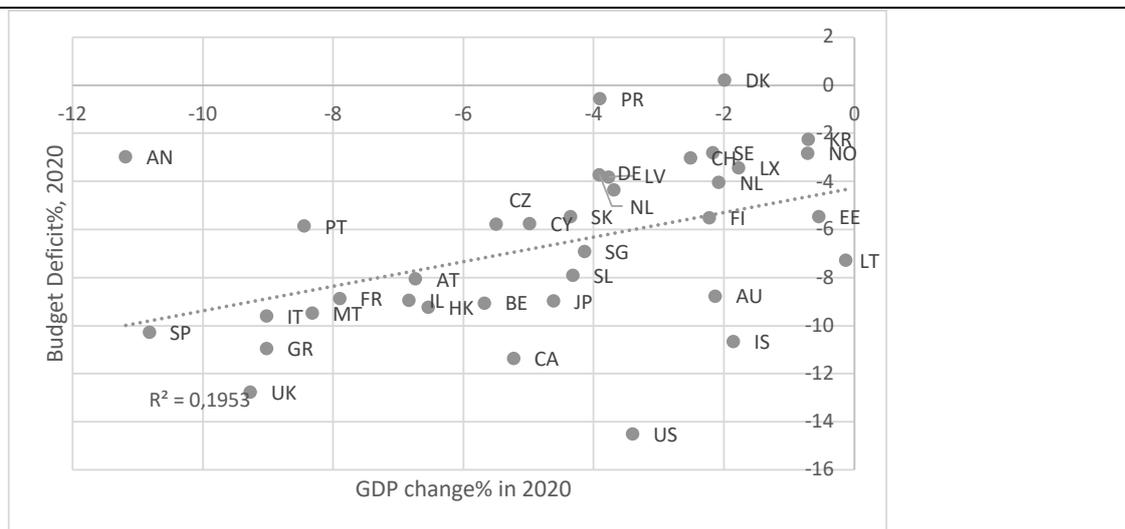


Source: author’s construction based on IMF, WEO database, October 2022.

Fig. 1. Budget deficits 2007.-2021.

Analysing development over the longer time span from 2007-2021, obvious that Covid-19 economic crisis produced sudden shock and budget surplus situation quickly turned into abrupt deficit Figure 1, and additional borrowing was immediately needed and had to be financed in the financial markets.

It has been established that NPI measures played certain role in slowing down economic activity. However, Stringency of NPI and mobility reduction of population was not the only factor of slowing down economic activity and reducing GDP growth (Sapir, 2020) and thus further increasing budget deficit.



Source: author’s construction based on IMF, WEO database, October 2022.

Fig. 2. GDP and Budget deficit change in 2020.

Fiscal support to health system and economy required substantial additional borrowing in the financial markets and increased budget deficits even further. Figure 2 reflects the situation in OECD countries, where in addition to the decreasing budget revenues, large fiscal spending and borrowing was needed to support economy. Nevertheless, additional borrowing and debt did not secure GDP from falling in 2020.

2. Increasing debt levels and slower GDP growth

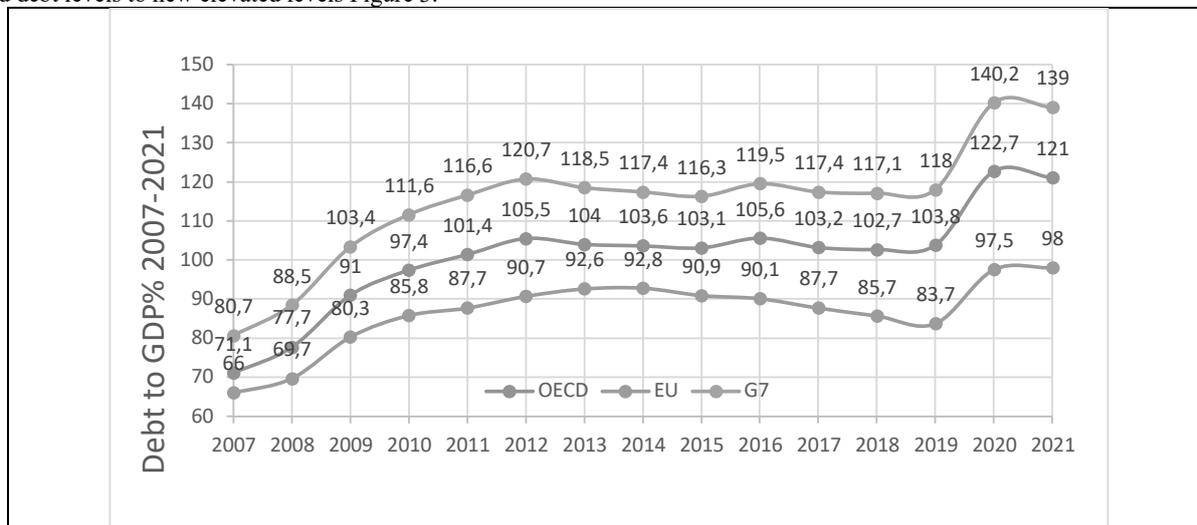
Great Financial Crisis (GFC) had substantially elevated the outstanding debt levels of many countries around the world. In the “peacetime”, when crisis was over, from 2011 to 2020 only few countries have returned to their pre-crisis debt levels to GDP of 2007.

(Ghosh, et.al., 2013) had come up with data and methodology for 23 advanced economies over 1970–2007 defining the “fiscal space,” as the difference between forecasted future debt ratios to GDP and debt limits. In 2007 there were no signs of serious risks associated with serious challenges of shrinking fiscal space. Fifteen years later after two major crises (GFC and Covid-19) the situation has changed and requires to

revisit this study again, especially under the circumstances of rapidly increasing interest rates and surging debt servicing costs, which has implications for future fiscal space.

Since fiscal space is limited and governments had used substantial resources in the previous crisis (Botev, et al., 2016), it was important to reflect on the respective financial position and initial financial stance of the respective governments during COVID-19 crisis in order to better capture the whole picture of the financial and fiscal position. Although countries had different levels of outstanding financial obligations or debt levels at the beginning of the Covid-19 crisis, countries still were able to borrow and to finance crisis needs. Thus, making it possible to compare and analyse these countries and find the factors which made one group of the countries using limited fiscal resources more efficient than the others. Thus, allowing to save precious fiscal resources and to preserve the fiscal space.

Budget deficits had to be financed by borrowing domestically or internationally. Thus, substantially increasing the outstanding debt. After GFC countries tried to rebuild their fiscal buffers in order to regain fiscal space used in GFC, but very slowly and indecisively. Just a few countries succeeded. Thus, fiscal space was not freed for the future crises and challenges remained opened and Covid-19 economic crisis increased debt levels to new elevated levels Figure 3.



Source: author's construction based on IMF, WEO Database October, 2021.

Fig. 3. Debt to GDP% 2007-2021.

After Great Financial Crisis (GFC) of 2008-2010, (Reinhart and Rogoff, 2010a) claimed that there is certain threshold of debt to GDP and after reaching 90% debt to GDP level growth will be impaired and prospects become gloomier. The study produced series of an additional research from various angles and also made (Reinhart and Rogoff, 2010b) to revisit their original paper.

GFC ended and economists and analysts did not arrive at the firm conclusions. Consensus among economists and researchers was not reached. One camp of economists (Afonso and Alves, 2014; Baum, et al., 2012; Cecchetti, et al., 2011; Chudik, et al., 2017; Woo and Kumar, 2015) came to the conclusion which clearly demonstrated the role of public debt in the future growth once it reaches certain threshold. The other camp (Ash, et al., 2017; Herndon, et al., 2013; Pescatori, et al., 2014) adamantly refused to accept that notion and presented different evidence not approving high debt to GDP level negative influence on the future GDP growth. (Herndon, et al., 2013) accused Reinhart and Rogoff for poor quality of data analysis and misleading final conclusions. Other economists and researchers found similar conclusions. However, (Panizza and Presbitero, 2012) were less adamant and careful with strict conclusions and only admitted that: “it seems that advanced economies in our sample are still below the country-specific threshold at which debt starts having negative effect on growth”.

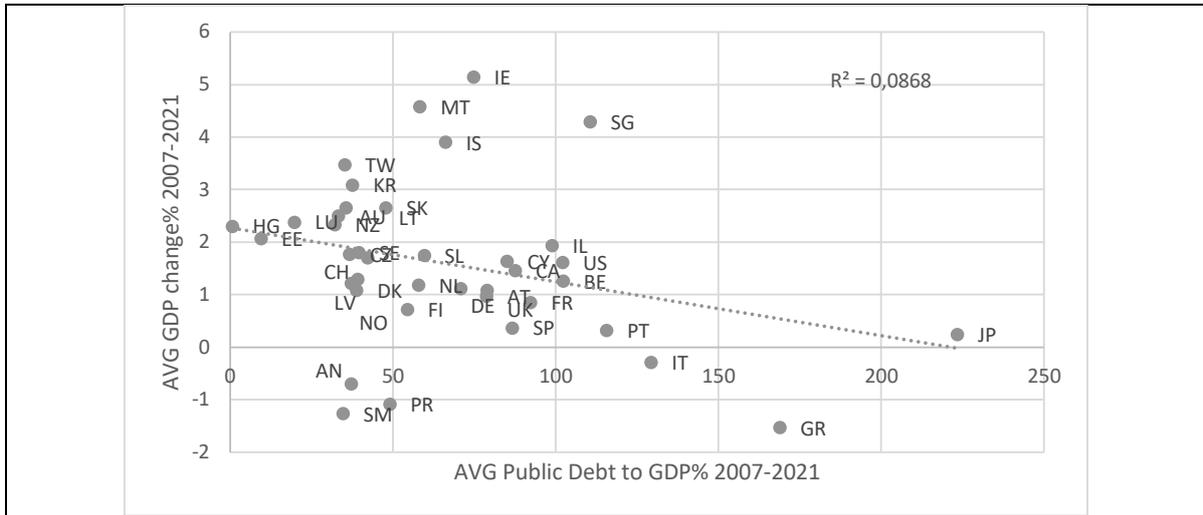
The study produced series of an additional research papers from various angles and also made (Reinhart and Rogoff, 2010b) to revisit their original paper.

Additional study analysed the permanent and transitory effects of the public debt on the economic growth (Abubakar and Mamman, 2020) acknowledging negative effect of the debt effects on GDP growth, but emphasizing that short term rise of the debt would not be harmful. (Heimberger, P., 2021) claiming that there is no universal threshold when debt is detrimental to the future growth for all the countries and the 90% is not a “magic” number.

Covid-19 economic crisis provided opportunity to bring the research about debt to GDP level further. Therefore, the concept that when debt to GDP reaches certain threshold level, GDP grows slows, the use of the borrowed financial resources becomes less efficient and instead of safeguarding fast and steady recovery and GDP growth, GDP growth slows down. Thus, further deteriorating financial conditions for the refinancing of the outstanding debt obligations and creates uncertainty and instability, worsening credit rating of the country and creating the speculative grounds in the financial markets. Therefore, it is important to analyse what are the reasons.

3. Public debt, the depth of crisis and speedier recovery

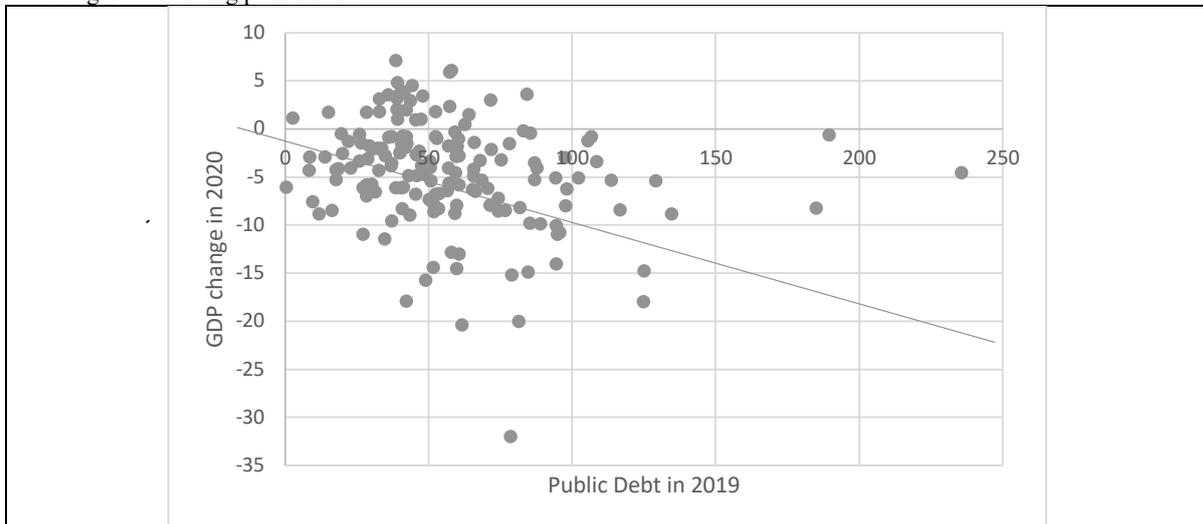
Figure 4 reflects the development of public debt and GDP growth over the period of fifteen years (2007.-2021.) in advanced economies and approves the hypothesis that larger public debt correlates with smaller GDP growth.



Source: author's construction based on IMF, WEO database, October 2022.

Fig. 4. **AVG Public debt to GDP% and GDP change% 2007.-2021.**

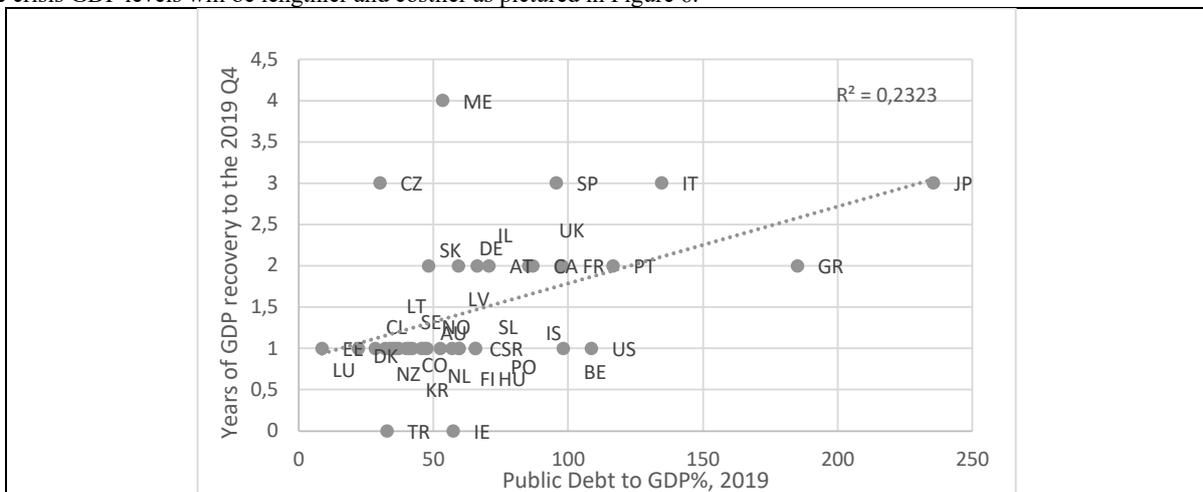
(Reinhart and Rogoff, 2010a; 2010b) stirred a lot of arguments, but GFC subsided and discussion faded away. Covid-19 economic crisis provided economists with new data and allowed to continue the research. Reinhart's and Rogoff's hypothesis became more and more evident and easier to justify. New analysis of the GDP change in 2020 or the depth of the crisis was conducted by the author, comparing 152 countries using the latest data from IMF's (World Economic Outlook, 2022) (WEO), which demonstrates in Figure 5 that the crisis is deeper in the countries with larger outstanding public debt.



Source: author's construction based on IMF, WEO database, October 2022

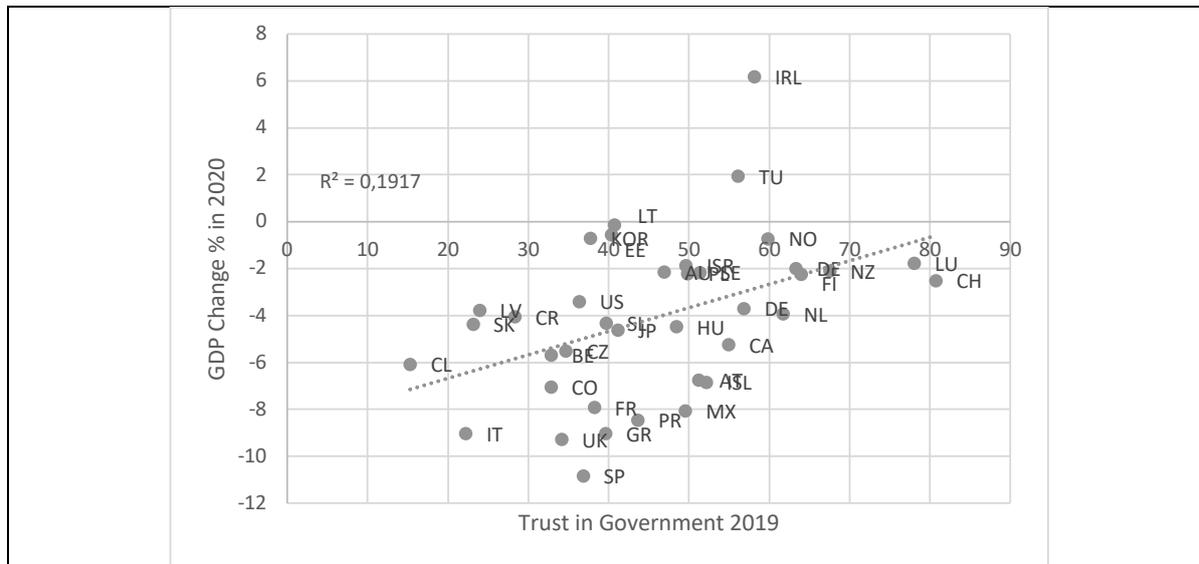
Fig. 5. **Public Debt in 2019 and GDP change% in 2020 (152 countries)**

The overall conclusion that level of the public debt to GDP has negative effect on the future economic growth raises the question whether it is justifiable to continue to increase debt level further, knowing that future growth will be impeded and the recovery or the time required to reach pre crisis GDP levels will be lengthier and costlier as pictured in Figure 6.



Source: author's construction based on IMF, WEO database, October 2022

Fig. 6. **Years of GDP recovery to 2019 Q4 level**



Source: author's construction based on OECD Data base 2021

Fig. 9. Trust in Government and GDP change % or the depth of crisis

Trust in Government and government policies is another important indicator reflecting the behaviour of the public and readiness to follow and to execute the decisions and invitations of the government in turbulent times, like Covid-19 crisis. Figure 9 reflects that countries with higher Trust in Government had less deep economic crisis and less negative GDP growth in 2020. It correlates with an assumption that people having more Trust in Government, had to had less strict stringency or containment measures and thus, smaller mobility decrease and decrease of economic activity.

Summing up Quality of Institutions, Government Effectiveness and Trust in Government indicators of 2019 in Table 1, provides new set of data, allowing to carry out analysis how these factors influence or help to facilitate the crisis and whether lower borrowing stems from higher Quality of Institutions, Government Effectiveness and Trust in Government. Table 1 also includes the initial debt level of 2020 (end 2019), thus, providing comprehensive information about the debt level and the respective Institutional, Government effectiveness and Trust in Government factors. Thus, allowing to rank the OECD countries according to the all four indicators in column Total Rating. Out of that Total Rating, author builds the analysis whether countries with better Total Rating have more appetite to borrow in order to tackle the problems and whether they borrowing more than countries with lower Total Ranking.

Table 1

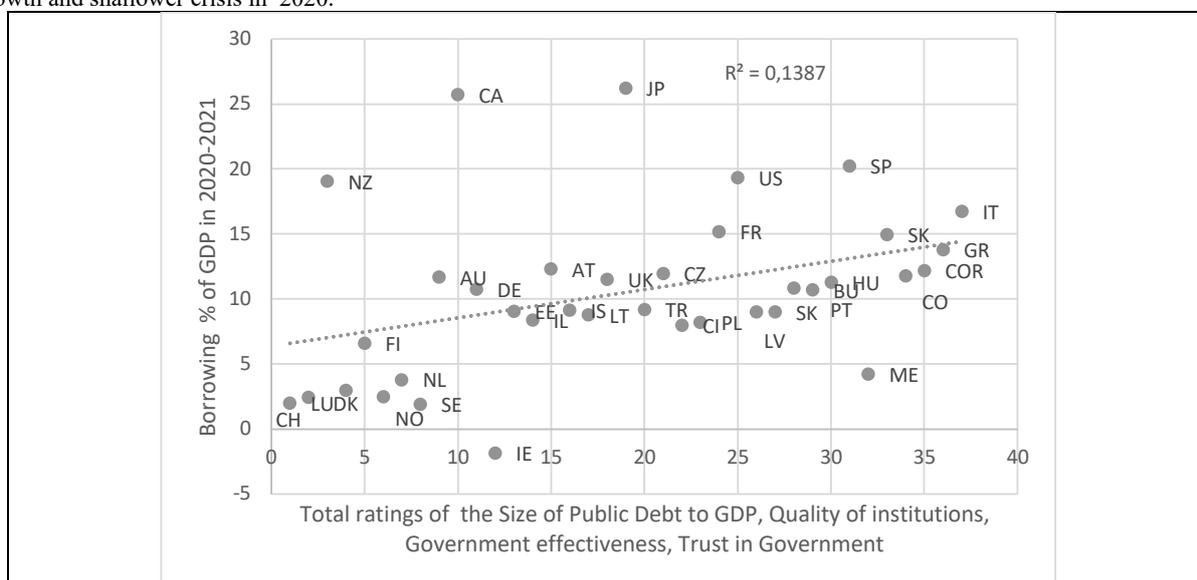
Ratings of Size of Debt, Government Effectiveness, Quality of Institutions and Trust in Government in 2019

Country	Debt 2019	Rating	Government effectiveness 2019	Rating	Institutions 2019	Rating	Trust in Government	Rating	Total Rating
Luxembourg	22.3	2	1.73	6	75.9	7	78	2	17
Switzerland	39.6	11	1.95	2	77.5	4	80.7	1	18
NewZealand	31.8	5	1.67	9	78.8	2	67.5	3	19
Denmark	33.7	7	1.91	3	77.4	5	63.3	5	20
Finland	59.6	23	2.01	1	81.2	1	63.9	4	29
Norway	40.9	12	1.86	4	76.9	6	59.8	7	29
Netherlands	48.5	16	1.80	5	78.6	3	61.7	6	30
Sweden	34.9	8	1.71	8	75.2	8	51.3	13	37
Australia	46.7	14	1.57	11	72.9	14	46.9	19	58
Canada	87.2	29	1.73	7	74.1	11	54.9	11	58
Germany	58.9	22	1.53	12	72.4	15	56.8	9	58
Ireland	57.2	20	1.29	19	73.0	13	58.1	8	60
Estonia	8.5	1	1.17	20	70.2	18	40.3	23	62
Iceland	66.2	26	1.52	14	74.1	10	52.1	12	62
Austria	70.6	27	1.53	13	73.5	12	51.2	14	66
Israel	58.8	21	1.33	18	65.6	21	49.6	16	76
Lithuania	35.9	9	1.04	26	63.3	26	40.7	22	83
UK	83.9	28	1.48	16	74.4	9	34.1	30	83
Japan	236.3	37	1.59	10	71.7	16	41.1	21	84
Turkey	32.6	6	0.05	36	53.9	34	56.1	10	86
Czech Rep	30.0	4	0.96	28	60.9	27	34.67	29	88
Chile	28.3	3	1.06	25	63.9	24	15.3	37	89
Poland	45.6	13	0.53	30	56.4	31	49.8	15	89
France	97.4	30	1.37	17	70.0	19	38.2	26	92

USA	108.8	33	1.49	15	71.2	17	36.3	28	93
Latvia	36.7	10	1.10	23	59.3	28	23.9	34	95
Slovenia	65.4	24	1.08	24	63.4	25	39.7	24	97
Portugal	116.6	34	1.17	21	64.5	23	43.6	20	98
Belgium	97.7	31	1.15	22	69.5	20	32.8	31	104
Hungary	65.5	25	0.50	31	55.7	33	48.4	18	107
Spain	98.3	32	1.00	27	65.1	22	36.8	27	108
Mexico	53.3	18	-0.16	37	48.3	37	49.5	17	109
Slovak Rep	48.1	15	0.59	29	56.3	32	23.1	35	111
Costa Rica	56.4	19	0.42	33	57.1	30	28.3	33	115
Colombia	52.4	17	0.07	35	49.3	36	32.8	32	120
Greece	185.6	36	0.35	34	50.5	35	39.6	25	130
Italy	134.1	35	0.48	32	58.6	29	22.2	36	132

Source: author's calculations based on IMF, WEO October database 2022, and OECD Data base 2021

Anglo-saxonian countries and Japan clearly stand out as the separate group of aggressive borrowers during pandemic, hoping to provide huge fiscal stimulus at the outset of the crisis to facilitate arising problems. However, rest of the OECD countries except Spain, Italy and France had modest appetite to borrow. Figure 10 allows to draw a conclusion that countries with better Quality of Institutions, Government Effectiveness and Trust in Government and lower initial 2020 debt to GDP level, were borrowing less in 2020 and 2021. Thus, approving the hypothesis that these countries used less new financial resources, used fiscal resources more efficiently and managed to have less negative GDP growth and shallower crisis in 2020.



Source: author's construction based on IMF, WEO 2022, and OECD Data base 2021

Fig. 10. OECD Country's Ratings of Size of the Public Debt to GDP, Quality of Institutions, Government effectiveness and Trust in Government in 2019

Countries with better Quality of Institutions, Government Effectiveness and Trust in Government and lower initial 2020 debt to GDP level not only had shallower economic crisis, but also recovered sooner reaching pre-crisis GDP level, than the countries with larger debt level at the beginning of the 2020 and lower Institutional Quality, Government effectiveness and Trust in Government and deeper crisis.

Conclusions, proposals, recommendations

Every economy from time to time witnesses smaller or larger economic crises. Covid-19 crisis provided opportunity to compare how the countries tackled COVID-19 crisis imposed problems. Paper provide the answer which of the countries suffered less in 2020 and had smallest negative GDP % change and which countries had deeper crisis. Based on Covid-19 twin (health and economic) crisis analysis results, author concludes:

1. Countries with smaller debt burden, better Institutional Quality, especially Government Effectiveness, more Trust in Government, had less negative GDP growth in 2020.
2. Countries with smaller debt burden, better Institutional Quality, especially Government Effectiveness, more Trust in Government had shallower economic crisis in 2020.
3. Countries with smaller debt burden, better Institutional Quality, especially Government Effectiveness, more Trust in Government, borrowed less, spent available fiscal resources more efficiently and increase less the outstanding debt obligations.
4. Based on Covid-19 twin (health and economic) crisis analysis results, author concludes that countries with larger outstanding Public Debt levels recovered later.

Efficient use of limited fiscal resources is reflected in smaller use of the discretionary fiscal resources and smaller borrowing in the markets in order to minimize negative GDP growth and secure economic recovery.

Periods after financial or economic crisis always must be used to renew the fiscal space and to rebuild the fiscal buffers in order to be able to act in the next crisis, which will come uninvited. Period after Great Financial Crisis was not wholeheartedly used to renew initial fiscal and debt position. Only few countries managed to restore the 2007 debt to GDP level.

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THE PRESENCE OF SOCIAL CAPITAL WITHIN PUBLIC SPORT GOVERNANCE: THE CASES OF THE BALTIC STATES

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Abstract. Sport plays a vital role in every country's nation building process, various socio-economic indicators give way of proving just how deep is social capital's reach and presence within the public sport governance, especially by comparison of the Baltic States that do not have identical socio-economic development and thus equal social capital presence within their respective public sport governance structures. The aim of this research paper is to analyse the possible socio-economic determinants of social capital and thus its presence within public sport governance across the Baltic States by applying content analysis and synthesis, logical constructive analysis and generalisation methods. The novelty of this research paper is founded on the assumption that various socio-economic determinants showcase the level of presence of social capital within the public sport governance and on a macro level as whole, while considering the ever-changing conditions of the world economy and the various defining moments in world history that influence social capital's role in it. The research performed through the analysis of various socio-economic determinants and statistical data proved the possibility of strong socio-economic impact of social capital within the public sport governance systems of the Baltic States.

Keywords: *social capital, public sport governance, socio-economic determinants, Baltic States.*

JEL code: B55, Z20, Z21, Z28

Introduction

Ever since the day pandemic was announced in March 2020, the thought of how global economy would recover during the post-pandemic era has been ever present. It has now been replaced by thoughts of the highest inflation since the 2008-09 economic crisis influenced by the current energy crisis. Present turbulent times enable the collective thought of resilience to face various issues on all levels and sectors of economy. While the sense of social capital felt strong during the first phases of the pandemic across Europe, right now the idea of social capital as a sign of resilience should be nurtured even more to encourage and enable various aspects of economic development. It should be done despite how difficult this task might sound - as neither is the pandemic over, nor is the war that once again rages on European continent.

Sport has yet again been caught in between the ever-changing world events by being one of the major contributors to the economic and social development of the society. As sport plays a vital role in every country's nation building process, various socio-economic indicators give way of proving just how deep the reach of social capital within the public sport governance is. It could be presented by comparison of the three Baltic States - that even though have similar in historical path over the last century - do not have identical socio-economic development and equal social capital presence within their respective public sport governance structures. Thus, it presents the necessity to ascertain the presence of social capital within all human social and economic activities, incl. sport.

The aim of this research paper is to analyse the possible socio-economic determinants of social capital and, thus, its presence within public sport governance structures of the Baltic States. To reach the set aim the authors apply content analysis and synthesis, as well as logical constructive analysis and generalisation methods. The comparative analysis of the Baltic States and their respective socio-economic determinants of social capital within public sport governance is carried out by executing the following research tasks: 1) to describe and analyse the synergy of social capital, sport and public sport governance; 2) to assert and compare the various ways of social capital measurement and most common socio-economic determinants of social capital within public sport governance through application of various statistical data; 3) to draw general conclusions; and 4) to elaborate a short list of proposals based on the analysis performed.

The main and overall general research question set by the authors is the following: "What are the possible and available socio-economic determinants of social capital within the public sport governance of the Baltic States?" Considering the overall knowledge of historical significance of sport and its achievements and the overall social nature of it, while also bearing in mind the different preferences and development, the answer of the set research question should solidify and prove the presence of social capital within the sport sector and its overall governing structure on a macro level of each Baltic State.

The novelty of this research paper is founded on the assumption that various socio-economic determinants showcase the level of presence of social capital within the public sport governance and on a macro level as whole, while considering the ever-changing conditions of the world economy and the various defining moments in world history that influence social capital's role in it. Despite social capital measurement attempts being deemed as difficult, if not impossible to measure it directly, various proxy indicators are used to perform various social capital determining analyses, thus also adding novelty to this paper through performing a comparative analysis of socio-economic determinants of social capital within the public sport governance of the three Baltic States. To carry out the analysis such international descriptive indicators Worldwide Governance Indicators (hereinafter - WGI), Income inequality index (hereinafter GINI) on average of the last 5 years (if available) from the various data available within World Bank related databases, as well as such socio-economic data as the overall and sport's sector labour market participation statistics, GDP per capita in thousands of euros, employment in sport expressed both in thousands and percentage of total employment based on the *EuroStat* official statistical data available at the time of writing this paper, as well as to compare the countries through the lens of number the population size will also be included, as well as the numbers of officially recognised sport federations and registered participants. The delimitation of this particular research paper is that the conclusions are based on a developed assessment model, but includes parts of the statistical data that will be used in author's future research. It is also limited that the Covid-19 pandemic is not yet declared over and the full consequences of war in Ukraine will be known after it is over, while the accumulated data for the year of 2022 and the upcoming years will be known later on, thus creating further topical theoretical and empirical research opportunities.

Literature Review

The authors used various sources of different levels of significance to conduct the quick overview of the topic presented. This research paper is developed by using theoretical, scientific and specialized articles from academic journals, reports and latest data from official statistical sources, such as national statistical offices of the Baltic States, European Statistical Office – *EuroStat* and World Bank's databases, as well as online published documents of various importance level, e.g. research reports on Global Sustainability Competitiveness Index from the last five to six years.

To describe the theoretical aspects of the social capital concept the most prominent authors who have covered the topic were used, namely, Coleman (1988) and Putnam (1993; 2000). Authors also complimented the writings of classic social capital theory authors' work by the most recent scientific publications of role of social capital during the times of crisis (pandemic), such as Wu (2021) and Zhou, Kaplanidou and Wegner (2021), as well as an article by Gannon and Roberts (2020) that touches upon the criticism of social capital as a notion it receives, while supporting its presence within the research and socio-economic environment. Social capital has the power not only to drive positive change but also has a darker side, to explore both sides of social capital spectrum authors analysed multiple sources, however, the main touching

points were discovered in the articles by Kamberidou and Patsantaras (2007), Numerato and Baglioni (2011) and Widdop, Cutts and Jarvie (2016).

To investigate the various socio-economic determinants and various other possible proxy indicators used to determine either the impact and/or presence of social capital within a community, region or country authors turned to Ferragina (2013), as well as the research on measurement in social capital by Engbers, Thompson and Slaper (2017) where the case for using proxy indicator of group memberships and participations to be included as a necessary indicator in the social capital measurement was analysed.

Other complimentary and crucial scientific research articles on the topic of social capital, sport, their synergetic dynamics, the possible measurement of social capital or definition of possible socio-economic determinants, and related aspects written by various authors have also been included.

Research results and discussion

The notion of sense-making the concept of social capital has gained popularity over the last couple of decades. It has found its place by being part of the discussion within the frameworks of various research disciplines, such as economics, sociology, political science and many others, including sport and its public governance. In 1988, Coleman in his treatise on “Social Capital in the Creation of Human Capital” defined social capital as “the aspects of the social structure that facilitate certain actions of actors within the structure [...]. Making possible the achievement of certain ends that, in its absence, would not be possible”. Putnam’s “Bowling Alone” (2000) brought social capital to the centre fold as a crucial aspect of each community that facilitates coordinated actions, reduces transaction costs and enables communities to be more effective in pursuit of their collective interests. Most often than not, participating in sporting activities – be it active or passive (as part of the audience) does create a never ending reactive circle for the synergy between the two structures, namely, social capital and sport.

Social capital as a concept can explain a wide range of social phenomena, such as economic growth, quality of government and people’s health and well-being (Wu et al., 2020; Wu, 2021), as well as the necessity to do and consume sport, thus facilitating the mutual benefit for everyone involved. This is built upon the understanding of the features of social organisation, namely, networks, norms and social trust. According to Putnam (2000) social capital is a multi-dimensional construct that comprises three main components – trust, reciprocity and network. Trust arises from the sense of confidence that other people will behave in an appropriate, reliable and cooperative way, followed up by reciprocity that rests upon the premise that the same people will uphold their actions not only for their self-interest but also considering the interest of others. While trust and reciprocity are the very content of every social relation, networks are the backbone, as they refer to the voluntary and intertwining relationships between individuals and groups, namely, prospering the sense of belonging. This enables the person to engage with others and draw upon the proposed and available resources, e.g. skills, knowledge, funding, materials, etc., from the established relations (Zhou, Kaplanidou and Wegner, 2021).

When it comes to sport, the sense of belonging is the epitome of social network building that is expressed through the sport participation data. The data on sport participation collected across the European Union for both 2014 and 2015 – presented the following results: 43 % of the EU citizens practised some physical activities at least once a week (active participation in 2014), while less than one third (28 %) of the EU citizens attended a live sport event (passive participation in 2015). The next updated data presenting only the active participation across the EU in 2019 was collected and updated in 2022, the following average result on the active participation was accumulated, namely, 44 % of the EU citizens practised some physical activities at least once a week (active participation in 2019). Both active and passive sport participation generate social capital. Active participation has a positive influence on personal health and well-being, team sports foster players’ communication skills and build team spirit and self-confidence, thus forming a potential socially inclusive and capable employee. While passive sport participation - referred to physical attendance of organised events as a spectator does not only reflect an interest in sport competitions but also brings people together, namely, it has an important socialising value (Eurostat, 2022).

People across the world interact with and within sport differently and the structures, principles, events and scandals could foster and hinder the sense of community, as they create the backbone of the social capital and sport synergy on all levels of its governance. The capacity of sport structures to provide the people involved with sense of belonging is not only perceived as a key element of the sport participation experience (Chalip et al., 1992; Perks, 2007), it is also viewed as forerunner for the actual presence of social capital (Putnam, 1993).

It needs to be stated that the overall social capital of a nation is also clear indicator of the sport and social capital synergy level – the economic prowess and labour market position of an individual, the community or the country’s society can present just how economically and socially stable the country is or what needs to be done to get there. Social capital as a public good needs to be held in equilibrium, because tipped in wrong direction it can shed light to the darker side of society. It is especially painful to detect it at the high level sport governing bodies, when corruption scandals at FIFA or the ex-ante and ex-post evaluations of hosting the Olympics present a less positive side of social role. In the next sub-sections of this paper the authors will perform an overview analysis of synergy and social capital and public sport governance, the complexity of measurement of social capital and how various socio-economic determinants could be used to evaluate the presence of social capital within a nation, and the comparative analysis of the Baltic States using the analysed socio-economic determinants and indices.

1. The synergy of social capital, sport and public sport governance

To speak of the synergy between social capital, sport sector and its public governance means to understand how sport affects people’s lives and what role does social capital play in the grand scheme of things. Some view sport as one part of social capital itself, as stated by Kamberidou and Patsantaras (2007) that social capital flourishes where individuals, communities, organization and nations prosper economically, as it refers to associational life, civic virtue and engagement, community service, social action, cohesions, ties and trust, the value of social networks, broadening of identities, respect for ethnic, racial and gender diversity, while eliminating socio-economic exclusions. Social capital comprises in itself the quality of life – education, health care, culture and social integration, be it through engagement of social groups into public, non-governmental and political organisations or active participation in civic initiatives, such as organising community sporting events or supporting local or national team. At the public or macro level, social capital presents itself in the society’s ability to work together in groups and organisations to attain shared goals (Jankova, Grizane, Jurgelane, 2017).

Social capital and its synergetic ways present itself at the micro level through individual collaboration as a result of personal contacts, cooperation with formal and informal networks, trust in others, incl. businesses, own country’s governance. At the macro level it showcases through the results of social groups, engagement in and with public, non-governmental and political organisations, overall trust in government and public governance, while also being extremely responsive to the actions of various social groups when establishing a strong mutually related network of groups. The latter could be exposed as social capital’s never-ending synergy with sport and its public governance, as the public (sport) governance is definite structure how each stakeholder, namely, sport governing body creates its own network within the framework. Thus, it enables for the presence of social capital to grow, namely, increase public tolerance, public consolidation, economic development of territories, development and implementation of state and municipal policies while also increasing the level of life of the country’s society. Social capital has a wide potential demonstrated by the competences, skills and abilities by an individual and the society as

a whole, and participating in sport – active or passive – could be viewed as one of the measures to develop them. Thus, participation in sport has many reasons for many people, yet the main reasons are associated with personal, interpersonal, environmental and societal benefits (van Bottenburg et al., 2005), with interpersonal reasons being one of the most important elements of the sport experience to people (Beard and Ragheb, 1983). This is also true when one pursues to research the interconnection between the promoted universal power of sport and the essence of social capital on public governance level.

The presence of social capital within sport governing and participation structures appears to be vital to the existence and continuance of communities (Maguire et al.; 2002) at various spatial levels. The intensity of social capital reflects the power of the community, thus further cultivating the survival and growth of any community or even nation. It is present on various regional levels through the popularity of various sports across the world. Within sport participation communities with high levels of passion for various sports, the presence of social capital can encourage their members to remain physically active, volunteer on behalf of the community and gain various, incl. psychological, benefits from their membership (Harvey et al., 2007) while holding the community together and supporting each member despite the hardships that any crisis may bring. One of the ways how to gain a perspective on the social capital reflections within public sport governing structures of different countries is to consider the proposed concept of Glanville and Bienenstock (2009) where they emphasise three main components of social capital are the following: a) level of social network density, b) level of trust and/or reciprocity, and c) level of resources.

Social commitment, cultural orientation, as well as socio-economic status – both personal and national – also appear to be the three elements that are vital in influencing people of various ages to perform activities – sporting and/or volunteering – in favour of the community. Donati and Tronca (2008) stated a certain continuity between the primary (family/individual) social capital, the secondary one (associational/local) and the generalised one (societal/national). This kind of definition of sport - deemed both private and public good - has also brought a greater light on the relationship between sport and social capital. Widdop, Cutts and Jarvie (2016) add that sport contributes to 1) the bridging (social ties connecting people together with others across a cleavage that normally divide society, e.g. race or class, economic crisis) and/or bonding (social ties linking people together with others who are similar to them along some key dimensions) aspects of social capital; 2) the relationship between sport participation and social capital; 3) the role of sport in fostering different aspects of communitarianism; 4) the role of sport in the development of both human capabilities and community life. It is also supported by the various classification ways of social capital associated with sport that could be revised at all times. At a personal / individual level sport provides a basis to form a friendship, provide goals and foster physical and mental well-being, while at a local level sport allows to form strong local networks and ties, especially within youth sport, that creates a healthy ground for bringing different sections of communities together. At a societal level sport has the role of procuring common shared norms and conversational points, providing the basis for a collective memory. At the same time the national and international level sport transmits pro-social values such as fairness and rule following, while acting as a leading force for the engagement of one country's citizens with another.

However, while social capital might have a positive effect on any particular society through sport, it can also reinforce the creation of exclusive identities, social divides and discrimination, gender exclusions, capitalization, egocentric bonding, despite the efforts of inclusive public sport governing bodies. Thus, sport has also the power to be perceived through its potential “dark” social capital since the politics of sport do not always deliver the proclaimed social benefits due to the “inclusive” vs. “exclusionary” factors, such as commercialization, doping, the exploitation or misuse of social capital in the media, the under-representation of women, etc. (Kamberidou, Patsantaras, 2007) Thus, per Numerato and Baglioni (2011) the dark side of social capital could be defined as situations in which trust, social ties and shared beliefs and norms that might be more beneficial to some persons are extremely detrimental to other individuals, but also to sport movements and society at large. The dark side of social capital manipulates and misuses trust to achieve a particular interest that is in conflict with more straightforward sport development objectives, one of them being the consideration of sport as some type of “school for democracy”. Numerato and Baglioni (2011) also emphasize, thus confirming the previously mentioned aspects of social capital's dark side, that social capital and sport's positive side of synergy originates in the interconnectedness between sport practice and the spheres external of it, namely, business. It means that the social bonds created in and by sport are misused with commercial interests in mind, which is proven by the extent of professional sport leagues and their constituent major sporting events. Sport as an economic sector is part of the worldwide trade market, be it through the spectacle itself with live attendance or TV broadcasting rights, or merchandise sales, etc. Sport - both a social and an economic driver - has a unique power over people to the extent that it might unite the world for a brief while, while trying to shy away from the obvious problems the previous decision-making process results has created.

Indeed, sport has the unique power to bring the world together, as people want to be elevated by joy and brought together by it, as showcased by the World Cup 2022 in Qatar and its fantastic final game between Argentina and France, where Argentina went out as Champions bringing together not only a deeply economically stricken and divided Argentinian nation but people across the whole world, too. People wanted to be included in the joy that the game of football may bring in one way or another. It all happened despite the FIFA corruption scandal that blew up in 2015 based on a thorough international investigation of economic and financial crimes committed, that it still serves as a reminder of the high level corruptive behaviour any organisation might be exposed to. People from across the world still flocked to the small, yet very rich and influential Persian Gulf country despite the disruption of the whole football season calendar that it brought upon the football and the overall sporting world. World Cup as a major sporting event is not the only one that is not as white and shiny as its sport governing body wishes for it to be, as the Olympics face the same scrutiny. The Olympic Charter advocates for respect for ethnic-cultural-gender diversity, thus building the cosmopolitanism and allowing the creation of peaceful coexistence of all people across the world. The dark side of social capital presents itself clearly as many of the Olympic values and the goal of global social cohesion are left neglected. As Olympic Games are connected to power relations in society as a whole, they cannot be separated from the complex political, socio-economic and cultural globalisation processes. Any major sporting event does not exist in a social void but in interrelation with plethora of other social science spaces, incl. politics and economy.

This is also the determining force why social capital is measured and evaluated by compiling, calculating and evaluating various socio-economic data that are usually used to rank countries among other by their economic power and prowess, enabling further sustainable and competitive development in the future, as it is nearly impossible to define the presence of social capital by analysing one sole indicator. It is also believed that a flourishing economy cannot be achieved without understanding the overall social scene and cohesion of any country, especially, when spoken of public sport governance, as at times sporting activities, national athletes and other sport-related actions do more public good than any other topical policy.

2. Various ways of social capital measurement and its socio-economic determinants within public sport governance

Each year the amount of research on social capital has grown exponentially (Engbers, Thompson and Slaper, 2017), raising the question of measurement, taking into consideration the term of “capital” included in the theoretic concept of social capital itself (Micucci and Nuzzo, 2003). It also leads to a stretch of criticism both from sociologists and economists alike, the first ones binding it to over-simplification of a situational and dynamic concept, while latter – mostly in relation with the use of the term “capital” in it (Piselli, 2000; Solow, 1999). As Putnam

(2000) defines social capital as a multi-dimensional concept, it also raises the issue of the measurement of the said concept within both economic and sociological theories, as each research case of social capital needs to be data driven, using various proxies (Gannon and Roberts, 2020). It creates a space that various ways of measurement and determination of social capital, its impact, ever looming presence and indicators are in constant need of proving the notion to be indispensable. Despite measurement attempts of social capital deemed difficult, if not impossible to measure it directly and that for empirical purposes, the use of various socio-economic proxy indicators is necessary. These indicators showcase the presence of social cohesion and capital within the communities of various sizes. It proves that the concept of social capital is still a useful one, as it highlights the social, economic and political aspects of human agency and capture the way shared identity and commitment to social values can contribute to social welfare (Christoforou, 2013).

Some of the most frequently used proxy indicators in various empirical research of social capital measurement and that have been used to explain a large amount of social capital variations across Europe are the income inequality (GINI coefficient), labour market participation (employment and unemployment rates, as well as employment in sport,) and economic development (gross domestic product per capita, hereinafter *GDPpc*),. GINI coefficient as a measure of income inequality is based on disposable personal income, that includes accumulated data of private sources of income, occupational pensions, regular inter-household cash transfers, court-ordered payment and income from public benefits programmes. The labour market participation captures the existence of a relationship between work involvement and willingness to participate in voluntary associations, network with family and friends, as well as trust in others and institutions. The economic development indicator of *GDPpc* is considered the most important socio-economic factor / indicator of explaining and also measuring social capital (Ferragina, 2013). Group memberships and participations are also major indicator of social capital at a community level. E.g. civic engagement through the number of organisations, incl. sport clubs, within a community can be a stronghold measure of social capital, as it gives opportunities to create strong social ties and relationships (Engbers, Thompson and Slaper, 2017).

In the context of this research paper, it is also important to note that the way public sport governance in different countries is structured might affect the presence of social capital within the country itself, and how it then comes back to influence the institutions involved within the public sport governance. It is important to determine, e.g. whether public sport is accounted as public policy at the government level and receives direct state funding and grants (Rusmane, 2021). It might be assumed that the synergy between social capital and public sport governance could be ever present, as it emulates through amount of people actively participating in sporting activities due to well-promoted public policy or general trust in the sport governing institutions or an overall trust in the work of government and its decisions. As is the case of the annual *beActive* European Sport Week is a sport participation promotional campaign developed by European Commission and further endorsed by public sport governing bodies of Member States, their participants and consumed by the wider society.

In this case it could be beneficial to evaluate the available data of World Governance Indicators (hereinafter - WGI). WGI are research dataset summarizing the views on the quality of governance. WGI constructs aggregate indicators of six broad dimensions of governance: 1) Voice and Accountability; 2) Political Stability and Absence of Violence/Terrorism; 3) Government Effectiveness; 4) Regulatory Quality; 5) Rule of Law; and 6) Control of Corruption (Kaufmann, Kraay and Mastruzzi, 2010). Two indicators within the framework of the accumulated WGI should be particularly brought to light for the analysis of the presence of social capital within public sport governance. Those are Government Effectiveness and Control of Corruption. Government Effectiveness indicator reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies, while Control of Corruption points to the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. It should be said that all indicators within WGI could be used for the analysis, but these two point out to the some of the main aspects of social capital and its presence within public (sport), governance, namely, 1) trust and 2) rules and norms - that are the very foundation of the public sport governance structure.

To inspect the social capital presence through participation and membership in various organisations, the formal participation in sport federations and clubs could also be observed and used to compare the Baltic States amongst each other, using the official statistics of national sport federations' councils and registers, if available. At the same time the informal active sport participation presents the overall wilfulness of population to stay healthy and fit, and being active within the sport network. To put the participation data into perspective the overall country's population size is included in the comparative analysis as one of the determinants to present the actual active participation of the countries compared.

To carry out the comparison of socio-economic determinants of social capital within public sport governance of the Baltic States the various above mentioned and described proxy indicators of social capital determining presence within a particular society and/or state are presented in the Table 1 below. In total eight various statistical data and socio-economic determinants are used in the comparison as criteria: 1) Population size in millions, 2) Number of official recognised federations and number of registered participants, 3) Active participation in sport at least once a week for population aged 15 and older in 2019, % 4) *GDPpc*, kEUR, 5) Labour market participation, % (employment / unemployment), 6) Employment in sport, thousands / % of total, 7) WGI: Government Effectiveness / Control of Corruption (overall average WGI of 6 indicators), and 8) GINI. Five of the eight criteria are used and presented in calculated average of the last five years from 2017 to 2021 (in four cases of the chosen determinants), while for one criteria (GINI) the data for the last five years was available from 2015 to 2019. In the case of GINI index it should be noted that the lower the number of the index, the better the situation regarding the income inequality, while the optimal result of WGI is 100, namely, the closer the result is to the optimal, the better is the overall evaluation of the governance in the country.

Table 1

The comparison of socio-economic determinants of social capital within public sport governance of the Baltic States

Indicator	Population in millions, 2022* *National official Statistical Offices	Number of official recognised federations, 2022 / Number of registered participants (EE: 2022, LV: 2019)	Active participation in sport (keeping fit) at least once a week for population aged 15 and older, %* 2019	GDPpc, kEUR, AVG, 2017-2021	Labour market participation, %: employment / unemployment rate, AVG, 2017-2021	Employment in sport, thousands / percentage of total, AVG, 2017-2021	WGI Government Effectiveness / Control of Corruption (overall AVG WGI of 6 indicators), AVG, 2017-2021	GINI (AVG, 2015-2019)
Country								
Estonia	1 331 716	70 / 191 100	43.5 %	15 302	79.56 / 5.76	5.2 / 0.794	86.06 / 90.19 (85,64)	31.08
Latvia	1 875 757	95 / 196 454	37.9%	12 316	76.18 / 7,62	7.46 / 0.832	79.23 / 70.73 (75.20)	34.74
Lithuania	2 840 758	80 / n/a	31.1%	13 818	77.22 / 7.04	6.6 / 0.484	81.25 / 74.23 (79.05)	36.82

Source: Table constructed and average (AVG) calculations made by the authors, based on the data available and extracted from EuroStat, 2022, Official Statistical Offices of Estonia, Latvia, Lithuania, 2022, Estonian Sport Register, 2022, Latvian Sport Federation Council, 2022, Latvian Sport Policy Guidelines 2021-2027, draft version, 2021, World Bank Indicator Database, 2022.

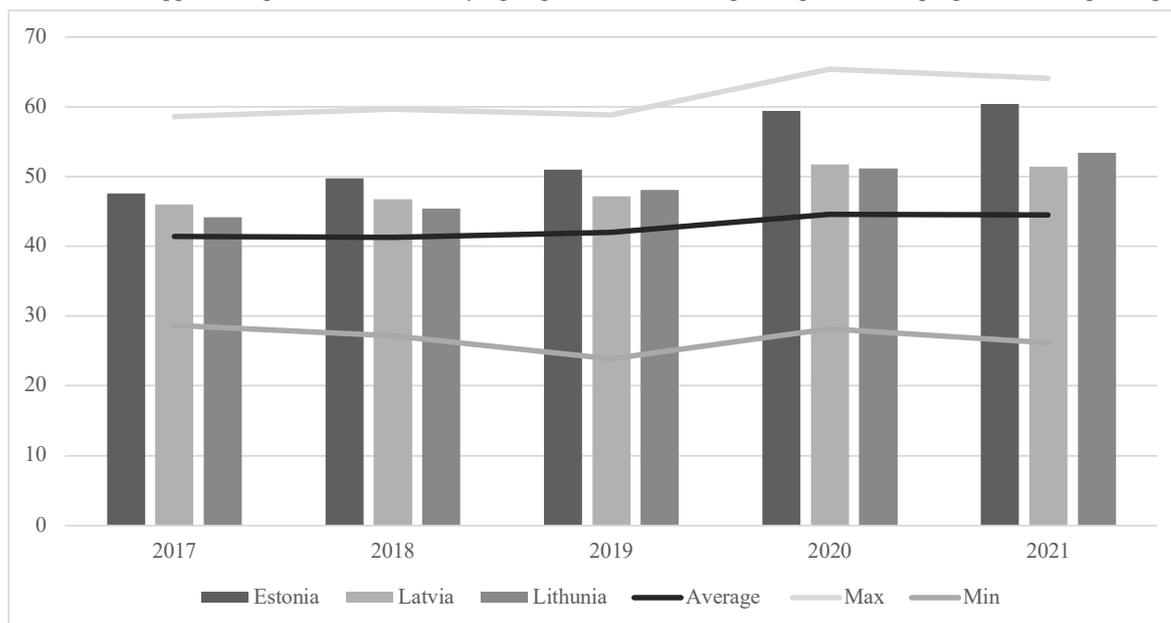
The comparison of the compiled socio-economic determinant data of social capital within the public sport governance presents the following situation among the three Baltic States, namely, that apart from the first two criteria (columns) and employment in sport in thousands and percentage of total employment (the lowest), Estonia is the leading Baltic State across all criteria. Despite its smaller size in population, it has the highest percentage of registered participants in sport federations – 14% of total population, while also having a highest percentage of adults actively participating in sport weekly 43,5%, compared to Latvia's 10% of total population being officially registered sport federation participants and 37.9% active weekly sport participation. For the most part Latvia has the lowest results amongst the three countries, apart from data portraying the employment in sport, active sport participation and GINI (second among the Baltic States). Lithuania takes the middle spot among the three nations, despite having the biggest population, apart from active sport participation and GINI result (third among the Baltic States). These results present an assumption for a strong socio-economic impact of social capital within the public sport governance, while pointing out that a thorough in-depth and detailed research is required. One thing is clear within this particular research paper framework - the higher the results of the proxy indicators, the bigger is the possible presence of social capital with higher *GDPpc* and better situation in labour market participation, proving that people have more opportunities to provide for themselves while also contribute and participate in various economic, incl. sport activities (active or passive), be it on an individual, local or national level.

While the collected data, various proxy indicators and determinants of social capital present a possible way to determine and evaluate the presence of social capital and its impact within a particular country's society, there is also another way to determine the crucial role it plays in the overall country's socio-economic development. It also enables to establish a substantial link between the data compared in Table 1 above and Figure 1 below.

Namely, an alternative way of measuring social capital is presented by the Global Sustainable Competitiveness Index (hereinafter - *GSCI*) reports published since 2012. *GSCI* consists of six sustainable competitiveness pillars – natural capital, resource intensity-efficiency, intellectual capital, economic sustainability, social capital and governance performance. These *GSCI* reports are compiled by an independent sustainability think-tank called "SolAbility" (hereinafter – *SolAbility* or think-tank) based both in Zurich, Switzerland, and Seoul, South Korea, that has been providing another outlet of social capital measurement in an already accumulated format. The compilation and calculation of *GSCI* and each of its pillars' indices are done by using the available World Bank Indicator database, various UN agencies, the International Monetary Fund and other NGOs.

While *SolAbility* (2022) admits that Gross Domestic Product is still "the most commonly used parameter to express the power or the wealth of a nation, [...], the functioning of a nation-state is highly complex mechanism influenced by numerous factors" to solely rely only on this parameter. As per *SolAbility*, "Social capital of a nation is the sum of social stability and the well-being of the entire population of the said nation, [...] (as it) generates social cohesion and certain level of consensus, which in turn delivers a stable environment for the economy to thrive [...]." As it is not a tangible value, it is difficult to measure, as already stated above by variety of other authors, however, it is possible to evaluate and compare several socio-economic factors. The think-tank used the factors of health care systems and their universal availability and affordability; income and asset equality (the previously mentioned GINI coefficient) correlated to crime levels, as well as the demographic structure; freedom of expression and freedom from fear, and the absence of violent conflicts that enable for entrepreneurship to grow and develop. The main consensus on social capital's impact on the social cohesion of a nation is the following, as per the think tank: "The higher the social capital of a country, the better the economy can flourish. The higher the social [balance], the higher the motivation of individuals to contribute to the wider [public] good, i.e. the sustainable development of the nation; and the less likely they are to fall off the track into illegal paths of wealth generation [...]."

The accumulated version of social capital index and its changes over time period of five years from 2017 to 2021 in the Baltic States (to coincide with the data reviewed in Table 1) are presented in the Figure 1 below by portraying the changes of the countries, as well as their respective positions in relation to the maximum, minimum and overall average result with all countries included in the annual *GSCI* reports. It should be clarified that the optimal, so called perfect result, per *SolAbility*, would be 100, however, none of the analysed countries has yet achieved it, but those who are approaching the maximum are trying to get there while still growing and developing the social capital's presence.



Source: Author's construction based on the *SolAbility*'s accumulated data

Fig.1. Social capital index trend from 2017 to 2021 in the Baltic States within the *GSCI* framework

The Figure presents and coincides with the compiled data in Table 1. Namely, that the level of social capital in Estonia in year 2017 was only slightly higher than in the other Baltic States, but starting year 2018 it started to grow significantly faster, getting closer to the maximum result in 2021. While Latvia placed second among the three nations in years 2017, 2018 and 2020, when it was ahead of Lithuania. In turn Lithuania placed second and was slightly ahead of Latvia in 2019 and 2021. All three countries are well above the average results of accumulated *GSCI* social capital index, yet not reaching the maximum result.

To contribute to Figure 1 with additional information the latest accumulated Social capital index results for 2022 presents its Top 10. It is filled with seven European countries, five of which are Nordic nations (Iceland, Finland, Slovenia, Norway, Portugal, Denmark, Sweden) and just three countries (Japan, South Korea and United Arab Emirates) are outside of European continent. Estonia ranks 15th, Lithuania - 28th and Latvia - 38th among 180 countries (*SolAbility*, 2022).

Based on the analysis performed and the results presented, future research will be dedicated to further explore the theoretical concept of social capital and its synergy with sport on a macro level. Thorough groundwork of the impact of social capital through the various socio-economic determinants within public sport governance will be carried out, while the analysis of the various indicators will be extended to a longer period of time (up to 10 years), thus enabling an appropriate statistical model is set to be developed. Further inquiries of additional socio-economic indicators of social capital will be performed providing more proof for its presence and impact on public (sport) governance.

Conclusions, proposals, recommendations

The aim of this research paper was reached by carrying out the set tasks to analyse the possible socio-economic determinants of social capital, proving its presence within public sport governance across the Baltic States. Based on the performed tasks the following conclusions could be drawn:

1. Sport could be viewed as social capital itself, as it flourishes where individuals, communities, organizations and nations prosper economically. It refers to associational life, civic virtue and engagement, community service, social action, cohesions, ties and trust, the value of social networks, broadening of identities, respect for ethnic, racial and gender diversity, while eliminating socio-economic exclusions. However, it can also reinforce the creation of exclusive identities, social divides and discrimination, gender exclusions, capitalization, egocentric bonding. One of the ways how to gain a perspective on the social capital reflections within public sport governing structures of different countries is to consider three main components of social capital - level of social network density, level of trust and/or reciprocity, and level of resources.
2. The following eight indicators could be accounted for as one of the most frequently used socio-economic determinants in empirical research of social capital measurement: the income inequality (GINI), labour market participation (employment and unemployment rates, as well as employment in sport) and economic development (*GDPpc*), the available data of WGI, as well as the number of registered participants in sport, number of sport federation, population size, active participation in sport at least once a week.
3. Estonia scores the highest results among the Baltic States during the comparative analysis of the accounted socio-economic determinants of social capital, while Latvia and Lithuania are not far off. Results present an assumption for a strong socio-economic impact of social capital within the public sport governance, while pointing out that a thorough in-depth and detailed research is required.
4. The higher the results of the proxy indicators / socio-economic determinants of social capital, the bigger is the possible presence of social capital with higher *GDPpc* and better situation in labour market participation, proving that people not only have more opportunities to provide for themselves but also contribute and participate in various sport activities, be it on an individual, local or national level.

Based on the general conclusions listed above it is possible to propose a set of following general recommendations for action that could use the dynamic synergy of social capital and sport as effective tool for further socio-economic development of a nation, as well as to improve the research of sport and social capital through various socio-economic determinants:

- To national government ministries (Ministry of Education and Science, Ministry of Finance, Ministry of Economics) as well as national, incl. sport, governing bodies: To invest in various social initiatives, thus also further facilitating possible opportunities for economic

development, that would improve on the sport's social role and its synergetic dynamic with social capital to further foster both the social and economic well-being of every person, sports organisation within a nation, based on the particularities of the said nation such as social network density, trust in government and available resources;

- For national and EU level statistical offices, e.g. *EuroStat*: To collect sport-related social statistical data on a regular basis, such as sport participation (active and passive) etc., but not limited to, as currently it is done sporadically with 4 to 5 years between the measurements made, thus enabling a collection of determinants for a more regular measurement of social capital, or at least within a particular state and its public sport governance.

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THE ANALYSIS OF THE STATE OF CSR INDICATORS OF RETAIL ENTERPRISES IN UKRAINE DURING THE COVID-19 PANDEMIC AND THE RUSSIAN INVASION OF UKRAINE (2019-2022)

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Abstract. The activities of enterprises of various types of economic activity in the direction of CSR during various types of shocks (natural disasters, pandemics, economic crises, etc.) are actively studied both in Ukraine and abroad. However, the number of studies related to changes and transformations in corporate social responsibility during the retail war is insignificant. At the same time, in recent years, significant changes have taken place in Ukraine both in the retail sector in general and in its CSR under the influence of the Covid-19 pandemic and the war on the part of the Russian Federation. This state of affairs determines the expediency of a comprehensive analysis of the impact of these factors on the corporate social responsibility of the retail sector, the food part of which was included in the critical import goods during the period of war (The Cabinet of Ministers of Ukraine, 2022). It should be noted that such a change is due to the critical importance of providing the population with the necessary food products, which became possible to a large extent thanks to the activity of enterprises in the direction of CSR. That is why the study of the directions and depth of changes and transformations of indicators of corporate social responsibility of enterprises in the retail sector in the conditions of a pandemic and war becomes an urgent both scientific and practical task.

Keywords: *corporate social responsibility, CSR, retail, Covid-19.*

JEL code: M14

Introduction

In recent years (2020-2022), the activity of retail enterprises both in Ukraine and in the world has been affected by the Covid-19 pandemic. Enterprises faced a number of problems that caused changes in operational processes, logistics, HR processes, relations with authorities (GR), corporate social responsibility (CSR) policies, etc. The pandemic had a negative effect on the global economy, which led to the deterioration of the financial and economic indicators of retail enterprises. Globally, the retail sector lost 2.9% of the increase in sales compared to the base year of 2019 in the peak year for the pandemic – 2020. The situation changed already in 2021, when there were significant improvements in the fight against this pandemic: retail growth this year reached 9.7% (Retail sales growth...), which made it possible to talk about the recovery of the world economy and the retail sector in particular. It is assumed that 2021 became a "post-leader" for Ukrainian retail. The next test for the domestic retail sector was a full-scale Russian invasion of Ukraine in February 2022. At this time, retail suffered colossal losses and changes, which we noted in previous works (Konstantynovskiy, 2022). In general, for the period from February 2022. until the end of May 2022 Ukrainian retailers lost 2768 trading points or 18% to the pre-war number (Retail is on the counterattack..., 2022). Such significant losses, as well as the war in general, also affected CSR priorities. Therefore, its main directions have changed, a total transformation has taken place in support of the company's stakeholders, while other directions have receded into the background, or have completely ceased to have a place in the CSR of retail enterprises. All the environmental factors listed above directly and indirectly influenced not only retail enterprises, but also their corporate social responsibility (CSR). CSR is an important aspect of the enterprise's business activity, which covers: economic activity, the legal basis for building business processes, social, environmental, ethical norms and rules, the basics of volunteering and charity under various environmental conditions. Since retail is a very dynamic industry, CSR in this area must be fast, adaptive and respond to today's challenges. During the pandemic and half a year of war, the corporate social responsibility of enterprises in the retail sector underwent significant changes, transformations and, in some cases, changes in focus. To this end, the paper addresses research questions:

- 1) How deep are the changes in indicators of corporate social responsibility of enterprises in the retail sector of Ukraine during the Covid-19 pandemic and the Russian invasion of Ukraine (2019 - the first half of 2022)?
- 2) What are a new directions of CSR of enterprises in the retail sector of Ukraine have appeared during the Covid -19 pandemic and the Russian invasion of Ukraine (2019 - the first half of 2022)

The paper is structured as follows. Next section describes the results of literature review. Then, the paper provides general characteristics of operational activity of enterprises in the retail sector of Ukraine as well as their CSR during the Covid-19 pandemic and the Russian invasion of Ukraine (2019 - the first half of 2022). Next section provides analysis of some important indicators of CSR of enterprises in the retail sector of Ukraine during the above-mentioned period. Conclusions and future avenues for research are suggested at the end of the paper

Literature Review

Research on CSR and its indicators began to actively develop at the end of the last century. However, to a greater extent, in connection with dynamic changes in both the internal and external environment of enterprises, CSR indicators were actively changing and adapting to the needs of today. Such changes became the reason for the research from all over the world are devoted to analyzing the state of CSR under various conditions of enterprise activity: pandemics (in particular, Covid-19), various crises, man-made or natural disasters, etc. However, there is a small number of works that would cover the activities of enterprises in the direction of CSR during wars or military conflicts.

Mackie P., Brown A., Dickenson K and others were engaged in researching the topic of CSR during military conflicts, who in his work generally described the patterns and peculiarities of the behavior of commercial enterprises in the direction of corporate social responsibility in such times (Mackie et al. 2017). Most of the works of economist researchers were devoted to the impact of the Covid-19 pandemic on CSR. For example, Bae K.-H., Lee S. H., Swaen V., Zhang D., Lu S., Zhang N. and others in their works described corporate social responsibility in the conditions of a pandemic and investigated the main directions of CSR activities of domestic enterprises in connection with the spread of Covid-19 (Bae et al. 2021, Lee 2021, Swaen, Demoulin and Pauwels-Delassus 2020, Zhang et al. 2021, Zhang 2022). Another group of researchers: Agrawal D., Dal Mas F., Elg U. and Welinder A., Blancheton B., Di Vaio A., Hultman J., Kim S. and Woo H described in their works the features of effective management of the social responsibility of commercial enterprises in conditions of quarantine and spread of Covid -19 (Agrawal and Bütikofer 2022, Dal Mas et al. 2021, Elg and Welinder 2022, Blancheton 2021, Di Vaio et al. 2022, Hultman and Elg 2018, Kim and Woo 2021, Russo et al. 2022, Yi et al. 2021). Actively researched CSR of enterprises during the pandemic, Waheed A., Faisal Sh., Farrah A., Anjam Azizb A., Zahidch M., Muhammed U., who empirically evaluated the role of CSR in meeting the needs of consumers and changing their loyalty during Covid-19 and in the post- pandemic period on the example of enterprises from developing countries. They also investigated the influence of gender and educational level on the perception of CSR by enterprises during the pandemic (Waheed et al. 2022). Such foreign researchers as Ruiz-Real J., Nilssen R., Yakut E. and Bayraktaroglu A. investigated the impact of CSR on the operational activity of enterprises in the retail sector; analyzed the current strategies of enterprises, as well as labor and ethical problems that were caused by different external factors (Ruiz-Real et al. 2018, Nilssen, Bick and Abratt 2018, Yakut and Bayraktaroglu 2020). It should be noted that among foreign scientists, the topic of the impact of the war on the CSR of enterprises in various fields was also studied. Some of these researchers are Astrov V, Smorchevska- Mitskevich B., who studied the impact of the war in Ukraine on corporate social responsibility. Also,

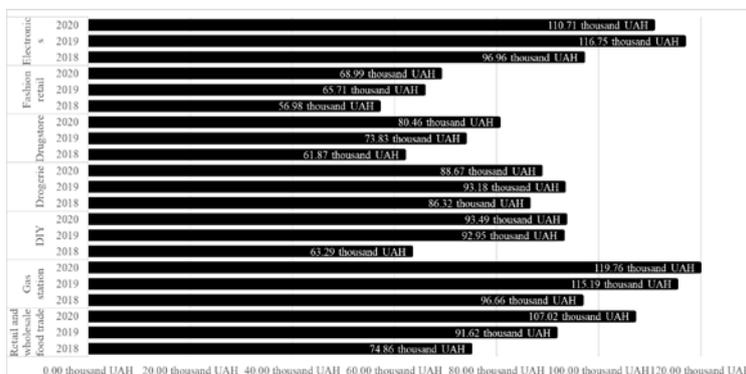
they analyzed CSR transformations during the first stages of the war (February-March 2022) and changes in the behavior of enterprises in the direction of social responsibility, including ethical and moral norms (Smorchevska- Mitskevich, 2022, Astrov et al. 2022).

Research results and discussion

Coronavirus pandemic Covid-19 the world as a whole and people's lives in particular have undergone significant changes. The global economy felt the negative effect already at the first stages of mass lockdowns, and their economic impact in the long term remains to be determined. The retail sector has faced a number of challenges and transformations in consumer behavior. While food, fuel and pharmacy retail experienced a significant increase in demand and lack of stock, other types of it were not able to operate in offline stores. Such significant changes in the retail sector also left their mark on corporate social responsibility, which was also transformed in accordance with the realities of the time. The trends in CSR practices of that period were set not only by large international enterprises (traditionally in Ukraine international retailers took the primary roles in CSR), but also by Ukrainian enterprises. CSR of enterprises in the retail sector at that time was characterized by: ensuring safe conditions for customers (access to sanitizers, issuance of protective masks, placement of informational materials to prevent the spread of the pandemic, etc.); enabling customers to make purchases using other channels, separate from the traditional trip to the store, to minimize physical contact and ensure safety; ensuring safety at the workplace for employees; transition to a mixed format of work of the main offices (offline and online). For the whole world, 2021 has become a "post- Covid" year, which in turn affected the world economy, easing of quarantine restrictions and getting used to the "new reality". For its part, the retail sector adapted to these changes and rebuilt business processes. At the same time, the pandemic in Ukraine became a "litmus test" that cleared this market of weak, financially unstable enterprises, as well as enterprises with low or no development of corporate social responsibility. Moreover, "thanks" to the pandemic, the retail sector was able to learn how to overcome such critical situations, to change approaches to business and to CSR (before the pandemic, CSR was traditionally the goodwill of the enterprise, after – a necessity that allows maintaining the financial and economic condition, strengthening interaction with employees and customers, as well as improve the image and reputation of the enterprise). In February 2022 a full-scale Russian invasion took place on the territory of Ukraine, which caused a number of changes in the economic environment of the state and in the retail sector, as an element of this environment. We described the peculiarities of the retail sector and its corporate social responsibility at this time in a previous work (Konstantynovskiy, 2022). However, it is necessary to summarize the main changes and transformations that have taken place in the CSR of enterprises in the retail sector: full transition of CSR to focusing on the company's stakeholders : clients, employees, contractors, local communities and the state; ensuring food security of the population; strengthening assistance to the Armed Forces of Ukraine (AFU), territorial defense associations (TDA), volunteers; allocation of resources of retail enterprises for the needs of the state (primarily logistical and human); postponement of projects in other areas of CSR (environmental protection, education, culture, entertainment); provision of safe and prepared storage facilities for customers and residents of local communities near points of sale; closure of points of sale and shopping centers during an air raid or other type of threat to the safety of employees and customers; financial and moral support of non-working employees; assistance with relocation to employees who were under occupation or in places of military operations, and others.

All of the above-mentioned changes and transformations directly reflected on the indicators of the state of CSR of enterprises in the retail sector. As you know, CSR in its general form covers a number of aspects of the company's activity: economic, legal, environmental, social and other (Error! Reference source not found.). Therefore, in order to assess the changes and transformations of CSR state indicators of retail enterprises under the influence of the Covid-19 pandemic and the Russian invasion of Ukraine in 2022. It is expedient to categorize indicators of corporate social responsibility. In our study, the economic indicators of the state of CSR of enterprises in the retail sector are represented by such an indicator as personnel costs by type of retail. The second group of indicators, which covers the legal aspect of CSR, includes "with tax stacking collective contracts in retail in relation to the average values for the country". The ecological aspect of CSR in this study is represented by such an indicator as "expenses for protection surrounding environment by enterprises in the retail sector". The social aspects of CSR in our study are represented by the following pool of indicators: the ratio of wages of women to men in retail and the number of informally employed people aged 15 to 70 in retail.

The economic aspects of corporate social responsibility have caused a number of debates and controversies, but the modern approach is based on the importance of CSR for the economic and financial stable well-being of the enterprise. The basis of this approach was laid by Friedman M. in his research back in the 70s of the last century (Friedman, 1970). Nowadays, this theory has found practical use in the vast majority of both large multinational enterprises and local business representatives. Even before the spread of Covid-19 on the territory of Ukraine, both domestic and international retail enterprises actively integrated corporate social responsibility into economic activity. To evaluate the effectiveness of such activities, we will use such an indicator as "personnel costs by types of retail". That covers both the direct costs of enterprises for personnel (wages, bonuses and irregular payments), as well as indirect ones related to social security, training and others (Kulakova, 2017). Data for evaluating this indicator were obtained from annual reports from the State Statistics Service of Ukraine. Data for 2021 were not published, so 2018 was chosen as the base year for the assessment, as "before the year ", 2019. - the beginning of the pandemic, and 2020 - her Data on personnel costs of enterprises in the retail sector by types and years are presented in fig. 1 (Personnel costs of economic..., 2021).



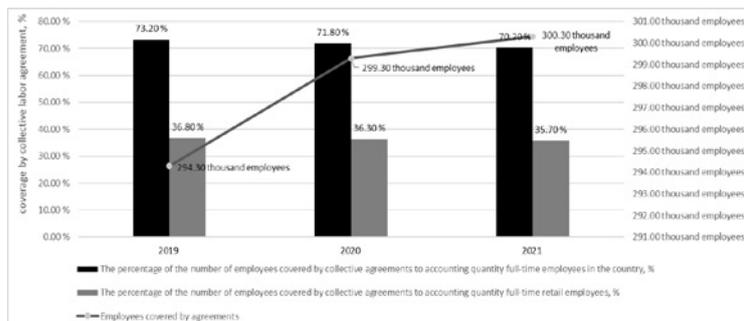
Source: author's construction based on State Statistics Service of Ukraine

Fig. 1. Personnel costs of retail enterprises by types and years

Based on the obtained data, the following conclusions can be drawn: such types of retail as car gas stations and trade in electronics and household appliances lead in terms of payments according to this indicator. For the trade in electronics and household examples, this was the result of a significant increase in the demand for goods due to the growth of online trade (The e-commerce market..., 2021). For gas stations, the development of CSR of these enterprises serves as an explanation. Since in many cases gas stations are located on the outskirts of cities or

outside their borders, companies organize free delivery of employees to and from work. Also, most of them have adjusted salary revisions several times a year. In such types of retail as trade in electronics and household appliances, trade in household goods (DIY), trade in clothes, shoes and accessories (Fashion retail), there is a decrease in the growth rate of personnel costs in 2020, which was the peak in the spread of the pandemic. This situation is explained by the closure of shops for the duration of the lockdown, the reduction of allowances and bonuses, the registration of downtime.

The next stage of CSR assessment of retail enterprises during the Covid-19 pandemic and during the Russian invasion of Ukraine in 2022. There is such an indicator of the legal aspect of corporate social responsibility as "the state of conclusion of collective agreements". In general, collective agreements are the basis of CSR, because they regulate and regulate a number of rights and obligations of both the company-employer and its employees. Collective agreements cover industrial, labor and socio-economic relations (Department of State Labor in Ternopil region, 2019). The importance of concluding labor collective agreements for enterprises in the retail sector is undeniable, because it helps to declare the enterprise as socially responsible and at the same time to establish it legally. The state of conclusion of labor contracts at enterprises in the retail sector (Fig. 2) relative to the average values for the country by year.

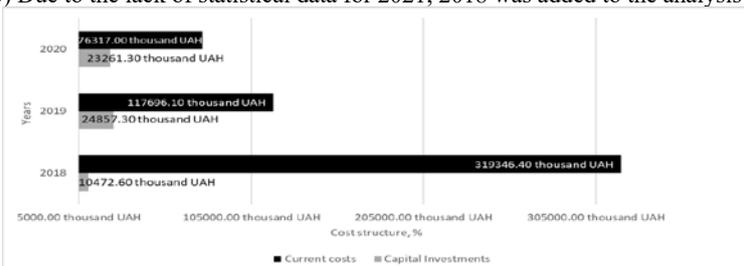


Source: author's construction based on State Statistics Service of Ukraine

Fig. 2. The state of concluding labor contracts at enterprises in the retail sector in relation to the average values for the country in terms of years

Based on the obtained statistical data, the following conclusions can be drawn: the number of concluded contracts in relative terms decreases annually both in the country as a whole and in the retail sector. The reasons for this are the growth of the number of employees at a faster pace than the pace of concluding contracts; significant upheavals in the country, due to which enterprises cannot declare their CSR legally, because they do not have stability; the negative impact of the Covid-19 pandemic on the activities of enterprises; low activity of trade unions in the retail sector; on average, only a third of the employees of retail enterprises are covered by collective agreements, which indicates the insufficient development of CSR of enterprises in this direction

The next stage of assessing the state of corporate social responsibility of enterprises in the retail sector involves the analysis of the environmental aspect of CSR, which in this study is represented by such an indicator as "expenditure on environmental protection by enterprises in the retail sector". The choice of this indicator is due to the fact that in our time, in order to achieve their goals, enterprises must also take into account the need to comply with rules and regulations that allow, if not to positively influence the state of the environment, at least not to worsen it. For the retail sector, this problem is quite relevant, because enterprises use a large number of various resources during implementation, and in some cases during production. Enterprises with developed CSR aim to reduce this negative impact, however, due to the spread of the Covid-19 pandemic and military actions on the territory of Ukraine, this aspect of corporate social responsibility has fallen off the agenda, which can be observed due to the decrease in the costs of retail enterprises for environmental protection (Fig. 3) (Environmental protection expenditures..., 2020) Due to the lack of statistical data for 2021, 2018 was added to the analysis as a "pre-year".

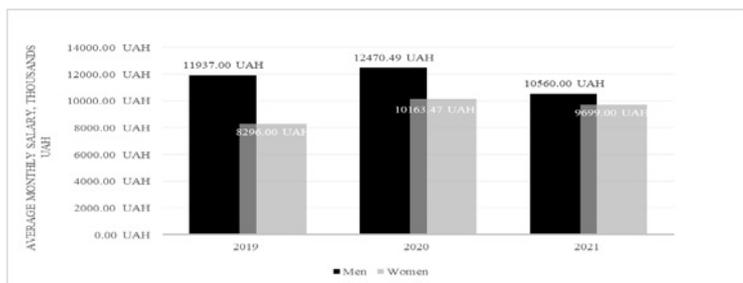


Source: author's construction based on State Statistics Service of Ukraine

Fig. 3. Expenses for environmental protection by enterprises in the retail sector

Based on the obtained data, the following conclusions can be drawn: in 2018 during the research period, there were the largest infusions into the current costs of environmental protection by enterprises in the retail sector, which indicates that these enterprises have a sufficient number of resources and stability to carry out such activities. During the years of the beginning and the greatest spread of the pandemic in the territory of Ukraine, there was a significant decrease in the costs of enterprises for environmental protection activities which is due to changes in the CSR focus of enterprises with the beginning of the Covid pandemic from nature protection to health care and the medical industry as a whole; but even despite the pandemic, enterprises were able to expand capital investments in environmental protection. Despite the lack of data on the costs of retail enterprises on environmental protection during the Russian invasion of Ukraine, based on surveys and studies of this industry, it becomes clear that investments in this aspect of CSR have completely stopped, and only point infusions for current needs took place.

The next stage of assessment covers the pool of indicators of the state of corporate social responsibility of enterprises in the retail sector, namely social ones. The first assessment indicator from this set is the ratio of wages of women to men in the retail sector. The appropriateness of this indicator is explained by the fact that in the modern world there is an equalization of the rights and responsibilities of women and men under the influence of social, political and other factors. In Ukraine, this manifestation of sexism is quite widespread, however, in 2020, the state joined two global initiatives, the Biarritz Partnership for Gender Equality and the International Coalition for Equal Pay (Equal Pay International Coalition , EPIC) (The Government of Ukraine became..., 2020), (The government approved the Plan..., 2020). The ratio of wages of women to men in the retail sector is presented in fig. 4 (Average monthly wages..., 2021).

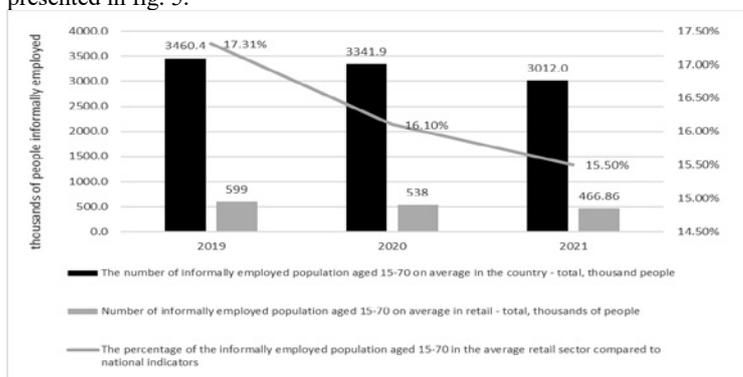


Source: author's construction based on State Statistics Service of Ukraine

Fig. 4. The ratio of wages of women to men in the retail sector

The obtained results indicate the following CSR trends in this direction: the average salary of women in the retail sector did not exceed 82% of the salary of men, which indicates the insufficient development of CSR of enterprises in the direction of overcoming inequality in the workplace; in 2021, there was a significant reduction in wages for both women and men due to the coronavirus pandemic, due to which the positive trend of equalization changed again to an increase in the gap; despite the involvement of Ukraine in international programs to overcome gender inequality, retail enterprises did not have positive changes in this direction, which indicates the continuation of the trend of dividing work into male and female with the corresponding level of remuneration.

The next indicator of the state of CSR is "the number of informally employed population aged 15 to 70 in the retail sector ". The problem of informal employment of the population is quite relevant in Ukraine due to a number of economic and social reasons. Statistical data of the State Statistics Service of Ukraine (Informally employed aged 15-70..., 2021) were used to assess the state of affairs in this direction and are presented in fig. 5.



Source: author's construction based on State Statistics Service of Ukraine

Fig. 5. Number of informally employed population aged 15 to 70 in the retail sector

Based on the obtained statistical data, the following conclusions can be drawn: in the country as a whole, from year to year there has been a gradual decrease in the informally employed between the ages of 15 and 70, which indicates the positive dynamics of moving away from the shadow economy towards the rule of law. This trend is part of the CSR activities of enterprises in this area in this direction, however, the retail sector still occupies a significant share in the total number. In most cases, this state of affairs is influenced by small local or regional networks, which, thanks to the shadow economy, reduce personnel expenses, while large international and domestic market representatives work in accordance with all laws and regulations governing this issue; paradoxically, despite the widespread spread of the coronavirus pandemic, in 2020 the largest decrease in the share of informally employed persons in the retail sector (from 17.31% to 16.1%) took place, which indicates a significant development of the corporate social responsibility of these enterprises and a change in their focus CSR to ensure the welfare of employees; it will be difficult to estimate the number of informally employed people in 2022, both in the retail sector and in the country as a whole, due to a number of factors: a certain part of the territories of Ukraine were under occupation, part of the population went abroad, part was mobilized into the Armed Forces, TRO detachments, etc. d . However, based on the experience of other countries, it can be assumed that due to military actions, there may be a significant increase in the number of informally employed in all spheres of economic activity (Mackie et al., 2017). The decrease in the number of informally employed persons indicates a significant improvement in the CSR of enterprises in the retail sector, as well as the correctness of state policy in the fight against this problem. However, if during the Covid-19 pandemic, retail enterprises improved the situation of this CSR indicator, then it is assumed that during the war there will be a significant deterioration in this direction, the consequences of which will be felt in the long term.

Conclusions, proposals, recommendations

1. During the pandemic and the war, there were significant changes in the approaches of retail enterprises to the directions and aspects of CSR. During the pandemic, the main directions were: maintaining safe working and shopping conditions in terms of anti-virus measures, financial, moral and physical assistance to employees and customers, moving away from non-urgent projects towards health protection; during the war, CSR of enterprises in the retail sector, like the entire industry, experienced a number of transformations and changes. However, the main directions of corporate social responsibility at that time were: support of the company's stakeholders, assistance to the Armed Forces and TRO, assistance to the state, and others.
2. Such types of retail as car gas stations (gas stations) and trade in electronics and household appliances lead in terms of personnel costs, which indicates a sufficiently high level of CSR development of representatives of this type of retail , while such types of retail as trade in electronics and household appliances, trade in household goods destination (DIY), trade in clothes, shoes and accessories (Fashion retail) there is a decrease in the rate of growth of personnel costs in the peak period for the pandemic of 2020. With the onset of war, a decrease in personnel costs was observed in all industries in order to preserve the activity of the enterprise as such.
3. To a greater extent, the conclusion of collective labor agreements in this field is typical for large international and Ukrainian enterprises; during the years of the beginning and the greatest spread of the pandemic in the territory of Ukraine, there was a significant decrease in the expenses of enterprises for environmental protection activities, despite the lack of data on the expenses of enterprises in the retail sector for environmental protection during the Russian invasion of Ukraine, on the basis of surveys and research in this field, it becomes clear that investments in this aspect of CSR completely stopped, and there were only point infusions for current needs.

4. The average salary of women in the retail sector did not exceed 82% of the salary of men, which indicates the insufficient development of CSR of enterprises in the direction of overcoming inequality in the workplace. Due to the significant losses of retailers due to military actions, companies will adhere to a similar position in wages, which may increase the gap in the amount of wages of men and women in the future.
5. The rate of decrease in the number of informally employed persons in retail exceeded the rate of decrease in the country as a whole (17.31% in 2019, to 15.5% in 2021). This trend is part of the CSR activities of enterprises in this area in this direction, however, the retail sector still occupies a significant share in the total number. Based on the experience of other countries, it can be assumed that due to military actions, there may be a significant increase in the number of informally employed people in all areas of the economy in 2022.
6. Future studies of the state of CSR of enterprises in the retail sector will be aimed at evaluating the above-mentioned indicators already in the late war or post-war period.

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SHIFT AWAY FROM THE BALANCE BETWEEN PARTICIPATORY AND REPRESENTATIVE DEMOCRACY. CASE OF LATVIA

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Abstract. Public administration reforms in most countries, including Latvia, are tended to support different institutions of participatory democracy in combination with stronger limitations of allowed activities for political parties. Fighting corruption and facilitation of integrity are dominating issues on the political agenda. The aim of the article is to evaluate the balance between the role of participatory democracy and representative democracy. The main research questions:

- How do restrictions and limitations for political parties and electoral associations affect the trust in democratically elected institutions?
- How the tendency of negativism toward political parties affects the opportunities of civil society to achieve the interests of represented groups or ideologies?

To achieve the objective, the authors use the historical method. The methodology of the research is based on Latvian experience and policy analysis of legislation about political parties and the rules of elections.

There is a tendency to strengthen the role of bureaucracy by determining restrictions for political parties and elected representatives. Politicians are separated from organized civil society. Decreasing the real impact of the European Parliament, national parliaments, and local government councils leads to decreasing the trust of citizens in those institutions. Such loss is not compensated by the professionalism of civil servants and increasing consultation framework among different tiers of government and consultations with civil society.

The main conclusion is that a shift away from the support of representative democracy is wrong. The development of participative instruments has to be supplemented by strengthening political parties, particularly by diminishing artificial opposition between political parties and civil society.

Keywords: *balance, participatory democracy, representative democracy, political parties, legislative restrictions.*

JEL code: H83, H79

Introduction

There is a global tendency to strengthen participatory democracy, while representative democracy becomes weaker. In most democracies, Constitutions recognize a dominant role of representative decision-makers, who are proposed by political parties. At the same time, there is a well-known crisis in the system of political parties – a loss of the number of members, loss of public trust, fragmentation of political spectra, and increasing impact of populism during elections. Public administration reforms in most countries, including Latvia, are tended to support different institutions of participatory democracy in combination with stronger limitations of allowed activities for political parties. Fighting corruption and facilitation of integrity are dominating issues on the political agenda. Restrictions for political parties, elected parliamentarians, and local councillors are tended to separate politicians from decisions. That leads to the domination of bureaucracy. The wide framework of consultations with organized and individual civil society cannot compensate for politicians' loss of the strategic approach.

The article compares the situation at the beginning of the nineties in Latvia, when opinions on the formation of the state administration and local governments were dominated by the notion of renewal of the validity of classic representative democracy (Constitution (*Satversme*), 1922), the introduction of the principles of European Charter of Local Self-Governments (CoE, 1985), and the situation today as a result of the changes that took place in 32 years.

A strong representative democracy is characterized by:

- Comprehensive opportunities for voters to elect representatives who express similar ideological beliefs and represent the interests of the group to which the voter belongs;
- The ability of the elected members to affect the budget and regulations laid down by law;
- Presence of their representatives at all tiers of multi-level governance.

If these opportunities are reduced, signs of weakness of representative democracy appear. To prove the weakening of representative democracy, changes to the above-mentioned directions must be identified.

Participation, on the other hand, can be linked to:

- Direct democracy (binding referendums, participatory budgeting, etc.);
- Co-decision processes (legislative initiatives, collective submissions);
- Consultations initiated from “above” (consultative referendums, deliberative methods, public surveys) or “bottom” (lobbying the groups of interests).

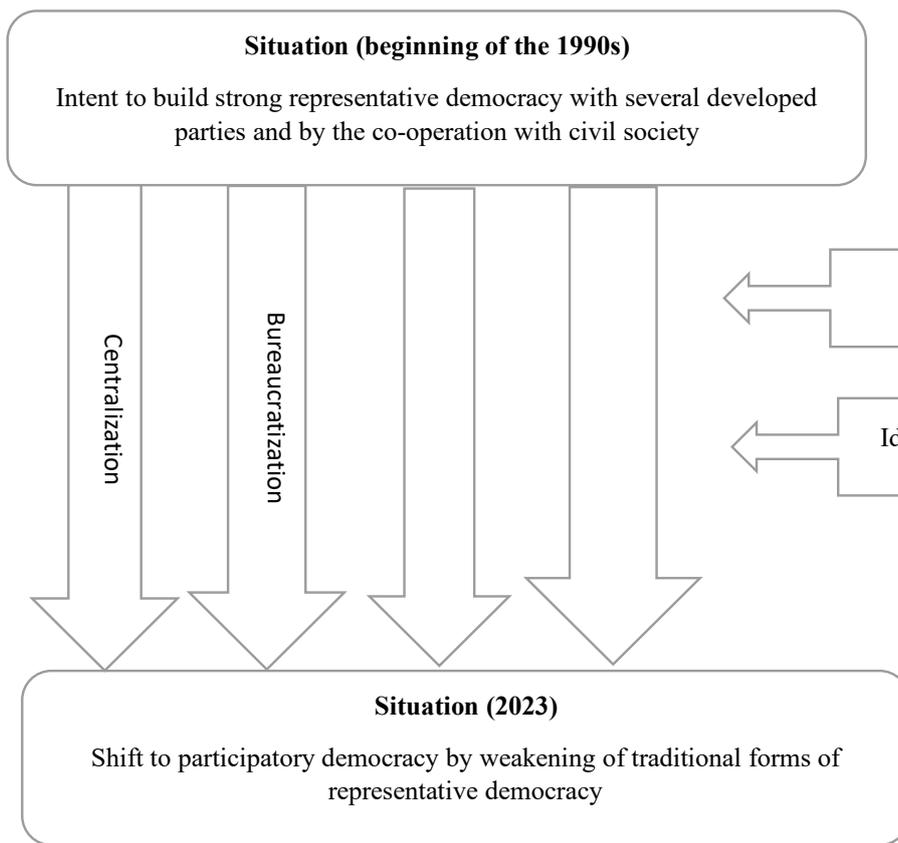
The increase in participation opportunities demonstrated a change towards participatory democracy. To describe the reasons for the change, the study uses policy analysis methods:

- 1) Identification of groups of interest whose short- or long-term benefits affected the changes in Latvia;
- 2) Analysis of changes to the values recognized by society;
- 3) Description of changes to the ideology of governing political forces;
- 4) Assessment of the information environment conditions that affect the change processes.

The research methodology includes assessments of the legal framework, institutional framework, and interests of the dominant groups. Both the tasks included and non-existing in the government programs are assessed. For example, to characterize the attitude toward the development of political parties, the authors find that the relevant task has not been mentioned in the key national policy planning documents for 20 years. Ideological concepts are viewed in a simplified way.

The order of the research is shown in the diagram in *Figure 1*.

- First, the situation at the beginning of the 1990s is evaluated, when a view of restoring representative democracy prevailed in the Constitution, characterized by decentralization, minimal administrative structures, effective and sustainable political parties, and perceptions of parties as a natural part of civil society (1922).
- This is followed by changes to values – the initial decentralization is replaced by centralization; the minimum governance is replaced by bureaucratization; competition among ideas and programs is replaced by negativity against political parties; the government's consultations with groups of interests are replaced by internal discussions among parties of the ruling coalition.
- The factors that contributed to the change, including the interests of groups and dominating ideology are assessed.
- When evaluating the situation in 2022, the relationship between reforms of public administration and the loss of balance between representation and participation is analysed.



Source: authors

Fig. 1. Schema of research by applying historical method

The topicality of research relates to the loose of trust in the traditional institutional and legal system and the necessity to find tools for the protection of democracy. The novelty of the research is paying attention to the fact, that too many restrictions for political parties and splitting parties from civil society lead to weakening institutions of representative democracy. Activation of civil society by the introduction of new instruments for participation in public government has been supplemented by a policy that strengthens political parties.

Literature Review

Seeing the possible solution to the crisis of representative democracy (CLRAE, Recommendation 307, 2011), in politics, it is important to combine both mechanisms, in which direct democracy complements rather than replaces representative democracy. Direct democracy is only a way of helping the representatives elected by the people to better represent the interests of the people. Strong representative democracy is the best safeguard for direct democracy (Kaufmans, 2018).

Regulation of direct democracy in Latvia is enshrined in the Constitution (*Satversme*) and the law On National Referendums, Legislative Initiatives, and European Citizens' Initiative (1994). Latvia is one of the few countries in Europe in which the citizens have a full range of initiative and referendum rights which enable them to launch initiatives to amend the Constitution, create a new law, or veto a decision taken by Parliament (Trabucco, 2020). There has been a total of 11 national referendums in Latvia, four of which were organized during the first period of independence (1923, 1927, 1931, 1934), while the rest were held in the second period of independence. Two referendums (2008 and 2012) held a vote on amendments to the Constitution (Balodis, 2021). In 2011, for the first time in history, the President of Latvia used the right to initiate the dissolution of the Parliament (*Saeima*). In December 2012, amendments to the law On National Referendums, Legislative Initiatives, and European Citizens' Initiative entered into force, changing the procedure for collecting signatures to propose draft laws or draft amendments to the Constitution and propose the withdrawal of the Parliament. Before the amendments to the law, 10,000 citizens of Latvia with voting rights were entitled to submit a draft law to the Central Election Commission (CEC), while after the amendments to the law (2012), the respective number was increased 15 times (Section 22). Since then, voters have submitted more than 40 legislative initiatives to the CEC, but none of them collected the required number of signatures to be submitted to the Parliament (CEC, 2022). Instead of improving the draft law, the amendments made it difficult to organize referendums. 10,000 was a too small number of the voters that could initiate a draft law. However, the change has resulted in another extreme of "not less than one tenth" or 154,868 voters (Balodis, 2021).

Local governments in Latvia were affected by the administrative-territorial reform implemented in 2021. The reform resulted in a reduction of the number of local governments by almost three times – from 119 to 43 – and the number of members elected was reduced twice. 1614 members were elected in the local government election of 2017, while 664 members were elected in the election of 2021 (CEC, 2021).

During the first parliamentary election of the restored state of Latvia in 1993, the voter turnout reached 88.4%, while at the last, the election of 2018, only 54.6% of those having a right to vote participated therein. In the local election of 1994, the turnout by the population that has a right to vote reached 58.5%, while in 2021, it reached 34.0%.

The extremely low level of public trust shows a lot about the low legitimacy and alienation of political parties from society. The proportion of Latvian citizens personally involved in the operation of political parties is so small that the link between them and a wider community is not the case (Chancery of the President of Latvia. Proposals Made by Expert Group, 2015, p.298).

Theoreticians have not agreed on whether the link between citizen participation and political trust is tight. However, most researchers agree that a trust factor (Ruscio, 1997; Warren, 1999) and satisfaction with the performance of representative democracy institutions in participation are of importance (Gherghina & Geissel, 2020). A range of studies approves that the population who is not satisfied with representation democracy institutions are more active in participation (Dalton et al, 2001; Gherghina & Geissel, 2020).

Compared to other countries that were released from totalitarianism after the collapse of the USSR, this process in Latvia took place based on an initial victory in local elections. Under conditions of widespread decentralization, perceptions of restoring classical representative democracy prevailed. Latvia's distinctive feature is the possibility to track the transformation from the system of decentralized representative democracy when restoring the state's independence to a system of prevailing negativity against political parties and representative institutions over 32 years. The evaluation of such experience can help to identify the factors that, in the opinion of authors, contribute to populism and the decline of the authority of representative institutions.

Research results and discussion

1. Initial Ideas on the Restoration of Democracy

1.1. Decentralization Within a Multi-Level Governance

Unlike other countries that ended the occupation of Russia (which took over the commitments of the USSR) during the collapse of the USSR and restored democracy, Latvia started with decentralization. In 1990, the total budget of local governments comprised 54% of the total expenditure of the state and local governments (Pūķis, 2010). By renewing the Civil Law (1937), the Parliament acknowledged that local governments, as for the private law, are legal entities separate from the state. Municipal property and companies owned by the local governments were separated from the state, and the subordination of the executive power of the local government to the executive power of the state was completely terminated by 1992.

The initial decentralization resulted in the establishment of a system for equalization of municipal finances and determination of the taxes that are collected in the territory and remains in possession of the local governments (On Taxes and Fees, 1995). Thus, administrative, personnel management, financial and property decentralization from the state to the local governments was provided during the transitional period.

During the transition period, the Parliament stood out with a high degree of initiative. The elected members were particularly involved in the elaboration of many draft laws. During this period, the role of executive power was smaller, and the elected members extensively used their right to amend proposals of the executive power. Local governments were also entitled to legislative initiatives during this period.

During the transition period, the political system was based on a strong representative democracy, both in terms of two-scale local self-governments and the Parliament. The election of local governments in 1989 and the election of the Supreme Council in 1990 ended the 55 years of undemocratic governance (the coup d'état by Kārlis Ulmanis on 15 May 1934, the successive occupations of Latvia by two aggressors of World War II). The withdrawal of Russian troops ended only in 1994.

As shown in *Figure 2*, there was no hierarchical relationship between the various territorial powers. The decision-making and executive powers function at both national and local levels, while the division of the competencies is determined by the principle of subsidiarity.

1.2 Efforts to Establish a Several Parties System

The transition period was characterized by a confrontation between ideologies and economic views. Thus, the main political force – the Popular Front of Latvia – recalled the traditional political parties of the 20th century. Within this organization, an extensive internal democratic process was implemented, with about 300 thousand official participants, and regional and local organizations were in all districts and cities, and towns.

Political stratification began with preparation for the election of the 5th *Saeima*. Some of the historical political parties of the beginning of the 20th century were re-established (Latvian Social Democratic Party, Latvian Farmers' Union, Democratic Centre Party), and new parties were formed based on clubs or a national and radical wing of the popular movement (association "Latvijas ceļš", the National Independence Movement of Latvia) and others.

The discussion at the beginning of the nineties led to a consensus that it would be desirable to establish several parties' system in Latvia, which would have a certain stability, bringing together members around the most popular ideologies and the most popular economic theories. Political parties would be the most advanced part of civil society. This consensus was manifested in the law On Public Organisations and Associations Thereof (1992), which marked a common approach to civil society organization. Common rules were referred to political parties, associations, and foundations.

1.3 Unity of Civil Society

The initial intention at the beginning of the nineties was to develop a civil society with various elements that would complement each other. They include individual activists, non-governmental, professional, religious, and political organizations (parties, party associations, and voters' associations). The differences in ideologies, interests, and beliefs that are characteristic of a pluralist society would be demonstrated in the participation of individuals in one or more forms of civic activities (*see Figure 2*). The approach of the nineties was not to divide political parties from other forms of civil society. During the transformation toward democracy and a market economy, the view exists that the development of parties and other forms of civil society should be equally supported, including through public support projects and the liberalization of financing. Churches, professional organizations, NGOs, and individual activists are engaged in lobbying, as well as in a dialogue with authorities of different levels during the consultation processes and, as far as possible, in co-decisions or referendums.

2. Changes to the Organization of Public Power

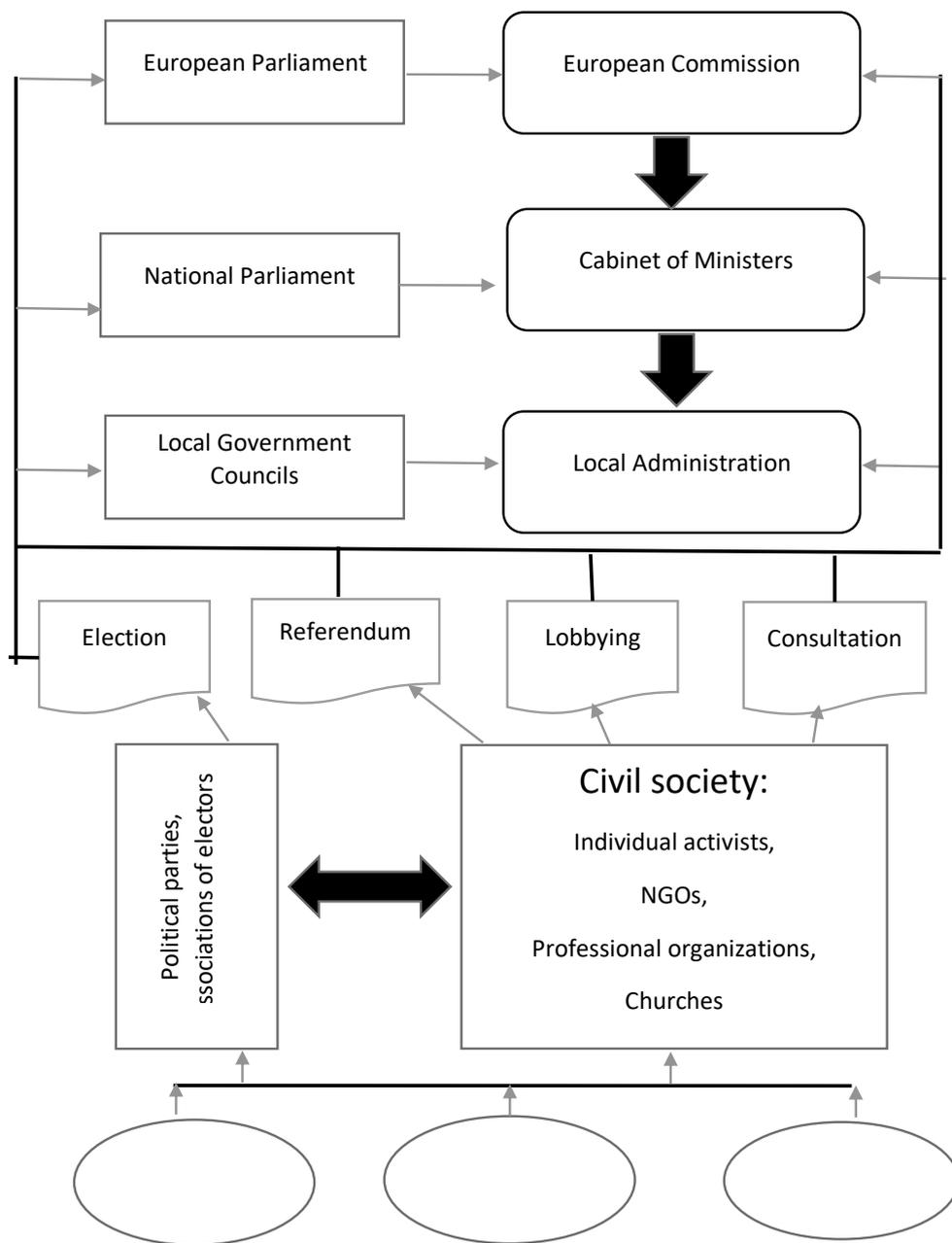
Figure 2 describes a series of changes to the question of principle (marked with black arrows) that have occurred over 32 years. Firstly, in 2004 Latvia joined the EU. Secondly, this accession has, directly and indirectly, contributed to centralization. Thirdly, the system of political parties has been opposed to the rest of civil society. Fourthly, voters' associations no longer can direct candidates for local elections (Amendments to the Law on the Election of Local Government Councils, 2020).

2.1 Centralization

The initial decentralization approach was changed in the process of the future authority organization (Pūķis et al, 2017; Pūķis & Seimuskāne, 2021). Initially, centralization was linked to the reform of the public administration after 1993, when national-level bureaucracy revenged on the loss of the nineties. The establishment of a strong and unified association of local governments in 1991 hindered centralization. Joining the EU was used in a hidden way to strengthen centralization. By fulfilling the criteria for harmonization of legislation "acquis communautaire", new laws were adopted and previous laws were amended at a rapid pace and to a considerable extent. Bureaucrats used an opportunity of legal over-regulation in the interest of the group (Pūķis, 2010). For example, by adopting the State Administration Structure Law (2002), representatives of local governments clearly reasoned non-compliance of several provisions of this law with the European Charter of Local Self-Governments (binding to Latvia since 1997).

While the Treaty on the Functioning of the EU (EU, 2007) refers to the principle of subsidiarity and proportionality, representative democracy in the EU is weaker than in its Member States. The executive power, the European Commission, has a dominant role. The European

Parliament does not have the right to legislative initiative; it can only approve or reject the European Commission’s proposals. The second decision-maker, the European Council, represents the views of the Member States (however, the views are coordinated with national parliamentary commissions). As a result, legislative sovereignty for the Member States is reducing every year. As the content of national policies falls, it may be tempting to take over matters of local governments and even private matters under the competence of central governments. Thus, enlargement of the European Commission’s authorities induces centralization inside Member States and reduces trust in representative democracy. Centralization is demonstrated by both the reduction of autonomy and number of the local governments. Compared to the situation at the beginning of the nineties, in three reforms (1994 – Riga centralization, 2009 and 2021 – merging of local governments), the number of the local governments has decreased 14 times (Seimuskane & Pukis, 2022). The citizens are becoming more distant from power and from the opportunity of affecting events and their area of residence.



Source – authors

Fig. 2. Schema of the intents about building interaction between civil society and political power at the beginning of 1990s and its development to present (tendences signed by thick arrows)

In the centralization processes in Latvia, there were three dominating groups of interests: bureaucrats, the governing parties of the Parliament, and real estate developers (Pūķis & Seimuškāne, 2021). The interests of groups to strengthen their impact rather than socio-economic benefits determined the reduction in the number and role of local governments.

2.2 Opposition of Political Parties to Civil Society

The lists that can be amended were already introduced in the parliamentary election in 1993 (the 5th Saeima) and the election of local governments in 1994. Both the votes of the candidate list and the sum of ‘+’ and ‘-’ of each candidate were counted. Voters arranged candidates according to their way, and the candidates intended by the party often remained outside the elected members. The seemingly democratic rule – to allow voters to rearrange the candidate order submitted by the parties – deprived the parties of their choice to optimize their representatives according to their skills. This pleasant opportunity for voters, which was renewed from the system of 1922–1934, significantly diminished the

importance of ideas and programs in political competition. The ability of parties to account for the implementation of their economic and social plans sharply fell (Pūķis, 2010).

The next step in the deformation of representation was the introduction of a 5% barrier in the elections of the Parliament and local governments, which results in the fact that those not receiving a quota remain without representation. The introduction of quotas was justified by the desire to reduce the fragmentation of the political spectrum; however, it violated the principle of equality since a considerable proportion of voters remained without their representatives.

Development of the parties was even more impeded by the prohibition on legal persons to donate to political parties (Amendments to the Law on Financing of Political Organisations (Parties), 2004). This ban, which is also practiced in other countries, has led to the effects listed below.

- Parties that competed for electoral victory could not finance election campaigns solely from members' money and donations of individuals. To win the elections, there was a temptation to use other methods ("to launder money") that derived from the shadow economy. By excluding legal entrepreneurs from party sponsors, the result was much worse.
- Although a special body was set up for the control of party finances (Corruption Prevention and Combatting Bureau), it is difficult to establish the laundered money. Sponsors of parties became secret. This led to the dismantling internal democracy of the parties.
- In order not to disclose information about the secret sponsors, information about the party's financial sources was no longer available to any collegiate institution. Thus, neither the parties' boards nor their parliamentary factions were aware of the wishes of the parties' financiers.

In cases of electing officials, the Parliament gradually waived the secret voting procedure. The last official who was elected by the Parliament waived the secret voting procedure was the election of the President of Latvia in 2019 (Amendment to the Constitution of the Republic of Latvia, 2018). The process of introducing controlled voting was completed.

The parties forming the majority in the national parliament have so far failed to make significant progress in local elections. In most of the territory, before the reform of 2009, representatives of voters' associations, not those of political parties were the winners (Pūķis, 2010). By taking a political decision in the Parliament and amending the Law on the Election of Local Government Councils (2020), voters' associations were deleted from the law. Thus, the political parties represented in the Parliament pursued, by legal means, a policy aimed at strengthening the monopoly position of political parties at the level of local governments.

In the last three local government elections, the number of the submitted candidates of voters' alliances in Latvia was an average of 13% of all candidates (in 2009 – 14%, in 2013 – 13%, in 2017 – 12%). 32 out of 119 mayors of local governments elected in the local government election of 2017 were from the voters' alliances.

In the case of Latvia, it is sufficient for the parties that are elected in the Parliament and local governments, to divide the life cycle into four simple stages:

- 1) The creation during which at least the elements of the program are formulated, the statutes are adopted, the required number of members (200) is ensured, and registration takes place.
- 2) The development in which the party obtains the first seats of members in local governments or Parliament and in which a program is formulated.
- 3) A maturity in which a party should fulfil a wide range of obligations in the interests of its members and the supportive society. Most of the parties never reach this stage.
- 4) The sunset in which the party loses its supporters, implements liquidation or reorganization or joins another party.

Most of the parties registered in the register of political parties and their associations do not overcome the first stage. The system of restrictions on parties, in particular the ban on donations by legal entities to legal persons, has prevented full maturity.

Maturity is the only phase in which the party can fully perform the tasks of representative democracy, as it must ensure:

- Comprehensive reform concepts, including research and socio-economic forecasting;
- Full preparation of new politicians as they initiate the work in the party's internal structures and acquire experience in local government policy or executive bodies;
- A full dialogue with civil society, including professional, business, and trade unions.

To partially compensate for the party's inability to develop to such a level of political professionalism, Latvia decided to fund political parties from the state budget. After the amendments to the Law on Financing of Political Organisations (Parties) adopted in 2019, the parties receive funding for the votes obtained above the 2% quota in elections of the Parliament plus a premium if they overcome the 5% barrier. The parties also receive 9 times less funding for each vote in elections of local governments and the European Parliament if they have received support in the previous election of Parliament. Amendments to the Law on Financing of Political Organisations (Parties), 2019); however, the amount of funding is far too small even for the most successful parties.

The approach of the nineties was not to divide political parties from other forms of civil society. Presently situation is changed. This is also demonstrated by the fact that none of the main medium-term development and strategic plans of the state, all of which emphasize the development of participatory democracy (Cabinet of Ministers, 2006 & 2010; *Saeima*, 2012 & 2020), have nothing written about the development of representative democracy or improvement of quality of political parties.

The approach of the nineties was not to divide political parties from other forms of civil society. The view that the development of parties and other forms of civil society should be equally supported, including through public support projects and the liberalization of financing was dominating.

2.3 Bureaucratization

Public trust in the idea of representation depends on the ability of elected members to affect decisions. Modern politicians and political scientists call for professional governments. Latvian bureaucrats strengthened their power first by limiting the local governments and then by following the European Commission's model and limiting the role of the national parliament. Bureaucratization induced by the EU results from both over-regulation and subsidiarity violations. The national parliaments are increasingly interfering with the natural competencies of the local governments.

The importance of over-regulation was addressed 10 years ago by President Andris Bērziņš (2011–2015), who issued an order "On Development of Proposals for Reducing the Number and Amount of Law Amendments (Order No. 7, 2012). At its best, the rate of growth has been reduced.

In May 2022, the texts of 1678 consolidated laws of the Parliament, 4279 consolidated texts of the Cabinet regulations, and several thousands of binding regulations of local governments are in force in Latvia (www.likumi.lv). The authors' assessment shows that several centuries would be required only to read and understand the binding laws and Cabinet regulations at a rate of four pages a day. Over-regulation is beneficial for lawyers as a group of interests, as it guarantees ever-increasing job opportunities.

The Covid-19 pandemic and the Russian war in Ukraine have shown the inefficiency of traditional bureaucracy when the public power must operate in a rapidly changing environment and decisions must be taken quickly. A long-term strategy-based system of consultation, negotiation, and redress, attractive to the groups of interests of bureaucrats and lawyers, is becoming an obstacle.

2.4 Strengthening Consultation and Co-Decision

The increase in civic activities is undoubtedly positive. However, this does not exclude the use of these activities' contrary to the interests of the majority of society.

Initially, at the beginning of the nineties, informal consultation systems developed in Latvia, while co-decision or participation in referendums was rather rare. Under conditions of the decentralized system, coordination between the local governments and state was necessary, which led to the establishment of one of the most advanced formal negotiating systems in Europe between the local governments and the Cabinet of Ministers (Pūķis, 2010) as early as in 1994. Annual discussions begin in spring, followed by recording the views of industries and local governments on the development of events in the minutes with each ministry, but before the annual budget is submitted to the Parliament, a protocol of agreement and disagreement between the Latvian Association of Local and Regional Governments and the Cabinet of Ministers is a mandatory part of the budget package. In parallel, an informal consultation system with ministries, informal participation of local governments in the discussions of decisions of the Cabinet of Ministers, and informal participation of representatives of local governments in meetings of *Saeima* committees were developed.

The ministries have set up about 80 advisory councils on sectoral issues. These councils include representatives of civil society. As in all EU countries, Latvia also has a tripartite negotiation process among employers, employees, and the central government, which also invites the Latvian Association of Local and Regional Governments. Latvia has 15 years of experience in forming a common position for the social and cooperation partners of the central government, represented by the Free Trade Union Confederation of Latvia, the Latvian Association of Local and Regional Governments, the Employers' Confederation of Latvia, the Latvian Chamber of Commerce and Industry, and the Latvian Academy of Sciences. Such positions and consultations with the government were of particular importance in the context of the global economic crisis in 2009–2013 and the crisis of Covid-19 in 2019–2022.

During the Covid-19 pandemic, the actual participation of non-governmental organizations in the public authority decision-making process increased as the number of civil society representatives online increased compared to physical participation. The data of a survey performed by the Civic Alliance Latvia on the involvement of non-governmental organizations in the mechanisms of ministry participation from 2018 to 2020 show that their number has increased every year. In 2018, there were a total of 424 meetings, while there were 492 meetings in 2019 and 577 meetings in 2020 (CAL, 2021).

For the time being, the consultation process in Latvia has been institutionalized, while the lobbying process is informal. The lobbying process is restricted by different norms that govern conflicts of interest, information disclosure, public procurement procedures, and other issues.

Latvia has 12 years of experience in the collective application mechanism of the population (Valtenbergs, 2022). Voting controlled by the faction management, in the opinion of the authors, certainly does not contribute to the trust in the Parliament.

To implement the administrative-territorial reform new "Local Government Law" was approved. A separate section (VI) of the draft law is devoted to informing the public and involving the population in local governments' work, which introduces substantial formal guarantees for several forms of participatory democracy in the local governments.

- Citizen councils of cities, towns, and parishes (of internal administrative units in the local government), whose rights to affect decisions of the local government will be regulated by regulations of the local governments;
- Collective submissions by citizens, for consideration of which formal procedures have been laid down by law;
- The budget mechanism of participation.

The Law on Referendums of Local Governments (2022), whose adoption lasted for almost four parliamentary terms (6, 7, 12, 13), makes it difficult for the council of the local government to hand over for voting a question of significant development (it is possible after artificial procedures and with great delay, questioning a decision that has previously been voted for in the council).

New opportunities for the development of participatory democracy are opened by the EU's green deal. This is particularly true for energy communities. The regulatory framework of these communities in Latvia, in line with the EU Directive, is still underway. The support to energy communities is the responsibility of both the state and each local government.

There are the growth of populism (Ikstens, 2015; Ikstens & Vilka, 2015; Balcer, 2014) and the weakening of political parties, thereby raising the question of the viability of constitutional order and possible solutions for regaining the balance.

Conclusions, proposals, recommendations

1. There will be a balance between the facilitation of the development of political parties and non-governmental organizations to increase the quality of multi-level governance.
2. The core for balancing representative and participative democracy is an adequate model of parties financing and removing most restrictions on parties' activities.
3. Over-regulations in EU legislation induce centralization not only in the EU but also in the Member States and local governments.
4. Minimization of executive power is a tool for rebalancing representative democracy and participatory democracy.

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Data Bases

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DETERMINATION OF MEASURES FOR INCREASING THE RESILIENCE OF ORGANIZATIONS TO CRISIS SITUATIONS

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Abstract. Recently, there has been an increasing number of unforeseen events, such as natural disasters, disease outbreaks, and military conflicts, which cause significant negative consequences for societies and organizations. The need for organizations to be resilient in crisis situations is becoming critical in today's world. Therefore, the topic of organizational resilience becomes very relevant when the scientific problem is formulated as a problematic question: what managerial tools help organizations to be resilient during crisis situations. The purpose of the research is to determine what management tools help organizations to remain resilient during crisis situations. This article uses an empirical qualitative study - a semi-structured in-depth interview. The qualitative study involved 12 managers from different sectors whose organizations remained resilient during crisis situations. The results of the study revealed that the activity of the organization of any sector was most affected by the Covid-19 pandemic and the hostilities in Ukraine. Through research, we identified seven groups of measures that helped organizations to survive and be resilient, namely: administrative, technological, psychological support, communication, education, training, planning measures, external support.

Keywords: *organisational resilience, crisis situation, manager, measure, evaluation.*

JEL code: H12, D23, M12

Introduction

The topic of organizations' resilience to unforeseen events was increasingly topicalized in the 21st century in the first decade, paying attention to the increasingly frequent events caused by extreme natural phenomena - droughts, floods, earthquakes. In the last few years, the COVID 19 pandemic, supply chain disruptions, international military conflicts, natural resource shortages and increased costs are new unforeseen crisis events that affect the operations of every organization. Therefore, in today's context, it is necessary to answer the question of what actions determine the resilience of organizations during crisis situations, what helped them reduce the shock caused by crisis events and return to normal organizational activities.

Research studies natural disasters: earthquakes, floods, hurricanes, other natural phenomena caused by climate change (Achour and Price, 2011; Loosemore et al., 2011; Shang et al., 2020), man-made disasters - military conflicts, cyber attacks, etc. (Splichalova et al., 2021). Specific sectors are examined, for example, hospital operations are greatly affected by disease outbreaks such as Ebola, Covid-19 infection or seasonal influenza (Kurk et al., 2015; Capolongo, 2020; Harris et al., 2021). All these disasters can pose a potentially unpredictable and significant danger to organizational continuity (Bhamra et al., 2011).

Until 2000, resilience was often studied in the context of ecological systems (Holling, 1973; Tilman and Downing, 1994; Gunderson, 2000), later resilience began to be studied in the contexts of psychology, organizations, disaster management (Bruneau et al., 2003; Luthans et al., 2006; McDonald, 2006). Research on organizational resilience includes education (Turner et al., 2017; Dohaney et al. 2020), health (Cimellaro et al., 2018; Fallah-Aliabadi et al., 2020; Barbash, and Kahn, 2021), tourism (Melián -Alzola et al., 2020) and research on the assessment of the resilience of organizations in other sectors. Quantitative studies use different questionnaires and scales to assess organizational resilience, for example: Näswall et al. (2013) EmpRes Employee Resilience Scale, Azadeh et al. (2014) scale of integrated organizational resilience, Mallak (1998), Zhong et al. (2014), Cimellaro et al. (2018) hospital resilience assessment instruments, etc. These studies examine various measures such as – training, resource management, planning, operational procedures and etc. impact on organizational resilience. Recent studies highlight the significant role of the human dimension—leadership styles, employee well-being, personal, professional, and other measure's role in disasters (Richard, 2020; Pishnamazzadeh et al., 2020; Niazi et al., 2021; Achour et al., 2022). Research has confirmed that the resilience of employees also determines the resilience of the entire organization (Liang and Cao, 2021). There are a number of studies related to the assessment of employee resilience: Näswall et al. (2013) EmpRes validated the Employee Resilience Rating Scale; Sanhokwe and Takawira (2022) presented a psychometric instrument for assessing employee resilience. Other studies evaluate the effect of individual factors on resistance: Nguyen et al. (2016) evaluated the impact of leadership styles on resilience, Malik and Garg (2020) - on learning and employee engagement. The cited studies lack qualitative research on the perspective of organizational managers on what measures are generally significant in achieving organizational resilience.

Taking this into account, the research problem is formulated as a problematic question: what managerial measures help organizations to be resilient during crisis situations. The aim of the research is to determine what management measures help organizations to remain resilient during crisis situations. In order to achieve the intended aim, the following tasks were implemented: 1. To review the concept of organizational resilience and measures, that increase organizational resilience, in the scientific literature; 2. To conduct empirical research, that reveals effective measures that have helped organizations remain resilient. The research method used in this article is an empirical qualitative study - a semi-structured in-depth interview with managers of organizations from different sectors, whose organizations remained resilient during crisis situations.

Literature Review

It is generally agreed that the term “resilience” can be characterized by the ability of countries, communities, individual households to manage change, maintaining a normal state or adapting to new operating standards in the event of disasters, causing as little risk as possible to long-term goals and well-being (DfID, 2011). According to Bhamra et al. (2011), the concept of resilience is multidisciplinary and multifaceted, this term is used in such diverse fields as ecology, metallurgy, individual and organizational psychology, etc. after the disturbance. When applying the concept of resilience to organizations, this definition remains largely unchanged, as it relates to both individual and organizational responses to turbulence. Also, resilience is not limited to one sector, as it is significant for all - energy, health system, education, manufacturing, transport, tourism and other sectors. The term organizational resilience was popularized by Holling in 1973 in the work "Resilience and stability of ecological systems". Scientists use this term to describe the multifaceted capability of a system: according to Cimellaro et al. (2010) resilience, consists of the ability to maintain functionality and the ability to restore capacity after losses caused by extreme events; according

to Bruneau et al. (2003), it is a three-fold ability - to cushion shock, quickly recover after it and reduce the probability of shock. Kamissoko et al. (2021) emphasized that the ability to amortize the impact of disruptions must be achieved in a minimum period of time with minimum costs (financial, human, workload resources, etc.), and the functional capacity to be restored must cover all aspects of the operation.

It is distinguished an approach to resilience as an outcome or a process to achieve an outcome. Duchek et al. (2020) point out that resilience as an outcome is related to the ability to recover and can only be assessed after disruptive events; resilience as a process involves effectively dealing with the consequences of adverse events not only after, but also before and during such situations. Thus, resilience as an outcome is a target state, while resilience as a process involves the organizational mechanisms that enable that state to be achieved. The resilience of organizations is not homogeneous, in the scientific literature (Table 1) its various forms, types, etc. are distinguished.

Table 1

No.	Forms/types of resilience	The Autor
1.	Individual or organizational response.	Burnard & Bhamra, 2011
2.	Physical and social factors.	Achour et al., 2014
3.	Structural, infrastructural and administrative types.	Fallah-Aliabadi et al., 2020
4.	Functional, operational and strategic forms.	Hepfer & Lawrence, 2022
5.	Micro - individual psychological resilience, meso - social, organizational teams and macro - resilience of the entire organization, its operations.	Borg et al., 2022

In this study, we are concerned with the social aspect of resilience, what organizational, administrative or other measures help employees to remain resilient during crisis situations and help the entire organization to return to normal activities faster or to adapt to a new situation. Employee resilience in crisis situations is defined as a cultivated characteristic of an employee, not only as the ability to recover from disasters, but also the ability to use and develop personal and work resources, adapt and thrive in response to changing work circumstances (Kuntz et al., 2017; Naswall et al. 2019). The process of developing employee resilience is the creation of external and internal conditions for the employee, which would enable the employee to learn and improve in the face of difficulties (Richard, 2020).

After summarizing the scientific literature, the following measures that increase the resilience of organizations to crisis situations are identified: training, project implementation, information sharing, action protocols, flexible electronic and information systems, good psychological climate, physical and mental health of employees, age and work experience, effective and transparent leadership, the formation of well-functioning coordination and mutual interaction systems, solid supply chains (Albanese et al., 2008; Pishnamazzadeh et al., 2020; Barbash & Kahn, 2021; Niazi & et. al. 2021). In this case, it is appropriate to investigate empirically the opinions of managers of organizations in different sectors, since current trends show that the survival of organizations in the future depends on their ability to flexibly and dynamically react to unexpected and unfavorable events for their activities. After which organizations must return to normal operations or modify them to suit the correspondingly changed environmental conditions.

Research results and discussion

1.Methodology

The structured interview questionnaire for conducting the research was compiled on the basis of scientific literature, which distinguishes managerial measures of organizations' resilience to crisis situations. A qualitative semi-standardized open-ended in-depth interview was conducted.

Research ethics were followed. The selected respondents were introduced to the purpose of the study, the purpose of using the data, and the anonymity of identity preservation. The principle of free will was applied, where the respondents could agree or not to participate in the study. The survey sample.

The general population of the study: middle and top managers of organizations of different sectors, legal forms, whose organizations remained resilient, i.e. has been operating for more than 5 years. Number of respondents - 12. The research was conducted in Lithuania - in different organizations of the city of Klaipėda. By selecting subjects with different field of experience, the possibility of more comprehensive disclosure of the research object increases. The following criteria were applied to the respondents: i) a person holding a managerial position; ii) managerial work experience of at least 3 years; iii) working in the organization for more than 5 years.

The results of the qualitative research were analyzed using the qualitative content analysis method. The interviews took place anonymously, during a live interview in October - November 2022. The interview lasted from 25 to 45 minutes.

2. Description of the questionnaire

The research questions were formulated in order to find out the social and administrative aspects, which measures helped organizations to remain resilient during crisis situations.

The questions asked to the respondents can be divided into groups of information, each of which is aimed at gathering information to reveal the purpose of the research. These groups are presented in the Table 2 below.

Table 2

	Nature of the information	Interview questions
1	A crisis event affecting the organization's operations and employees.	1. What unexpected crisis event in the last 5 years has had the greatest impact on your organization's activities? 2. What are the biggest challenges your organization has faced? 3. How did the employees react and behave?
2	Measures that have helped the organization continue to operate, remain resilient.	4. What organizational measures helped you to continue your activities and adapt to new circumstances during a crisis event? 5. Do you think you made any mistakes, what would you do differently so that your organization would be better prepared for similar cases?

3.Results

In order to reveal a more comprehensive perception of the respondents who participated in the study, table 3 presents summarized demographic data relevant to the study.

Table 3

Information about respondents							
Respondent No.	Gender	Age	Managerial work experience	Position	Age of organization	Sector	Public/privat legal entity
R1	F	39	5	Manager	5	Beauty services	Privat
R2	F	65	20	Manager	25	Municipality	Public
R3	M	38	10	Manager	15	Public transport	Public
R4	M	64	30	Manager	10	Production	Privat
R5	F	38	10	Manager	12	Finance	Privat
R6	F	50	6	Manager	6	Trade	Privat
R7	M	52	27	Manager	27	Trade	Privat
R8	F	32	15	Manager	6	Feeding	Privat
R9	M	61	34	Manager	30	Valuation of real estate	Privat
R10	M	55	26	Manager	6	Production	Privat
R11	F	45	10	Manager	8	Geodetic surveys	Privat
R12	F	51	16	Manager	23	Production	Privat

All surveyed respondents hold management positions, their management experience is solid - from 5 to 34 years, the organizations also exist from 5 to 30 years. The average age of the respondent is 49 years. The average work experience of the respondent in the organization is 17 years. Sectors of organizations are very diverse, starting with private sector production and ending with the provision of public services. 7 women and 5 men participated in the study. Descriptive qualitative content analysis was conducted in sequential steps. When reading the descriptions of the respondents, 2 groups of information were distinguished, the groups of information were divided into separate categories, and the categories into subcategories. Statements justifying the selected subcategories were searched for in the answers, data were interpreted and general conclusions were made for the entire category, relating them to the context of the study.

After analyzing the respondents' answers, two groups of information were distinguished according to the formulated questions: 1) A crisis event that affected the organization's activities and employees; 2) Measures that helped the organization to continue its activities, to remain resilient. The following categories were distinguished in the first group of information - 1.1. a crisis event that caused a shock; 1.2. Challenges for the organization; 1.3. Employee reactions. Next, subcategories are distinguished in the categories, which are revealed in tables 4, 5, 6.

Table 4

Subcategories of the category "Crisis event that affected by causing shock"			
Category	Subcategory	Respondent's answers	Frequency
1.1. A crisis event that caused shock	Covid-19 pandemic	R1: „Covid“ R2: „It was pandemic“ R3: „Covid pandemic“ R4: „For our organization it was Covid-19 pandemic“ R5: „I would say- pandemic“ R6: „Covid - unequivocally“	5
	Significantly increased costs of energy resources and inflation	R3: „We had two things - the Covid pandemic and inflation, increased prices of fuel and other resources“ R8, R10: „Energy prices, it's connected with war, but still energy“	3
	Hostilities in Ukraine	R9: „Circulation stops, there is nowhere to buy goods“ R10: „Turnover has stopped because customers do not feel safe and do not want to invest in real estate in Lithuania“	2
	Work relations	R11: „Two main employees left their jobs and built their own company“ R12: „Legal conflict between shareholders“	2

From the responses of the respondents analysed in Table 4, it is clear that the Covid-19 pandemic has had the greatest impact on the activities of organizations over the past 5 years, regardless of the sector the organization belongs to and what its legal form is. This was noted by 6 out of 12 surveyed respondents. Other events that affected the organization's activities were also mentioned, related to external circumstances - military conflicts, increased energy prices, and internal circumstances of the organization - conflicts between employees and shareholders. These research results justify that at the moment, however, the biggest impact and shocks on the activities of organizations are caused by external events beyond their control, so it is necessary for organizations to be resilient and ready to react dynamically to unforeseen events.

Subcategories of the category "Challenges for the organization"

Category	Subcategory	Respondent's answers	Frequency
1.2. Challenges for organizations	Reorganization of employees' work	R4: "Management of employee flows in shifts" R5: "It was necessary to reorganize office activities, avoid mixing between employees, document management" R11: "Rethink the entire work organization process"	3
	Failure to prepare	R2: "It was very unexpected, we couldn't predict it, there was no time to prepare"	1
	Technical problems	R2: "There were technical problems at the beginning, but they were quickly resolved"	1
	Broken supply chains	R6: "The delivery of the suppliers' goods has stopped for us" R7: "We have no one to order goods from, we are looking for new suppliers" R10: "supply of raw materials is somewhat stuck"	3
	Restrictions set by the state	R5: "We could not communicate directly with customers" R6: "Working hours were limited - evening work was not allowed, and customer flows were also limited"	2
	Creation and development of new services and activities	R1: "Because the work is contact-based, it was impossible to provide remote services, it was necessary to find new services"	1
	Income generation, lack of working capital	R3: "Since the losses were high, it was necessary to think about where to get income" R8: "Energy prices "eat up everything", there is a lack of circulating funds" R9: "There is a lack of funds, taxes need to be paid, but there are no funds"	3
	Providing information to customers	R3: "It was necessary to regulate the flow of customers, to inform them properly"	1
	Regulation of relations with service providers	R3: "Contracts with service providers had to be reviewed because the operating environment and conditions have completely changed"	1
Psychological problems	R12: "Employees felt insecure, they were afraid that the company would go bankrupt"	1	

The specified crisis events caused a number of challenges for the top level managers of organizations, depending on the specifics of the activity. The need to reorganize the work of employees, search for technological solutions, and lack of funds were mentioned most often. Such results show that such areas as personnel management, technology implementation and financial policy are the most sensitive during crisis situations, and in order to be resistant to organizations, it is first necessary to strengthen these areas of organizational management.

Table 6

Subcategories of the category "Employee reactions"

Category	Subcategory	Respondent's answers	Frequency
1.3. Employee reactions	The reactions are different	R4: "Not everyone reacted adequately, seriously. Others were reserved."	1
	Getting lost	R2: "I called the employees on Sunday and told them that everything is changing from Monday - we are going remote. Total confusion, staff scared" R3: "Finding the best solutions brought anxiety"	3
	Psychological problems	R2: "There were employees who asked the employer to provide psychological help"	1
	Fear of not providing work	R1: "In the beginning, there was a fear of not having customers and activities anymore" R5: "Everyone was scared because they didn't know if they would keep their jobs if we lost customers" R6: "Frightened by job loss and not knowing what the future holds" R12: "very big panic was that you might lose your job, confusion, rumours"	4
	Calm reaction	R1: "Once the worrisome issue was resolved, I reacted positively" R3: "Normal, usual" R8: "Everything is fine with them, they don't worry, they get paid" R7, R9, R10, R11: "Does not ask anything, restrained, observes"	6

The most common response reported by staff was calm. This shows that most of the employees trusted the managers and their ability to manage the crisis situation. Some respondents indicated that there were also those who feared because of the anxiety of losing their job and moods of confusion due to the unexpectedness of the events.

After analyzing the responses of the respondents, the following categories of measures applied to the organization's resilience to crisis situations can be distinguished in the second group of information "Measures that helped the organization to continue its activities, remain resilient": 1) administrative measures; 2) technological means; 3) psychological assistance measures; 4) communication tools; 5) educational and training tools; 6) planning tools; 7) external measures.

Table 7

Categories and subcategories of the information group "Measures that helped the organization to continue its activities, remain resilient"

Category	Subcategory	Respondent's answer	Frequency
1. Administrative measures	Regulation	R4: "Establishing new procedures, e.g. for access to premises, meals, communication and etc."	1
	New work practices	R5: "It was necessary to arrange everything, when, by whom, which documents were taken, so that they would not disappear, etc."	1
	Change of working hours	R3: "Schedules had to be adjusted"	1
	Frequent meetings	R3: "We tried to ensure a timely response, through conversations and meetings"	1
2. Technological means	Implementation of remote work	R1: "I came up with new services that could have been provided remotely" R2: "Change of form of work" R5: "We all went out to work remotely"	3
	Technological solutions	R5: "We bought a new server. Employees need laptops, even though everyone already had them."	1
	Information systems solutions	R5: "We searched for and implemented new technological solutions for connecting to systems; The program we are working with is online, and it has worked very well; It worked out very well and we developed the application of e-signature, authorizations, etc."	1
3. Psychological assistance measures	Creating a close relationship with employees	R2: "Once a week, all the departments got together and talked not only about work issues, but also about our well-being"	1
	Psychologist's help	R2: "More sensitive employees would have benefited from the help of a psychologist" R12: "We talked a lot, we also invited a psychologist to calm down the employees"	2
4. Communication tools	Sincere communication with employees	R2: "I used to talk to the employees individually on the phone" R12: "Conversations are long, reassuring"	2
	Customer information	R3: "It was necessary to inform customers a lot about service changes"	1
	Communication with service providers	R3: "We conducted negotiations with carriers, service providers on how to achieve the goals" R8: "Saves communication is good"	2
	Communication with customers	R8: "Good communication with customers saves" R7: "It's nice that we have a job, customers trust us, so we're talking about maybe even giving used goods"	2
5. Educational and training tools	Independent studying	R2: "Employees had to learn how to use Teams on their own overnight. The training was late, it only started after a few years."	1
6. Planning tools	Preparation of plans	R2: "However, a list of threats and recommendations on how to act should be drawn up"	1
	Finance management	R6, R9: "A financial cushion that I didn't have would have helped"	2
	Layout of premises	R5: "Maybe now I would think about a different, non-open layout of the office premises"	1
	Coordination of various forms of activity	R1: "I would think about how to organize activities and services so that they are provided not only by contact, but also remotely"	1
	It is impossible to prepare for such crises	R9, R7: "No plan can be drawn up for hostilities, betrayal" R11, R12: "You will not prepare a plan for employee withdrawal, betrayal"	4
	Information monitoring and analysis	R3: "Trends in the sector are monitored and responded to promptly" R10: "I don't sleep, I don't get it anywhere, I'm looking elsewhere"	2

	Regulation of contractual relations	R3: "We are now reviewing the contracts, improving their terms to include contingency provisions"	1
7. External measures	State support	R5: "Government support has helped our customers, and we have kept them as a result" R6: "State support helped not to sink into the hole"	2

The sampling of interview managers from different sectors allowed us to reveal a diverse and sufficiently comprehensive range of applied measures, which includes organizational, technological, psychological support, educational, planning and external support measures. The most frequently mentioned measure is the proper reorganization of work and the use of technology. Detailed communication with employees, customers and service providers is also highlighted. From the answers of the respondents, it can be seen that it is necessary to pay a lot of attention to the planning of activities - plans for the preparation of unforeseen situations, finances for the planning of premises, various (contact and remote) forms of activity, information analysis, responsible regulation of contractual relations with third parties.

In terms of employee training measures, in order to achieve resilience, technological training and the development of a creative and independent employee would help the most. The research showed that for the production sector, work with employees and the establishment of procedures were more relevant, for the service sector - changes in work with customers, application of technologies, development of remote services. A significant influence of state aid - financial support - during crisis situations has also been mentioned. However, some managers mentioned that no plans can help to anticipate the effects of war or the unplanned quitting the job of employees.

4. Discussion

The results of our research show that the employees of the studied organizations reacted to the changes quite calmly, which may have led to the continuity of the organizations' activities after crisis situations. Research also highlights the critical role of personnel in disasters (Achour et al., 2022; Niazi et al. 2021; Pishnamazzadeh et al. 2020). Researchers indicate a wide range, similar to our study, of measures to increase resilience, such as - training, institutional cooperation, information sharing, protocols, flexible electronic systems, a good psychological climate, effective and transparent leadership activities, the formation of supply chains and etc.. (Albanian, 2008; Barbash and Kahn, 2021). Our research included organizations across different sectors, so the identified resilience measures are universal. When studying one specific sector, the specifics of effective measures could possibly change. Also, this study only interviewed people in managerial positions. Responses from respondents in non-management positions could provide a different picture of the measures. Given these specific study limitations, it is appropriate to develop studies in different sectors and with different levels of workers.

Conclusions

1. From the analysis of the scientific literature, it can be concluded that the activities of organizations are currently greatly affected by various unforeseen crisis situations that may be caused by natural forces or human actions. For organizations to survive in today's world, it is necessary to learn to respond dynamically to unforeseen situations, i.e. be resilient. The term organizational resilience is associated with both individual and organizational responses to turbulence. It is the ability of an organization to absorb a shock, quickly recover from it, reduce the probability of a shock in a minimum period of time with minimum costs, covering all aspects of operations. The scientific literature identifies the following measures that increase the resilience of organizations to crisis situations: training, project implementation, increasing cooperation between local and regional institutions, information sharing, action plans, flexible electronic and information systems, good psychological climate, physical and mental health of employees, effective and transparent leadership, well-functioning coordination and interaction systems, formation of strong supply chains.
2. The results of the empirical study revealed that currently the biggest shocks to the activities of organizations are caused by external crisis events beyond their control, so it is necessary for organizations to be resilient and ready to react dynamically to unforeseen events. Personnel management, technology implementation and financial policy are the most sensitive areas during crisis situations. Managers' efforts in personnel management should take into account the fact that during crisis situations, employees are shocked by the feeling of surprise and the fear of losing their jobs. Although sometimes it seems that it is impossible to prepare for unforeseen situations, proper implementation of personnel management, technology implementation and financial policies can help organizations to cope with unexpected events more easily. Application of organizational, technological, psychological support, education, planning and external support measures can help organizations remain resilient during crisis situations.

Proposals and recommendations

In such cases, it is necessary to properly reorganize work and use appropriate technological solutions. It is also recommended to communicate in detail with employees, customers and service providers, and still pay a lot of attention to activity planning - contingency plans, finances, various (contact and remote) forms of activity, information analysis, responsible for contractual relations with third parties for regulation. In order to make organizations resilient to critical situations, employee training measures should develop a technologically savvy, creative and independent employee. It is also recommended to constantly maintain contact with local or state institutions, so that they understand the importance and situation of organizations and, in the event of a crisis, are ready to provide effective financial support.

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DIFFERENCES IN THE CONTINUING EDUCATION FOR INHABITANTS BETWEEN STATISTICAL REGIONS, TERRITORIES, AGE GROUPS AND GENDER IN LATVIA AND ITS IMPORTANCE IN ENSURING AN INDIVIDUAL'S SOCIAL RESILIENCE CAPACITY

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Abstract. The rapidly changing needs of the society under the conditions of constant change and uncertainty of the social environment require new approaches to lifelong education. It must change qualitatively as an enabling measure to prevent the growing income inequality of the society and for strengthening the overall social resilience of the society. Unprecedented dynamics of workforce skills and demand for new competencies require immediate solutions. Support for the acquisition of new skills and competences as a measure for ensuring social resilience capacity is relevant for all age groups, including young people. In many countries the further education activities of young people are promoted with systemic approaches.

The aim of the study is to analyse the trends of involvement of the society in lifelong learning/ adult education and based on the obtained results to propose certain scientifically justified approaches and measures in further education that may raise the employment opportunities for people through lifelong learning. In addition, according to the research teams' opinion, this might serve also as a means for strengthening the social resilience and sustainability of the society. Research methods: analysis of scientific publications and experience of developed countries in the involvement of society in life-long learning, analysis of tendencies on involvement of society groups in life-long learning in Latvia. It can be concluded that the overall involvement in lifelong learning is slightly increasing, however, female persons are more active in it. Persons from urban areas are also more active, especially persons from the Riga region. As to the composition of the household, persons from two persons households are more active in life-long learning in Latvia.

Keywords: *Additional education, labour force survey, social resilience, sustainability.*

JEL code: I25; O15; R11; I21

Introduction

Experience of developed countries especially of those with a high share of older inhabitants in the population has indicated that the rapidly changing needs of the society in the conditions of changes and uncertainty of the social environment require changes in lifelong education. Lifelong learning approaches must change qualitatively in order to be able to prevent the growing income inequality and strengthen the security capacity of the society. In Latvia in the context of the demographic and social situation, the economic and social activity of young people in regions and local communities is crucially important. In Latvia the overall participation of citizens in lifelong learning is one of the lowest in the EU, therefore the support measures must be attributed to all age groups to address the challenge. Even though the share of involved persons in additional/ adult education is growing, it applies more to female persons. Therefore complementary measures need to be ensured to cover the whole spectrum of learners, also in relation to the gender. Additional education for different inhabitant groups could be seen also as one of the basic tools in reducing income inequality based on labour input. Unprecedented dynamics of workforce skills and demand for new competencies require immediate solutions (Kantane, et al, 2015). Support for the acquisition of new skills and competences is highly important for ensuring social resilience capacity (European Commission, 2021a).

Support for the acquisition of new skills and competences as a measure for ensuring social resilience capacity is relevant for all age groups, including young people. In many countries the further education activities of young people are promoted through systemic approaches. In Latvia, in the context of its demographic and social situation, the economic and social activity of young people in regions and local communities is crucially important. In Latvia, the overall participation of citizens in lifelong learning is one of the lowest in the EU (European Commission, 2021b), therefore the support measures must be attributed to all age groups to address the challenge. Even though the share of involved persons in additional education is growing in Latvia, it applies mostly to female persons. Therefore complementary measures need to be ensured to cover the whole spectrum of learners, also in relation to the gender. Additional education for different inhabitant groups could be seen also as one of the basic tools in reducing the income inequality based on labour input.

In Latvia individuals whose own income or their family income is low tend to choose education or profession that can be acquired fast and preferably with support from state funding. This allows to start working early and yield income faster. There are various reasons for it, the most typical are insufficient financial resources, insufficient level of education of parents, actual place of residence in remote areas, often far from the city where higher level educational institutions are located.

There is a contradiction between the need to quickly learn the necessary, market-demanded narrow specialisation, specific professional skills and knowledge to find work quickly and the need to acquire broader generic skills and competence, in order to create motivation, foundation for further development, rolling skills and better command of languages and mathematics, in order to be able to adjust to changing environments or to acquire a new qualification. In the case of the younger generation, especially in the absence of adequate support from the family regarding education and overall development, young people are subject to risk of being involved in jobs of any kind prior to obtaining proper education or qualification. The education system should therefore be able to offer the necessary market-tight specialisations and to continuously improve the overall access to career support, to expanded knowledge bases, general skills, in order to strengthen the motivation and world view of the learners, in line with the sustainable development needs of the society.

Still, there is a significant part of inhabitants in Latvia who are excluded from mainstream societal processes, and this tends to prevent them from having an appropriate standard of living. This part of the population is typically characterized by low income, low level of information on possible participation in life-long learning activities, lack of access to information technology (IT) tools and the internet, low level of digital literacy (Sloka, et al, 2021).

It should be taken into consideration that innovative solutions of social marketing and the application of positive case publications are also important tools for raising social inclusion. These tools still tend to be underestimated. Life-long learning should be more initiated by municipalities and non-governmental organizations in Latvia, as other countries have shown promising results in this respect.

The aim of the paper is to analyse the tendencies of involvement of inhabitants in life-long education by different groups in relation to gender, age and other parameters. The tasks of the research are to find out the characteristics for the implementation of continuing education to meet the needs of the society. The research question is the relevance of differences in education and in relation with one's life development tendencies. The analysis is based on data of the Labour Force Survey, databases of the Official Statistics Portal of Republic of Latvia. Research methods: analysis of scientific publications and experience of developed countries in the involvement of society in life-long learning, analysis of tendencies on involvement of society groups in life-long learning in Latvia, statistical data analysis using distribution of persons involved in further education by gender, by territories, by statistical regions and by household size in Latvia in 2021.

Literature Review

Researchers world-wide have concluded that lifelong learning and adult education are important drivers for social inclusion and socially active life. Academic researchers have examined different factors influencing life-long education in relation to the quality of life (Moustaffa, Saleem, 2022) with detailed analysis performed already in the previous century (Hayes, 1972). One has to take into account the need to be rational and creative (Hoggan-Kloubert, Hoggan, 2023) the technology requirements (Iñiguez-Berrozpe, Boeren, 2020) as well as digitalisation needs (Quan Liu et al., 2006). Researchers have proved that lifelong learning makes impact on income increase (Rodríguez-Fernández, Themelis, 2021). In their analysis the researchers are using varied research methods: quantitative research methods (Panitsides, 2013), case studies (Fombona, Pascual, Listopadzka, 2022) and a range of other research methods. Recent technology development has requested to acquire new and modern skills which can be obtained by using various methods (Cocquyt et al., 2017). International community use experience gained in different international projects where an important aspect is synergy and inspiration of different project participants (Fombona, Pascual, Listopadzka, 2022). Researchers have noted the importance of work-place education (Larsen, 2022) and neighbourhood learning activities (Ollis, Starr, Ryan, Angwin, Harrison, 2017; Olis, et al., 2018). Relevant results have been obtained by researchers when examining and evaluating experiences in various countries: in United Kingdom (Kersh, Laczik, 2021), in Spain (Alfageme, Seguí-Cosme, Monteagudo-Cáceres, 2023), in Australia (Ollis, Starr, Ryan, Harrison, 2018), in USA (Punksungka, et al., 2022; Yamashita, Smith, Sahoo, Cummins, 2022), in South Africa (Mayombe, 2016), in Latvia (Sloka, Tora, Buligina, Dzelme, 2022; Sloka, Buligina, Dzelme, Tora, 2022), in China (Zhang, Perkins, 2023), where researchers have pointed out several innovative approaches. All indicated research results have confirmed the relevance of life-long education. The research analysis indicate to life-long learning as a contributing factor for becoming an economically and socially active persons, having initiative and getting satisfaction from the learning process, as well as the possibility to use obtained skills and knowledge in actual life. Research results have indicated also to several problems on getting involved in adult education (Gerganov, Ilieva-Trichkova, Boyadjieva, 2022) where some unsolved aspects are pointed out and these factors indicate to the need for further research. Gender gap is also an additional problem (Demirel-Derebasoglu, Okten, 2022) in adult education.

Researchers in Latvia use the analysis of policy development documents in their research, such as the National Development Plan of Latvia for 2021-2027 (NAP2027), which promotes flexible adaptation of adult education and lifelong learning offer to the development of various sectors of national economy, It also encourages inter-institutional and international cooperation and the introduction of new technologies, strengthening vocational education institutions, sectorial excellence and innovation centers, especially in areas of smart specialization. Likewise, the Educational Development Guidelines for 2021-2027 (EDG) 2021 (MK, 2021) are being analysed, where more specific challenges in education, including vocational education, are considered in order to ensure a competitive workforce and a wider involvement of the population in life-long learning.

The latest European initiatives are also finding reflection in national human capital development initiatives, for example, the relatively new concept of microcredentials. A microcredential for lifelong learning and employment is seen as a tool to address the challenges posed by rapid changes in today's labour market, according to Cedefop studies and analyses on vocational education and training (VET), skills and employment, and seen as support for adult skills and retraining policies. While initial education and training qualifications and degrees play a major role in Europe, alternative microcredential documents (including digital badges, micro-creatives, nanocertificates, small awards, etc.) are increasingly seen as a way to complement and/or reform existing qualifications systems. A microcredential is a balance between fostering trust and transparency and preserving flexibility, addressing more diverse groups of learners than those involved in full qualifications, including employees, young employees, individual trainees, company clients, many sectoral activities. According to the European approach, a microcredential is an additional instrument that provides increased opportunities to learn and develop skills enabling people to acquire the knowledge, skills and competences they need to develop into a changing labour market and society. Thus they can fully benefit from both a socially fair recovery e.g from the coronaver pandemic and also proceed with the transition to the green and digital economy. The economy of Latvia is fully part of this new European initiative. Latvia's new vocational education and training policy developments, represented in the year 2022 Amendments to the VET Law, also allows for microcredentials to be accumulated towards a full qualification or be used as-stand-alone competence or part of a qualification. Latvia up-skilling courses and VET modules addressing a particular competence (both leading to certificates) are widely used and well-trusted. This is due to a well-functioning national quality assurance systems (Cedefop (2022)). Such aspects are becoming more and more important both for academic research and real life.

Research results and discussion

The analysis is based on data of the Labour Force Survey, databases of the Official Statistics Portal of the Republic of Latvia. Analysis of tendencies on involvement of society groups in life-long learning in Latvia, statistical data analysis using distribution of persons involved in further education by gender, by territories, by statistical regions and by household size in Latvia in 2021. Research results on data for 2021 on the attendance of courses of further education in Latvia are included in table 1.

Table 1

Distribution of persons by purpose for attending any training, courses, seminars (for work or overall interest) outside the regular education system within the last 4 weeks in Latvia in 2021

	Frequency	Percent	Valid Percent	Cumulative Percent
Mainly job-related (professional)	811	65,1	65,1	65,1
Mainly personal/social	433	34,8	34,8	99,8
No answer	2	0,2	0,2	100,0
Total	1246	100,0	100,0	

Source: author's construction based on data from the Labour Force Survey of Latvia in 2021, n=1246

Data of table indicate that most of the persons (65,1%) involved in further education attend courses mainly for job-related (professional) reasons.

Research results on distribution of data for 2021 on the attendance of courses of further education in Latvia by gender are included in table 2.

Table 2

Distribution of purpose for person attending training, courses, seminars (for work or overall interest) outside the regular education system within the last 4 weeks by gender in Latvia in 2021

Purpose for person attending training, courses, seminars	Gender				Total	
	Male		Female			
	Count	Proportion (%)	Count	Proportion (%)	Count	Proportion (%)
Mainly job-related (professional)	260	32,06	551	67,94	811	100
Mainly personal/social	105	24,25	328	75,75	433	100
No answer	1	50	1	50	2	100
Total	366	29,37	880	70,63	1246	100

Source: author's construction based on data from the Labour Force Survey of Latvia in 2021, n=1246

Testing statistical hypothesis on the difference of proportions of persons attending training courses by gender indicate that the overall proportion of female persons attending training courses is higher than for male persons. The proportion of males attending professional courses is higher than for females. This allow to conclude that males tend to be more job oriented when deciding to take a training course

Research results on the distribution of data for 2021 on the attendance of courses of further education in Latvia by administrative territories are included in table 3.

Table 3

Distribution of purpose for person attending training, courses, seminars (for work or overall interest) outside the regular education system within the last 4 weeks by administrative territories in Latvia in 2021

Purpose for person attending training, courses, seminars	Administrative territory				Total	
	Urban area		Rural area			
	Count	Proportion (%)	Count	Proportion (%)	Count	Proportion (%)
Mainly job-related (professional)	590	72,75	221	27,25	811	100
Mainly personal/social	306	70,67	127	29,33	433	100
No answer	1	50	1	50	2	100
Total	897	71,99	349	28,01	1246	100

Source: author's construction based on data from the Labour Force Survey of Latvia in 2021, n=1246

Testing statistical hypothesis on the difference of proportions of persons attending training courses by administrative territories indicate that the proportion of persons from urban areas attending training courses is higher than for those from rural areas. Persons from urban areas prefer attending professional courses. They are more involved in the changes of technologies and need job-related upskilling.

Research results on distribution of data for 2021 on the attendance of courses of further education in Latvia by administrative regions are included in table 4.

Table 4

Distribution of purpose for person attending training, courses, seminars (for work or overall interest) outside the regular education system within the last 4 weeks by statistical regions in Latvia in 2021

Purpose for person attending training, courses, seminars	Statistical region of populated area												Total
	Riga		Pieriga		Vidzeme		Kurzeme		Zemgale		Latgale		
	n	%	n	%	n	%	n	%	n	%	n	%	
Mainly job-related (professional)	256	31,57	200	24,66	86	10,60	81	9,99	54	6,66	134	16,52	811
Mainly personal/social	124	28,64	86	19,86	55	12,70	57	13,16	54	12,47	57	13,16	433
No answer	0	0	1	50	0	0	0	0	0	0	1	50	2
Total	380	30,50	287	23,03	141	11,32	138	11,08	108	8,67	192	15,41	1246

Source: author's construction based on data from the Labour Force Survey of Latvia in 2021, n=1246

Analysis on the proportion of persons attending training courses by administrative regions indicate that the proportion of persons from Riga statistical region attending training courses is higher than from other statistical regions. The share of persons attending professional courses is higher or equal to those attending personal courses in all regions, however, the relative number for personal/ social courses is higher than the average in three regions – Vidzeme, Kurzeme, Zemgale. Riga, Pieriga and Latgale are more oriented to changes of qualifications and to new technologies.

Research results on distribution of data for 2021 on the attendance of courses of further education in Latvia by household size are included in table 5.

Table 5

Distribution of purpose for person attending training, courses, seminars (for work or overall interest) outside the regular education system within the last 4 weeks by household size in Latvia in 2021

Purpose for person attending training, courses, seminars	Number of household members					Total
	1 person	2 persons	3 persons	4 persons	5 or more persons	
Mainly job-related (professional)	193	222	177	133	86	811
Mainly personal/social	96	128	91	68	50	433
No answer	0	2	0	0	0	2
Total	289	352	268	201	136	1246

Source: author's construction based on data from the Labour Force Survey of Latvia in 2021, n=1246

Analysis of the proportions of persons attending training courses by household size indicate that the proportion of persons from two persons' household attending training courses is higher than for those coming from other composition households. The share of persons attending professional courses is higher for persons from 1 person household. Persons from one person household prefer job related courses.

The analysis of the statistical data regarding specific parameters allow for drawing conclusions on the recent situation in Latvia and propose measures for increasing the involvement of Latvia's population in life-long learning.

Measures could be taken to promote a targeted involvement of all target groups, with a particular emphasis on regional aspects thus also strengthening the sustainability and overall resilience of the local communities and the society at large.

Conclusions, proposals, recommendations

1. Research findings indicate that in most countries additional education or adult education is more active for female persons. It is confirmed by statistical data also in Latvia.
2. As to distribution of attendance of courses according to purpose, there is an indication that males are more job oriented and prefer attending professional courses.
3. Additional education or adult education is more characteristic for persons from urban areas, as confirmed by statistical data in Latvia. Persons from urban areas are more involved in the processes related to changes of technologies, they need job-related upskilling and thus prefer attending professional courses.
4. Additional education or adult education is with higher activity for persons from Riga statistical region in comparison with other regions in Latvia. Zemgale, Riga, Pieriga and Latgale are more oriented to changes of qualifications and to new technologies. The relative numbers of persons attending personal/ social courses is higher than average in three regions – Vidzeme, Kurzeme, Zemgale
5. Additional education or adult education is more typical for persons from two person's households in comparison with households of a different composition. Persons from one person household prefer job related courses.
6. It is recommended to develop local and regional strategies for a more active involvement of the population in lifelong learning. The identified gaps by the present research clearly indicate to the target groups and territories where there is less activity and more support and incentives are needed. Since continuing education and life-long learning are among the most effective way for fostering employability and in developing competitive labour force, it also contributes to the reduction of income gaps for different society groups.
7. The significance of motivation and attitudes in the fast changing world is increasing, therefore more attention needs to be paid to personal and social oriented training and provision of targeted courses and seminars.
8. Under the present global challenges social resilience acquires new content, not only in relation to economic and social factors in traditional understanding. Lifelong learning could be increasingly geared towards sustainable life styles for target groups of all ages, coming from different areas of the country and addressing gender issues in an equitable way.

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LABOUR SHORTAGES AND MIGRATION IN THE ICT SECTOR IN LATVIA

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Abstract. Increase in the use of ICT has led to an ever-increasing need for skilled ICT workers in Latvia and labour shortages in this sector. In the search for solutions to labour shortages, this article focuses on the impact of migration processes and a potential solution to labour shortages in the ICT sector. A literature review on the migration of skilled ICT workers abroad serves as the basis for the development of a schematic theoretical model of migration-employment in the ICT sector nexus, which was then discussed with ICT experts. In-depth interviews with ICT experts are used to discuss and evaluate assumptions made in theoretical literature studies about ICT labour migration flows and the impact of remote work. The study generally confirms the assumption that remote work opportunities in the field of ICT encourage highly skilled Latvian experts in this field to stay in Latvia and to work for an employer or client abroad. At the same time, the study does not confirm the assumption that migration could be a solution to the shortage of labour in the ICT sector, as there are currently no necessary structural conditions for this.

Keywords: *demographics, labour economics, migration, ICT sector, Latvia.*

JEL code: J6

Introduction

The importance of the information and communication technology (ICT) sector has grown very rapidly in the past ten years all over the world, and also in Latvia. The wider applications of digital technologies in existing businesses and the COVID-19 pandemic have further integrated ICT into sectors across economies. Increase in the use of ICT has led to an ever-increasing need for skilled ICT workers in Latvia and everywhere else. For example, the data of the Central Statistical Bureau in 2022 show (CSB, 2022) that more than half or 59% of Latvian companies that tried to fill vacancies for ICT specialists encountered difficulties.

There are two main directions to address labour shortages in the ICT sector (ILO, 2020). First, the scaling up of investments in ICT education and training. And second, measures to attract skilled ICT workers from abroad and better governed international labour migration. The aim of this article is to examine the second aspect and to scrutinize the role of migration and its potential impact on labour shortages in the ICT sector in Latvia. The impact of migration processes on the ICT sector is an issue that has not been studied in depth in Latvia so far, therefore this research is more exploratory. To better understand the labour force needs in the ICT sector and the migration trends within this sector, the author has analysed the theoretical literature and previous studies on the migration of skilled ICT workers abroad (Saxenian, 1999, 2002, 2007, 2008; ILO, 2020) and migration of highly skilled Latvians (Hazans, 2018; Šūpule, 2021). This allowed the development of a schematic theoretical model of migration-employment in the ICT sector nexus, which was then discussed with ICT experts. In total, 10 expert interviews were conducted in the period from April to June 2022 (the list of expert interviews is attached in Appendix 1, Table 1.). During the in-depth interviews with ICT experts, the main topics discussed were (1) the shortage of ICT specialists in Latvia, (2) the impact of emigration/remigration on the ICT field, (3) the possibilities and effects of remote work in the ICT field on migration and choosing a place of residence, (4) and attracting ICT specialists from third countries, specifically from Belarus, Russia, and Ukraine. In the interviews, the assumptions that were put forward in the theoretical literature studies about the migration flows of skilled ICT workers and the impact of remote work were discussed and evaluated.

This article is organized as follows. First, it provides the theoretical considerations important for analysis of the migration of skilled ICT workers. This includes both relevant theoretical arguments on different migration patterns and existing empirical research on the ICT sector labour force. In the next section, both the statistical data of the Latvian ICT sector and the data of expert interviews used in the analysis are reported. After presenting results of the analysis, the last section offers conclusions and recommendations on how to address the labour shortage in the ICT sector.

Literature Review

Migration of highly skilled ICT workers in literature are considered under talent migration (Solimano, 2008). Andrés Solimano, when analysing the migration processes of highly qualified specialists, offers the following classification of talents: 1) technical talent; 2) scientists and academics; 3) healthcare professionals (doctors and nurses); 4) entrepreneurs and managers; 5) professionals in international organizations; 6) cultural talent. With technical talent, A. Solimano refers to experts in the field of information technology, telecommunications and computer science, and in many countries these specialists have easy entry and residence conditions. The largest share of highly skilled migrants in this field is believed to be from India (Solimano, 2008: 23).

Research on the migration of highly qualified ICT workers became relevant in connection with the development of the ICT field in the mid-1990s. Particularly significant among these studies is AnnaLee Saxenian's research in Silicon Valley, California, where already in 2000 one third of the highly qualified were foreign born, mostly from Asia (Saxenian, 1999, 2002, 2007). During this time, research focused on the problem of "brain drain" was followed by research on "brain circulation" with a main focus on India and China, where the processes of "brain circulation" play a vital role in the economic development of these countries (Findlay, 1988, 1995; Salt, 1988, 1992; Findlay & Gould, 1989; Beaverstock, 1990; Findlay & Garrick, 1990). Saxenian in her studies (1999, 2002, 2007, 2008) describes examples of "brain circulation" in the ICT sector, where highly qualified migrants contribute to the transfer of knowledge and technology to their country of origin. This does not mean that all countries from which the highly skilled have emigrated will benefit from brain circulation. This opportunity is only available to countries that have invested heavily in university education, especially technical education, and are politically and economically stable enough and with visible growth for expats to consider returning home (Saxenian, 2008).

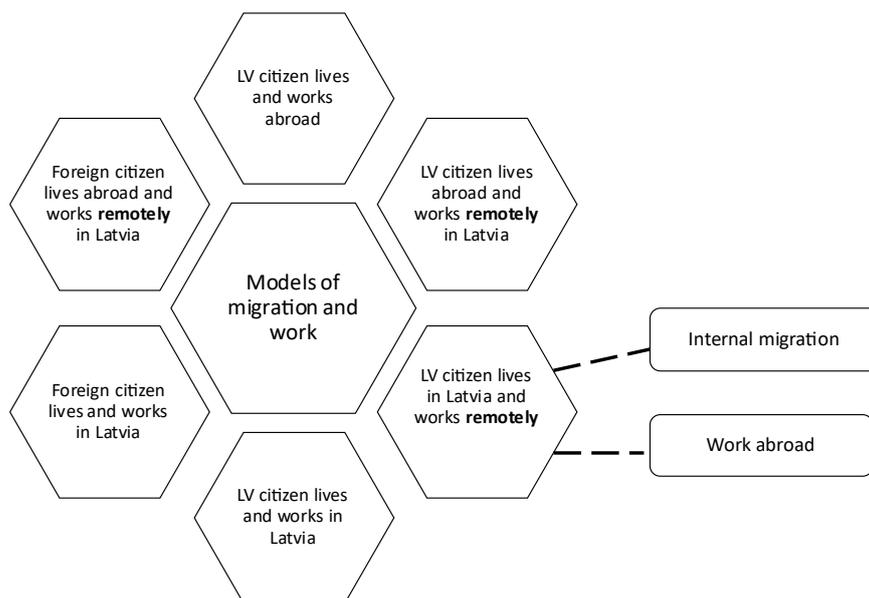
During the last ten years, there has been growing attention focused on states' approaches to highly skilled immigration policy, particularly on states that have been in the business of attracting skilled immigrants (Cerna, 2013; Chaloff & Lemaître, 2009; OECD, 2018, 2019a, 2019b; Triadafilopoulos, 2013). The recent study on ICT sector companies in Finland (Kotavaara & Prokkola, 2022) indicate that the complex and resource-intensive migration bureaucracy limits companies' recruiting efforts in Finnish labour markets. Although the state's political goal is to alleviate labour shortages and enhance competitiveness in the Finnish ICT sector by promoting employment from outside of Finland, the slow regulation-related migration bureaucracy is working against it. Therefore, the ICT companies expect the state to lower the barriers and bottlenecks of the employment process and play a larger role in promoting highly skilled migration.

While individual countries create specific national policies for attracting highly skilled migrants, OECD Social, Employment and Migration Working Papers has introduced a set of indicators aimed at benchmarking how OECD countries fare in attracting talented migrants (Tuccio, 2019). These OECD Indicators of Talent Attractiveness are designed to capture the strengths and weaknesses of OECD countries regarding their capacity to attract and retain talented migrants. In this comparison, Latvia is between Spain and Chile, and being in 28th place is at the bottom of the list (OECD 2019b). Thereby, different studies show that the global race for talent influences the immigration policies of advanced industrialized states. On the other hand, some studies question the degree to which highly skilled immigrants are welcomed in immigrant-

receiving states (Kolbe, 2021; Schmidtke, 2013). At the same time, other studies indicate that sending states are relatively powerless to limit exit and face brain drain (Bartolini, Gropas & Triandafyllidou, 2017; Triadafilopoulos, 2013).

The ICT sector is characterized by the global availability and global competition of skilled workers (Desai et al., 2004; Florida, 2005). The development of information and communication technologies has also contributed to the fact that the ICT services can be delivered in two main forms: on-site services, which require the physical presence of the expert, and remotely from anywhere although some travelling of the expert may be involved as well (D’Costa, 2008). Studies conducted on the migration and remote work of highly qualified Latvian specialists show (Mierīņa et al., 2021; Šūpule, 2021) that the following work patterns exist among highly qualified Latvian specialists: (1) living and working in Latvia, (2) living in Latvia and working abroad remotely, (3) living and working abroad, and (4) living abroad and working remotely in Latvia (Figure 1). These main patterns also include various variations, for example, the possibility that when working remotely you can regularly change your place of residence, for example, living half a year in Latvia, and half a year in the USA, Thailand or Estonia. Remote work also allows for internal migration, for example, the possibility of moving from Riga to a country house or a small town. When thinking about the attraction of foreign citizens to the Latvian ICT sector, different typical models can also be distinguished. Foreign citizens can live anywhere in the world and be engaged on a contractual basis for remote work. There is also an opportunity to attract foreign citizens by immigration to Latvia (Figure 1).

Based on these models and insights from previous studies, the following assumptions about ICT work organization and migration issues were confronted in in-depth interviews with ICT experts. First, remote work opportunities in the field of ICT encourage return migration and remote work for an employer or client abroad. Second, one of the possibilities to solve the shortage of labour force in the ICT sector is to attract ICT specialists from Ukraine, Russia, and Belarus, because there is an outflow of ICT specialists from these countries for various reasons.



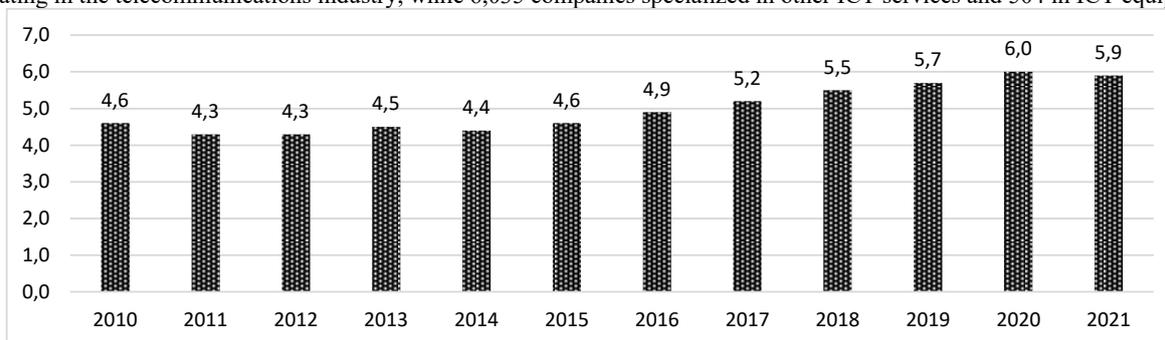
Source: Developed by the author based on the literature review.

Fig. 1. Models of migration and work in ICT sector

Research results and discussion

Trends in the ICT sector: statistical data

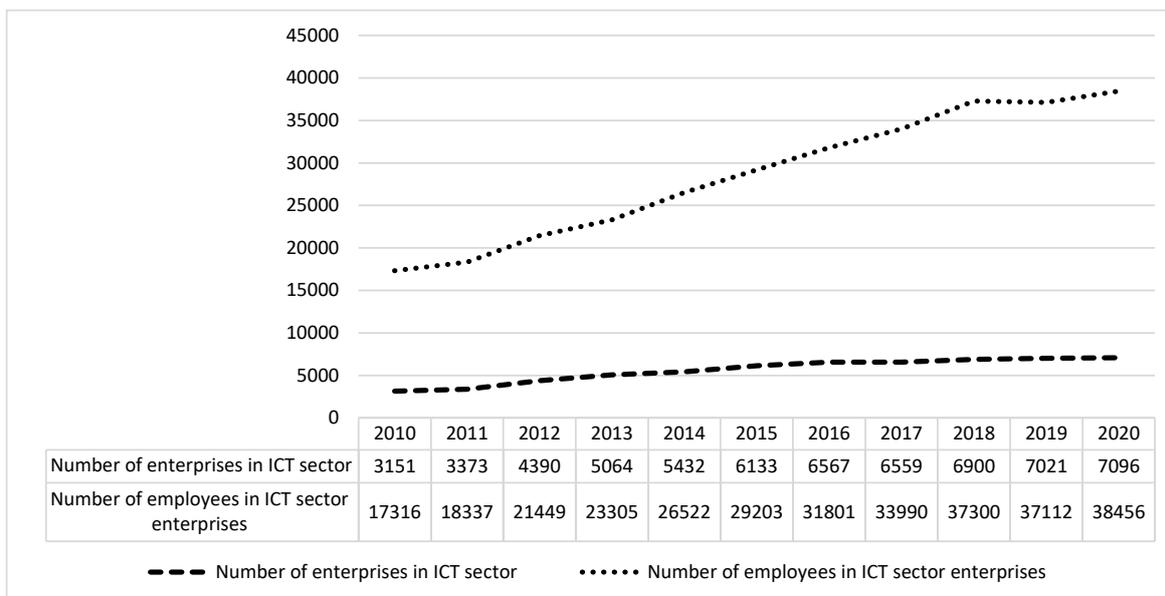
The ICT sector comprises about 6% of gross domestic product (GDP) in Latvia: 5,7% in 2019, 6% in 2020, 5,9% in 2021, (Figure 2; CSB, 2021a). In 2020, there were 7,096 companies active in the ICT sector (CSB, 2020). Only 106 of them were producing ICT equipment, 451 were operating in the telecommunications industry, while 6,035 companies specialized in other ICT services and 504 in ICT equipment sales.



Source: CSB, 2021a.

Fig. 2. ICT sector as a percentage of national GDP in Latvia 2010-2021 %

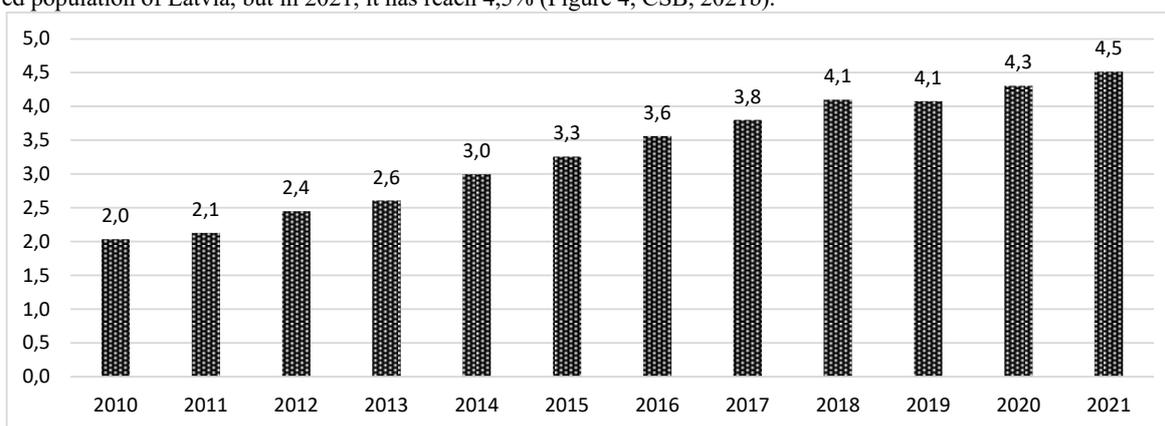
The number of employees in the ICT sector was 38,456 in 2020 (Figure 3). Compared to 2010, the number of employees in the IT sector has more than doubled (from 17,316 in 2010 to 38,456 in 2020). The number of IT companies has increased from 3,151 to 7,096 since 2010. Out of 38,456 employees working in the ICT sector in Latvia in 2020, 34,046 (89%) worked in the service sector, 2,722 employees (7%) worked in the wholesale sector and 1688 employees (4%) in the manufacturing sector.



Source: CSB, 2020.

Fig. 3. Number of ICT enterprises and employees in ICT sector enterprises 2010-2020

Number of employees in the ICT sector is relatively large, as more than half of the employees (53%; 20,362 employees in total) work in companies employing 50 or more employees, while 18% of companies have 10-49 employees (6808 employees in total), and 29% have 0-9 employees (11,286 employees in total). The share of the employed population in the ICT sector companies in 2010 was 2% of the total number of employed population of Latvia, but in 2021, it has reach 4,5% (Figure 4, CSB, 2021b).



Source: CSB, 2021b.

Fig. 4. Share of the national workforce employed in the ICT sector companies 2010-2021.

The shortage of IT specialists in Latvia

The in-depth interviews with various experts in the IT field indicate, that there is a large labour shortage in the IT field, and it is expected that the future demand for labour in the IT field will be even greater. This problem is not new in the industry and is typical for all sub-directions of the IT field, but every year it becomes more and more relevant: “I have a feeling it gets worse every year and it has been so for over 20 years. From the time when I started studying in 1992 and working in 1993. Of course, I also started working in my second year, and in the last 30 years nothing has changed, and the situation has become even worse.”

The interviewed university professors indicate that IT students in the 2nd year are usually already working in their specialty. It is typical that “when students go to practice in the second year, they are snatched away. If the student shows some signs of intelligence, then he is immediately offered a contract and hired, and then studies become less interesting for the student”. At the same time, it is indicated in the interviews that the shortage of IT specialists is worldwide, it is not only a specifically Latvian problem: “The big companies that work for abroad in Latvia are desperately looking for people and grab anyone who looks more or less sane. It's a mega problem, it's only getting worse, and it's the same in other countries”.

There is also a shortage of IT specialists in Lithuania and Estonia, and this problem is more urgent in the countries that are small in terms of the number of people: “Due to the population, Latvia will never be able to compete with Lithuanians and Belarusians in this regard, not to mention Indians and Chinese”.

Solutions or partial solutions to the shortage of specialists are seen in three directions: 1) more targeted education at the secondary school level, encouraging young people's interest in exact sciences in general, and the IT field specifically; 2) Focus on such IT goods and services that require less labour force involvement; 3) Change of stereotypes about IT specialists in order to promote the involvement of women, as well as to encourage people to retrain and change their profession to the IT field.

Several interviewed experts spoke about the first direction of action to improve secondary school education in exact sciences. They pointed out that it is necessary to change the approach to how exact sciences are taught already at the primary and secondary school level, emphasizing that the teaching approach should promote interest in the subject: “It has to be addressed from the school years. If during school, people have been taught mathematics, technology, and to some extent also physics and other exact sciences in such a way that he or she hates them, then it is clear that he or she will not go to any IT.”

One of the experts spoke about the necessity of reorientation towards such IT goods and services that require less labour force involvement, and he pointed out that in the long term the costs of IT services in Latvia will rise and approach the European level, therefore it is necessary to think about such products that by themselves are competitive, not only because of cost: “Software production in factories and resource centres in Latvia, which are located here due to lower costs, is unfortunately not sustainable. Cost-cutting companies always travel further down the chain. The costs in Latvia will inevitably rise and move closer to the European average.”

The third direction, aimed at changing stereotypes about IT specialists and encouraging women to retrain and change their profession to the IT field, has been actively implemented in Latvia for some time. For example, Riga TechGirls, in close cooperation with Accenture Latvia, one of the largest (in terms of employees) and best-known IT companies, is offering basic technology training for women in Microsoft .NET, JAVA, Scala, JavaScript and DevOps, and the most motivated women are supported to develop new professional skills with no study fee. It should be noted that none of the experts proposed solving the ICT labour shortage with the help of migration, for example by attracting more students from foreign countries to study the ICT specialty in Latvian universities, or promoting the migration of ICT specialists to Latvia as a solution to the labour shortage in the industry.

Emigration and return migration

Emigration trends, which were pronounced during the economic crisis in Latvia (Hazans, 2019), as well as the subsequent return migration of Latvian residents, have generally not affected the ICT field. This is indicated by most of interviewed experts. There are cases when ICT experts have moved to another country because the opportunities offered to them have been very tempting: “There were some offers from Silicon Valley that were ‘obscenely’ good”. There are cases where ICT professionals wanted to change their place of living due to some personal motive or lifestyle: “I also know a person who just wanted to go to Australia, saved up money to move, which is not that difficult in ICT, and found a job there and moved. Because he wanted it.” However, in general, emigration trends have not been pronounced in the ICT field: “I know ICT people working in the USA and Germany, but I have the feeling that there has not been a large departure in the ICT field. Because we are well fed here.”

The last quote also reveals the reason why there was no significant emigration in the ICT field, which is the relatively good salary: “Many people work in large foreign companies - their branches are here, or their customers are only foreigners. So why should he or she go abroad, if here he or she earns about the same, but the cost of living is much lower? It is clear that he or she can live much better here.”

Several experts point out that ICT specialists in Latvia still have a competitive salary in two very important aspects. On the one hand, ICT service costs are still lower in Latvia, so foreign employers are happy to use Latvian ICT services: “Against the background of Europe, we are, of course, cheaper than Germany, France, but we are definitely more expensive than Belarus, Ukraine, Bulgaria, Romania - these countries.” On the other hand, the salary of specialists in the field of ICT is significantly higher than in other fields in Latvia, and it is relatively higher for those who work abroad in Latvia than for those who work for the Latvian market: “It also depends on the projects, have you found a profitable project. But in any case, salaries are such that you should not complain. Nobody can afford to pay less, because then people will leave.”

In connection with the issue of remigration, it was also revealed that there are women who use the Riga TechGirls program to return to Latvia: “What we have seen is that, after completing our program, women return to Latvia, because they can get a well-paid job here and that motivates to return. They participated remotely, and then found a job in Latvia and returned”. Several interviewed experts have attracted return migrants to their companies, including the second or third generation of exiled Latvians: “There was a small, but noticeable, influx of Latvian specialists from abroad - the USA and Australia. I remember that we ourselves had two or three Australian employees in the early 2000s. But it was not a mass trend.”

At the same time, it should be emphasized that, in general, taking into account the fact that there were no distinct emigration waves in the ICT sector, there are no special return trends either; and these are mostly individual cases.

Remote work

In-depth interviews with experts confirm the assumption that remote work, which is more common in the ICT field than in other sectors, contributes to ICT specialists staying in Latvia. The main reason for this is that ICT specialists in Latvia can earn well, because many ICT companies provide services to foreign companies, and Latvian ICT specialists work remotely in foreign companies: “Rather, the trend is that people find remote work and work for a company abroad. I have a friend in Ādaži who has been working for a German company for more than 20 years, and he has no intention of going to Germany. Rather, the trend would be that people here get good jobs abroad and don't want to leave Latvia at all.”

Due to their sufficiently high qualifications, Latvian ICT specialists have managed to find work in global companies, which even before the pandemic attracted specialists from other countries and had developed remote work approaches: “There are many valuable, highly qualified programmers who have remained in Latvia and work from Latvia in global, large companies precisely because of the possibilities of remote work”.

At the same time, the possibilities of remote work in the field of ICT have promoted internal migration in Latvia in cases where ICT specialists prefer a lifestyle in small towns in Latvia rather than life in Riga: “There have been cases in our program when women want to live in a small town, where everything is close to children and is a nicer living environment than in the big city, but it's hard to find a job. This is an opportunity to retrain, work remotely and earn well, so the women are very satisfied and have found the lifestyle they want.”

Recruitment of third country nationals

Numerous recruitments of third-country nationals, specifically ICT specialists from Belarus, Russia, and Ukraine to Latvian companies or relocation of ICT companies from these countries (in the case of Belarus or Russia) has not been observed in Latvia in recent years. Although in connection with the protests and the subsequent repression of the society in Belarus in 2020, the Latvian Investment and Development Agency approached Belarusian ICT sector companies and approximately 70 Belarusian technology companies considered relocating their operations to Latvia (Kovaļevskis, 2020), in general the migration of Belarusian ICT companies or specialists to Latvia is not noticeable. In the mass media, attracting Belarusian ICT companies was evaluated differently, but one of the opinions was related to the possible positive impact of Belarusian ICT specialists on the shortage of labour force in the ICT sector (Zvirbulis, 2020). Available statistical information shows that companies operating in Latvia have attracted several hundred highly qualified specialists from Russia and Belarus since 2018. 207 citizens of Russia and 54 citizens of Belarus have start-up visas in Latvia, but currently the possibility of entry from Russia with start-up visas has been suspended (Krastiņa, 2022). Part of the Belarusian companies, which considered the possibility of moving to Latvia or other EU member states, chose to move to Ukraine or Russia, that is, the countries where the subsidiaries or parent companies of these companies were already working (Kovaļevskis, 2020). Those companies that decided to move to EU countries preferred Poland or Germany: “Emigration of Belarusians right after the presidential election, when people started to leave on their own. ICT companies then began purposefully moving their people; at least ICT service companies, and there the target was mostly Poland. And they still migrate there.”

One of the interviewed owners of the ICT company claimed that his company has therefore not tried to attract Belarusian ICT specialists, because, in his opinion, Belarusians are oriented towards other countries: “Belarusians have historically been those who clearly and unequivocally, if they wanted to get to Latvia, then just to get straight away to Germany or beyond. Latvia is a starting point for them.”

Regarding the involvement of Ukrainian specialists in Latvian ICT companies, experts point out that such a trend has been observed for the last 10 years: “The immigration of Ukrainian programmers to Latvia has been going on for a long time, for the last 10 years”. Therefore, the war in Ukraine (after February 24, 2022) has not significantly changed the situation, as those Ukrainian specialists who already worked in Latvian ICT companies, mostly continued to work in them (unless they went to the front): “War refugees often continue to work in companies in the ICT field, where they have already done it before, we don't feel a big direct impact of the war.”

One of the interviewed experts stated that he had tried to attract Ukrainian ICT specialists directly, but was unsuccessful: “We had specially redirected job advertisements and jobs directly to them, but - no. No Ukrainian who came to Latvia has started working for us. We are not a very large company - together with the subsidiary we have about 150 employees. So, it's definitely not the absolute truth.”

The migration of IT specialists due to the mobilization started in Russia for the war in Ukraine has contributed to the migration of many thousands of Russian ICT specialists to countries such as Georgia, Kazakhstan, Kyrgyzstan, and Armenia (Meduza, 2022). At the same time, Latvia was not open to these arrivals, and for security reasons told Russian citizens who fled mobilization announced on 21.09.2022. in Russia, do not go to Latvia. In order to limit the flow of Russian citizens and prevent security risks, the Cabinet of Ministers on 27.09.2022. adopted order No. 599 “On the entry of citizens of the Russian Federation into the Republic of Latvia”, which significantly restricts the entry of Russian citizens into Latvia until June 30, 2023. The interviewed ICT experts also pointed out these difficulties upon entering Latvia, although it should be emphasized that the interviews took place between 24.02.2022. and 21.09.2022: “There is a question about their possibilities to move to Latvia, because visas are needed, and it is not that easy”; “But now attracting Belarusian and Russian specialists is almost impossible. Although there is a very strong desire for relocation on their part, they all follow not only Latvia, but the Baltics, because it is not realistic to attract them with our migration legislation. I am currently trying, but there are almost no options. [...] In my opinion, this is a lost opportunity.”

Conclusions

1. The research carried out shows that the relevance of migration issues in the field of ICT in Latvia is not observed. Although there are highly skilled ICT specialists who have emigrated to other countries, neither emigration nor return migration is generally characteristic to ICT specialists. A more typical trend in the ICT field is to live in Latvia and work remotely for a foreign company.
2. Both in the statistical data and in the interviews the problem related to the labour force shortage was identified. At the same time, the interviewed experts do not see the solution to it in the promotion of migration (neither ICT students nor ICT specialists). At the same time, in the case of some certain companies, attracting foreign specialists is a company-specific strategy, but it does not characterize the most typical approaches in the industry. Possible solutions to ICT labour shortages were suggested by adapting to ICT market niches, where the emphasis is on developing a competitive product rather than lower costs. Secondly, the experts talked about the reorientation of secondary school education to the exact subjects (mathematics and natural sciences) and getting young people interested in them. Thirdly, the unexploited opportunities for attracting women to the ICT sector, as well as retraining for work in the ICT sector, were mentioned. Therefore, there were no expectations among interviewed ICT experts that more ICT specialists from Ukraine, Russia or Belarus could be attracted. Although one of the interviewed entrepreneurs had tried to attract Ukrainian ICT specialists more actively after February 24, 2022, he did not succeed in attracting Ukrainians to his company in Latvia. Other experts said that Belarusian ICT specialists who fled the Lukashenko regime in 2020 often moved to Poland or Germany, and in those individual cases when they moved to Latvia, Latvia was only a temporary place, a bridge for further migration to the already mentioned Germany. The attraction of Russian ICT specialists is significantly limited by the restrictions on the entry of Russian citizens into Latvia for security reasons.
3. The study generally confirms the assumption that remote work opportunities in the field of ICT encourage highly skilled Latvian experts in this field to stay in Latvia and to work for an employer or client abroad. At the same time, the study does not confirm the assumption that remote work opportunities encourage the return of such specialists, because neither emigration nor remigration was characteristic of this industry in Latvia. Both emigration and remigration in this field are separate individual cases related to the choices offered and the way of life preferred, rather than structurally determined migration push-pull factors.
4. The second assumption that one of the possibilities to solve the shortage of labour force in the ICT sector is to attract ICT specialists from Ukraine, Russia, and Belarus, was not confirmed. The main factors, why the attraction of these specialists has not expanded as much as one could imagine, is that Latvia is not as attractive to specialists from these countries as, for example, Germany or Poland, as well as the fact that the immigration policy in Latvia is discouraging Belarusian and especially Russian citizens from coming to Latvia, rather than promoting their immigration, and the established exceptions for ICT specialists, such as start-up visas, has not been very successful.
5. Considering the fact that ICT is an economic sector that creates jobs in the digital economy, the shortage of highly qualified ICT workers can negatively affect Latvia's economic growth. In this context, failure to attract mobile Russian and Belarusian ICT specialists can be considered a lost opportunity. At the same time, this means that it is necessary to work more actively in other directions in order to train and retrain Latvia's workforce for work in the ICT sector.

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Appendix 1. Table 1. Interviewed ICT experts

1.	Anna Andersone	Chief Empowerment Officer at Riga TechGirls
2.	Jānis Grundspenķis	Professor of the Department of Artificial Intelligence and Systems Engineering, Riga Technical University
3.	Aigars Jaundālders	WeAreDots Director of Technology (CTO)
4.	Girts Karnītis	Professor at the Faculty of Computer Science of the University of Latvia
5.	Jānis Kreilis	YourMove and Hyperjob Co-founder
6.	Zigurds Līkums	Independent Technology Expert

7.	Ivo Odītis	ICT company SIA “Divi Grupa” Project Manager, Associate Professor at the Faculty of Computer Science of the University of Latvia
8.	Līga Krista Solima	DXC Technology Strategic Bid Manager
9.	Mihails Ščepanskis	ICT start-up CENOS Simulation Software Manager
10.	Guntis Urtāns	ColabPro (Sweden) Co-owner

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COMPETITION AND COLLUSION IN PROCUREMENT AUCTIONS: CASE STUDY FROM SERBIA

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Abstract. This paper discusses the illegal practice of bid rigging in procurement auctions, where bidders' behaviour is explained by using game theory with imperfect information. Auctioned contracts are financed from public funds, and collusion between bidders is widespread in these auctions. This paper aims to explain the logic of some simple statistical indicators of potential collusion and apply these indicators to selected public procurement auctions in Serbia. Based on the results of this case study, we propose the best ways to combine these indicators and obtain an integral indicator by using either the above-below median approach or the rank approach. Moreover, we show that collusive behaviour might have existed in some procurement auctions in Serbia. The findings of our paper could be beneficial to competition commissions by suggesting which suspicious auctions to focus their investigation on, making the work of these commissions more effective.

Keywords: *procurement auctions, cartels, phantom bids, indicators of collusive behaviour.*

JEL code: D44, L41

Introduction

Auction theory studies the optimal behaviour of bidders in different types of auctions. The best-known standard auctions are English, Dutch, first-price, and second-price. English auction starts with a specific price that is raised in steps by the auctioneer. The last bidder who remains active is the winner and pays the price at which the runner-up has dropped out from the auction. Dutch auction starts with a high price lowered in steps by the auctioneer, and the first bidder raising a hand is the winner and pays the current price. In a first-price auction, bidders submit bids in sealed envelopes, and the bidder with the highest bid wins and pays his bid. The second-price auction has the same rules as the previous one, except that the winner pays the second-highest bid. William Vickrey (1961) studied optimal bidding strategies in these auction mechanisms and was awarded the Nobel prize in Economics for this pioneering work.

In auctions, bidders may have private values (maximal willingness to pay for the item), when a bidder's valuation of the object for sale is independent of the valuation of other bidders. Technically, values are independent random variables. Milgrom and Weber (1982) and Willson (1985) studied auctions where bidders have interdependent values when the valuation of one bidder depends on the valuation of other bidders. Technically, values are positively correlated. Paul Milgrom and Robert Willson were awarded the Nobel prize in Economics in 2020 for their study of auctions with interdependent values. Nice overviews of the main contributions to auction theory are presented in Milgrom (2004) and Krishna (2009).

Bidders in auctions should act competitively. However, they can make illegal collusive agreements. In the latter case, bidders organise a meeting before the auction where they choose the cartel's representative for the auction, and other bidders agree not to participate or to submit phantom bids higher than the cartel's representative bidder in order to create an impression of competition. In this way, they reduce competition at auctions and enable the cartel's representative to buy the object at a lower price, directly hurting the seller. The cartel's representative then distributes this additional profit that stems from the reduced seller's revenue to other cartel members. According to McAfee and McMillan (1992), this is a strong form of a cartel that is based on transfer payments. Weak cartels participate in repeated auctions and use rotating bids, which means that each cartel member participates in a specific auction according to the previously determined rule. There are no transfer payments in weak cartels. The seller can set the reserve price, the lowest price at which he is willing to sell, to reduce the damage from the cartel (Graham and Marchall, 1987). In the experimental research, Sujarittanonta and Viriyavipart (2021) have shown that the reserve price reduces the cartel's gain from collusion. The other instrument the seller might use to reduce the cartel's gain is to choose an auction format in which the cartel is unstable. Hendriks and Porter (1989) have proved that in private value auctions cartel is stable in English, and second-price auctions and unstable in first-price and Dutch auctions, and Hendriks, Porter and Tan (2008) reach the same conclusion for auctions with interdependent values. Also, two-stage auctions are a suitable means to undermine the cartel's stability. In an Anglo-Dutch auction, bidders participate first in an English auction, and two finalists compete in a first-price auction in the second stage (Klemperer, 1998, 2004; Levin & Ye, 2008). In a Dutch-Anglo auction, the order of stages is reversed, first-price followed by an English auction (Dutra and Menezes, 2002). In the Amsterdam auction, the first stage consists of an English auction, and the second stage of a first-price auction (Goeree and Offerman, 2004). Two finalists who enter the second stage obtain a premium from the seller, which undermines the cartel's stability. Hu, Offerman and Onderstal (2011) also proved this issue in an experimental environment. Competition commissions can reduce confidence between cartel members by using a leniency program that provides a fine reduction for cartel members who apply to cooperate with the Commission in the investigation against the cartel. This is proved in experimental research by Hinloopen and Onderstal (2014). Some empirical estimates of the cartel's profit were provided by Kwoka (1997) for real estate auctions and by Asker (2010) for post stamps auctions.

The primary public finance problem in many countries is related to cartels in procurement auctions. In these auctions, the winner is the bidder with the lowest bid who should provide some goods or services or conduct public construction works. Cartels are particularly present at these auctions, which increases public expenditures. In these auctions, also called reverse auctions, bidders have a cost of fulfilling the contract, which is their private information (the analogy with the value in ordinary auctions), and they bid at least the level of this cost or more than that to obtain some profit. OECD has adopted Guidelines¹ how to identify potential cartels at these auctions. This paper will focus on other measures proposed in the literature to identify potential cartels. We will use these measures to analyse certain public procurement auctions in Serbia. The Serbian competition commission has adopted almost the same Guidelines as OECD. However, we will show that the indicators proposed in the literature provide quantitative criteria for competition commissions on which auctions to focus the investigation. In this paper, we will show the best way to combine these indicators and obtain synthetic measures of collusion in particular auctions. One more objective of this research is to conduct a case study of potential collusion on a sample of Serbian procurement auctions. Nevertheless, these indicators are not sufficient proof to fine bidders since competition commissions need hard proofs in the form of oral or written communication between bidders or testimony of cartel members who participate in leniency programs.

The rest of the paper is organised as follows. The second part provides a literature review on cartels in procurement auctions. The third section contains the main research result of the paper. Finally, the last section concludes the discussion.

Literature Review

One famous case in the literature on cartels in procurement auctions is Porter and Zona (1993), who analysed cartels in procurement auctions held in the US for highway construction works on Long Island in the early 1980s. At these auctions, the cartel chose its representative. However, other cartel members submitted the so-called phantom bids, higher than the cartel's representative bid, to create the impression of real competition. The issue of phantom bids in highway construction works in Italy was considered by Conley and Decarolios (2016), where bidders even established phantom firms to submit phantom bids and navigate the determination of the winner in averaged-average auctions. In

¹ *Guidelines for fighting bid rigging in public procurement*, OECD.

these auctions, bidders submit bids as a percentage discount on the reserve price. Suppose we have bid as 1% on the reserve price, 2%, and so on until 10%. Then, 10% of the worst and the best bids are neglected. This is one worst bid (1% discount) and one best bid (10% discount). The average bid is calculated from the remaining bids $(9\%+2\%)/2=4.5\%$. This value is called Mean 1. In the second step, the average bid is calculated from the remaining bids above Mean 1, which is $(5\%+9\%)/2=7\%$. This value is called Mean 2. The winning bid is the bid with the highest discount below mean 2; this is the bid with a 6% discount on the reserve price.

The other famous case from the literature is cartels in the auctions for public milk procurement for schools in Ohio, which Porter and Zona (1999) considered. The investigation has found that 13 dairies participated in this cartel in Ohio between 1980 and 1990. Since milk is a homogenous product, the enforcement of the cartel agreement was easy. The cartel is generally easier to establish when products are homogenous than when products are differentiated. In addition, the cartel was based on the territory division, such that the bidder who supplied milk in a particular district in the previous school year, by the cartel agreement, received that territory for the next year as well. The other cartel members have just submitted phantom bids.

Chassang & Ortner (2019) studied public procurement auctions of local governments in Japan’s Tohoku region. They divide auctions into two groups, depending on whether the normalised winning bid (winning bid/reserve price) is above or below the median normalised winning bid. In the group of auctions where the normalised winning bid was above the median normalised winning bid (where the likelihood of cartel's presence is more likely), the probability that the previous year's winner wins again the same contract is significantly higher than the probability that some other bidder wins the contract in the current year. In the group of auctions where the normalised winning bid was below the median normalised winning bid (where the likelihood of cartel's presence is less likely), there is no significant difference between the probability that the previous year's winner wins the same contract and the probability that some other bidder wins the contract in the current year.

In order to reduce the cartel's profit, the auction organiser can set the reserve price, which is the maximum price the auction organiser is willing to pay. It is also possible to set the minimum price that bidders can offer. Although it does not seem to be in the auction organiser's interest to set a minimum price, this considerably reduces the cartel's ability to conduct the punishment strategy against cartel members who violate the cartel agreement. Based on the data from procurement auctions held in Japan in Ibaraki prefecture between 2007 and 2016, Chassang & Ortner (2019) conclude that the imposition of the minimum price reduced the average winning bid.

We will present some indicators of the potential existence of a cartel in procurement auctions suggested in the literature. However, competition commissions need strong evidence in the form of written or oral communication or transfer payments to punish cartel members. These indicators can serve as a guide for competition commissions on which auctions to direct their investigation.

In order to determine the presence of cartels in procurement auctions, Bajari & Ye (2003) use a model in which they assume that bidders are asymmetric, i.e., have different costs of fulfilling the contract. They prove that bidders' bids must be independent random variables if there is no cartel. However, if a cartel is present, the bidders' bids are positively correlated because the cartel members who were not selected to represent the cartel submit phantom bids, typically positively correlated, to create the impression of competition.

If this methodology for identifying the cartel's presence was applied to the data for the construction of highways in Long Island and the procurement of milk for schools in Ohio, it could have been determined that there is a positive correlation between bids of cartel members. Moreover, strategies of bidders are different depending on whether they compete against cartel members or non-cartel bidders.

The first indicator of the cartel's presence proposed by Imhof (2017) is based on the idea that the variability of submitted bids is lower if there is a cartel in the auction since phantom bids are typically significantly higher than the cartel's representative's bid. However, there is no considerable difference between the size of phantom bids. Since public contracts can have different values, in order to make these auctions comparable, the coefficient of variation (CV) is calculated, defined as the ratio of the standard deviation and the arithmetic mean of all submitted bids:

$$CV = \frac{\sigma}{\mu} . \tag{1}$$

A low value of this coefficient indicates the existence of a potential cartel. In Switzerland, in public procurement auctions of less than 500.000 CHF, where the auction organiser directly invited selected bidders to participate, the coefficient of variation is 0.058. However, in auctions with a public invitation for bidders (auctions of a value higher than 500.000 CHF), this indicator was 0.081. This result indicates a greater likelihood of the cartel's presence in auctions with the direct invitation.

The second measure proposed by Imhof (2017) is based on the fact that in a cartel’s presence, the difference between the lowest and second lowest bid is much greater than the difference between the losing bids. At some auctions, bids are weighted by the quality of the offer (score auctions with competition in two dimensions). At these auctions, there is a particular incentive for bidders in a cartel to set in advance the rule according to which the cartel's representative should submit significantly lower bid than phantom bids stemming from other cartel members. Having this in mind, the relative distance is defined as the ratio of the difference between the two lowest bids (Δ_{12}) and the standard deviation of losing bids (σ_{LB}):

$$RR = \frac{\Delta_{12}}{\sigma_{LB}} . \tag{2}$$

The standard deviation of losing bids and not all bids is counted in the denominator because the difference between the lowest and second lowest bid is inflated if there is a cartel, which would increase the standard deviation’s value. If the relative distance measure is close to unity, there is no significantly larger dispersion between the winning and the second lowest bid and the dispersion of other losing bids. The value of RR significantly greater than 1 indicates the potential existence of a cartel. For example, in auctions with direct call in Switzerland, the RR is 1.92, while in public call auctions, it is 1.2. This implies a higher probability of the existence of cartels in auctions with a direct invitation. Based on these two indicators, the Swiss Competition Commission focused on some suspicious auctions, and after finding hard proofs against cartels, the Commission fined eight companies in 2013.

Auctions for hiring appraisers for expropriated land in Okinawa in Japan, in the period from 2001 to 2004 were considered by Ortner et al. (2022). These auctions are divided into two groups. In the first group, the normalised winning bid (winning bid/reserve price) is high (between 0.9 and 1), while the variance of submitted bids is low. This relationship between normalised winning bid and variance indicates the

existence of a cartel agreement because members of the cartel who were not selected as its representative submitted similar phantom bids. On the other hand, in the second group of auctions, the normalised winning bid was low, with a high variance of submitted bids. This relationship between the normalised winning bid and variance indicates the existence of competitive behaviour or a possible violation of a cartel agreement.

Concerning the application of indicators for determining the presence of a cartel, such rules should fulfill the safety criterion, i.e., that competitive bidders should pass the test with probability 1. However, aware of the use of the previously described indicators, the cartel can change its behaviour to pass these tests. For example, if the cartel's potential existence is identified when bids are close to the reserve price, the cartel may adjust to this rule and submit lower bids. Alternatively, if the rule for cartel identification is based on the positive correlation of bids, the cartel can submit bids differently. Hence, if it is determined that bids are not clustered or that there are no bids close to the reserve price, the additional test of missing data can be conducted. In other words, it should be determined whether there was an unnatural submission of bids to circumvent the test due to the application of tests based on the grouping of bids or the submission of bids close to the reserve price. The missing data test proposed by Chassang et al. (2022) should determine the absence of clustered bids and bids close to the reserve price, which is a reaction by bidders to avoid tests based on these indicators. This test relies on the fact that the cartel members agreed that the cartel representative's bid should be significantly lower than the phantom bids. However, they do not find it necessary to set up that the third lowest bid should be significantly lower than the second lowest bid.

Cartels at auctions make profit owing to the coordination of bids and deterring the entry of potential competitors. These two effects are discussed by Clark et al. (2018) in an empirical study of the data on an asphalt cartel for street paving in Montreal. After the cartel had been fined and ceased to exist, the price of asphalt fell and 20% of the price drop stems from the entry of new competitors, and 80% is a consequence of the cartel's inability to coordinate the submission of bids.

Research results and discussion

We will combine these indicators since using just one indicator might give a blurred image of the level of competition or collusion in certain auctions in Serbia that were held in October and November 2022². The approach in our paper complements the OECD methodology based mainly on qualitative descriptions of how to identify the presence of potential cartels and does not provide such indicators that are used in our paper. The main contribution of the paper is the construction of the roadmap for competition authorities on how to classify auctions into priority groups for investigation based on the auction's score by using the above-below median approach and the rank approach. Moreover, we study whether collusion was an issue of concern in the sample of Serbian procurement auctions.

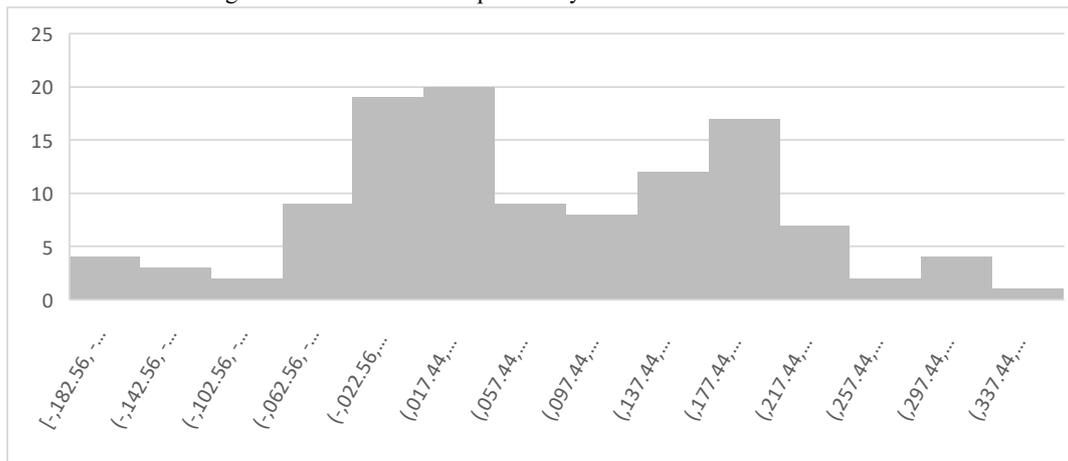
1. Histograms of bidding behaviour

Before analysing particular auctions, we will take a general overview of the data by constructing some histograms. The idea is to observe whether there is a considerable difference between the lowest and the second lowest bid. If such a difference between the lowest and the second lowest bid exists, and there is no such difference between the second lowest and the third lowest bid, this might indicate the presence of collusion in the whole sample. Namely, cartel members typically agree that the cartel's representative should bid significantly lower than phantom bids submitted by other cartel members. However, they do not arrange that such a significant difference should exist between the second lowest and the third lowest bid. In order to determine whether such behaviour exists for the whole sample, we will use two indicators proposed by Chassang et al. (2022). The first indicator Δ is determined for each bidder and each auction in the following fashion:

$$\Delta = \frac{\text{bid} - \text{the lowest bid of other bidders}}{\text{reserve price}} \quad (3)$$

For the winning bidder, the lowest bid of other bidders is the second lowest bid. Hence, for the winner, $\Delta < 0$. For other bidders, the lowest bid of other bidders is the winning bid, and $\Delta > 0$. Therefore, if there is no collusion, we should expect that the difference between the lowest and the second lowest bid is small, while this difference is significant with collusion. In other words, if there is missing data in the histogram around $\Delta = 0$, this indicates the presence of collusion in the whole sample of data. The histogram for our sample of 25 auctions is shown in Figure 1.

Figure 1 shows no missing data for Δ in the interval $[-0.02, 0.02]$. This indicates that there is no evidence of collusion in most auctions, although we will show in the following text that there are some potentially collusive auctions³.



Source: author's calculations based on <https://jnportal.ujn.gov.rs/>.

Fig. 1. Δ values for the sample of Serbian public procurement auctions

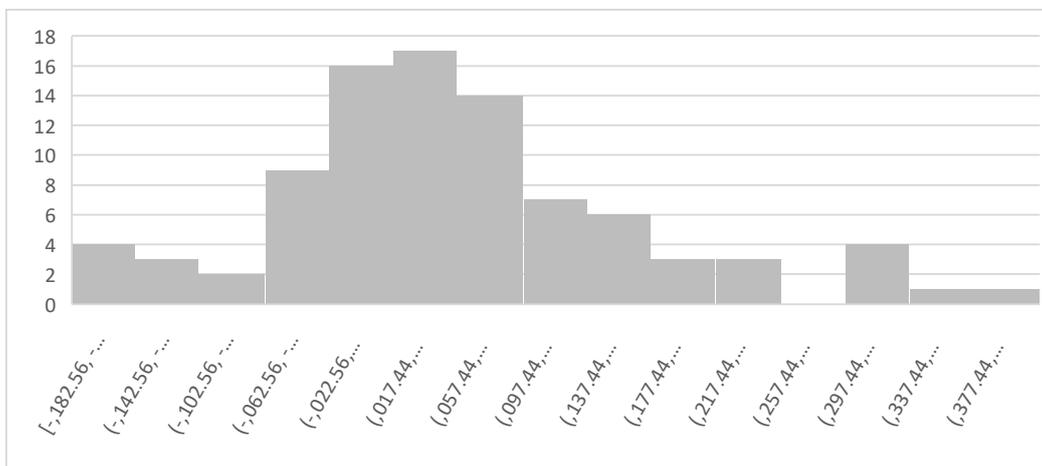
² The data were collected from: <https://jnportal.ujn.gov.rs/>.

³ As the robustness check, we have also constructed the histogram with smaller intervals. This histogram also shows that there is no missing data in the interval $[-0.01, 0.01]$. We are not primarily concerned whether the sample data has normal distribution, since we are only interested in the behavior of the relative frequencies of Δ around 0. However, the p value of the Jarque-Bera test of 0.62 shows that we cannot reject the null hypothesis that Δ is normally distributed.

We have also constructed the second diagram that should provide an overview of the size of the difference between the second and the third lowest bid. The measure that serves this purpose, Δ^2 , was also proposed by Chassang et al. (2022) and is determined for each bidder and each auction in the following fashion:

$$\Delta^2 = \frac{\text{bid} - \text{the second lowest bid}}{\text{reserve price}} \tag{4}$$

In contrast to the parameter Δ , where the numerator contains a difference between the bid and the lowest bid of other bidders, in the numerator of Δ^2 there is a difference between the bid and the second lowest bid. Hence, $\Delta^2=0$ for the runner-up, $\Delta^2<0$ for the winner, and $\Delta^2>0$ for all other bidders. The construction of this parameter should complement the previous discussion. If there is no missing data around $\Delta^2=0$, there is no significant difference between the second and third-lowest bid in the sample. The histogram of this parameter is shown in Figure 2.



Source: author’s calculations based on <https://jnportal.ujn.gov.rs/>.

Fig. 2. Δ^2 values for the sample of Serbian public procurement auctions

The figure shows a high frequency of data in the interval $[-0.02, 0.02]$, which indicates that there is no missing data around $\Delta^2=0$ and, consequently, no significant difference between the second and the third lowest bid.

2. Above-below median approach

After analysing the data in the sample, we will now study particular auctions in the sample. The data from Serbian procurement auctions reveal several insights. First, there are many auctions where just one bidder participated. These are sometimes highly specialised auctions, where it is difficult to expect big competition. Nevertheless, sometimes, the conditions of auctions are tailored in such a way as to give an advantage to a particular bidder. In which auction this was the case requires a detailed investigation by the Competition commission. For these auctions, the approach for identifying potential collusion is based on qualitative criteria. Competition authorities should verify whether the same bidder participates in the same type of repeated auctions and are the conditions for participating in the auction unnecessarily narrowly defined. The latter case exists in the case of collusion between auction organisers and bidders. In addition to the previous quantitative criteria, for auctions with two bidders, competition authorities should observe whether these two bidders rotate as winners if the same type of auction is repeated since weak cartels use rotating bids, according to McAfee & McMillan, (1992).

The second issue inferred from the sample of Serbian auctions is that in some repeated auctions, the same bidders always participate with no new entrants. This does not necessarily mean that there is a collusion between these bidders. However, collusion is more likely to sustain in repeated auctions since cartel members can effectively enforce the punishment strategy, which was shown by Porter and Zona (1993).

The third issue is that the quantitative indicators mentioned in the previous section can be used in auctions with three or more bidders. However, even auctions with three bidders sometimes do not provide reliable conclusions based on the indicators' values. Namely, with just three bidders, it may be impossible to judge the likelihood of the cartel's presence based on the coefficient of variation and the relative distance. Hence, we have focused on auctions with four or more bidders participating, where these measures give consistent estimates of the potential cartel's presence. This does not mean that some of these measures cannot be applied to auctions with three bidders, but caution is needed when interpreting these results. Competition authorities should rely on qualitative guidelines in OECD methodology for auctions with one or two bidders. Since these auctions should, per se, draw the attention of competition authorities, our approach provides insights concerning auctions with more bidders that might be misinterpreted as competitive and not be in the focus of competition authorities.

Collusion indicators for a sample of Serbian auctions

	win bid/reserve	coef. of variation	RR	above median norm. bid	below median coeff. of var.	RR>1	score	Priority for investigation
Auc. 1	0.3333	0.7083	0.3425	0	0	0	0	No
Auc. 2	0.7087	0.0571	2.8127	0	1	1	2	Low
Auc. 3	0.8885	0.0317	1.8896	1	1	1	3	Very high
Auc. 4	0.6058	0.1548	0.2711	0	0	0	0	No
Auc. 5	0.6873	0.6873	0.6873	0	0	0	0	No
Auc. 6	0.0268	0.0283	0.0098	0	1	0	1	No
Auc. 7	0.7826	0.0743	0.0812	1	1	0	2	High
Auc. 8	0.7255	0.0793	3.2392	0	1	1	2	Low
Auc. 9	0.7598	0.1131	0.4723	0	0	0	0	No
Auc. 10	0.7861	0.0729	0.6274	1	1	0	2	High
Auc. 11	0.8984	0.1539	0.1723	1	0	0	1	No
Auc. 12	0.8204	0.0820	0.5633	1	1	0	2	High
Auc. 13	0.8333	0.0742	0.5823	1	1	0	2	High
Auc. 14	0.6704	0.1111	4.2077	0	0	1	1	No
Auc. 15	0.8060	0.0857	0.4134	1	0	0	1	No
Auc. 16	0.7500	0.1534	0.0670	0	0	0	0	No
Auc. 17	0.8105	0.0951	3.30432	1	0	1	2	Very high
Auc. 18	0.6588	0.1646	1.481226	0	0	1	1	No
Auc. 19	0.8321	0.0846	21.75641	1	1	1	3	Very high
Auc. 20	0.81561	0.0178	0.495281	1	1	0	2	High
Auc. 21	0.88161	0.0235	2.769298	1	1	1	3	Very high
Auc. 22	0.7279	0.1159	8.8009	0	0	1	1	No
Auc. 23	0.5542	0.2323	0.4956	0	0	0	0	No
Auc. 24	0.9458	0.0159	0.4065	1	1	0	2	High
Auc. 25	0.3553	0.4357	0.2401	0	0	0	0	No
Median	0.7598	0.0857	0.5633					

Source: author's calculations based on <https://jnportal.ujn.gov.rs/>.

The auctions in our sample were held in Serbia in October and November 2022 and were organised by public institutions. We have calculated normalised winning bids, coefficient of variation, and relative distance for these auctions. We then calculate the median values of these three indicators and determine whether the values of the first two indicators (normalised winning bid and coefficient of variation) are below or above the median values for each auction, as suggested by Chassang & Ortner (2019). Since we are interested in the properties of particular auctions, the sample size of 25 auctions is sufficient to identify the possible presence of collusion in particular auctions. The median values could slightly change for the larger sample size without affecting our conclusions concerning the most problematic auctions. Hence the name of the approach, "above-below median approach." As explained before, high values of the normalised winning bid, low values of the coefficient of variation, and the relative distance measure above one, are indicators of potential collusion. It should be emphasised that a cartel makes a profit when the normalised winning bid is high, and the cartel would want it to be as close as possible to 1.

In our sample of 25 auctions with four or more bidders (held in October and November 2022 in Serbia), the median value of the normalised winning bid is 0.7598, the median value of the coefficient of variation is 0.0857, and the median value of RR is 0.5633. The results are presented in Table 1. As can be seen from Table 1, when the normalised winning bid is above the median value, we put 1 in the fifth column. When the coefficient of variation is below the median value, we put 1 in the sixth column. Finally, following the methodology of Imhof (2017), when $RR > 1$, we put 1 in the seventh column. In the last column of the table, the total score for each auction is calculated (the sum of the fifth, sixth and seventh columns). When the score is equal to 3, this auction is highly suspicious. For auctions with a score equal to 2, there is a high level of suspicion on collusive behaviour if the normalised winning bid is above the median value and $RR > 1$. These groups of auctions should have very high priority in the investigation by competition authorities. For auctions with a score of 2, with $RR < 1$ and the normalised winning bid above the median value, there is a medium suspicion of collusive behaviour. These auctions should have high priority in the investigation. Typical for these three groups is that the normalised winning bid is high, and the cartel's objective is to make a profit from collusion, which can be achieved if the auction organisers pay a high price to the winner. Auctions with a score of 2 with the normalised winning bid below the median value should have low priority in the investigation. If the competition authorities want to save resources, they can neglect auctions with these properties. Auctions with a score of 1, where $RR < 1$ and the normalised winning bid is below the median value, are competitive without the need for investigation, as well as auctions with a score of one and $RR > 1$ and auctions with a score of one and normalised winning bid above the median value. Auctions with a score of 0 are competitive. Based on the previous discussion, we can establish the priority order for investigation, presented in Table 2.

Table 2

Priority in the investigation				
Priority	Very high	High	Low	No
Properties of auctions	Score 3 Score 2 & RR>1 & nor. winning bid> median	Score 2 & RR<1 & nor. winning bid> median	Score 2 & RR>1 & nor. winning bid< median	Score 1 & RR<1 & nor. winning bid<median Score 1 & RR>1 Score 1 & nor. winning bid>median Score 0

Source: author

We can now apply the previously described classification rules to the sample of auctions in Table 1. The last column of Table 1 shows the priority of the investigation. Auctions 3, 19, and 21, with a score of 3, should be the first in the focus of competition authorities. The same holds for auction 17, which has a score of 2, RR>1, and the normalised winning bid above the median value. Auctions 7, 10, 12, 13, 20, and 24 are highly prioritized in the investigation. All these auctions have a score of 2, RR<1, and above the median value of the normalised winning bid and below the median values of the coefficient of variation. The rationale for giving these auctions high priority is that cartel members might have agreed that the cartel's representative bid should not be considerably lower than phantom bids to avoid drawing the attention of competition authorities. Auctions 2 and 8 have a score of 2 and below the median value of the normalised winning bid. Since the cartel gains profit when this parameter is high, these auctions should have low priority in the investigation. However, in some auctions, the reserve price might be too high.

Therefore, our approach provides guidelines to competition authorities on which auctions to focus their attention, enabling them to save on human and financial resources and become more effective in protecting competition.

3. The rank approach

The previous choice of auctions might be too large. If competition authorities want to further narrow the set of auctions according to the priority for investigation, they may use the following rank approach. For each of the three indicators we assign the number that corresponds to its order above the median value for the first and the third indicator (normalised winning bid and the RR), and to its order below the median value for the second indicator (coefficient of variation).

Table 3

Priority in the investigation according to total score					
Position	Auction	win bid/reserve	coefficient of variation	RR	Total score
1	Auc. 21	9	10	6	25
2	Auc. 24	12	12	0	24
3	Auc. 3	10	8	5	23
4	Auc. 19	7	1	12	20
5	Auc. 20	5	11	0	16
6	Auc. 2	0	7	7	14
7	Auc. 13	8	5	1	14
8	Auc. 17	4	0	9	13
9	Auc. 8	0	3	8	11
10	Auc. 11	11	0	0	11
11	Auc. 22	0	0	11	11
12	Auc. 10	2	6	2	10
13	Auc. 14	0	0	10	10
14	Auc. 6	0	9	0	9
15	Auc. 12	6	2	0	8
16	Auc. 7	1	4	0	5
17	Auc. 18	0	0	4	4
18	Auc. 5	0	0	3	3
19	Auc. 15	3	0	0	3
20	Auc. 1	0	0	0	0
21	Auc. 4	0	0	0	0
22	Auc. 9	0	0	0	0
23	Auc. 16	0	0	0	0
24	Auc. 23	0	0	0	0
25	Auc. 25	0	0	0	0

Source: author's calculations based on <https://jnportal.ujn.gov.rs/>.

For example, in Table 3, if the RR coefficient of some auction is just above the median, it has a score of 1 in that column, and if it is second above the median, it has a score of 2, and so on. The auction with the highest value above the median has a score of 12 (since we have 25 auctions in the sample, 12 are above and 12 below the median). All auctions with below median values of RR have a score of 0. The same

procedure is used for the normalised winning bid indicator. Concerning the coefficient of variation, an auction just below the median has a score of 1, and an auction with the lowest value below the median has a score of 12.

From Table 3, we can conclude that auctions 21, 24, 3, and 19 have the highest level of suspicion, which coincides with our previous approach (above-below median approach). Auction 17 was in the first priority group in the above-below median approach, while with the rank approach, it is ranked in the eighth position. Hence, at least for auctions with very high priority, the two approaches almost coincide. Concerning the auctions that had a high priority for investigation in the above-below median approach (auctions 7, 10, 12, 13, 20, and 24), only auctions 20, 24, and 13 are placed in a high position with the rank approach. There is also an unexpected result: auction 2, which had low priority in the above-below median approach, is now ranked in the sixth position with the rank approach. These results imply that the two approaches must be combined. It is advisable first to use the above-below median approach and then the rank approach to obtain priorities within each priority group.

Conclusions, proposals, recommendations

1. Bid rigging in public procurement auctions is a common phenomenon not only in developing countries, but also in countries with a long history of competition protection. These cartels obtain profit at the expense of the public budget and reduce the availability of public funds for other purposes.

2. The two approaches developed in our paper aim to increase the effectiveness of competition authorities and provide specific guidelines on which auctions to focus their investigation. Identifying potential collusive auctions is the first step since competition authorities need hard proof against cartel members.

3. When they identify suspicious auctions, they can use dawn raids to gather all relevant proofs or rely on leniency programs where cartel members testify against other cartel members and obtain, in return, a reduced fine. Leniency programs have proved to be the most effective tool for undermining a cartel's stability. Moreover, the fact that bidders know that their behaviour is monitored by certain qualitative and quantitative indicators, serves as a deterring tool for cartel formation.

4. Based on the quantitative and qualitative criteria described in the paper, it is easy to develop software that should monitor a large number of public procurement auctions held daily in a country, and based on the software's recommendations, competition authorities can react by starting the investigation.

5. Concerning the construction of the total score in both our approaches, we have calculated the simple unweighted total score of the three indicators. However, it might be the case that some indicators should have a larger weight in calculating the total score in each approach. The exact size of these weights is an empirical question that could be estimated if the data for the set of auctions where cartel members have been fined is available. This is an interesting issue for further research that may give a more precise selection of suspicious auctions.

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ISO 56002: 2019 AS INNOVATION MANAGEMENT TOOL

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Abstract. A shared understanding of what innovation means is the key for building an efficient innovation management system. The lack of a common language is one of the barriers for efficient innovations within and across organizations, as well as for public effort to promote innovation activities in general.

Innovations is the “fuel” of the successful business and organizations providing their managers and employees with the tools to react to internal and external opportunities and to take them to the maximum. Introducing efficient innovation management systems, organizations are able to position their business growth goals more efficiently and tend to be more flexible and ready for unexpected challenges and struggles. Despite the fact that ISO 56002: 2019 offers innovative solutions for management systems, the application of this standard can be related to numerous scientifically practical issues, for instance, innovation process complexity, necessity for the adaptation of better practices, implementation costs, measurements and, finally, assessment complexity.

The aim of the research is to study basic principles and tendencies of innovation management system based on theoretical aspects, draw conclusions and elaborate proposals. The tasks of the research are the following: 1) to provide the explanation of innovation management system; 2) to describe secondary data from the survey conducted by McKinsey; 3) to come to conclusions and offer recommendations for the improvement of the effective innovation management perspective. Methodologically, the research is based on analysis of the relevant literature and the questionnaire as the quantitative research method.

The research allows to come to the conclusion that efficient innovation management system helps organizations to capture the best ideas and continually improve in order to keep up with the competition. The impact of the pandemic has shown the vulnerability of current services, work processes and product supplies. It has been a short time to obtain comprehensive research results on the benefits of implementing ISO 56002: 2019 and to evaluate its relevance, so the study will have to be repeated in the future.

Keywords: *innovation management, ISO 56002:2019, quality.*

JEL code: L15, O3

Introduction

In June 2020, during the World Economic forum, George Day and Gregory Shea, Wharton marketing professors from the University of Pennsylvania, noted that the pandemic has provoked “intensive” activity of innovations. “The companies advance faster and take larger risks than they could not imagine before the outbreak of pandemic.” For instance, they pointed to the transition to the online work and how 3D printing helped maintain the sustainability of supply chains: “The digital transformation of different fields has not stopped even during the crisis” (Benraouane, Harrington, 2021).

The non-consistent introduction of vaccination programs is another example in the business that showed a notable reaction to the crisis, putting the innovations straight into the market (Harrington, Harrington, 2020). Johan Grundström Eriksson, the international expert of ISO/TC 279 technical committee for innovation management as well as the counselor of the EIT - European Institute of Innovation and Technology and member of the council of the Global innovation centre Sweden of the UNOPS (United Nations Office for Project Services) holds the opinion that ISO 56002: 2019 Innovation management system guidance can help companies to show good development potential in long-term (Benraouane, Harrington, 2021).

The aim of the research is to study basic principles and topicality of ISO 56002:2019 nowadays, draw conclusions and elaborate proposals. The tasks of the research are the following: 1) to provide the explanation of **innovation management system**; 2) to describe secondary data from the survey conducted by McKinsey; 3) to come to conclusions and offer recommendations for the improvement of the **effective innovation management** perspective.

A lot of research have been concentrated on ISO 56002: 2019 standard implementation possibilities and challenges, however, its novelty and contribution into innovation management area has not been thoroughly investigated. Some research, providing an insight regarding ISO 56002: 2019 topicality and issues, are highlighted here. For example, "A Framework for Successful Implementation of ISO 56002:2019 Standard in Innovation Management" (Nitaigour Premchand Mahalik, 2021). The author of this research points out the possibilities and challenges of ISO 56002: 2019 standard implementation. The scholar concludes that a considerable difficulty of ISO 56002: 2019 standard relates to its adaptation flexibility in order for an organisation to adapt to it as well as implement this standard into its innovation management system. "An empirical study of ISO 56002 and its impact on organizational innovation" (Pidun, Grigoroudis, Kallioras, 2021). The authors of this research study the impact of ISO 56002: 2019 on an organisation’s innovation by applying survey methods. They conclude that ISO 56002: 2019 standard implementation is able to improve organisation’s innovation performance, however, innovation costs, its complexity may be seen as serious obstacles. "ISO 56002:2019 - Innovation Management: Best Practice and Future Prospects" (Ghulam Nabi, 2020). The author of this research describes ISO 56002: 2019 standard application possibilities and issues, as well as how this standard is able to enhance the performance of organisation innovation. The scholar points out that ISO 56002: 2019 is able to provide a valuable basis for organisation innovation management system, though, it has to be adjusted and flexible requirements have to be observed.

Overall, the research prove that ISO 56002: 2019 standard can be a valuable tool for organisations that try to improve their innovation performance. Nevertheless, it has to be taken into account that ISO 56002: 2019 standard implementation can be a complicated process and it can require adaptation to the needs of an organisation.

Literature Review

ISO 56002:2019 standard for innovation management system was published in 2020, when global supply chains were seriously damaged (ISO 56002, 2019). This standard complies with the COVID - 19 recovery action plans as well as with the existing management system structures. Adopting the concepts of ISO 56002:2019 standard, the production companies under restructuring can transform and introduce innovations. It gives new value to supply chains that are restructured and allows to pay more attention to technical uncertainties (Brazil, Willet, 2020.)

The impact of pandemic uncovered the vulnerability of existing services, work processes and product supplies. The global health crisis opened the necessity for different fields to join in multi-field communities in order to act and create new solutions and cooperation unconsidered before the Covid-19 pandemic (International Symposium in Management, 2019). For instance, in order to transform the production in Europe, it is not enough to do the same as previously, just more intensively. It is necessary to equip all employees for the work in parallel with high degree of automation and flexibility and, where the value chains are digitalized, use the innovations provided by 5G, virtual and augmented realities, artificial intelligence (AI) and machine-learning technologies.

Taleghani A., Taleghani M. (2020) point out that partially, the increasing meaning and necessity to manage innovations in this age of fast-forwarding digitalization, can be understood as during last three decades the product and software solution cycles in telecommunications and

software have advanced so fast that they have become hard to take over and manage, which, naturally, produced the impact to other fields (Taleghani, Taleghani, 2020).

The author points out that in order to manage the business at such a speed, a stable business model, stability and know-how of the basic processes as well as very high degree of flexibility are needed to be able to react to immediate challenges and adapt to new circumstances in unstable environment. After Covid-19 pandemic and its consequences on the agendas of corporative management teams of every company, country and administrative sector at all levels have clear goals: they do not want to be so unprepared and passive when facing any crises from now on. The owners, investors and other stakeholders want to be sure that their companies are ready not only for fast mobilization but they are also able to deal with consequences.

Stamina, ability to adapt and sustainable profitability are words often used in fighting against instability and uncertainty. The elaboration of ISO 56002:2019 innovation management system standard was of the time and very convenient to the companies still in need to manage the programs of changes and improve the activities of existing businesses. Now they can ensure that the future sources of income are studied in parallel, before further problems or crisis cause irretrievable losses (ISO 56002, 2019).

The challenges and uncertainties caused by the pandemic have become a signal, and owners and directors of the companies demand new methods to guarantee the sustainability and long-term growth of their business. However, taking new opportunities is not only the question of widening the perception and mentality. In order to deal with further challenges, the deep involvement is required, and in case of the lack of commonly agreed practices, efficient support and supervision system is necessary to come to an agreement and introduce new practices from scratch that normally can take years (Brazil, Willet, 2020).

ISO 56002 provides the framework allowing to gather and select best parts of the existing practice and create new ones, where necessary. Besides, in case of agreement that new experience is necessary, to introduce it in several levels of the organization, as well as to add new suppliers or partners, the synchronization will be necessary in order to ensure the due involvement (ISO 56002, 2019).

The definition used in ISO standards is broad, inclusive, and focuses on two fundamental characteristics: novelty and value. Value is not limited to financial value but can be any kind of value, such as experience, well-being, or social value. Furthermore, anything can be innovated according to the definition. The innovation entity can be, for example a product, service, process, model, method, etc., ranging from incremental to radical.

Innovation is defined as a “new or changed entity, realizing or redistributing value”. According to the definition, innovation is an outcome, rather than a process or activity (Goffin, Mitchell, 2016). The broad nature of this definition often requires the use of one or more attributes in order to be more specific, for example process innovation, incremental innovation, radical business model innovation, or social innovation (Giles, 2018).

The benefits of introduction of ISO 56002:2019 innovation management systems are the following (Brazil, Willet, 2020):

- Increased ability to manage uncertainties;
- Increased growth, income, profitability and competition;
- Reduced costs and waste as well as increased productivity and resource efficiency;
- Improved sustainability and resistance;
- Increased satisfaction of users, clients, population and other stakeholders;
- Involved and authorized people in the organization;
- Increased ability to attract partners, cooperation partners and financing;
- Improved reputation and evaluation of the organization;
- Improved compliance with law and regulations and other relevant requirements.

ISO 56002: 2019 standard provides guidance for the establishment, implementation, maintenance and continuous improvement of an innovation management system for the application in all established organizations. It is applicable to:

- a) organizations seeking for sustained success by developing and demonstrating their ability to effectively manage innovation activities to achieve the intended outcomes;
- b) users, customers, and other interested parties, seeking for confidence in the innovation capabilities of an organization;
- c) organizations and interested parties seeking to improve communication through common understanding of what constitutes an innovation management system;
- d) providers of training in, assessment of, or consultancy for, innovation management and innovation management systems;
- e) policy makers, aiming for higher efficiency of support programs targeting the innovation capabilities and competitiveness of organizations and the development of society.

All the guidance within ISO 56002:2019 is generic and intended to be applicable to:

- all types of approaches, e.g. internal and open innovation, user-, market-, technology-, and design-driven innovation activities.
- all types of organizations, regardless of type, sector, or size, all types of innovations, e.g. product, service, process, model, and method, ranging from incremental to radical.

It does not describe detailed activities within the organization, but rather provides guidance at a general level. It does not prescribe any requirements or specific tools or methods for innovation activities.

Assessment of innovation management capabilities, strategy development, and top management commitment are key elements for implementing the innovation management system (Dodgson, Gann, Phillips, 2013).

Implementing an Innovation management system can be a major effort involving organizational and cultural change. It can help to structure the effort in four phases: prepare, implement, scale and maintain, evaluate and improve. Innovation management system implementation stages can be observed in Table 1.

Table 1

Innovation management system implementation stages	
Name	Description
Preparing	Start by assessing current innovation management capabilities, including mapping of ongoing innovation activities and other existing management systems. Another important activity is to understand the innovation opportunities and challenges facing the organization, including new user needs, technology trends, competitor moves, and other changes in society and the environment.
Implementation	Develop an innovation strategy and policy that describe the areas of opportunity for the organization, the types of innovations that will be focused on, the resources that will be allocated to pursue the opportunities, the people and teams that will be involved, and how results will be measured and followed up. Start with “low-hanging” innovation initiatives, communicate frequently, create awareness, and recognize achievements. Also, focus on competence development and on providing (digital) tools and methods for innovation managers, facilitators, and coaches.
Scaling & maintaining	Build momentum by reinforcing top management commitment, forming innovation portfolios, and by measuring and communicating progress, good examples, and results in the organization. Broaden innovation activities by inspiring and engaging more people in the organization as well as external partners and collaborators. Support all leaders in the organization to foster a culture that is promoting innovation activities. Demonstrating that value is realized for the organization, users, and other stakeholders is key in this phase.
Evaluate & improve	Analyze and evaluate the performance of the entire innovation management system with all its elements. Are capturing the most significant innovation opportunities? Have the innovation objectives been achieved? Are gradually building the right culture in the organization? Based on the evaluation, prioritize gaps and improve the system by adjusting the innovation strategy, improving the understanding of the context, re-allocating resources, involving partners, improving innovation measurements, and so on.

Source: Brazil, Willet, 2020.

Eight principles form the foundation for managing innovation activities in organizations (see Fig. 1). They are embedded in the innovation management system developed by ISO.



Fig. 1. Innovation management principles

Source: Brazil, Willet, 2020.

Author concludes that the innovation management principles were developed to capture the essence of effective management of innovation activities. They can be used as an introduction to understand the innovation management system as a tool for assessing the innovation management capabilities of an organization.

- 1. Realization of value** means that value, financial or non-financial, is realized from the deployment, adoption and impact of new or changed solutions for interested parties.
- 2. Future-focused leaders** include that leaders at all levels, driven by curiosity and courage, challenge the status quo by building an inspiring vision and purpose and by continuously engaging people to achieve these aims.
- 3. Strategic direction** includes the direction for innovation activities is based on aligned and shared objectives and a relevant ambition level, supported by the necessary people and other resources.
- 4. Culture** means shared values, beliefs and behaviour, supporting openness to change, risk taking and collaboration enable the coexistence of creativity and effective execution.
- 5. Exploiting insights** include a diverse range of internal and external sources that are used to systematically build insightful knowledge, to exploit stated and unstated needs.
- 6. Managing uncertainty** means uncertainties and risks are evaluated, leveraged and then managed by learning from systematic experimentation and iterative processes, within a portfolio of opportunities.
- 7. Adaptability** includes changes in the context of the organization are addressed by timely adaptation of structures, processes, competences and value realization models to maximize innovation capabilities.
- 8. Systems approach** include innovation management that is based on a systems approach with interrelated and interacting elements and regular performance evaluation and improvements of the system.

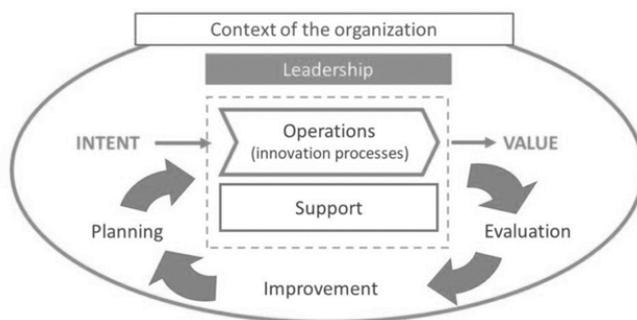
The innovation management principles are published in ISO 56000:2019 Innovation management – Fundamentals and vocabulary that also includes the terms and definitions, and on the ISO/TC 279 website.

Research have been found that are concentrated on ISO 56002: 2019 standard implementation possibilities and challenges, however, the topicality of the issue and its contribution into the management area have been less studied. Nevertheless, some research regard ISO 56002: 2019 as an innovation management tool from the perspective of innovation.

One of such research is "Innovation management standards: A new breed of standards" (Marzougui, 2019), where the author sees ISO 56002: 2019 as an innovation management standard and its novelty. The scholar highlights that ISO 56002: 2019 is the first internationally recognised standard that acknowledges innovation management as an independent discipline providing a considerable contribution into the innovation management area.

Moreover, the authors of the research "ISO 56002:2019 Innovation management - Implementation challenges in a highly complex context" (Barría, Sánchez-Barrios, Beltran, 2020) evaluate the novelty of ISO 56002: 2019 standard, reviewing its content and application in different entrepreneurial sectors. They conclude that ISO 56002: 2019 standard is an important innovation management tool which can help businesses improve their innovation performance, pursuing growth and development.

The **elements or success factors to innovate effectively are structured in seven key areas: context, leadership, planning, support, operations, evaluation, and improvement.** Recommendations to organizations are provided in each area. Model of innovation system can see in Fig. 2.



Source: Taleghani, Taleghani, Taleghanim 2022.

Fig. 2. Model of innovation system

The author concludes that the systematic approach to innovation management recognizes that there are several interrelated and interacting elements or factors in an organization that must be in place to ensure innovation success. The structure of the guiding standard for Innovation Management System covers seven key elements, one for each heading in the document. These headings are the same for all management system standards.

Context means that the organization should track external and internal issues and trends, e.g. user preferences, technology developments, and internal capabilities, in order to identify opportunities and challenges that can trigger innovation activities.

Leadership is based on the understanding of the context, top management should demonstrate leadership and commitment by establishing an innovation vision, strategy, and policy, including the necessary roles and responsibilities (Tidd., Bessant, 2014).

Planning includes innovation objectives, organizational structures, and innovation portfolios should be established based on the direction set by top management and identified opportunities and risks (Maier, Maier, Keppler, Eidenmüllerd, Vadastreanu, 2015).

The support necessary for innovation activities should be put in place, e.g. people with the right competences, financial and other resources, tools and methods, communication and awareness creating activities, as well as approaches for intellectual property management (Maier, Sven-Joachim, Ceausu, Gavril, Maier, 2017).

Innovation initiatives should be established in line with the strategies and objectives (Chesbrough, 2011). Innovation processes should be configured according to the types of innovations to be achieved: identify opportunities, create and validate concepts, and develop and deploy solutions (Drucker, Christensen, Govindarajan, 2013).

Maier, D., Olaru, M., Weber, G., Maier A., (2014) pointed out that **evaluation means that** the performance of the Innovation Management System as a whole should regularly be evaluated to identify strengths and gaps (Maier., Olaru, Weber, Maier, 2014).

Improvement based on the evaluation, the system should be improved by addressing the most critical gaps with regards to the understanding of the context, leadership, planning, support, and operations (McKeown, 2016).

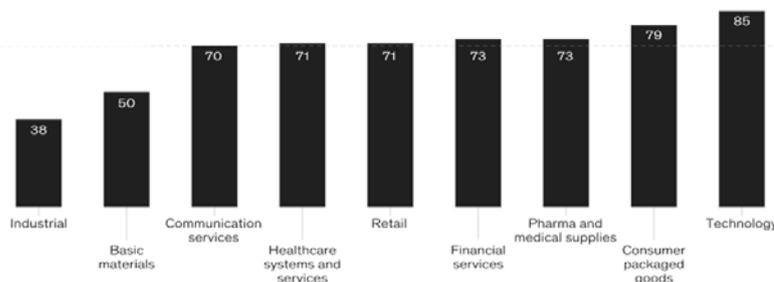
The guiding framework is based on eight innovation management principles and is applicable for all types of organizations, regardless of type, sector, or size. An organization can select the most relevant parts of the system to be implemented depending on its specific situation.

In the future there will be possibilities to demonstrate many kinds of merging innovation management principles and mechanisms in order to avoid uncertainties and risks in existing businesses and, what is even more important, to establish flexible, reliable and sustainable value chains and generate new income from sustainable business models.

Research results and discussion

The last years have upended nearly every aspect of life, from personal (how people live and work) to professional (how companies interact with their customers, how customers choose and purchase products and services, how supply chains deliver them). In McKinsey survey 2020 of more than 200 organizations across industries, more than 90 percent of executives said they expect the fallout from COVID -19 to fundamentally change the way they do business over the next five years, with almost as many asserting that the crisis will have a lasting impact on their customers (McKinsey Innovation through Crisis Survey, April 2020).

More than three-quarters also agreed that the crisis will create significant new opportunities for growth, although this varies significantly depending on the industry (see Fig. 3).



Source: McKinsey Innovation through Crisis Survey, 2020

Fig. 3. New fields of opportunities for growth

Results also suggest that AI’s (Artificial Intelligence) impact on the bottom line is growing. The share of respondents reporting at least 5 percent of earnings before interest and taxes (EBIT) that’s attributable to AI has increased year over year to 27 %, up from 22 % in the previous survey. Meanwhile AI’s revenue and cost saving benefits have been steady or even decreased since the previous survey—especially for supply-chain management, where AI was unlikely to compensate for the pandemic era’s global supply-chain challenges.

Seeing the opportunities emerging from this crisis is not the same as being able to seize them. Fewer than 30 percent of these same executives feel confident that they are prepared to address the changes they see coming. The area in which they feel the most challenged is delivering net new growth opportunities (Fig. 4). Few executives feel confident that they are prepared to capture new growth opportunities.

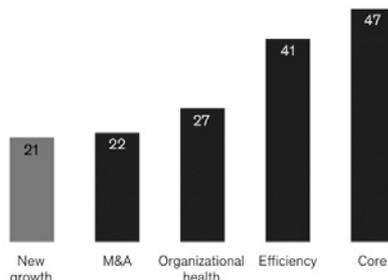
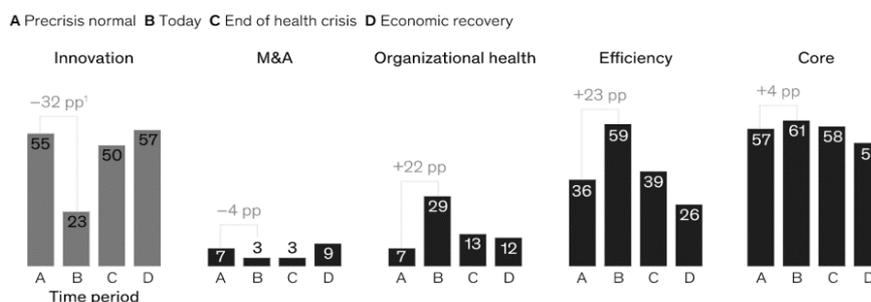


Fig.4. New growth opportunities

Source: McKinsey Innovation through Crisis Survey, 2020

Executives are largely focusing on maintaining business continuity, especially in their core. Executives must weigh cutting costs, driving productivity, and implementing safety measures against supporting innovation-led growth. Unsurprisingly, investments in innovation are suffering. The executives in McKinsey survey strongly believe that they will return to innovation-related initiatives once the world has stabilized, the core business is secure, and the path forward is clearer. However, only a quarter reported that capturing new growth was a top priority (first- or second-order) today, compared to roughly 60 percent before the crisis hit (Fig. 6).

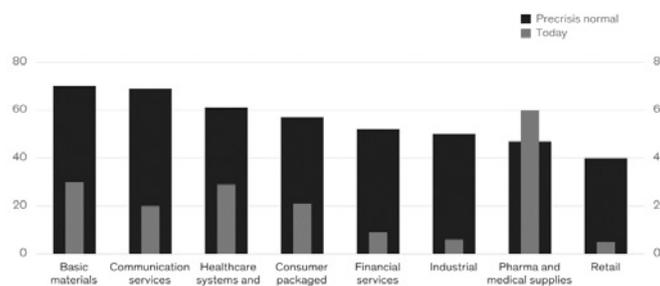


Percentage points.

Source: McKinsey Innovation through Crisis Survey, 2020

Fig. 5. Executives who list each action as the no 1 priority

This decline in focus on innovation is evident across every surveyed industry; the sole exception is pharmaceuticals and medical products, where an almost 30-percent increase is observed in the immediate focus on innovation (Fig 6).



Includes grocery-retail business.

Source: McKinsey Innovation through Crisis Survey, 2020

6. Fig. Innovation of companies

The author considers that leaders face an important choice around supporting innovation-led growth in the short term, one that may have lasting consequences for their companies’ ability to grow in the years to come. McKinsey Innovation through Crisis Survey suggests that playing it safe may be a short-sighted decision right now.

The essential practices underpinning distinctive innovation have not changed in this time of crisis, but the relative emphasis and urgency of where businesses should focus has.

Organizations need to realize that innovation, now more than ever before, is a choice. Regardless of the relative emphasis and order, it is believed that the eight essentials of innovation, which for years have helped leading innovators more than double the total returns to shareholders compared to laggards, will continue to be critical in navigating and emerging even stronger from this crisis (Am, Furstenthal, Jorge, Roth, 2020).

Many companies are deprioritizing innovation to concentrate on four things: shoring up their core business, pursuing known opportunity spaces, conserving cash and minimizing risk, and waiting until “there is more clarity” (Teece, 2010). Tidd, J., Bessant, J., R. (2014) believe that particularly in times of crisis more urgent actions to be taken include:

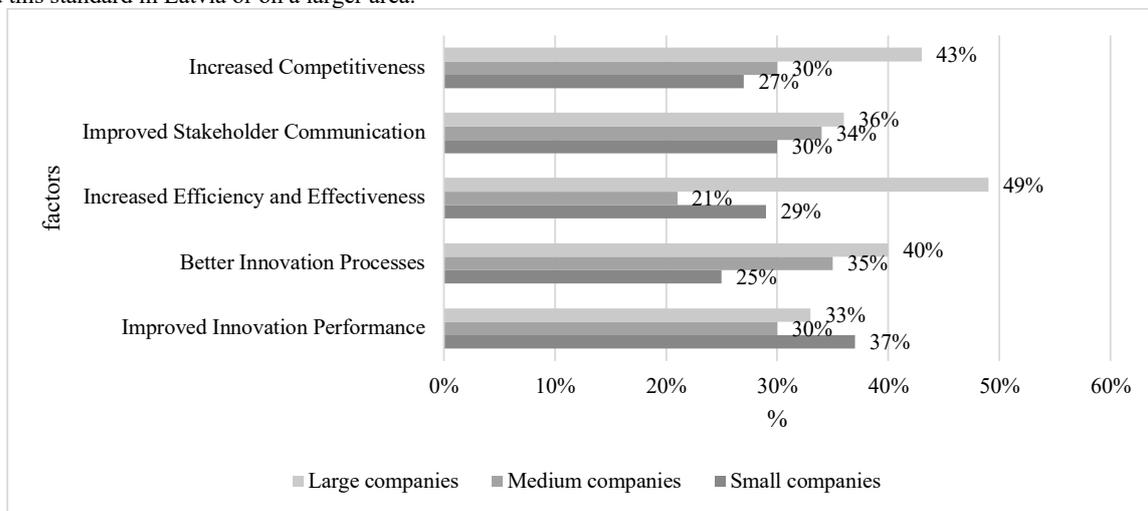
- adapting the core to meet shifting customer needs;
- identifying and quickly addressing new opportunity areas being created by the changing landscape;
- reevaluating the innovation initiative portfolio and ensuring resources are allocated appropriately;
- building the foundation for post-crisis growth in order to remain competitive in the recovery period (Tidd, Bessant, 2014).

Many businesses simply cannot operate as they could in the past. What made a company successful historically may no longer be possible during or after the crisis. Customers may struggle to pay. Channels may have radically shifted to accommodate new needs or work around new constraints. A stable regulatory context may have changed, potentially creating opportunities that never existed before. The assumptions that supported years of stable, predictable growth may no longer be valid (Maital, Seshadri, 2012).

The author points out that competitive advantages shift dynamically as business models adapt to new market realities, and the core capabilities that made an organization distinctive may suddenly be less differentiating. While the rise of the digitalization has been mounting similar pressures for more than a decade, the current crisis has significantly exacerbated and accelerated its disruptive force.

Businesses can gain long-term advantages by understanding such shifts and the opportunities they present. In the past crises companies that invested in innovation delivered superior growth and performance post-crisis (Olaru, Maier, Maier, Bodemann, 2014). Organizations that maintained their innovation focus through the 2009 financial crisis, for example, emerged stronger, outperforming the market average by more than 30 percent and continuing to deliver accelerated growth over the subsequent three to five years (Trimi, Berbegal-Mirabent, 2012).

The author conducted a survey that included 190 companies. The survey was conducted from January 2, 2023 to January 31, 2023. In the survey 30% of the participants were small companies, 45% were medium-sized companies, and 25% were large companies. The companies were selected based on several criteria: size, implementation of ISO 56002:2019 standard, representation of different sectors, and location in different regions of Latvia. The most important criterion was the presence of the ISO 56002:2019 standard, which was met by 127 companies. ISO 56002:2019 standard is a guideline and it is not auditable, there is no information available on the total number of companies that have implemented this standard in Latvia or on a larger area.



7. Fig. The key benefits of implementing ISO 56002:2019 in a company

It can be concluded that the answers are similar, with the exception of the question about the effectiveness, which was cited as the main benefit by large companies. This may be due to the fact that the standard is new (since 2019) and high effectiveness metrics have not yet been achieved. Taking into account the industry and location of the company in Latvia, the responses from the companies did not differ greatly from one another. Only production and trade companies recognized improved innovation performance and increased competitiveness as the most significant benefits of ISO 56002:2019.

Improved Innovation Performance means by introducing the standard, the company improves its overall innovation performance and increases the chances of successful innovation projects. Better Innovation Processes mean that the standard provides a framework for the company to establish, implement, and maintain a systematic approach to innovation management, which improved processes and outcomes. Increased Efficiency mean the framework provided by ISO 56002 helps companies better align their innovation activities with their overall business strategy, leading to increased efficiency and effectiveness in innovation efforts. Improved Stakeholder Communication means that the standard provides guidance on stakeholder engagement, which improves communication and collaboration between different groups within a company, leading to better-informed decision-making and more effective innovation. Increased Competitiveness means implementing the standard helps companies differentiate themselves from their competitors and increase their competitiveness in their industry.

Since innovation is a complex, company-wide endeavour, it requires a set of crosscutting practices and processes to structure, organize, and encourage it.

For sure there's no proven formula for success, particularly when it comes to innovation. While years of customer service experience provide strong indicators for the existence of a causal relationship between the attributes that survey respondents reported and the innovations of the companies studied, the statistics described here can only *prove* correlation. The author concludes that if companies assimilate and apply these essentials - in their own way, in accordance with their particular context, capabilities, organizational culture, and appetite for risk—they will improve the likelihood that they, too, can rekindle the lost spark of innovation. In the digital age, the pace of change has gone into hyper-speed, so companies must get these strategic, creative, executional, and organizational factors right to innovate successfully.

Conclusions, proposals, recommendations

1. The organization's ability to innovate is recognized to be the key factor for sustained growth, economic viability, increased well-being and the development of society.
2. The innovation capabilities of an organization include the ability to understand and respond to changing conditions of its context, to pursue new opportunities and to leverage the knowledge and creativity of people within the organization in collaboration with external interested parties.

3. The ISO 56002: 2019 introduction and implementation offers significant opportunities for building a successful innovation management system. The creation of a structured and holistic framework helps companies develop a unified understanding of innovation and thus simplifies internal and external communication and collaboration.
4. Research aimed at the novelty of ISO 56002: 2019 prove that this standard is an innovative tool in the innovation management system helping companies carry out innovation and improve their performance. ISO 56002: 2019 is the first internationally acknowledged standard, which accepts innovation management as an independent discipline, which could promote innovation management area growth and development in the future.
5. ISO 56002: 2019 standard clarifies the multitude of building blocks and conditions required to establish a sustainably successful innovation management system. At the same time, by refraining from concrete and detailed specifications of tools, activities etc., companies are not unnecessarily restricted in their innovation activities.
6. ISO 56002: 2019 standard for innovation management helps not only to manage the risks related to the informational security, quality, environment, health and security in work, but also increases the involvement through social responsibility (ISO 26000) and re-use, thus implementing better management of sources (ISO 55001).
7. ISO 56002: 2019 standard is driven to future in order to provide the fundament for establishing approved synergies and opportunities coming out of the predicted automation and compliance requirements set in ISO 56002: 2019 standard, as well as out of regulations of different industries.
8. Overall, the implementation of ISO 56002:2019 can bring a range of benefits to a company, including improved innovation performance, better processes, increased efficiency and effectiveness, improved stakeholder communication, and increased competitiveness, as shown by the survey of companies located in Latvia on the benefits of implementing ISO 56002:2019.
9. During the introduction of ISO 56002: 2019 standard, in order to support the basic structure, achieve better result and improve the involvement of the employees in the process, the total impact of the introduction of this standard has to be increased all over the company, initiating internal cooperation and solutions to the problems that could arise at the beginning.
10. Companies' management of innovation capabilities of the organization should include the ability to understand and should respond to changing conditions of its context, to pursue new opportunities and to leverage the knowledge and creativity of people within the organization in collaboration with external interested parties.

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GOVERNMENT DEBT SUSTAINABILITY AS A KEY INDICATOR OF FISCAL POLICY

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Abstract. All EU countries have faced various challenges – the Covid-19 pandemic and its consequences, Russia’s invasion of Ukraine followed by limited energy supply, as well as high inflation caused by the increase in energy prices and the recovery of the economy after the Covid-19 pandemic. In order to reduce the impact of these shocks on the economy, EU countries have provided generous support to both citizens and businesses. Under these circumstances, an increase in the general government budget debt is inevitable. The aim of this study is to assess whether the increase in the public debts of the EU Member States is sustainable. Long-term debt forecasts are developed using the Monte Carlo method.

The results of the study show that 14 EU countries may face debt sustainability challenges. For four countries – Portugal, Italy, Spain, and Greece debt sustainability have been assessed with a high degree of risk. These four countries may face difficulties in servicing their public debt and raising new financing.

Key words: *public debt sustainability, fiscal policy, Monte Carlo method.*

JEL code: E62, H63

Introduction

In order to limit the spread of the Covid-19 pandemic, countries had to set significant restrictions – the movement of citizens was bounded and various limitations were imposed on commercial activity. Such restrictions undoubtedly had an impact on economic activity. In addition, countries had to ensure the availability of health services, including the creation of appropriate beds in health facilities, and provide support for idle workers and businesses whose operations were temporally frozen (International Monetary Fund, 2021 and Ministry of Finance, 2022).

On February 24, 2022, Russia launched an unprovoked attack on Ukraine. Many EU countries are providing humanitarian and military support to Ukraine. EU countries are strengthening defence capacity and increasing contributions to NATO, as well as imposing new sanctions on Russia (Fiott, 2022). Russia responded to EU sanctions with limited supplies of energy resources, including gas.

As demand recovers from the Covid-19 pandemic and energy supply is constrained, inflation is rising rapidly (e.g., Mbah, et al., 2022 and De Soyres et al., 2022). In September 2022, the average inflation in the EU rose by 10.9% y-o-y, while the highest inflation was recorded in Estonia, where it reached 25.2% in August (Eurostat, 2022a). To combat high inflation, the European Central Bank (ECB) raised interest rates (European Central Bank, 2022).

EU countries are required to plan their budgets in line with the Stability and Growth Pact (SGP), which sets a general government deficit - According to the definition of European systems of national and regional accounts (European Commission, 2013) of no more than 3% of GDP and a debt (hereinafter, budget deficit and debt) of 60% of GDP or countries must demonstrate commitment to approach the debt threshold. However, in 2020, a decision was made to introduce the general escape clause of the EU fiscal framework, which initially stipulated that Member States do not have to comply with the provisions of the SGP until the end of 2021 (European Council, 2020). In the words of former ECB president Mario Draghi, Member States had to do “whatever it takes” to ensure support for citizens and businesses. However, considering the prolonged struggle with Covid-19 and the new challenges, the European Council decided to extend the general escape clause of the EU fiscal framework until the end of 2023 (European Commission, 2022a).

In circumstances where support for citizens and businesses must be provided, defence capacity must be strengthened, humanitarian and military support for Ukraine must be ensured, budget expenditures significantly exceed revenues. In addition, rising interest rates are causing debt servicing to become increasingly expensive. With rising budget deficits, questions arise as to whether public debt remains sustainable. The aim of this study is to assess whether the increase in the public debts of the EU Member States is sustainable. The debt sustainability is assessed performing stochastic debt dynamic simulations.

Literature Review

The IMF economists distinguish between the definition of sustainable debt and sustainable fiscal policy. The public debt is considered sustainable if a country is able to meet its obligations under the terms of the borrowing agreement, i.e., debt payments are made as originally planned, there is no debt restructuring or a declaration of default. Fiscal policy, in contrast, is considered sustainable if the required changes in budget revenues and expenditures do not lead to excessive social or political tensions (Willems et al., 2022). In fact, if substantially increasing tax revenues and reducing expenditures allows debt-servicing costs to be met on schedule, then the debt is considered sustainable, but fiscal policy is not. Similar definitions of sustainable debt can be found in other works, but fiscal policy sustainability is not separated from debt sustainability. For example, Wyplosz (2007) considers debt to be sustainable if it does not require significant revenue or expenditure adjustments to service it. Meanwhile, Blanchard (1991) offers a more technical definition, stating that debt is sustainable if the sum of future primary budget surpluses equals the current debt stock, i.e., the discounted future budget surpluses are sufficient to cover current liabilities. Blanchard's definition of debt sustainability has a major flaw: it assumes that it is possible to determine the sum of future balances, which is practically impossible, since it is impossible to predict when a country will cease to exist, in most cases. While there is some clarity in the academic literature on the definition of debt sustainability, it is not so straightforward to determine the level of debt that would threaten debt sustainability. As this study analyses the debt sustainability of the EU Member States, authors focus primarily on those EU countries that have defaulted since 2000. This list is, however, short. Greece restructured its debt in 2012, the year before the Greek debt to GDP reached 172.1% (Zettelmeyer et al., 2013). Also, Greece missed a repayment to the IMF in 2015, which was repaid with a 20-day delay (BBC, 2015). According to Eurostat (2022b), Greece's debt reached 180.3% of GDP in 2015. There are no other examples in the EU this century, but this does not mean that debt sustainability is no longer on the agenda. Outside the EU, debt defaults are common enough, especially in developing countries (Sturzeneger et al., 2007). For example, Argentina's debt to GDP was 90% when the country defaulted in 2020 (DW, 2020). Ecuador's debt was 61% of GDP when it defaulted in 2020 (Forbes, 2020). When sovereign debt defaults occur, countries are left only with one option - to borrow from international financial institutions, which serve as lenders of last resort, but such loans also come with provisions for structural reforms and restoration of budgetary discipline (Kaplan et al., 2020). If countries manage to restore the confidence of international financial markets, the available financing will still be very expensive (Arellano, 2008). Fortunately, financial markets have a short memory (Gelos et al., 2011).

It is important to note that, even before a default, a high level of debt can have a negative impact on a country's economic growth. In a famous study, Reinhart and Rogoff (2010) found a negative correlation between economic growth and debt level when debt exceeded 90% of GDP. This relationship was typical for both developed and developing countries. In other researchers' work, the amount of debt that negatively affects economic growth ranges from 77% to 100% of GDP (e.g., Caner et al., 2010, Cecchetti et al., 2011, Schuknecht L, 2022). The most important transmission mechanism by which rising debt affects economic growth is the following: as public debt rises, there is a growing

concern that higher taxes will be needed to service this debt. Concerns about tax increases have a negative impact on private investment, which may be postponed. Lower investments reduce potential growth (Elmeskov et al. 2012).

Debt dynamic equation

To assess debt sustainability a debt dynamics equation is often used, which identifies the variables that determine the long-term debt trajectory (e.g., Blanchard et.al, 2021 and European Commission, 2022b). The debt dynamics equation starts with equation 1:

$$B_t = B_{t-1} + rB_{t-1} + G_t - T_t + SFA_t \quad (1.)$$

According to equation 1, the budget debt B in year t is equal to the budget debt in the previous year B_{t-1} , interest expenditure calculated by multiplying the effective interest rate r by the debt level in the previous year, budget primary expenditure G_t (excluding interest expenditure), budget revenue T_t and the stock-flow adjustment SFA_t , which consists of transactions that do not affect the government deficit but do affect the government debt (Eurostat, 2021). Part of the equation 1: $G_t - T_t = PB_t$, where PB_t is the primary budget balance. To obtain values expressed as % of GDP all variables in the equation 1 are divided by Y_t . Additionally, assuming that $Y_t = (1 + g)Y_{t-1}$ equation 2 is obtained:

$$\frac{B_t}{Y_t} = \frac{B_{t-1}}{(1+g)Y_{t-1}} + \frac{rB_{t-1}}{(1+g)Y_{t-1}} + \frac{PB_t}{Y_t} + \frac{SFA_t}{Y_t} \quad (2.)$$

By simplifying equation 2: $B_t/Y_t = b_t$, $B_{t-1}/Y_{t-1} = b_{t-1}$, $PB_t/Y_t = pb_t$, $SFA_t/Y_t = sfa_t$:

$$b_t = \frac{b_{t-1}}{(1+g)} + \frac{rb_{t-1}}{(1+g)} + pb_t + sfa_t \quad (3.)$$

Since it is necessary to determine the change in debt, $b_t - b_{t-1}$ is subtracted from both sides of equation 3 to give:

$$b_t - b_{t-1} = \frac{b_{t-1}}{(1+g)} + \frac{rb_{t-1}}{(1+g)} - b_{t-1} + pb_t + sfa_t \quad (4.)$$

Transforming the equation 4 and assuming that $b_t - b_{t-1} = \Delta b_t$, where Δb_t is the change in debt, gives:

$$\Delta b_t = \left(\frac{r-g}{1+g} \right) b_{t-1} + pb_t + sfa_t \quad (5.)$$

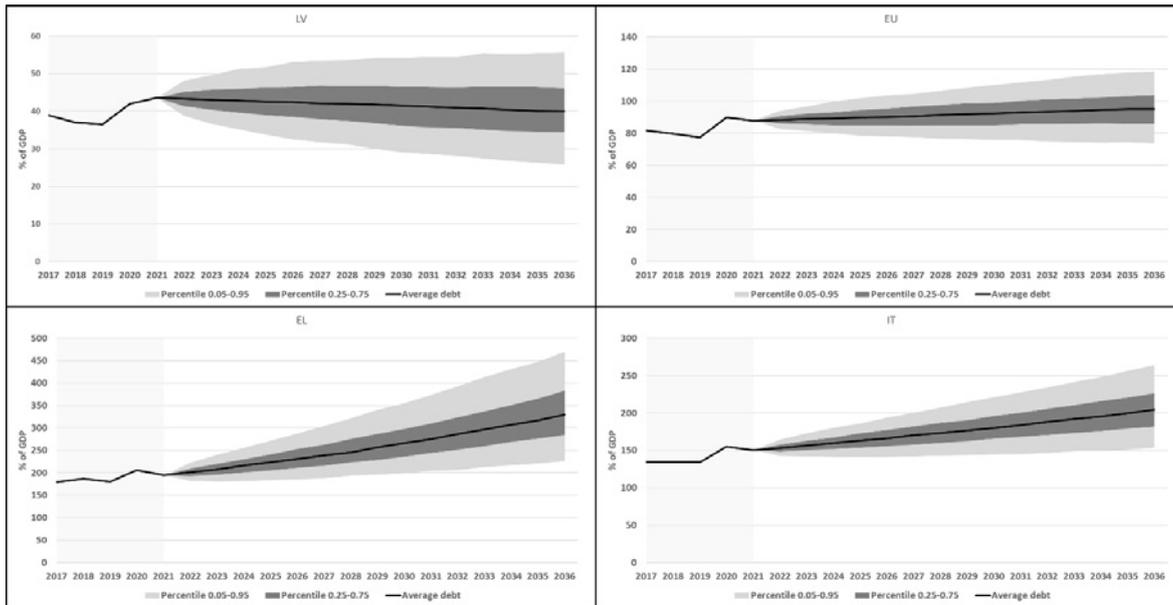
Academics and policy makers pay much attention to the $r-g$ relation (e.g., Blanchard, 2019 and European Commission, 2022c) which states that if economic growth is higher than the effective interest rate, then debt-to-GDP decreases unless there is a deficit in the primary balance (even with a deficit in the primary balance, debt may decrease depending on the $r-g$ gap - the higher the $r-g$ gap, the higher the primary deficit is allowed). However, such a relationship cannot be overly relied on: first, interest rates can rise sharply and then debt servicing costs will gradually increase (Rogoff, 2020); second, small shocks can significantly alter the trajectory of debt dynamics (Briceno et al., 2020).

Methodology and data

Stochastic debt forecasts are determined using the Monte Carlo method (Metropolis et al., 1949). Stochastic debt forecasts do not provide information on a single possible path of debt dynamics, but on an infinite number of paths of debt dynamics that are generated by many shocks to the variables. The shocks are assumed to follow a normal distribution and the mean is the long-term average of the variables. In this way, country-specific conditions are incorporated into stochastic debt projections. The variables are defined according to the equation 5, assuming a stock-flow adjustment equal to zero. Long-term debt projections are determined over a 15-year period using two thousand draws. The values of the variables are set identically for all countries as the average of the last ten years. The study uses Eurostat data on GDP, interest expenditure and the primary budget balance. In the absence of evidence in the academic literature of a single value of debt that threatens the debt sustainability, the authors of the study assume that debt is sustainable in the long term if the average long-term debt forecast is below the 2021 actual value. A similar approach is used in the European Commission's debt sustainability indicator S2 (European Commission, 2022d). Considering the long-term upward trend in debt - 15 years ago, in 2006, debt in the EU was 65% of GDP and in the euro area 68.4% of GDP. In 2021, EU and euro area debt had increased by 22.9 and 27 percentage points, respectively. The authors of the study assume that if the average increase in debt over 15 years does not exceed the historical increase (27 percentage points), then there is a medium risk to debt sustainability, while if the increase in debt exceeds the historical increase, then there is a high risk to debt sustainability.

Research results

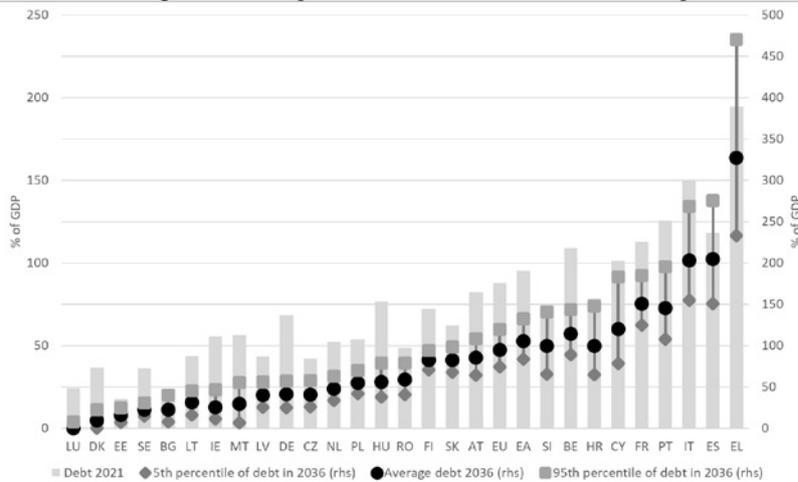
The results of the study are presented in Figure 1, which derives stochastic debt projections based on 10-year average GDP growth in nominal prices, the effective interest rate and the primary budget balance. Figure 1 shows that the situation varies across countries. For example, in Latvia, the average debt is expected to be sustainable and to continue declining even if fiscal policy is not significantly different from the one pursued over the last 10 years. In the EU, the average debt will increase gradually with unchanged policies, while in Greece, which had the highest public debt at 194.5% of GDP in 2021, the average debt will increase sharply and approach 350% of GDP within 15 years. Italy, which had the highest interest payments on debt servicing at 3.6% of GDP in 2021, will have a debt of over 200% of GDP in 15 years. According to the simulations, Greece will have a 95% probability of debt below 450% of GDP, and Italy below 250% of GDP.



Source: Authors' construction based on Eurostat data

Fig. 1. Stochastic debt projections for individual countries and EU

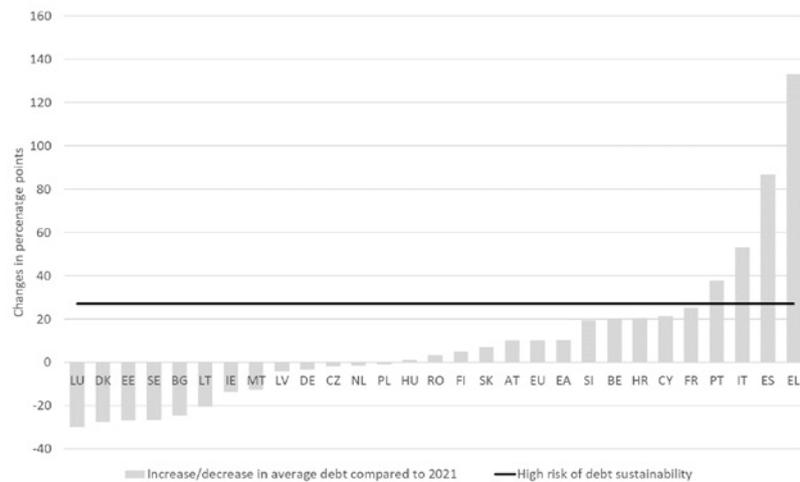
According to Figure 2, Belgium, Cyprus, France, Portugal, Italy, Spain and Greece will have an average debt level above 100% of GDP, and three countries - Spain, Italy and Greece - will have a debt level above 200% of GDP. In 2021, these countries also had the highest debt levels in the EU. It should be remembered that the simulation results are indicative and based on averages over the last 10 years, so this does not mean that countries will actually reach such debt levels. However, the simulation results provide insights into what will happen to debt sustainability if EU Member States do not change their fiscal policies and continue with those of the previous decade.



Source: Authors' construction based on Eurostat data

Fig. 2. Stochastic debt projections for all EU Member States, EU and euro area

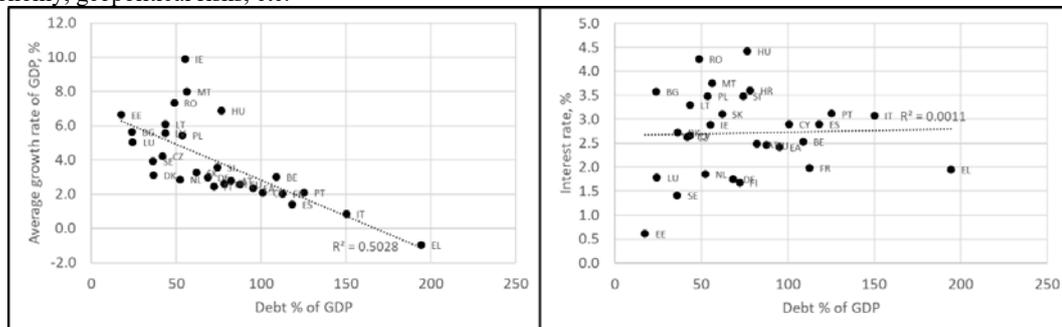
Figure 3 identifies those countries that could face long-term debt sustainability problems. According to the assumption of this study, the debt is sustainable if the projected average value of debt is below the actual value in 2021. According to the results, 14 out of 27 EU countries are at risk of debt sustainability. It should be that 10 countries, including the EU and euro area average, are at medium risk for debt sustainability and only 4 countries - Portugal, Italy, Spain and Greece - are at high risk for debt sustainability, suggesting that their debt is unsustainable in the long term.



Source: Authors' construction based on Eurostat data

Fig. 3. Changes in government debt in percentage points, compared to 2021

An assessment of the variables used in the study suggests that high debt levels are associated with lower average economic growth (see Figure 4). Similar findings were found in the study by Reinhart et al., (2012). The causality of the debt-growth relationship cannot be established. In contrast, high debt has no relationship with interest costs, suggesting that the cost of borrowing depends on other factors, e.g., the size of the economy, geopolitical risks, etc.



Source: Authors' construction based on Eurostat data

Fig. 4. Growth rate of GDP and interest rate in EU Member States, EU and euro area

The main limitation of the study is the use of historical data. Historical data do not necessarily reflect the expected future results. Further studies need to incorporate the changing policies of EU Member States, i.e., new policy initiatives and planned fiscal policy stances. In addition, attention should be paid to the impact of ageing populations and associated budgetary costs on the sustainability of debt.

Conclusions, proposals, recommendations

1. The public debt is considered sustainable if the government is able to meet its obligations under the terms of the borrowing agreement without a significant adjustments in budgetary revenues and expenditures.
2. The level of debt that threatens sustainability is not precisely identifiable: Greece's debt before default in 2012 was 172.1% of GDP, Argentina's debt before default in 2020 was 90% of GDP, Ecuador's debt before default in the same year, 2020, was 61% of GDP.
3. High debt can have a negative impact on economic growth. As with debt sustainability, there is no specific level of debt that has a negative impact on economic growth, but according to the academic literature, it could be in the range 77%-100% of GDP.
4. In line with stochastic long-term debt projections, 14 EU Member States may face debt sustainability challenges in the future. Four of these countries - Portugal, Italy, Spain and Greece - are assessed as high risk for debt sustainability. These four countries may face difficulties in servicing their public debt and raising new financing if they maintain the same fiscal policies that were used for the last ten years.
5. The analysis of the variables used in the study suggests that high debt levels in EU Member States are associated with lower average economic growth.
6. In further studies, long-term projections should be based on a changing policy principle, i.e., incorporating present fiscal policy stance of EU Member States. Particular attention should also be paid to the issue of ageing populations.

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CHINA'S OUTWARD FOREIGN DIRECT INVESTMENT IN RUSSIA IN THE CONTEXT OF THE RUSSIA-UKRAINE WAR

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Abstract. Despite the ongoing war in Ukraine threatening global economic growth and the heterogeneous reactions of multinational corporations (MNCs) in the Russian market, the impact of the conflict on China's MNCs operating in Russia has yet to be studied systematically and holistically. Given the fact that foreign direct investment (FDI) data is a good proxy for measuring MNCs' real economic activities, studying China's FDI in Russia during the war can shed light on how China's MNCs in Russia reacted to the war at a macro level and contribute to the MNC-conflict linkages literature. This study aims to investigate the performance and determinants of China's outward foreign direct investment (OFDI) in Russia in the context of the Russia-Ukraine war and make forecasts. The qualitative archival study was conducted, and data were extracted from historically China's OFDI Annual Statistical Bulletin. The results show that China's OFDI to Russia showed an overall downward trend and unbalanced industrial distribution during the Russia-Ukraine war and is highly sensitive to geopolitical risk, natural resource endowment (the sole positively correlated determinant), investment environment, and global crisis. The forecasts for the near-future growth of China's OFDI to Russia tend to decline, while the share of China's OFDI in Russia's secondary sector will remain at the top.

Keywords: *foreign direct investment, multinational corporation, China, Russia, war in Ukraine.*

JEL code: F21

Introduction

The ongoing war in Ukraine, which broke out on February 24, 2022, poses a continuing threat to global economic growth. Multinational corporations (MNCs) in the Russian market, a significant driving force for global economic growth, have shown heterogeneous reactions to the war. During or even before this war, some MNCs operating in Russia made the decision to cut ties or curtail investments and thus become a leaver, while others chose to keep operations or even increase investments and thus become a remainder (Tosun and Eshraghi, 2022). As an essential pole of these heterogeneous reactions, the reactions of China's MNCs operating in Russia to the war are somewhat different. According to the Yale CELI List of Companies Leaving and Staying in Russia, as of 11 November 2022, still more than 80% of China's MNCs are continuing business-as-usual or substantive business in the Russian market (YaleSOM, 2022, author's calculations from the list), which reflects the overwhelming majority of China's MNCs' decisions as a remainder. In addition to this, some scholars have observed that China's MNCs operating in Russia either passively experienced stock price oscillations (Bo, 2022) or actively continued business with no expanding trend (e.g. Sinopec) (deLisle, 2022). Notwithstanding the list as a program is monitoring the reaction of many well-known China's MNCs operating in Russia to the war in Ukraine, as well as some fragmentary descriptions of reactions in research have been made by scholars, studies regarding China's MNCs reactions to the war in Ukraine in a holistic and systematic manner are still in its early stage. Given the fact that foreign direct investment (FDI) data is a good proxy for measuring MNCs' real economic activities (Wacker, 2016), research on China's outward foreign direct investment (OFDI) in Russia in an extended period (starting from Russia's annexation of Crimea in 2014 to the ongoing war in Ukraine today), is of great importance for studying China's MNCs' reactions to the war at the macro level. This study fills this gap in the literature by examining China's OFDI performance in Russia during the war and exploring the influential factors and future trends of the performance. Against this backdrop, the following questions are identified: How China's OFDI to Russia performed during the Russia-Ukraine war? What are the influential factors on the performance? What will be the future trends of the performance? The objective of this study is to review China's OFDI to Russia during the Russia-Ukraine war and determine the influencing factors that affect the performance of China's OFDI in Russia. The qualitative archival study of historically China's OFDI to Russia documents was conducted to investigate China's OFDI performance in the Russian market during the Russia-Ukraine war, and the relevant data were extracted from the electronic database. The findings of this study will provide valuable contributions to the science by shedding light on the impact of geopolitical conflicts on MNCs and their foreign direct investments. This information will be of great importance for academic researchers and practitioners in international business and economics. Moreover, the study will provide a deeper understanding of China's OFDI performance in Russia and its reactions to the Russia-Ukraine war, which has significant implications for both Chinese and Russian economic development. This research will also add to the existing literature on MNCs' reactions to geopolitical conflicts, contributing to a more comprehensive understanding of this topic.

Literature Review

The theoretical background of FDI

The most prevalent theories in MNCs-FDI research over the past five decades are (in chronological order): Internalization theory, Eclectic OLI (Ownership, Location, Internalisation) paradigm, Product life cycle theory (PLC), Institutional theory, Resource-based view (RBV), LLL (Linkage-Leverage-Learning) model, Springboard theory, CAGE (Cultural, Administrative, Geographic, Economic) distance framework, and CPP (Conservative, Predictable and Pacemaker) model (Paul and Feliciano-Cestero, 2021). Prior to Stephen Hymer's seminal dissertation in the field of FDI, economists widely used the neoclassical arbitrage theory of portfolio flows to explain the unprecedented rise of FDI and the neoclassical trade theory to explain the activity of MNCs. However, the neoclassical theory failed to capture the reality of FDI and explain the existence of the MNCs (Denisia, 2010, Hosseini, 2005). In the 1960s, Stephen Hymer, in his seminal dissertation (used industrial organisation theory), articulated that "direct investments are the capital movements associated with the international operations of firms" (Hymer, 1960). Furthermore, Hymer (1960) argued that FDI implies control of operations, whereas foreign portfolio investment (FPI) confers a share of ownership rather than control. Dunning and Rugman (1985) concluded that FDI is the transfer of non-financial and ownership-specific intangible assets by MNCs. The OLI paradigm developed by Dunning (2000) identified three advantages (i.e., ownership advantage, location advantage, and internalisation advantage that MNCs need to successfully engage in FDI, and four motivations of FDI: market seeking, resource seeking, strategic asset seeking, and efficiency-seeking. In PLC theory, Vernon (1992) believed that firms undertake exports before considering overseas production in the form of FDI. However, the theory failed to explain the profitability of FDI compared to exports. North's institution theory suggests that countries are comprised of formal (e.g., laws, regulations, policies) and informal (e.g., cultural norms, belief systems) institutional environments, which can help determine the business environment of a country (Ragland et al., 2015), and thus attractiveness to FDI. Barney's (2000) RBV identified four resource indicators that can help firms generate sustained competitive advantage - value, rareness, imitability, and sustainability. This provides a reference for studying the drivers of FDI from a resource perspective. The LLL model is a variant of the RBV in that it views Emerging Market MNCs (EMMNCs) as engaged in the process of resource leverage. Concomitantly, learning is essential for the survival and competitiveness of firms in the contemporary global market (Thite et al., 2016). The springboard theory suggests that EMMNCs can use international expansion as a springboard to access strategic resources so as to reduce their institutional and market constraints at home, and four reasons encouraging the spring have been presented: Home government support for going global; Willingness of global players to share or sell; Offshore availability of standardised technology; Desire to hit the core and key international markets; Entrepreneurial leadership (Luo and Tung, 2007). The CAGE distance framework analysed the impact of cultural distance,

administrative & political distance, geographical distance, and economic distance on the expansion of MNCs and concluded that the greater the difference between two countries on these dimensions, the greater the risk of targeting foreign markets. On the contrary, the similarity of these dimensions indicates great potential (Ghemawat, 2001). The CPP model provides new insight into the study of FDI flows with its delineation of ‘Predictables’ (firms mostly serve the domestic market plus legally integrated countries or markets) and ‘Pacemakers’ (firms operating in global markets at a high pace, including MNCs) firms (Paul and Sánchez-Morcillo, 2019). Despite the evolution of the theory of MNCs-FDI over the past several decades, a unified theoretical explanation of FDI still does not exist.

According to the World Bank, the definition of FDI, which is also a widely used definition today, is “a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy” (WorldBank, no date-b) and is the sum of equity capital, reinvestment of earnings, and other capital (WorldBank, no date-a). As a sub-concept of FDI, OFDI (also known as Outward Direct Investment) is the outflow of direct investment made by the residents of an economy to the external economy(s) (opposed to inward foreign direct investment). Moreover, OFDI is considered the strategy of MNCs at the firm level, and it could be used to enhance MNCs’ innovation and therefore their competitiveness (Lee et al., 2021), and increase a country’s investment competitiveness, which is crucial to long-term sustainable growth (WorldBank, 2018). The determinants of OFDI could be divided into macro-regional-level (further classified as host-country factors, home-country factors, and factors related to bilateral relationships) and micro-firm-level. Some widely recognized macro-regional-level factors include financing capacity, productivity, technological capability, enterprise scale, overseas investment experience, and communication costs, among others; micro-firm-level factors include market size, natural resource endowment, technology level, taxation, political and institutional conditions, among others (Shi et al., 2022). The determinants discussed in this paper will focus on the macro-regional host country factors.

Russia-Ukraine war and world sanctions against Russia in 2022

The Russia-Ukraine war, also known as Russo-Ukrainian War, started in 2014, and it has been ongoing between Russia and Ukraine. Table 1 lists some of the key events that happened during this war. Taking the war between Russia and Ukraine in 2022 as a watershed, these major events consist of two main parts: the regional conflict from 2014-2022 and the ongoing full-scale war starting in 2022. The full-scale war had a negative impact on the financial markets of countries dependent on Russian commodities; specifically, the war negatively impacted stock markets and amplified volatility regardless of the level of dependence (Lo et al., 2022). In addition, it caused energy prices and food prices to spike, driven by war-related supply chains and trade-related disruptions (Duhó et al., 2022).

Table 1

Key events in the Russian-Ukrainian war

Year	Events
2014	<ul style="list-style-type: none"> Protesters overthrew pro-Russian President Viktor Yanukovich. The interim government signed a trade agreement with the European Union (EU). Russia annexed the Crimean Peninsula; Russian-backed secessionists in eastern Ukraine declared independence and went to war against Ukraine. The Minsk agreement was signed.
2015	<ul style="list-style-type: none"> The Minsk-2 agreement was signed.
2019	<ul style="list-style-type: none"> Volodymyr Zelensky was elected as President of Ukraine.
2021-2022	<ul style="list-style-type: none"> President Vladimir V. Putin of Russia seeks to prevent Ukraine’s drift toward the United States and its allies. Mr. Putin demands “security guarantees,” including an assurance by NATO that Ukraine will never join the group and that the alliance pulls back troops stationed in countries that joined after 1997.
2022	<ul style="list-style-type: none"> Russia launched a full-scale war against Ukraine.

Source: *The New York Times*, 2022.

Table 2 has listed some of the major world sanctions in the field of finance and energy after the war launched by Russia in 2022. These sanctions have created a huge obstacle to Russia’s energy exports, which are greatly helping to finance the war; On the other hand, these sanctions have greatly degraded Russia’s domestic financial markets and investment environment. Notwithstanding China strongly opposes these sanctions and considers them illegal because they bypass the United Nations (UN) and continue to purchase oil and gas from Russia, there is no sign that China has breached or is breaching these sanctions.

Table 2

Major world sanctions against Russia in the field of finance and energy after the full-scale war in 2022

Year	Major World Sanctions (Finance & Energy)
2014-2021	<ul style="list-style-type: none"> The US imposed bans on commercial transactions within its territory for several Russian energy companies (e.g., Rosneft and Novatek) and banks (e.g., Gazprombank and Vnesheconombank); restricted access of some Russian companies to the U.S. debt market (e.g., Sberbank and Rostec); banned cooperation between major Russian oil companies and local companies in energy technologies and services. The EU has imposed several rounds of sanctions, important ones include controls on the export of equipment for the oil industry; restrictions on the issuance and trading of certain bonds, shares or similar financial instruments with a maturity of more than 30 days; and the cessation of support for Russian Black Sea oil and gas exploration. Canada has targeted Russian arms, energy, and financial entities, and has placed specific Russian citizens and Russian entities on its sanctions list.
2022	<ul style="list-style-type: none"> Major Russian banks have been removed from the international financial messaging system Swift. This has delayed payments to Russia for its oil and gas exports. The EU will ban imports of Russian oil brought in by sea from December. The EU will ban all imports of refined oil products from Russia in February 2023. The US is banning all Russian oil and gas imports. The UK will phase out Russian oil by the end of 2022. It no longer imports Russian gas. Germany has frozen plans for the opening of the Nordstream 2 gas pipeline from Russia. The EU has stopped importing Russian coal. EU and G7 try to cap the price countries pay for Russian oil.

Source: *British Broadcasting Corporation News*, 2022.

Empirical Studies on Determinants of China's OFDI in Russia

The issue of China's OFDI has largely attracted attention in the world. Following China's accession to the World Trade Organization (WTO) in 2001 and thus further integration into economic globalisation, China's OFDI has grown year by year and surpassed even its inward foreign direct investment (IFDI) in 2016 (Tong et al., 2022). There are many influential factors (macro-regional host country perspective) on China's OFDI flows to the world, such as economic size and growth, natural resource endowment, market size, trade openness, technology development level, infrastructure, geographic distance, government policy (e.g., participating the Belt and Road Initiative), among others (Zhang and Daly, 2011, Yao et al., 2017, Alam Iqbal et al., 2019, Yu et al., 2019, Yin et al., 2021). Benefiting from the Belt and Road Initiative (BRI) initiated in 2013, China's OFDI has been able to flow further into countries along the route, including Russia, an active participant in the initiative (Yu et al., 2019). Russia is one of the main recipients of China's OFDI within the BRICS and has received more than half of the total investment in its energy sector (notably in oil, gas, coal and electricity) in the last decade (De Conti and Diegues, 2022).

Studies on the determinants of China's OFDI to Russia are still scarce. On the macro-regional level, in the context of BRI, Liu (2017) identified exchange rate (ER) level, market potential, openness, and infrastructure facilities of host countries as determinants; Shahriar (2020) argued that China is relocating its investment resources in line with the consideration of its partnering countries' economy-size, cross-border distance and per capita income. Focusing on Russia, Zhang (2020) examined that the prices of Russian production factors have a negative impact on China's OFDI in Russia, while the economic scale of Russia, Sino-Russia import and export trade, China's contracting projects to Russia, and international crude prices, have a positive impact on the OFDI.

Theoretical development and hypotheses

There are numerous factors that can influence China's OFDI to Russia. Serving the purpose of this paper, geopolitical risk, natural resource endowment, investment environment, and global crisis are hypothesised and discussed as the major determinants of Chinese OFDI to Russia during the Russia-Ukraine war.

(1) Geopolitical risk

Geopolitical risk refers to the "risk associated with wars, terrorist acts, and tensions between states that affect the normal and peaceful course of international relations" (Caldara and Iacoviello, 2022). Geopolitical risks can take the form of political instability, war or conflict, changes in government policies, or other disruptions that can negatively impact a company's ability to operate in a foreign market. These risks are an important consideration for MNCs as they make decisions about where to invest and how to manage their operations in different countries. Previous studies have shown a negative relationship between geopolitical risk and FDI. Investigating FDI inflows to 41 countries from 2003 to 2020, Yu and Wang (2023) found geopolitical risks can significantly inhibit FDI inflows and hinder domestic economic development. Examining a group of 18 emerging economies between 1985 and 2019, Nguyen et al. (2022) found a robust negative impact of Geopolitical risks on FDI. In contrast, Liu et al. (2022) discovered that Chinese OFDI location choices are biased toward countries or regions with high political risk, especially developing countries. This suggests that Chinese MNCs are, in some cases, more inclined to seize economic opportunities than avoid geopolitical risks. Nevertheless, China's MNCs are increasingly aware of the importance of incorporating geopolitical risk into their business and investment decisions and have adopted diverse risk mitigation strategies (led by low-profile compliance) (Yan et al., 2022). This underscores that the threat of geopolitical risk to FDI is real and forces China's MNCs to adopt risk mitigation strategies in response. Therefore, we propose the following hypothesis:

H1: Higher levels of geopolitical risk will negatively impact China's OFDI to Russia.

(2) Natural resource endowment

In layman's terms, natural resource endowment refers to the natural resources that a country has access to or possesses, including minerals, oil, gas, forests, and water, among others. These resources can play a significant role in the country's economic development and attract foreign investment. Zhang and Daly (2011) found that China's overseas investment is positively correlated with natural resource endowment through a panel data analysis of China's overseas investment between 2003 and 2009. Krkoska and Korniyenko (2008) suggested that the ability to access Russia's natural resources is one of the key determinants of attracting China's FDI to Russia. Buckley et al. (2015) found that the natural resource endowments of host countries play a significant role in China's OFDI decisions. However, good resource endowments do not always lead to FDI growth. Poelhekke and Van Der Ploeg (2013) found that new discoveries of resources in countries that were not previously resource producers lead to a decline in non-resource FDI in both the short and long run, while for countries that were already resource producers, a doubling of resource rents also led to a decline in non-resource FDI. Nevertheless, considering Russia's position as a world-recognized resource-rich country and its proven great attractiveness in natural resources for China's OFDI, we hypothesise the following:

H2: A good natural resource endowment will positively impact China's OFDI to Russia.

(3) Investment environment

There is no universal definition of investment environment (also known as the business environment, investment climate, or investment atmosphere). For the purposes of this article, we define it as a set of conditions and factors that influence an investor's decision to invest in a particular market or economy. It includes conditions or factors such as the stability and security of the geopolitical environment, the availability of natural resources, the ease of doing business and investment, and the presence of sanctions and trade barriers, among others. The investment environment can be either supportive or hostile, whereas in our case, we discuss the hostile aspects of unfavourable investment environments. Since the crisis in Ukraine in 2014, organisations or countries represented by the EU have imposed a full range of sanctions on Russia in the economic sphere, including the financial sector, energy, transport, defence, raw materials and other goods, and services to Russia or Russian persons (EU CO, no date). These sanctions have negatively impacted Russia's investment environment, such as the barriers to cross-border transactions due to the Swift ban. In addition, the continued escalation of tensions between Russia and Ukraine after 2014 has led to deteriorating regional geopolitical security. Considering this, we hypothesise as follows:

H3: An unfavourable investment environment will negatively impact China's OFDI to Russia.

(4) Global crisis

The global crisis is a broad term with a broad scope in nature. According to IGI Global, it refers to the "Events such as war, economic decline, pandemic, extreme natural events that affect all countries in economic, social, cultural, political, and many other issues" (IGI-Global, no date). In this article, it refers specifically to the pandemic of Covid-19 and the slowdown of global economic growth in 2019. Investigating the impact of the COVID-19 pandemic on FDI in the Indonesian economy at the industry level, Syarifuddin and Setiawan (2022) found that the pandemic had a significant negative impact on all economic sectors of the Indonesian economy, albeit with a different degree of impact on subsectors within the economic sectors. In addition, Ho and Gan (2021) found that net FDI inflows to Asia-Pacific countries and emerging economies were negatively influenced by the uncertainties caused by the pandemic. Poulsen and Hufbauer (2011) found that economic recessions are associated with a corresponding decline in FDI, both in developed and emerging markets. Additionally, Sauvart et al. (2010) argued that the financial crisis and global recession had a negative impact on FDI flows, using the example of the decline in OFDI from

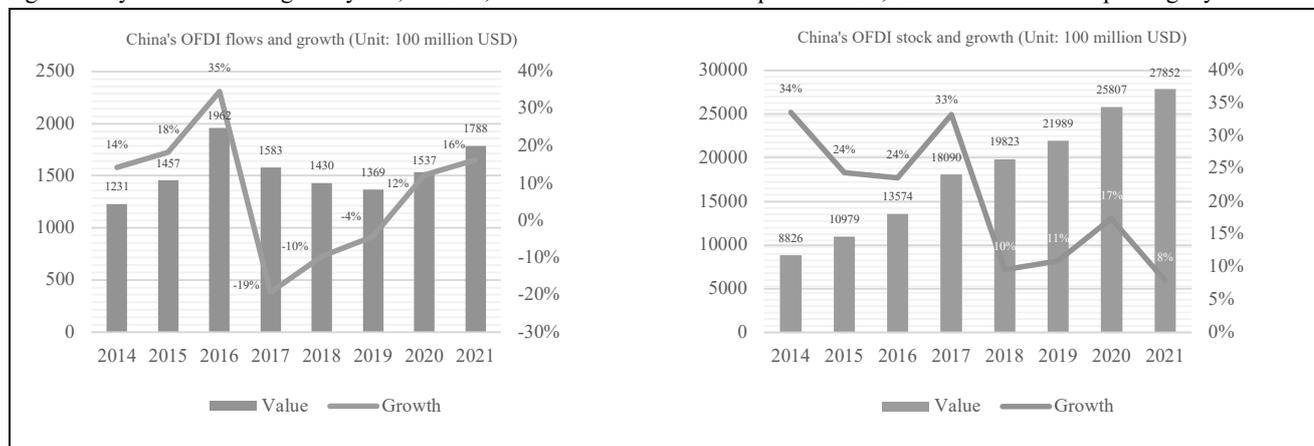
developed countries in the 2008 financial crisis. As can be seen from the above, the impact of the pandemic and the global economic downturn on FDI is generally negative. Thus, we hypothesise as follows:

H4: The global crisis will negatively impact China’s OFDI to Russia.

Research Results and discussion

China’s OFDI flows and stocks in the world

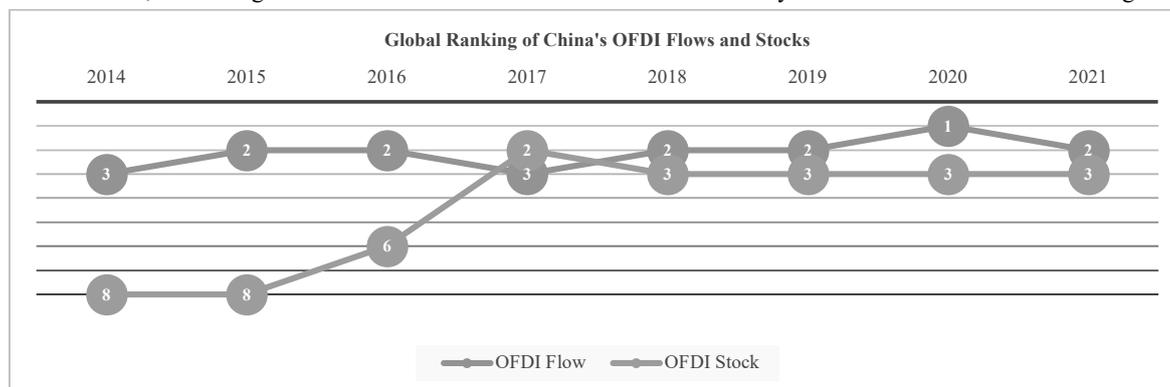
Overall, China’s OFDI flows have fluctuated over the past eight years and successively turned around in 2017 and 2020, while OFDI stock has kept growing over the past eight years and reached its highest value in 2021 (see Figure 1). Since 2014, China’s OFDI flows have kept growing for the following two years and reached a peak of \$196.2 billion in 2016; in 2017, a negative growth of 19% first appeared and showed negative growth in the following two consecutive years; in 2020, positive growth returns. China’s OFDI stock peaked in 2014 with a 34% growth rate but slowed down continuously over the next two years; after another high growth rate in 2017, the growth rate slowed down significantly in the following four years; in 2021, China’s OFDI stock value peaked at \$2,785.2 billion over the past eight years.



Source: author’s construction based on China’s OFDI Statistics Bulletin from 2014 to 2021

Fig. 1. The value and growth of China’s OFDI flows and stocks over the past eight years

Despite fluctuations and two reversals in OFDI flows over the past eight years, China has consistently ranked in the top three globally and is on track to be number one in 2020 (see Figure 2); China’s OFDI stock ranked behind the top three globally until 2017, while it continued to hold steady in the top three globally after 2017. The growth in OFDI flow value in 2020 contributed greatly to China’s ranking first in the world in 2020, and the significant increase in OFDI stock value in 2017 directly contributed to the rise in China’s global ranking.



Source: author’s construction based on China’s OFDI Statistics Bulletin from 2014 to 2021

Fig. 2. Global ranking of China’s OFDI flows and stocks over the past eight years

Upon analysing the data, it could be found that China’s OFDI flows are showing continued signs of recovery after the 2017 plunge (due to China’s government’s increased scrutiny of the authenticity and compliance of enterprises’ outward investments), while OFDI stocks have consistently increased. In addition, there is no indication that Covid-19 is a significant impediment (but it could be one of the causes of the negative growth in OFDI flows after 2019) to China’s OFDI flows and stocks. In all, China’s OFDI flows and stocks are robust and highly competitive worldwide, as it has consistently ranked in the top ten in the global rankings in the last eight years and especially in the top three in the last five years.

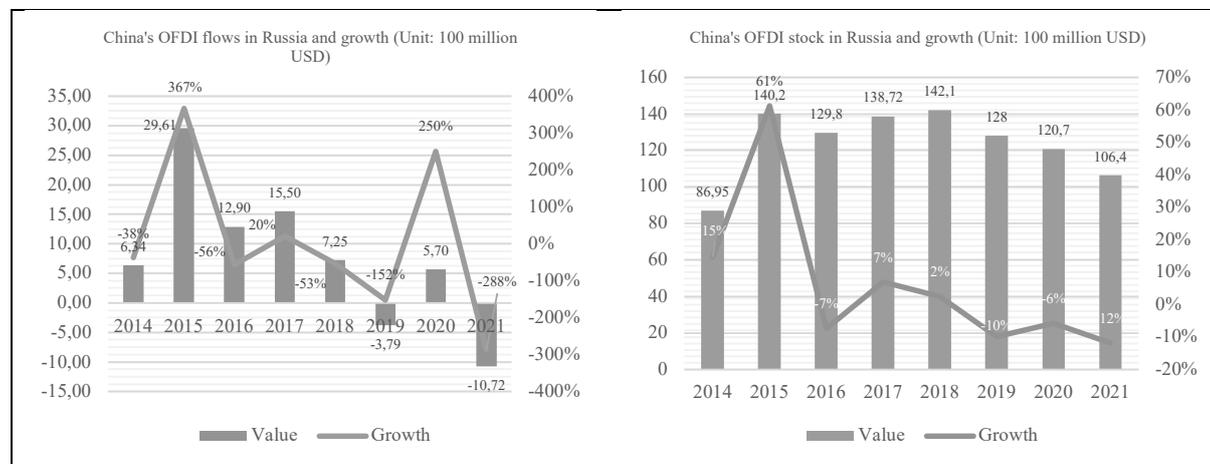
Despite China’s OFDI flows and stocks having fluctuated in the last eight years due to China’s domestic investment scrutiny and Covid-19, the OFDI flows and stocks have shown a robust momentum and high competitiveness, with a positive trend.

The value and growth of China’s OFDI flows and stocks in Russia

Overall, the value of China’s OFDI flows in Russia showed a significant decline during the Russia-Ukraine war, while the value of OFDI stock turned into a decreasing period starting in 2019 (see Figure 3). China’s OFDI value in Russia reached a peak during the war with \$2,961 million in 2015 but decreased significantly in the following six years, even showing negative values in 2019 and 2021. Benefiting from the significant increase in OFDI flows in Russia in 2015, China’s OFDI stock growth rate reached 61% in 2015 but continued to shrink and show continuous negative growth in 2019 and thereafter.

The negative growth in OFDI value in 2014 may be attributed to the fact that major events, such as the annexation of Crimea by Russia in Ukraine in that year, reduced investors' confidence in investing in Russia. In 2019, world economic growth fell to its lowest level since the global financial crisis in 2008, and the growth rate of global trade in goods slowed significantly. The negative flow of China’s OFDI to Russia in 2019 was primarily caused by negative flows from the mining sector (see Figure 5). The negative flow can be attributed to several factors, like the declining demand for minerals and raw materials due to a slowdown in the global economy; ongoing multi-field sanctions (e.g., Energy-related technology and equipment blockade and embargo) imposed on Russia by several countries; and the election of Ukrainian President

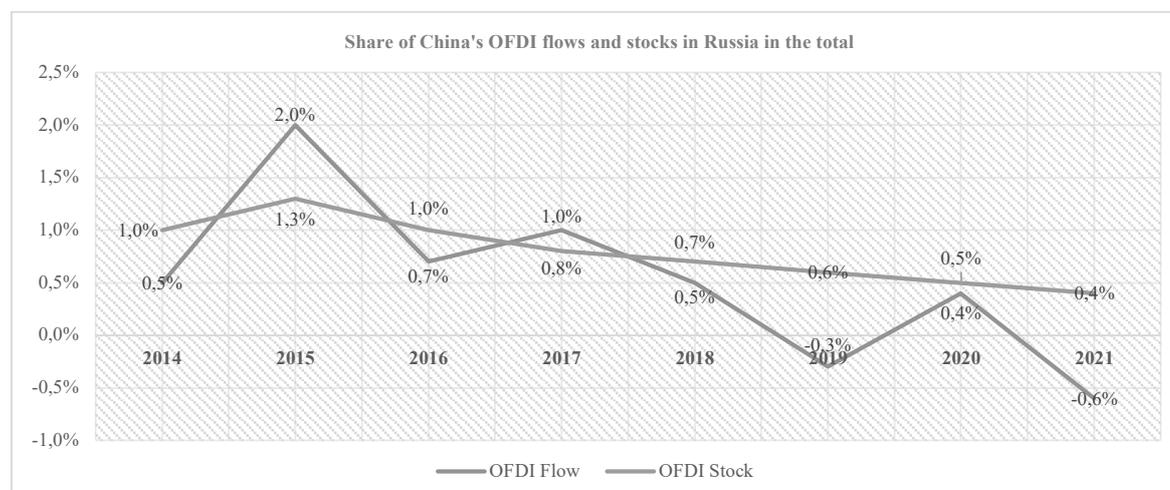
Volodymyr Zelensky, who is considered pro-Western in Chinese politics, may have affected Chinese investors' investment decisions in the Russian mining industry. As a result, Chinese MNCs operating in Russia have repatriated a portion of their profits to China rather than reinvesting them in the Russian market. Moreover, based on the positive performance of China's OFDI in the Russian mining sector in 2020 (see Figure 5), it can be concluded that the negative value in 2019 is behind a temporary adjustment of its portfolio in the Russian market. In 2021, the sharp negative flow of China's OFDI to Russia was highly related to the prevalence of Covid-19 and the escalating tensions between Russia and Ukraine, which worsened the global investment environment and increased the geopolitical risk of investing in Russia. Consequently, most Chinese investors chose to withdraw their dividends, and very few chose to exit the Russian market completely, which is also consistent with the phenomenon of Chinese MNCs in general choosing to continue business as usual in Russia today.



Source: author's construction based on China's OFDI Statistics Bulletin from 2014 to 2021

Fig. 3. The value and growth of China's OFDI flows and stocks in Russia during the Russia-Ukraine war

Against the background of the overall declining OFDI flows and stocks in Russia, the share of China's OFDI flows and stocks in Russia is relatively small compared to the share of all China's OFDI flows and stocks (see Figure 4). Specifically, the share of OFDI flows and stocks in Russia was consistently equal to or below 2% during the war period. Moreover, both have shown an overall decreasing trend. This indicates that the Russian market is much less important in China's OFDI portfolio than in countries or regions such as Hong Kong, the USA, or the EU.



Source: author's construction based on China's OFDI Statistics Bulletin from 2014 to 2021

Fig. 4. The share of China's OFDI flows and stocks in Russia in the total during the Russia-Ukraine war

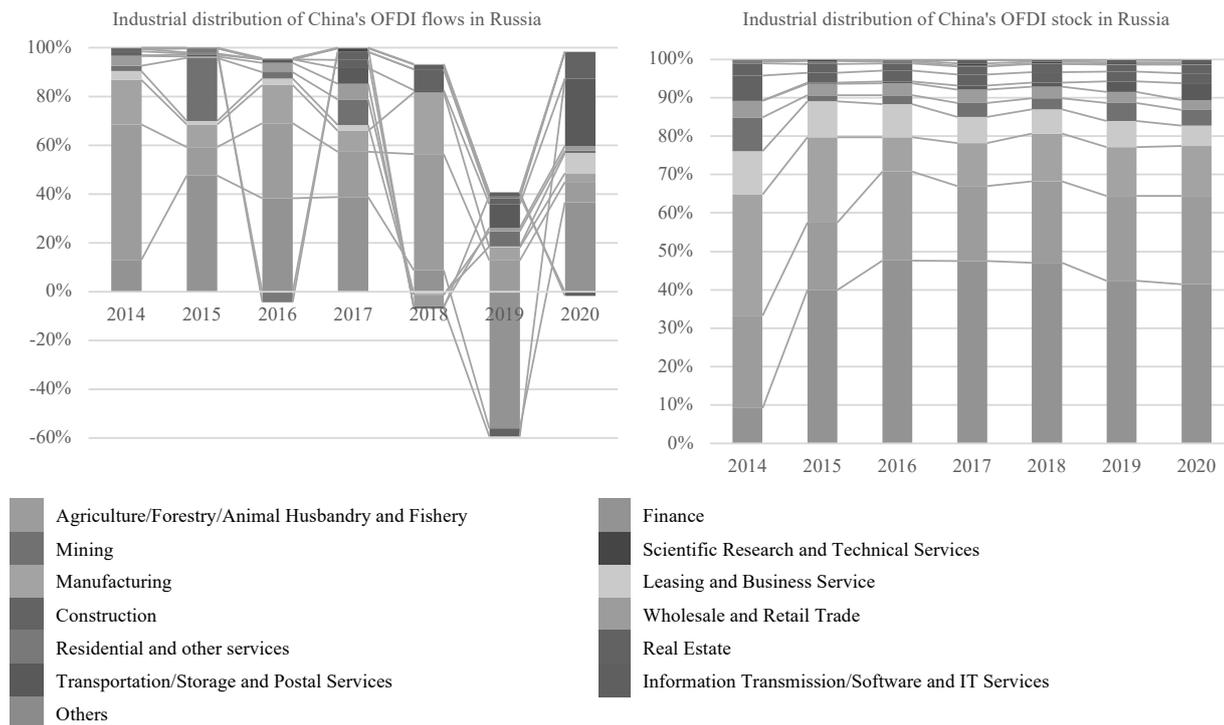
In sum, China's OFDI flows and stocks in Russia have shown an overall downward trend due to the deterioration of the investment environment and increased geopolitical risks in Russia as a result of the eight-year regional conflict in Ukraine and Covid-19 in 2019. In addition, the Russian market is less attractive in China's OFDI portfolio compared to countries or regions such as the EU and the USA.

The industrial distribution of China's OFDI flows and stocks in Russia

Since the Ministry of Commerce of China did not disclose the distribution of OFDI industries in Russia in its statistical bulletin for 2021, Figure 5 only presented the industrial distribution of China's OFDI flows and stocks in Russia from 2014 to 2020. Overall, the distribution of China's OFDI flows and stocks in Russia is not balanced. The OFDI flows until 2019 are mainly in the primary and secondary sectors, in particular mining, agriculture/forestry/livestock and fishery, and manufacturing. In 2019, the share of the mining industry shrunk sharply; in 2020, OFDI flows to the mining industry took up a large share again, with a relatively large increase in the share of the tertiary sector, including scientific research and technical services, and leasing and business services. For the industrial distribution of OFDI stock, the primary sector, including agriculture/forestry/livestock and fishery, and the secondary sector, including mining and manufacturing, have always occupied a relatively large share and are relatively stable. It is also notable that in 2019 and thereafter, the relative share of the tertiary sector, including scientific research and technical services, finance, and other industries, is increasing.

There's no indication show that the regional conflict in Ukraine has an impact on the industrial distribution of China's OFDI flows and stocks in Russia. However, increased geopolitical risks perceived by Chinese investors due to political shifts in Ukraine, as well as the slowdown in global economic growth in 2019, have resulted in a significant exodus of OFDI in the mining industry of Russia. Moreover, China's OFDI stock in Russia during the seven-year period was mainly concentrated in the secondary sector, followed by the primary sector,

while the tertiary sector accounted for only about a quarter. The main reason for this difference in industrial distribution is Russia’s high natural resource endowment, such as rich oil and gas reserves, fertile land and large arable areas, among others. The above-mentioned not only indicates that the industrial distribution of China’s OFDI to Russia is unbalanced but also reveals that China’s OFDI to Russia is vulnerable to geopolitical risk and global crisis.



Source: author’s construction based on China’s OFDI Statistics Bulletin from 2014 to 2020

Fig. 5. Industrial distribution of China’s OFDI flows and stocks in Russia during the Russia-Ukraine war
Forecasting China’s OFDI flows and stocks in Russia

Upon review of the above findings, it could be found that the investment environment, geopolitical risks, global crisis, and natural resource endowments are the four main influential factors on China’s OFDI flows and stocks in Russia during the Russia-Ukraine war. Furthermore, the investment environment, geopolitical risks, and global crisis have a negative impact on China’s OFDI in Russia, while natural resource endowments have a positive impact. In addition, it is worth noting that although global economic growth is not necessarily a significant influencing factor during the war, its slowdown in a given year may pose a threat to Chinese OFDI flows in Russia in that year. Based on these four determinants of China’s OFDI to Russia during the Russia-Ukraine war and a series of events that happened in 2022, two forecasts were made and are shown below.

The first forecast is that China’s OFDI to Russia will continue to decrease overall in the near future. Contrary to the thriving growth trend of China’s global OFDI flows and stocks, China’s OFDI flows and stocks in Russia have shown an overall downward trend in the context of the Russia-Ukraine war. The downward trend will not change in a short time against the backdrop of the continued deterioration of the negative factors in 2022. In 2022, Russia’s full-scale war triggered a new global crisis and raised the geopolitical risks of investing in Russia to a new level; the accompanied world financial and energy sanctions on Russia significantly deteriorated the financial environment in the Russian market and therefore the investment environment, and greatly hindered Russia’s energy export channels and thus limited the role of its resource endowments in attracting investment. Faced with this situation, China’s investors are more likely to choose to reduce new investments and withdraw their existing ones, therefore resulting in a decrease in both the flow and stock of China’s OFDI in Russia.

The second forecast is that the share of China’s OFDI flows and stocks in Russia in the secondary sector will remain the highest in the near future. Despite the fact that the limited role of Russia’s natural resource endowments in the sanctions and China’s cautious approach in the face of sanctions, Russia’s secondary sector has always been the most attractive for China’s OFDI compared to other sectors, which is attributed to Russia’s rich natural resources and industrial-oriented economic development pattern. In addition, China’s OFDI stock in Russia has consistently maintained the highest share in the secondary sector in the past seven years. The combination of these two aspects will result in a consistent leadership role of China’s OFDI flows and stocks in Russia in the secondary sector.

Conclusions, proposals, recommendations

1. The present study provides valuable insights into China’s OFDI flows and stocks in Russia during the Russia-Ukraine war, as well as China’s MNCs’ reactions to the war in Ukraine at the macro-regional level. This paper is the first to study China’s OFDI in Russia in the context of the Russia-Ukraine war. In this paper, the annual Statistical Bulletin of China’s OFDI published by the Ministry of Commerce of China for the period 2014-2021 is analysed to present the performance of China’s OFDI flows and stocks globally and in Russia for the period 2014-2021, as well as the industrial distribution.
2. Evidence from the archival study shows that China’s OFDI is robust and highly competitive globally but showed an overall downward trend during the Russia-Ukraine war, and the Russian market is less attractive in China’s OFDI portfolio compared to countries or regions such as the EU and the USA. Moreover, the industrial distribution of China’s OFDI in Russia is unbalanced, and it is vulnerable to the global crisis. Considering the regional conflict in Ukraine during 2014-2021 and the global Covid-19 crisis in 2019, the investment environment, geopolitical risks, global crisis, and natural resource endowment were identified as four influential factors that have an impact on China’s OFDI performance in Russia.
3. The results of this study on the positive impact of natural resource endowments as one of the determinants of China’s OFDI are consistent with other scientific studies. Moreover, this study provides new insights into new influencing factors on China’s OFDI to Russia, such as

geopolitical risks, investment environment and global crisis, all of which are shown to have negative impacts on China's OFDI to Russia in this study.

4. In connection with the high level of geopolitical risk and the new global crisis triggered by the war between Russia and Ukraine in 2022 and accompanied by world sanctions against Russia, two forecasts of China's OFDI to Russia were made: The first forecast is that China's OFDI to Russia will continue to decrease overall in the near future; The second forecast is that the share of China's OFDI in Russia in the secondary sector will remain the highest in the near future.
5. In a nutshell, China's OFDI to Russia has encountered significant growth obstacles and is concentrated in relatively low value-added primary and secondary sectors. The intricate intertwining of the investment environment, global crisis, geopolitical risks, and natural resource endowments had a significant impact on China's OFDI to Russia during the Russia-Ukraine war. The near-future expectations for China's OFDI to Russia tend to decline. In the context of the full-scale war between Russia and Ukraine in 2022, the issues related to China's OFDI to Russia in 2022 will be a very promising direction to study, either at the macro-regional level or at the micro-firm level.

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