ISSN 2782-1927

# JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS

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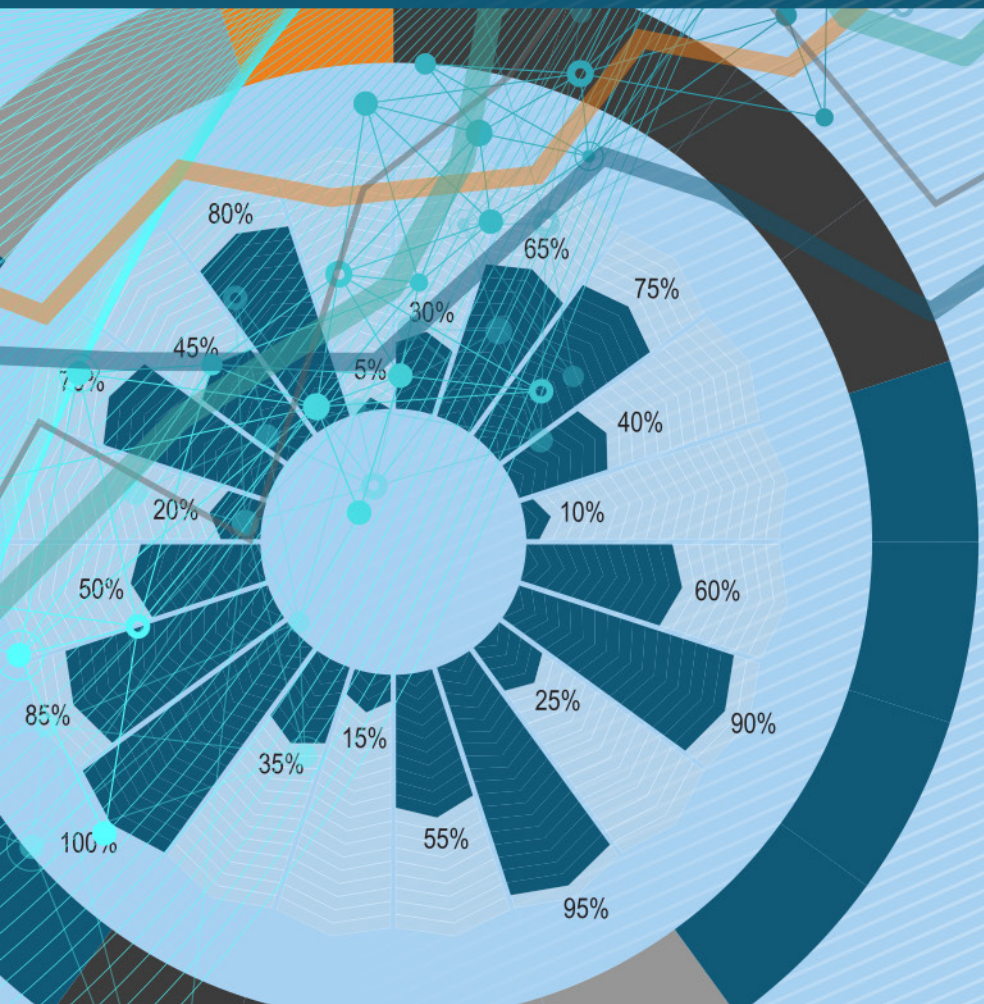


Vol. 5 (04) 2024

# JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS

Scientific and practical peer-reviewed journal


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|---|---|
| **ISSN** | 2782-1927 |
| **Regulator:** | Registered by the Federal Service for Supervision in the Sphere of Telecom, Information Technologies and Mass Communication (ROSKOMNADZOR). Date of registration: 31.12.2020. Registration certificate ЭЛ № ФС 77 - 80072 |
| **Publication Frequency:** | 4 issues per year |
| **Language:** | English |
| **Founder and Publisher:** | Yaroslavl State Technical University, 150023, Russia, Yaroslavl, Moskovsky prospect, 88 |
| **Website:** | http://www.jraic.com |
| **Postal address:** | 150023, Russia, Yaroslavl, Moskovsky prospect, 88 |
| **E-mail:** | jraic.ystu@gmail.com |
| **Phone:** | +7 (4852) 44-02-11 |
| **Date of issue:** | 28.12.2024 |

***The journal is included in the list of leading Russian peer-reviewed scientific journals of the Higher Attestation Commission (VAK)***

## Contents

# Analysis of development of economic digitalisation stages: evolution, views, and approaches to concept study

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ORIGINAL ARTICLE

**Abstract.** The article examines the stages of the development of economy digitalisation, evolution, and change in the perception of the phenomenon under study in the scientific literature. Digitalisation is a key factor in the transformation of global and national economic systems. Indeed, digitalisation importance is a catalyst for the modernisation of all spheres of economic life and the formation of new models of its participant's interaction. The article considers the prerequisites for concept formation and highlights four main stages: 1960s-1990s – automation of individual production processes; 1990s-2000s – the development of network technologies and the introduction of Internet commerce; 2000s-2010s – mobile technologies and platform solutions; 2010s-current time – integration of artificial intelligence, big data and blockchain technologies. The research analyses theoretical, effective, structural, technological, resourcing, communicative, motivational, intermediary-service, instrumental, and managerial approaches to digitalisation. Their study allows ones to comprehensively assess the key aspects of the digitalisation of the economy: from increasing productivity to transforming the entire economic structure. The analysis of each approach reveals how digitalisation affects the economy, transforming its models, processes and resources, and reveals its multi-layered nature in modern realities. In addition, the research focuses on the role of digitalisation in establishing of new economic models, innovative ecosystems, and global digital platforms. However, the article considers the social aspects of digitalisation, including the impact on employment, inequality, and social interactions. Moreover, the article examines the impact of digitalisation on globalization and economic integration, its role in reforming government and corporate structures. The authors emphasise digitalisation as a foundation of a new economy.

**Keywords:** digitalisation of the economy; stages of economy digitalisation; approaches to understanding of economy digitalisation; digital transformation

**JEL codes:** B15, O33

**DOI:** 10.52957/2782-1927-2024-5-4-4-14

**For citation:** Elena E. Irodova & Alexey M. Sokolov. (2024). Analysis of development of economic digitalisation stages: evolution, views, and approaches to concept study. *Journal of regional and international competitiveness*, 5(4), 4.

## Introduction

The digitalisation of the economy is a phenomenon that in recent decades has become a determining factor in the transformation of global and national economic systems. This process dwells on the rapid development of information and communication technologies transforming the structure, dynamics, and directions of economic development. It provides the modernisation of all areas of economic life and forms new models of interaction between business participants. To understand the impact of digitalisation on the modern economy and its prospects, it is necessary to consider its evolution, identify key stages, and changes in its perception. In addition, the relevance of the study concerns with the need for a comprehensive study of the stages and approaches of economy digitalisation.

The history of digitalisation is closely related to the technological evolution started back in the middle of the 20th century. Initially, the impact of digitalisation was limited to the development of computing technologies and automation of production processes. However, it has transformed into a multi-level process

encompassing all spheres of economic and social life. For a more detailed analysis of economy digitalisation, it is important to consider the conditions for this concept emergence and define the key stages of development. Special attention should be paid to the theoretical approaches and views of various authors interpretations at different stages of its formation. The scientific community is interested in the digitalisation issues. Indeed, researchers M. Castells, D. Bell, D. Bresnahan contributed to understanding the impact of digitalisation on economic processes. However, structural changes and the impact of digital technologies on the labour market, the study of approaches require further research.

The object of the study is the digitalisation of the economy as a complex socio-economic phenomenon.

The article analyses the stages and concepts of economy digitalisation in terms of its historical context and the modern representation.

The purpose of the study is to analyse the stages of economy digitalisation and form a holistic view of its evolution and multilevel impact on economic systems.

Within the framework of achieving the research goal, it is permissible to set the following tasks:

1. to study the prerequisites for the formation of economy digitalisation;
2. to analyse the stages of the development of economy digitalisation in terms of concept evolution in the scientific literature;
3. to explore key approaches to understanding economy digitalisation;
4. to consider the features of the digitalisation of the economy at various levels.

**Main Part**

The methodological basis of the research is based on the general scientific principles of historical and systemic approaches, methods of logical, criteria-based, and comparative analyses. The evolutionary approach is used contextually in the study of a single inseparable structure of the historical and logistic-analytical line. The article presents a grouping of the concepts of "digitalisation of the economy" on a substantive basis in accordance with the author's vision of the contribution of scientists to the development of the term under study. An attempt has been made to draw historical and logical parallels in terms of the implementation of the evolutionary analysis of the digital economy, based on the principles of complementarity.

*Prerequisites for the formation of the concept of "digitalisation of the economy"*

The concept of "digitalisation" became popular in the scientific and economic literature in the late 1980s with the formation of the foundations of the global digital economy associated with the active introduction of information and communication technologies (ICT) into production and management processes [12]. However, the prerequisites for the emergence of this phenomenon were formed quite earlier. One of the key factors contributing to the emergence of digitalisation was the widespread use of computer technology started in the middle of the 20th century. In the 1950s, the first computers provided the automation of individual economic sectors. It caused the transformation of production process management methods. The computer technology has made it possible to store and process data more efficiently. It ensured the subsequent digitalisation of the economy.

In addition, the development of telecommunication technologies has played an important role in the emergence of digitalisation as a phenomenon. The occurrence of the Internet in the 1960s and 1970s was a real technological breakthrough; it allowed users and companies around the world to be connected into a single information space. An important stage was the establishment of the World Wide Web in the early 1990s. It made possible to exchange information, form new ways of doing business through Internet platforms, etc. As a result, economic processes began to move into the virtual environment. Moreover, it was one of the key factors in the emergence of the digital economy [15].

The prerequisites for digitalisation can also be viewed through the prism of globalisation and economic integration. Already in the late 1980s, the global market required the faster information exchange and the introduction of innovative technologies; it provided new requirements for companies and government agencies regarding information and process management. This process was closely related to the development of post-industrial society with information as an independent resource. Therefore, it became necessary to revise

economic models and management methods. It causes the realisation of the importance of digitalisation as a new stage in economic development [8].

At different stages of the development of digitalisation, researchers offered their own vision of the process under study. However, views on digitalisation have changed depending on technological progress and economic conditions. It confirms the complexity of this phenomenon.

*Stages of development of economy digitalisation and concept evolution in the scientific literature*

The digitalisation of the economy has gone through several key stages; each concern with the development of technology and changes in economic and social processes. Therefore, it is important to consider its development in terms of history and how its perception has changed in scientific and economic literature.

For a detailed comprehensive analysis and study of the development of economy digitalisation and the evolution of the concept in the scientific literature, the authors compiled Table 1.

**Table 1** – Key stages and evolution of authors' views on economy digitalisation

| Stage | Characteristics | The views of the authors |
|---|---|---|
| The first stage (1960-1990) | - Introduction of the first computer systems;<br>- Automation of individual production processes. | - R. Solow and D. Norton: digitalisation as a tool to increase production efficiency;<br>- D. Bell: the transition from an industrial society to a society based on information and knowledge. |
| The second stage (1990-2000) | - Development of network technologies;<br>- Limited implementation of the new trading format. | - M. Castels, N. Negroponte, Don Tapscott: integration of global economic processes and the formation of a new information economy;<br>- James Moore notes the strengthening of digitalisation social aspects. |
| The third stage (2000-2010) | - Strengthening the role of mobile technologies and the platform economy;<br>- Transformation of the principles of economic activity. | - T. Bresnahan: the introduction of platform business models;<br>- Strengthening the role of digital ecosystems. |
| The current stage (since 2010) | - Artificial intelligence, blockchain, IoT, big data. | - Klaus Schwab: The Fourth Industrial Revolution, the fusion of physical, digital, and biological systems;<br>- It impacts on the technical aspects of production, companies' organisational structure, business models, and forms of employment. |

*Source: composed by the authors*

The first stage of digitalisation. It was in 1960s-1980s and focused on automation and computerisation of individual production processes, and introduction of the first computer systems in enterprises. It significantly improved the information processing and management of production processes. Notably, digitalisation concerned mainly large corporations and government agencies, as computer systems remained quite expensive and complicated in use. For instance, the introduction of the first computer systems at Ford and General Motors plants has significantly increased labour productivity by automating a number of operations [23].

The introduction of a modular conveyor assembly line at Ford plants has significantly improved the company's production and financial performance. Automation and the use of modular assembly reduced production costs and increased productivity. It allowed Ford to produce cars with high efficiency and lower costs. As a result, the company was able to scale production, respond to growing market demand and remain competitive. It resulted in increased profits and strengthened its position in the industry. These innovations

have also enhanced Ford's ability to adapt to market changes, contributing to its long-term growth, and financial stability. Since 1980, Ford has been investing in automation of the production line. Financial indicators increased markedly in 1986. There is a natural increase of the company's assets. In 1980, the company's assets amounted to $23,524.6 mln USD. In 1985 Ford is actively investing in the improvement and automation of the production line. Since 1986, the volume of products and the company's profit has increased significantly from $52,774.4 to $71,643.0 mln USD in 1988[1].

**Table 2** – Report on Ford's financial performance, 1980-1988

| Year | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 |
|---|---|---|---|---|---|---|---|---|---|
| Revenues, $ mln USD | 45,513.7 | 37,085.5 | 38,247.1 | 37,067.2 | 44,454.6 | 52,366.4 | 52,774.4 | 62,715.8 | 71,643.0 |
| Income $ mln USD | 1,169.3 | -1,543.3 | -1,060.1 | -657.8 | 1,866.9 | 2,906.8 | 2,515.4 | 3,285.1 | 4,625.0 |
| Assets, $ mln USD | 23,524.6 | 24,347.6 | 23,021.4 | 21,961.7 | 23,868.9 | 27,485.6 | 31,603.6 | 37,933.0 | 44,956.0 |
| ROI, % | -14.8 | -29.4 | -10.2 | 132.1 | 65.4 | 11.2 | 35.3 | 51.4 | 39.1 |

*Source: Ford Motors company statistics*[2]

The views of the authors. At the beginning of digitalisation development, it mainly concerned with the automation of production processes. Indeed, R. Solow and D. North considered digitalisation as a tool to increase production efficiency. According to them, the introduction of computer systems and automation made it possible to significantly reduce the cost of production operations and increase labour productivity. However, digitalisation was considered as a narrow phenomenon, limited mainly to the sphere of production [21, 24].

In the 1980s, D. Bell introduced the term "information society" to refer to the transition from an industrial society to a society based on information and knowledge. He considered information technology would become the most important resource and catalyst for changes in the economy and social structure of society [1].

The second stage of digitalisation. It began in the 1990s with the development of the Internet and telecommunications. The World Wide Web and the development of network technologies have become the basis for the globalisation of economic processes. This period is also characterised by establishing of the first Internet companies such as Amazon and eBay. They introduced a completely new trading format based on online platforms. Indeed, at this stage digitalisation concerns large companies, small, and medium-sized businesses. Internet commerce is becoming an important element of economic development, and digital technologies began to have an impact on an increasing number of economy sectors.

The views of the authors. In the 1990s views on digitalisation began to change. Indeed, M. Castels and N. Negroponte considered digitalisation as a process affecting on production, communication, and information exchange. They emphasised it provides globalisation and the formation of a new information economy [4, 20].

In the 1990s, the development of the Internet and mobile technologies provided the use of the concept of "digitalisation" in relation to the globalisation of economic processes and the increasing role of information technology in international trade. Meanwhile, M. Castells proposed the idea of a "network society". He considered digitalisation as a concept changing the principles of economy with information and knowledge exchange networks as key factors. This influenced the understanding of digitalisation as a process changing

[1] *Fortune 500: Ford Motors company statistics. URL: https://money.cnn.com/magazines/fortune/fortune500_archive/snapshots/1988/529.html (Accessed: 19.10.2024)*

[2] *Fortune 500: Ford Motors company statistics. URL: https://money.cnn.com/magazines/fortune/fortune500_archive/snapshots/1988/529.html (Accessed: 19.10.2024)*

the entire structure of the economy [4].

Tapscott in his work considers digitalisation as a fundamental element of the formation of a new information economy with knowledge and data as the main resources. Moreover, innovative technologies and the Internet play the role of catalysts for global economic transformations [25].

Hence, many authors highlight economic and social aspects of digitalisation. J. Moore, in his theory of "digital ecosystems" dwells on the modern economic systems should be considered as complex ecosystems with companies, consumers, government, and international organisations interactions through digital channels and platforms. In this ecosystem information is an essential resource; the success of companies and states depends on their ability to effectively use and manage data. In his theory, the author illustrates how digitalization is changing the understanding of the economy, turning it from a linear system of exchange of goods and services into a complex network of interconnections and data [19].

The third stage of digitalization. It began in 2000-2010. Those time mobile technologies and platform solutions began to play a key role in the economy. The process changes the mechanisms of business operation and principles of economic activity. Digitalisation allows companies to operate globally with minimal infrastructure and operational costs. An example of this is the phenomenon of the so-called "platform economy". It is based on the use of digital platforms to provide services, organise sales, and interact with consumers and partners. Smartphones, mobile applications, and cloud technologies provided digitalisation into business and people's daily lives. An important element of this period was the development of the platform economy. The companies such as Uber, Airbnb, and Alibaba were able to establish global platforms providing access to various services. These platforms became the basis for a new stage of globalisation; companies and individuals were able to interact directly through digital technologies [16]. The level of Internet consumption is growing rapidly: from 414 mln people worldwide in 2000 to 2.2 bn people by 2010. In 10 years, the indicators have increased 5.3 times. By 2010, Asia was the leader in the number of consumers of the service, reaching 940.35 mln households [3].

The views of the authors. In 2020, the term "digitalisation" is a more complex phenomenon, concerning with various aspects of the economy, such as digital platforms, e-commerce, digital government, etc. According to T. Bresnahan, the development of digital technologies ensured the formation of new economic models based on the use of data and digital platforms for business organisation and production process management [22].

The current stage of digitalisation. It began in the 2010s and continues to the present considers digital technologies as an integral part of all sectors of the economy. Artificial intelligence, big data, the Internet of Things (IoT) and block chain are actively integrating into various industries, from finance to agriculture, providing new opportunities for economic growth. For instance, the use of big data in agriculture makes it possible to optimise yield management processes and use resources more efficiently; block chain technologies are used in logistics and the financial sector, ensuring transparency and security of transactions [17]. Digitalisation is considered not only as an automation tool and innovative ecosystem for interaction of companies, government agencies and citizens at a new level [2].

The views of the authors. K. Schwab' modern view on digitalisation emphasizes the complex nature of this process. Digitalization is considered as a transformation of the entire economy, including business processes, public administration, social structures, and interaction between different levels of economic agents. In his concept of the "Fourth Industrial Revolution", K. Schwab focuses on the fusion of the physical, digital, and biological spheres. It establishes fundamentally new opportunities for economic growth, innovation, and acceleration of social change [11].

Modern scientific literature offers many definitions of the economy's digitalisation, representing the complexity and multi-layered nature of this phenomenon. One of the most recognised is the definition proposed by the OECD (Organization for Economic Cooperation and Development). According to it, digitalisation is the process of integrating digital technologies into the daily activities of companies and citizens, causing establishing of new forms of economic activity and improvement of existing ones. Indeed, digitalisation affects all sectors of the economy and contributes to increased productivity and efficiency [18].

Moreover, A. McAfee and E. Brynjolfsson defines digitalisation as the process of introducing digital technologies, providing a fundamental transformation of business processes, consumption patterns, and interaction between economic entities. According to them, digitalisation impacts on the technical aspects of production, companies' organisational structure, business models, and forms of employment. This definition focuses on the transformational nature of digitalisation affecting on social aspects such as inequality, employment, and access to technology [14].

According to the Higher School of Economics, Moscow, Russia report, digital transformation represents significant changes in business processes or methods of economic activity (in business models) caused by the introduction of digital technologies and leading to significant socio-economic effects [10].

According to the World Economic Forum, digitalisation is "the process of introduction and use of new technologies to transform the economy, creating new opportunities for growth and innovation"[3]. This definition focuses on the innovative aspect of digitalisation, correcting existing processes, providing economic development, establishing new industries and jobs.

Based on the existing definitions, we can propose our own author's definition of digitalisation of the economy: digitalisation of the economy is a multidirectional process of introducing digital technologies into economic mechanisms, accompanied by corresponding transformations of socio-economic and institutional relations between participants in the national economy.

This definition emphasises the complex nature of the digitalisation of the economy as a multidirectional process concerning with the introduction of digital technologies into economic mechanisms causes changes at the level of socio-economic and institutional relations. The definition focuses on the multilevel impact of digitalisation, considering simultaneously its economic, social, and institutional aspects. It also assesses its ability to change business processes, connections between economic agents, the structure of interactions and norms within the national economy.

Moreover, each of the studied stages is characterised by the development of technologies, changes in economic models and management approaches. Hence, digitalisation has gradually transformed the economy, provided conditions for the formation of a new knowledge economy with information and technology as key resources.

Therefore, it is possible to identify key approaches to understanding the digitalisation of the economy.

*The approaches to understanding economy digitalisation*

1. The efficiency approach. In the format of this approach, digitalisation is interpreted as a set of effects caused by the use of digital technologies in socio-economic activities. The differentiation of these effects considers an increase in economic growth, labour productivity, the number of jobs in related industries by at least 3-5 times; acceleration of the dynamics of small and medium-sized businesses; saving of budget expenditures; reduction of poverty level, etc. This approach improves the efficiency of production and service provision. Indeed, the use of new technologies, process automation and optimisation of business processes, enterprises become more flexible and competitive. It contributes to the growth of labour productivity, reducing costs, and increasing the profitability of production. Moreover, through digital platforms, the development of Internet technologies and the expansion of e-commerce opportunities, the propensity for innovative economic development is increasing. Hence, it stimulates technological progress, accelerates the occurrence of new ideas and solutions, and develops new industries and areas.

2. A structural approach. Digitalization is considered as a transformation of the entire economy, including business processes and public administration, social structures and interaction between different levels of economic agents. The result is a change in the entire structure of the economy.

3. The process approach. Digitalisation contributes to the integration of technologies and digital resources into various sectors of the economy. It has a significant impact on its development and productivity. In fact, this is a new vision of digitalisation as a process concerning with the automation of production, and entire matrix of the modern economy.

[3] *G20 Digital Economy Ministerial Declaration (2017). G20 Ministerial Conference on Digital Economics. Dusseldor, 6–7 april 2017. URL: http://www.eurasiancommission.org (Accessed: 19.10.2024)*

4. The resource approach. The information and digital economy transit from an industrial society to a society based on information and knowledge. Therefore, information technology becomes the most important resource and catalyst for changes in the economy and society. Digitalisation is changing the very principles of the functioning of the economic system.

5. The communicative approach. It considers digitalisation as a broader process affecting production, communication, and information exchange. For instance, the new properties of information presented in digital format are as follows:

– the ability of using a variety of physical principles of its representation, storage, and transmission of information, including the ability to encrypt a message, transmit it in this form, and then decrypt it again;

– the ability to transfer information using various material media; copying and dissemination of information without loss of its accuracy;

– the multiple increase of recording density and transmission speed, replacement of analogue technologies by digital ones.

6. The motivational approach. It provides an increase of competition. Indeed, digital technologies enable companies to implement marketing strategies more effectively, monitor the market and conduct online sales. It increases competition in the market and stimulates businesses to find new ways to attract and retain customers, improve the quality of goods and services. Hence, a comfortable environment for innovation and business development is being formed.

7. The intermediary-service (platform) approach. Comprehensive digitalisation has actually established a new market structure. It is so-called platform economy. It includes the total contribution of digital platforms to the GDP of the Russian Federation, according to various estimates, ranges from 2 to 5%[4]. Many digital platforms are actively increasing their potential in Russia today. However, every segment has its own active players or platforms responsible for the state of entire market segments. The platform economy makes the market more structured and segmented. As a result, sellers of goods and services compete on various platforms. It ensures the end user benefits by receiving a variety of offers and better conditions. The use of fundamentally new technologies supports the simplicity and transparency of transactions; eliminates geographical barriers; enables suppliers to collaborate with multiple platforms simultaneously, increasing their target audience and revenue growth potential. In this case, digital platforms serve as intermediaries between different market participants, linking needs with resources, suppliers with consumers, demand with supply, reducing transaction costs, speeding up the search and payment for goods and services. According to the experts, 80% of companies in various industries work with suppliers and partners through digital platforms. It reduces their costs by more than 50%. Many analysts emphasize the role of the network effect, increasing the value of the offer to the consumer due to the growing number of manufacturers [5]. It ensures an increase in the speed of service provision and a reduction in cost. The platform service provides increased transparency of relations between market participants. Moreover, the management of the Yandex Taxi, Ozon, and other platforms support this issue.

8. The instrumental approach. It considers digitalisation as a tool for integrating digital technologies into people's daily activities, increasing accessibility to a range of services. Currently, digitalisation is a key tool for the development of the economy and the society. Hence, online platforms and applications provide the opportunity to receive services at any convenient time and in place. In 2023, more than 340 mln services were provided through the Public Services portal GOSUSLUGI; the daily user audience was 11 mln people. Consequently, digitalisation appears to be an essential tool for accessing socially important state and municipal services, contributing to increased efficiency of service delivery, saving processing time and improving the quality of customer service. Since 2020, the volume of the online commerce economy has grown 3.5 times and amounted to more than 16 trln. RUB [9].

9. The management approach. It emphasises the development of digital technologies and the formation of new economic models based on the use of data and digital platforms for business organisation and

[4] *Digital Economy of the Russian Federation (2024). URL: http://static.government.ru/media/files/9gFM4FHj4PsB79I5v7yLVuPgu4bvR7M0.pdf (Accessed: 19.10.2024)*

management of production processes. Therefore, artificial intelligence, big data, the Internet of Things and other technologies make it possible to improve resource management and reproduction processes. For instance, distributed registry systems (blockchain), allow ones to significantly simplify the management of trusted information about individuals, organisations, assets, and activities, increase the protection of public service systems and government databases, improve transparency of the budget process, reduce the risk of corruption, facilitate and accelerate the interaction of citizens with authorities and interdepartmental interaction. Quantum communications, thanks to quantum effects, make it possible to use computing systems considered promising communication and information security schemes. For instance, there are a number of applications of quantum technologies. They are as follows: the creation of reliable protection for IoT, the organisation of the quantum Internet, the development of a new element base in terms of the transition of state data centers to optical communication, etc. In general, digital technologies in the format of new public administration develop digital administration.

*Levels of economic digitalisation*

The digitalisation of the economy can be considered at various levels – from global to national and corporate ones. These levels interact with each other and form a holistic picture of the digital transformation process, affecting the aspects of economic life.

Globally, digitalisation provides the integration of global markets and formation of new digital platforms to interact worldwide. For instance, Amazon platform it is a global marketplace for trading goods and services. Furthermore, the development of global financial technologies, such as blockchain and cryptocurrencies provides financial transactions without geographical restrictions. It contributes to the formation of a new global economic architecture [7].

Nationally, digitalisation has a significant impact on economic policy and governance. Government agencies use digital technologies to improve interaction with citizens and businesses, and increase transparency and efficiency of public administration. For instance, The Programme Digital Economy of the Russian Federation aims to establish the digital transformation of the economy through the development of infrastructure, digital technologies, and the legislative framework [9].

At the corporate level, digitalisation contributes to business efficiency through process automation, the use of big data, and the introduction of artificial intelligence. For instance, IBM and Google are actively using big data-based analytical systems and machine learning to optimise their business processes and improve customer service. The introduction of digital technologies also allows companies to design new products and services, use innovative business models (subscription, platform-based services, cloud technologies, etc.) [13].

**Conclusion**

The analysis of the phenomenon in the scientific literature demonstrates technological progress and significant development of the theoretical basis. At the initial stage (1960-1980s), digitalisation was mainly considered as a process of production processes automation aimed at reducing costs and increasing labour productivity. For instance, R. Solow and D. North possess digitalisation as a phenomenon limited to improving production performance through automation, whereas its possible social and economic effects had not yet been seriously studied. The views of scientists during this period were focused on an applied approach: digital technologies played the role of tools for local efficiency improvement and were not perceived as a fundamental factor in the transformation of the entire economic system.

The development of the Internet and the globalisation of digital technologies in the 1990s, the views of scientists have undergone significant changes. The emergence of the global Internet and telecommunication technologies has expanded the possibilities of communication and data exchange. It forms conditions for the integration of economic processes at the international level. Moreover, D. Tapscott, M. Castells, and N. Negroponte began to consider digitalisation as a multi-level process transforming production, communication, and consumption. Therefore, digitalisation became a phenomenon contributing to globalisation and the emergence of a new type of economy – information one. In this type of economy information and access are essential resources. Their works became the basis for the concept of the information society and the network

economy. They show an increasingly comprehensive view of the role of digitalisation in the economy and society.

The third stage 2000s and 2010s provided new opportunities for digital technologies development. During this period, digitalisation began to actively penetrate into everyday life and became an integral part of economic processes due to the development of mobile technologies, digital platforms, and a platform economy. For instance, T. Bresnahan focused on the importance of digital platforms as a new tool for doing business and interacting with consumers. In this context, digitalisation has become a technological tool, a framework for new business models and ways of economic interaction. James Moore's idea of digital ecosystems has been developed in the scientific literature. It emphasised the systemic and network nature of digitalisation as a structural element of the economy.

The modern stage of digitalisation began in the 2010s. It is characterised by a further evolution of this phenomenon. Nowadays, artificial intelligence, big data, IoT and blockchain effect on the digitalisation on social, managerial, and cultural aspects. Within the framework of the fourth industrial revolution concept proposed by Klaus Schwab, digitalisation is a deep transformation of all its components, blurring the boundaries between digital, physical, and biological systems. According to the modern authors, digitalisation improves economic performance, effects on sustainable development, employment and innovative ecosystems.

Indeed, the versatility and vastness of the concept provide key approaches to the modern understanding of the concept under study. The digitalisation of the economy is considered from various scientific positions, including efficiency, structural changes, processes and resources, level of communication, degree of motivation, platform potential, and instrumental component. The efficiency approach emphasises the impact of digitalisation on productivity improvement and cost reduction; the structural approach focuses on the transformation of economic structures and management models; the resource approach focuses on the role of information and knowledge as new economic resources. The process approach considers digitalisation as a process of technologies and digital resources integration. It effects on automation, changes the modern economy, consumption, and production. The communicative approach possesses digitalization a tool for global information exchange, expanding the possibilities of interaction between economic entities and forming new communication models. The motivational approach focuses on competition increase, as digitalisation facilitates marketing strategies, stimulates innovation, and improves the quality of goods and services. The intermediary-service (platform) approach considers digitalisation as the basis for a platform economy. Indeed, digital platforms act as intermediaries, connecting suppliers and consumers, increasing market transparency, and reducing transaction costs. The instrumental approach considers digitalisation as a key tool to increase the accessibility of remote and efficient public services. The management approach focuses on the use of digital technologies to optimise business processes and resource management. It is especially important for public administration and the corporate sector. The various approaches presented allow us to consider digitalisation as a multi-layered process involving technological, economic, social, managerial aspects, and emphasising its importance for formation of innovative and integrated economy. These approaches show the multilevel and complex nature of modern digitalisation.

Therefore, the development of scientific views on the digitalisation of the economy developed from a simple technological process to a complex multi-layered concept deeply integrated into economic and social structures. However, the initial stages emphasised automation and increasing production efficiency. Nowadays, the concept of digitalisation is the basis of a new economy: data and technology play a central role, and economic relations are transformed towards a global network structure based on interaction, innovation and access to information.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

**AUTHOR'S CONTRIBUTIONS**

Elena E. Irodova – conceptualization; supervision.
Alexey M. Sokolov – writing – original draft.

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Received 02.10.2024
Revised 06.11.2024
Accepted 10.12.2024

*Jraic.com*
JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS 2024; 5(4):15-24

# Methods for assessing digital maturity in banking during digital transformation

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ORIGINAL ARTICLE

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**Abstract.** The article discusses methods for assessing digital maturity in the banking sector. This digital transformation implying the need for prioritisation and timely assessment of the effectiveness of implemented initiatives. The research analyses existing maturity models such as MIT CISR, Gartner, Digital Quotient from McKinsey and Digital Acceleration Index from BCG, KPMG. The author dwells on the models main advantages and limitations in terms of application in CIS banks with significant restrictions in access to the talent market, a large amount of legacy IT systems, and significant inertia the scale of the organisation. The research presents the author's methodology adapted to the needs of banking institutions in the CIS region. This methodology covers a comprehensive assessment of key areas, including the maturity of IT and DevOps processes, the effectiveness of Agile methodologies, HR indicators such as staff turnover and the speed of adaptation of new employees, business metrics, including indicators of commercial efficiency, customer experience, and internal operational efficiency. The proposed approach includes both quantitative and qualitative assessment methods. Quantitative methods are based on data from internal banking systems such as project management systems, HR systems, automated dashboards from various IT systems of the bank, etc. Qualitative methods include expert assessments, anonymous employee surveys, and industrial benchmarking of competitors. The article describes the stages of implementing the methodology, starting from planning and data collection to calibrating the results and using them to form a transformational roadmap. The application of the methodology in a number of CIS banks over the past 5 years has demonstrated its effectiveness in increasing transparency in managing digital initiatives and accelerating the achievement of strategic goals. The results of the study emphasise the importance of a systematic approach to managing digital maturity and adapting global models to the specifics of the local market.

**Keywords:** agile maturity; banking sector; digital transformation; DevOps processes; HR indicators; business metrics; digital maturity; efficiency assessment; process optimisation; customer metrics

**JEL codes:** M12, M15, O32

**DOI:** 10.52957/2782-1927-2024-5-4-1-24

**For citation:** Dmitry A. Papusha. (2024). Methods for assessing digital maturity in banking during digital transformation. *Journal of regional and international competitiveness*, 5(4), 1.

## Introduction

Digital transformation requires a comprehensive approach to assessing the digital maturity of an organisation. It concerns with the key stages and functions. Indeed, it allows the company to consistently develop the necessary digital and business capabilities throughout the transformation[1]. Firstly, the assessment of digital maturity makes it possible to identify initial opportunities and critical areas requiring crucial banking sector modernisation. Secondly, regular assessment of digital maturity helps to follow the progress of transformation and make adjustments to the strategy based on the achieved maturity levels [1] in terms of changing market conditions and internal processes. Thirdly, modern IT systems and processes play a critical role for banks. Their stability and flexibility contribute to improving operational efficiency and customer experience [2] and exaggerate of new products to market. By improving business models, digital transformation has a significant impact on the financial results of companies [3]. For the CIS banking sector, digital transformation has become a key element of competitiveness, as investments in digital technologies allow banks to adapt to modern market conditions and offer innovative solutions [4]. These conclusions are confirmed by the opinions of top managers of the banking sector of the CIS countries. They implemented digital and agile transformations in 2019-2024. It emphasise the importance of continuous maturity

[1] *Deloitte. (2021). The digital maturity model and digital turns. Deloitte Insights. URL: https://www2.deloitte.com (Accessed 01.10.2024)*

monitoring for successful change management.

There are several recognised models for assessing digital maturity on the market, each has its own advantages and disadvantages. It is important to consider their applicability in the context of the CIS banking sector:

1. The MIT CISR model assessed the maturity of a company in four main aspects: strategy, organisation, processes, and technologies [5]. Although the model covers important elements, its implementation is potentially challenging and resource-intensive for banks with limited capacity, especially in CIS countries.

2. The Gartner model includes five dimensions: strategy, organisation, operations, customer experience, and technology[2], focusing on customer experience. It makes it useful for companies focused on customer service. However, for CIS banks, the model may be overly adapted to global corporate initiatives and require significant changes in organisational culture and management.

3. McKinsey's Digital Quotient (DQ) focuses on cultural change and leadership [6] emphasising the importance of talent and digital thinking. The model may be useful for large banks. However, its implementation in organisations with a conservative corporate culture can cause difficulties and require significant efforts in managing transformation.

4. BCG's Digital Acceleration Index (DAI) assesses 42 categories, helping banks focus on the technological and human aspects of transformation[3]. Nevertheless, the complexity of the model and its high data requirements may make it difficult to apply it in CIS banks because of the legacy systems prevailing and a low level of digitalisation.

5. KPMG offers a comprehensive model with an assessment of six areas: strategy, organisation, customer experience, operations, technology, and analytics[4]. Although this model is universal and concerns with all aspects of business, for CIS banks its complexity and focus on global strategies can become a serious obstacle, especially in conditions of local constraints and the existing legacy infrastructure.

The purpose of this article is to present the author's methodology for assessing digital maturity, adapted to the specific needs of the banking sector of the CIS countries. The methodology is based on practical experience in implementing digital transformations with an emphasis on applied aspects such as processes and technologies, in terms of the current level of digitalisation and the volume of legacy systems in the company. The methodology considers organisational and regulatory constraints specific to the regional banking sector. It makes it realistic and applicable for assessing and managing digital transformations. This methodology will be described in detail in the article and will offer optimal solutions for regional banking organisations.

**Methods**

The methodology presented in the article is an author's development adapted to the specifics of large organisations in the banking sector of the CIS countries actively involved in digital transformation. Over the past five years, this system has been tested and successfully implemented in a number of leading regional banks. The application of the methodology made it possible to systematise the approach to monitoring key aspects of transformation, ensuring transparency and manageability of changes at all levels of the organisation.

Quantitative and qualitative methods are used to assess digital maturity: These approaches make it possible to comprehensively assess both objective indicators and subjective aspects of organisational processes.

Quantitative methods include:

– Analysis of data from internal IT and HR systems. They provide key metrics of productivity, staff turnover, and project deadlines.

– Automated reports and dashboards provide real-time monitoring of process parameters.

– Statistical analysis of data such as Time-to-Market and average task completion time (Lead Time).

[2] *Gartner (2023). Creating a high-impact customer experience strategy. URL: https://www.gartner.com/en/marketing/research/creating-a-high-impact-customer-experience-strategy (Accessed 01.10.2024).*

[3] *BCG. (2021). The Digital Acceleration Index (DAI). BCG Report. URL: https://www.bcg.com/capabilities/digital-technology-data/digital-maturity (Accessed 01.10.2024).*

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Qualitative methods:

– Expert assessments through surveys of key employees at the level of the team, department, and the entire organization.

– Anonymous surveys and interviews with employees to assess their level of engagement and satisfaction.

– Benchmarking using data on similar organisations and their maturity levels.

The proposed methodology for assessing digital maturity includes three key stages: planning, data collection, and calibration. These stages provide a consistent and systematic approach to a comprehensive assessment of digital maturity at the level of the entire company or its individual divisions.

Assessments are conducted at team, departmental and organisation-wide levels and the results are then aggregated to present a single picture to senior management. The data obtained is used to update the transformation roadmap at least once a quarter.

Below there is a description of the goals and key activities at each stage.

1. The planning stage

At the planning stage, the assessment perimeter is determined and a detailed action plan is developed to analyse digital maturity. This stage provides a clear understanding of the transformation goals, business priorities and data sources that will be used during the assessment.

The key activities of the stage include:

– Defining the goals and priorities of transformation. Strategic goals and key areas of change are being explored.

– Interviews with key decision makers and mapping of problem areas. It helps to identify the main obstacles to transformation.

– Defining a list of systems and data sources. It is important to determine exactly which information systems and external and internal data sources will be used to obtain an objective picture of digital maturity.

– Identification of performers for interviews and data collection. A list of key employees participating in the assessment process and providing information about the current state of digital processes is formed.

– Establishing a roadmap for the assessment process with key milestones and leaders. To ensure the success of the assessment, a roadmap with clear deadlines and the appointment of responsible persons is developed. It contributes to transparency and controllability of the process.

2. The data collection stage

The data collection stage focuses on obtaining, analysing, and structuring the information necessary for a comprehensive assessment of the company's digital maturity. Its main goal is to provide an objective and comprehensive analysis of the state of digital processes and infrastructure.

The key activities of the stage include:

– Interviews with key performers and monitoring their work. Problems are identified and the current state of the processes is analysed. Interviews with employees are conducted to identify problems and analyse the current state of digital processes.

– Assessment of IT systems, code, product artifacts, and documentation. Analysis of existing IT systems and their compliance with the best practices of development and digital maturity.

– Collecting HR data and conducting anonymous surveys. It includes an analysis of employee turnover metrics, vacancy closing rates, employee surveys to assess their satisfaction level.

– The analysis of the organisational structure and goal-setting tools. The analysis of the current organisational structure and the tools used to set goals and monitor their achievement is conducted.

– Collecting statistics on production processes. Assessment of productivity and efficiency of technological processes, including the speed of product deployment and the frequency of releases.

3. Calibration stage

At the calibration stage, the data obtained is analysed and discussed with management. It allows ones to synchronise priorities and adjust the transformation strategy.

The main tasks of the stage include:

– Systematisation and visualisation of data. For simplifying data interpretation, the results are presented

in the form of reports and graphs.

– Argumentation of the priorities of problem areas using industrial benchmarks. Based on benchmarks, key problem areas are identified and their importance for achieving the company's strategic goals is justified.

– Development of a prioritisation plan for problem areas. A plan to prioritise problems and initiatives aimed at eliminating identified inconsistencies is formed.

– Facilitating discussions with the LPR and fixing decisions. Discussions with managers to make final decisions on adjusting the transformation strategy are held.

– Preparation of the final report. The final result is the preparation of a report containing the results of the assessment, problem areas and an action plan to eliminate them.

Data collection and structuring is provided in accordance with the author's methodology. It describes the key areas of analysis, methods of collecting information, and ways to systematise it for further discussion.

The methodology concerns with six key areas of assessment:

1. Agile maturity

Agile maturity plays a key role in increasing the flexibility and adaptability of companies in the face of dynamic market changes. In the CIS countries, this approach becomes the basis of digital transformation [7], contributing to the optimisation of processes at all levels of the organisation. The use of Agile methodologies contributes to the formation of more innovative solutions focused on customers. The constant development and improvement of customer products allows banks to demonstrate a deep understanding of the needs of their audience[5].

Assessment areas:

– The effectiveness of key product roles: The qualifications of product owners, architects, and department leaders and their contribution to the success of products are assessed. The analysis examines architectural descriptions, road maps, and a metric tree. Additionally, interactions between roles are explored to identify potential conflicts.

– Team Ceremonies: The frequency and effectiveness of key Agile events (retrospectives, planning, strategic updates and their contribution to achieving team goals are analysed.

– The goal setting process: An assessment of the cascading of goals from the company's strategy to the goals of individual teams is conducted. The assessment is based on the following criteria:

– Realistic goals based on the available resources of the team.

– The ambition of the goals compared to the benchmarks of competitors.

– Alignment with corporate strategy through cascading goals from the bank level to the team level.

– The presence of cascading goals from strategy to the team level.

– Completeness of goals, implying the presence of goals for commercial results, customer metrics, efficiency of internal processes, IT and HR indicators.

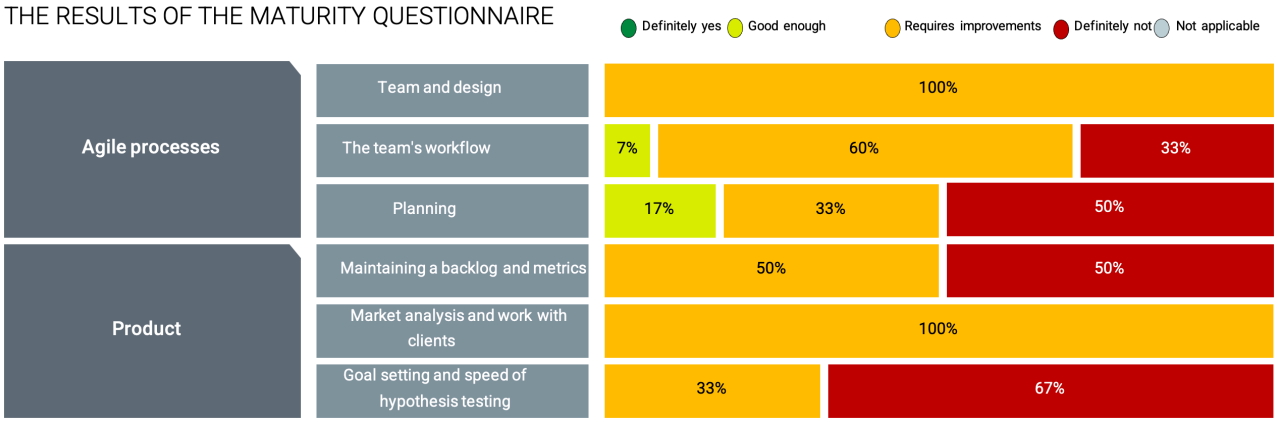


**Figure 1.** Example of expert survey results on agile maturity for one of the bank's departments
*Source: composed by the author as part of a transformation project at a bank in Uzbekistan, 2024*

[5] *Keita, B. (2020). Why Agile is extremely important for the banking sector. Invensis Learning Blog. URL: https://www.invensislearning.com/blog/agile-is-essential-for-banking/ (Accessed 01.10.2024).*

Expert surveys, goal-setting tools (for example, the use of the OKR framework), analysis of production artifacts of Agile events and their impact on productivity are used for assessment.

2. Team productivity

Team productivity assessment is a key element in managing digital transformation, especially in the face of fierce competition and the need to bring products to market quickly. To achieve this goal, quantitative metrics are used to objectively assess the results of team work and make informed management decisions. The methodology includes the assessment of the following basic metrics:

– The speed of task completion. Task completion speed is assessed based on data from trackers (for example, Jira, Trello, ServiceNow). The analysis includes a study of the task completion time, the state of the backlog and the processes of their formulation to identify the causes of delays and optimisation opportunities.

– The percentage of completion of scheduled tasks in the period (sprint). The percentage of tasks completed in the sprint is assessed based on data from the task trackers. The analysis allows ones to review the planning of sprints and quarters to clarify goals and priorities.

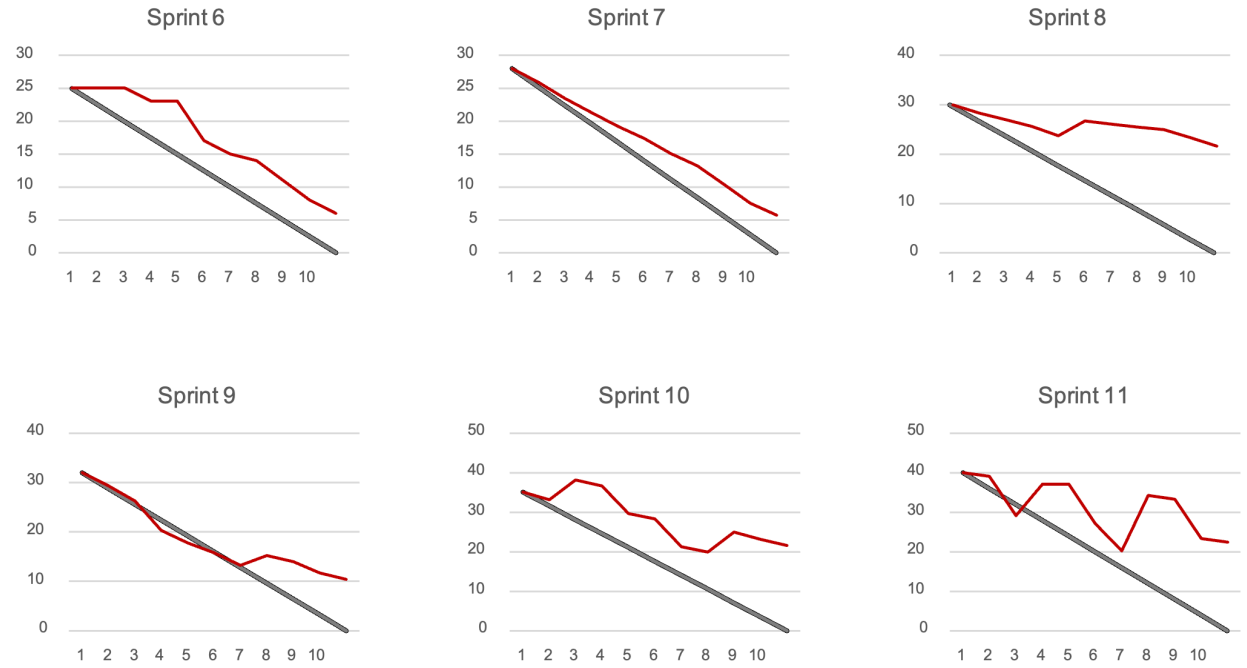


**Figure 2.** Example of creating automated reports in Jira to analyze task completion rates in sprints
*Source: composed by the author as part of a digital transformation project at a bank in the Republic of Armenia, 2023*

– The average time from the idea to the start of implementation (Definition of Ready). The average time from idea to implementation is assessed by analysing data from task trackers. The factors influencing the duration of training and optimisation ways accelerating the team's response to new requirements are being investigated.

– The average time to deploy code to a productive environment. The average code deployment time is assessed using data from CI/CD systems (for example, Jenkins, GitLab). The analysis helps to identify bottlenecks and optimise DevOps processes by automating pipelines.

– The frequency of releases in a productive environment. The frequency of releases is assessed based on data from task trackers. The analysis identifies the causes of delays and suggests ways to optimise release processes.

– Average incident response time. The average incident response time is analysed using data from IT systems (for example, ServiceNow). Incidents are prioritised, SLAs are set, and initiatives are being implemented to speed up the response.

3. IT and DevOps

A qualitative assessment of the maturity of IT and DevOps processes is a key element of the overall digital maturity of an organisation, especially in the banking sector. In modern conditions, the maturity of IT

systems is critically important to ensure stable and flexible operation. It directly affects the competitiveness of banks. The high criticality of the IT infrastructure in the banking sector is due to the growing share of digital products and channels in the banks' portfolio. Without mature IT and DevOps processes, successful digital transformation is impossible. These areas provide stability, speed and flexibility in the development and operation of new solutions [8]. IT and DevOps are the foundation for automation, digital services, and innovative technological solutions.


**Figure 3**. Example of the proposed approach to measuring metrics and assigning responsibility for addressing problem areas

*Source: composed by the author as part of the digital maturity assessment project at a bank in Azerbaijan, 2019-2020*

The assessment of IT and DevOps processes includes many parameters that allow ones to determine the level of maturity and the ability of a company to effectively manage its technological resources. Below there are the six most significant areas for assessment:

– Availability of key IT services. The assessment is based on regular monitoring of the availability of key systems and services, analysis of downtime using monitoring systems (for example, Zabbix, Nagios, AppDynamics). The degree of stability of the IT infrastructure and the ability of the system to ensure uninterrupted operation are revealed. In the banking sector, the availability of services is critical, as downtime can cause significant financial losses and reduced customer satisfaction.

– Continuous Integration. Continuous integration is assessed based on data from CI systems (for example, Jenkins). The analysis covers the frequency of builds, their success, and automated testing. Two significant DevOps metrics are cycle time and execution time. The cycle time is the period that begins from the beginning of the sale until the moment of receipt of the first income. The execution time is the period from the time of a request for a software or service to its completion. Continuous integration allows ones to quickly make changes to the code with immediate testing and error detection. It speeds up the development process and reduces the number of defects. This is especially important in the banking sector, where the requirements for the quality and security of the code are extremely high.

– Automation of testing. Test automation is assessed by the proportion of automated tests, their frequency and effectiveness. It speeds up the verification of new versions, increases the speed of development, and reduces the risk of errors.

– The percentage of code coverage by modular and integration autotests. The percentage of code coverage by autotests is measured using SonarQube and JaCoCo. A high level of coverage indicates the maturity of

testing and helps to quickly identify defects, minimising risks to the banking environment.

– The release pipeline. The release pipeline is assessed by the speed and frequency of releases, as well as the deployment time. This automated chain of processes accelerates the release of new versions and supports reliable operation using DevOps practices [9]. In the banking sector, this ensures the stability and security of releases, reducing the time to market new products and services.

– Test data management. The management of test data is assessed by the processes of its generation, updating, and use in test environments. The analysis includes Informatica or IBM InfoSphere. For the banking sector, test data management plays a critical role in ensuring high-quality tests and rapid deployment of updates.

– Information security. The maturity of information security is assessed using reports from Splunk or IBM QRadar. The frequency of updates, the number of incidents with data leaks, and the response time to them are analysed. It helps to identify the vulnerabilities.

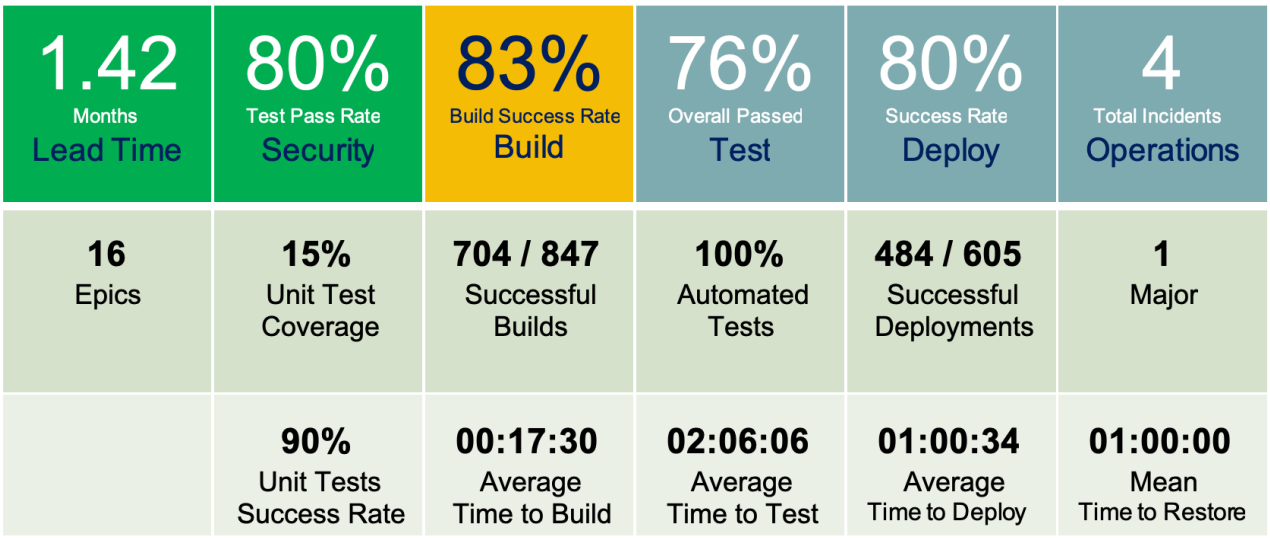


**Figure 4.** Example of an automated dashboard for displaying key measurable IT and DevOps metrics of a department

*Source: composed by the author as part of a digital transformation project at a bank in the Republic of Armenia, 2023*

4. HR indicators

The maturity of HR processes is critically important for the company's adaptation to the labour market, especially in the context of the "war for talent". For banks, competition with digital companies makes it more difficult to attract and retain specialists. It is critically important for banks to have a mature HR system attracting the high-qualified specialists, retaining them, and maintaining a high level of their satisfaction and motivation.

The six key assessment areas included in the methodology are listed below:

– Staff turnover. Staff turnover is assessed through data from HR systems such as SAP SuccessFactors. The analysis includes the frequency of dismissals and the percentage of vacancies. It helps to identify the factors of team instability. In the banking sector, staff turnover is particularly critical. The loss of key specialists can slow down the implementation of important digital initiatives and increase the cost of finding and training new employees.

– The closing time of vacancies in key departments. The time from the moment of opening a vacancy to its successful closure is estimated based on data from HR systems (for example, SAP SuccessFactors or Oracle HCM Cloud). This indicator allows ones to evaluate the effectiveness of the recruitment process and the speed of attracting specialists. Recruitment processes play a key role in digital transformation. The companies from various industries need to attract employees with IT competencies, knowledge, and skills to digitalise their products, services, and processes [10].

– Employees engagement. Employees engagement is assessed through anonymous surveys and analysis

of their participation in company initiatives. In the banking sector there is often a rigid hierarchy. Therefore, maintaining engagement is important to stimulate innovation and team flexibility.

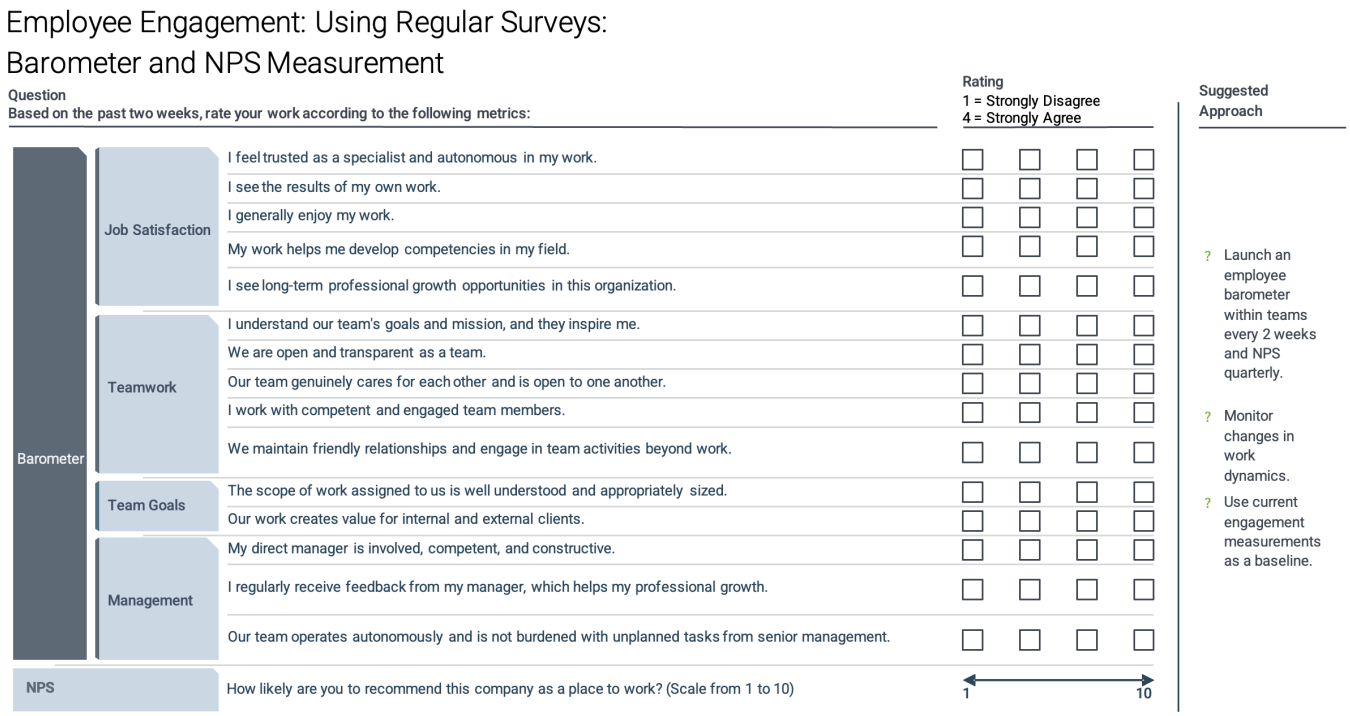


**Figure 5.** Example of the structure of an anonymous employee engagement survey
*Source: composed by the author as part of a digital maturity assessment project at a bank in Azerbaijan, 2019-2020*

– Employees satisfaction. Employee preparation is assessed through questionnaires and interviews exploring their attitudes to change and participation in training initiatives to improve digital skills.

– The percentage of internal movements. To assess this indicator, an analysis of HR systems data related to employee movements between different departments within the company is used. A high percentage of internal movements indicates a mature system of career growth and employee development. It reduces staff turnover and increases motivation. In the banking sector, the possibility of career transfers is an important element of the strategy for retaining key specialists.

– The speed of new employees' adaptation. The assessment is based on the analysis of feedback from managers, data from HR systems, and structured surveys of new employees during the probation period. In an environment of high competition for digital talent, the rapid adaptation of employees is a competitive advantage for banks when introducing new digital initiatives.

5. Business metrics

For successful digital transformation, banks should implement the customer metrics for assessing the effectiveness of internal processes.

The methodology offers a structured approach for measuring all three areas:

– Commercial results. Commercial metrics are the basis for assessing business performance. Key indicators include the operational profitability of the client and the cost of his involving. These metrics are important for determining the financial stability of the bank and allow ones to adjust the strategy of the product portfolio to minimise costs and increase revenue from key products.

– Client metrics. Metrics of customer satisfaction and loyalty play a key role in competitive conditions [11]. For example, NPS assesses the willingness of customers to recommend a bank, and CSI evaluates the level of satisfaction at different stages of interaction. These metrics provide banks understaning how well their products and services meet customer expectations, as well as identify service weaknesses. In the context of digital transformation, such indicators are of particular importance for maintaining a competitive advantage.

– Efficiency of internal processes. The efficiency of internal processes is measured through the proportion of digital transactions and the average time of transactions such as deposits and withdrawals. Optimisation

of these processes helps to reduce costs and improve the quality of service.

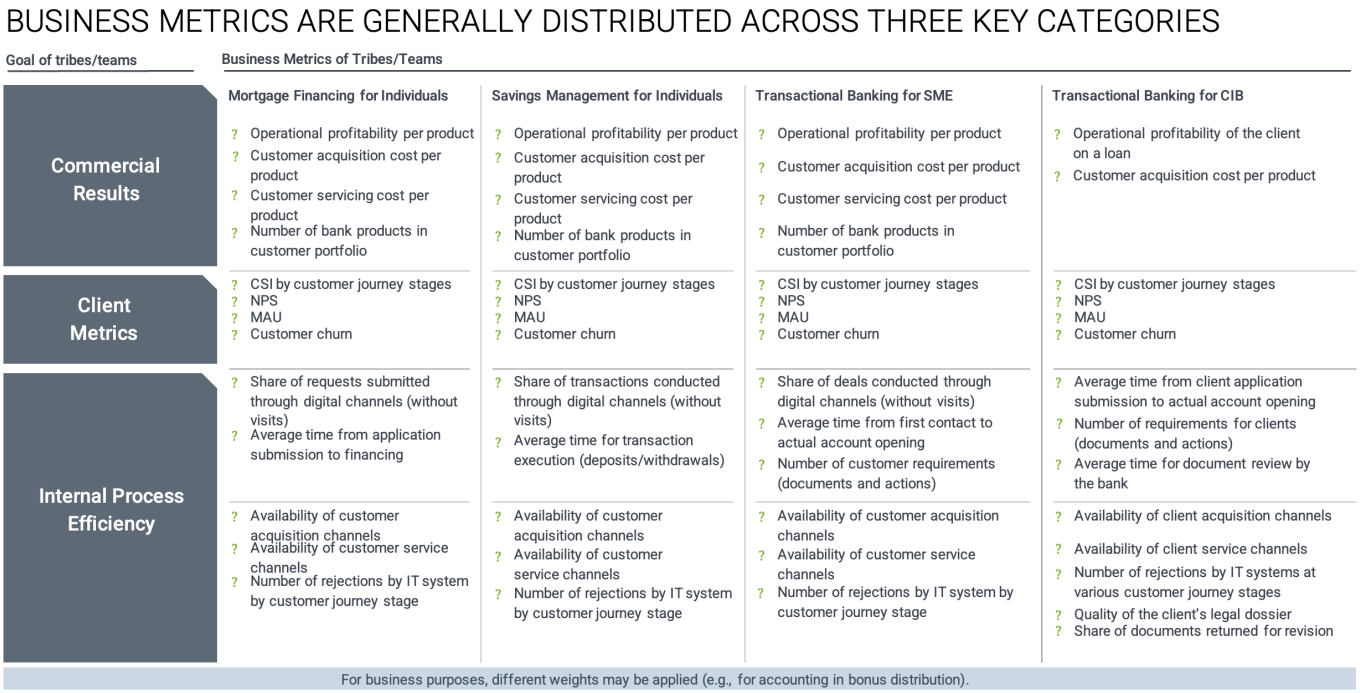


**Figure 6.** Example of the proposed structure for evaluating business performance indicators based on the evaluation scope

*Source: composed by the author as part of a digital maturity assessment project at a bank in Azerbaijan, 2019-2020*

**Results and Discussion**

The application of the technique has shown high efficiency. According to the heads of CIS banks, the implementation of the valuation model has become a key factor in successful digital transformation. During the use of the model, the key advantages are as follows:

1. A reduced set of parameters providing an analysis in conditions of limited resources.
2. Focus on technological and process optimisation to accelerate results and reduce resistance to change.
3. The convenience of structuring and visualisation for quick access to data for decision-making.
4. Integrating the results into a transformational roadmap involving key LPR.
5. Flexible monitoring to review priorities in response to changes.

More than 80% of companies continue to use the methodology for internal evaluations. One of the CIS banks has adapted it to automate data collection at all levels of management. The weighted methodology improved the accuracy of the analysis, and integration with HR and IT systems provided automatic data updates.

Within three years, 60% of the companies have being used this technique at the bank level initiated establishing of similar monitoring systems at the level of individual teams and product groups. It allows ones to follow the results of the transformation in more detail and use the model to generate local roadmaps.

During the assessment of the digital maturity of one of the largest banks in the CIS, the methodology made it possible to identify key gaps in the product development processes. According to the analysis of Time-to-Market metrics, key projects were delayed due to insufficient automation of integration and release processes. It was eliminated through the introduction of DevOps practices.

The analysis of HR indicators demonstrated improved companies understanding of management decisions methodology related to shifting priorities or changing the structure of business units. Employee surveys showed that more than 70% of respondents noted an improvement in awareness of the reasons for management decisions after the implementation of the proposed monitoring system.

**Conclusion**

The purpose of the research was to describe a methodology for assessing digital maturity adapted for CIS banks. The results of projects completed in 2019-2024 and the results of internal surveys of top management confirmed methodology effectiveness in monitoring and managing key parameters of digital maturity. It provides a structured approach to transformation management, increases transparency of processes, improves interaction and flexibility.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The author declares no conflict of interest.

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Received 16.09.2024
Revised 19.10.2024
Accepted 10.11.2024

*Jraic.com*
JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS 2024; 5(4):25-32

# Case of the financial market connectivity in the EAEU

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ORIGINAL ARTICLE

**Abstract.** The creation of an integration association entails not only the intensification of trade turnover between countries and the elimination of trade barriers but also a closer connection, particularly among financial markets. In this context, an interesting research question is how integration processes in the EAEU affect the connectivity of financial markets and whether a financial spillover effect arises within the framework of this integration association. This research sheds light on the connectivity of financial markets in the EAEU area over the long term. Using correlation analysis, the paper tests the hypothesis that the creation of the EAEU has fostered closer integration among the financial markets of its member states. The results reveal a statistically significant relationship between the KASE and KSE indexes, as well as between the KASE and RTS indexes, but no significant correlation between the KSE and RTS indexes. These findings highlight the varying degrees of financial connectivity among EAEU countries, providing insights into how integration policies could enhance overall market synchronization.

**Keywords:** EAEU integration; financial spillover; correlation analysis; RTS, KASE, KSE indexes

**JEL codes:** F36, F02, G14

**DOI:** 10.52957/2782-1927-2024-5-4-25-32

**For citation:** Marina A. Mayorova & Denis V. Gerasimov. (2024). Case of the financial market connectivity in the EAEU. *Journal of regional and international competitiveness*, 5(4), 25.

## Introduction

Financial spillovers are closely tied to integration processes because financial and economic integration inherently create interdependencies among countries. These linkages amplify the transmission of financial shocks (both positive and negative) across borders. Here's how financial spillovers and integration processes are related (see Table 1).

**Table 1** – Interrelation between Integration and Financial Spillovers

| Factor | Mechanism | Relationship with Spillovers | Example |
|---|---|---|---|
| Strengthened Interconnections Through Financial Integration | Highly integrated financial markets enable shocks (e.g., changes in interest rates, currency fluctuations, or asset price volatility) to spread quickly across borders. For example, a banking crisis in one country can ripple through the | Financial integration involves the liberalization of capital markets, cross-border investments, and financial institution linkages | The 2008 Global Financial Crisis began in the U.S. housing market but affected countries worldwide due to interconnected banking systems and exposure to U.S. financial products. |

| Factor | Mechanism | Relationship with Spillovers | Example |
|---|---|---|---|
| | global banking network if institutions are closely interconnected. | | |
| Trade Integration and Financial Spillovers | Integration through trade agreements (e.g., free trade areas, customs unions) often includes financial cooperation or shared capital market access. | Countries with strong trade linkages are more exposed to financial spillovers as economic shocks in one trading partner affect demand, supply chains, and currency stability. Trade integration often leads to similar economic cycles, increasing the synchronization of financial markets. | In the European Union, economic shocks in one member state (e.g., Greece's debt crisis) have significant financial spillovers across the bloc due to shared trade and investment ties. |
| Capital Mobility and Cross-Border Investments | Integration processes, such as opening capital accounts or harmonizing financial regulations, increase cross-border flows of capital. | Higher capital mobility means investors reallocate resources more easily, spreading shocks across multiple markets. Countries with open capital accounts are more vulnerable to sudden stops (capital outflows) or surges (inflows) triggered by financial crises elsewhere. | Emerging markets often experience capital outflows during global financial instability as investors move to safer assets in advanced economies. |
| Monetary Integration | Regional integration may involve monetary coordination, such as fixed exchange rate regimes, currency unions, or shared monetary policies. | In a currency union (e.g., the Eurozone), monetary policy decisions and financial shocks in one member state can affect all members due to shared exchange rates and interest rates. Loss of independent monetary policy in integrated systems can reduce the ability to respond to localized financial shocks, amplifying spillovers. | The European debt crisis in 2010-2012 was magnified by the inability of individual Eurozone countries to adjust their monetary policies independently. |
| Regulatory and Policy Harmonization | Integration processes often involve harmonizing financial regulations, creating a shared framework for capital markets, banking, and investment. | Harmonized policies may reduce regulatory arbitrage but can also synchronize vulnerabilities, making all countries susceptible to similar financial risks. Conversely, weakly integrated systems may lack coordinated responses, leading to unchecked spillovers. | Global financial regulations under the Basel framework aim to reduce systemic risks, but uneven adoption across countries can result in financial fragility spreading through less regulated markets. |

| Factor | Mechanism | Relationship with Spillovers | Example |
|---|---|---|---|
| Global and Regional Supply Chains | Economic integration fosters global supply chains, tying financial systems to trade dependencies. | Financial shocks in a hub economy (e.g., funding crises) can disrupt supply chains, affecting production, employment, and trade balances in dependent economies. | During the COVID-19 pandemic, financial strains in major economies like China and the U.S. disrupted global supply chains, causing ripple effects in dependent countries. |
| Shared Risk and Contagion | Integration pools risks across participating countries, making them more exposed to each other's vulnerabilities. | Risk-sharing mechanisms (e.g., shared financial backstops) can mitigate some effects of financial spillovers but may also create moral hazard, leading to systemic risks. Contagion becomes more likely when financial or economic integration creates a perception that all members share similar risks. | In the Eurozone, fears of contagion from the Greek debt crisis spread to other economies like Spain and Italy, exacerbating the crisis. |
| Financial Technology and Integration | Digital integration, such as unified payment systems, cross-border fintech platforms, and blockchain-based transactions, accelerates financial flows. | Faster and more integrated digital systems can transmit shocks more rapidly, as markets react almost instantaneously to financial disturbances. However, integrated technology also enables faster policy responses to mitigate spillovers. | |

*Source: composed by the authors*

So, financial spillovers are an inherent byproduct of integration processes. While integration offers benefits such as increased capital flows, risk-sharing, and economic growth, it also increases vulnerability to external shocks. Moreover, financial spillovers significantly affect economies by transmitting financial shocks across borders, influencing macroeconomic stability, financial markets, and long-term growth prospects. Here are the key ways in which financial spillovers impact economies:

1. Economic growth and output: financial spillovers can disrupt credit flows, investment, and consumer confidence, leading to slower economic growth or even recessions.

Effect:

– Reduced access to credit hampers business expansions and household spending.
– Export-oriented economies suffer if demand from trading partners declines.
– Spillovers can amplify local vulnerabilities, making recessions deeper and recoveries slower.

2. Financial market volatility: spillovers introduce uncertainty and increase the volatility of stock markets, bond yields, and exchange rates.

Effect:

– Investors pull capital from riskier markets (e.g., emerging economies), leading to asset price declines and funding pressures.
– High volatility discourages investment and disrupts long-term financial planning.

3. Exchange rate pressures: spillovers often affect exchange rates through capital flows and market sentiment.

Effect:

– Currency depreciation increases the cost of servicing foreign-denominated debt, leading to potential defaults.

– Appreciation in some currencies (e.g., "safe havens") can reduce export competitiveness, harming trade balances.

4. Banking and credit constraints: cross-border financial institutions may tighten credit in response to losses elsewhere, limiting access to funding.

Effect:

– Businesses and consumers face higher borrowing costs or reduced credit availability, slowing economic activity.

– Banking crises can deepen as global financial conditions worsen.

5. Inflationary or deflationary pressures: Spillovers influence inflation dynamics differently based on the nature of the shock. A supply-side shock (e.g., a surge in global oil prices) raises input costs, increasing inflation. A demand-side shock (e.g., reduced consumption in major economies) can lead to deflation.

Effect:

– Persistent inflation undermines purchasing power and erodes savings.

– Deflation discourages investment and consumption, worsening economic stagnation.

6. Trade and investment disruptions: countries reliant on external trade and investment face spillover effects if partner economies experience a downturn.

Effect:

– Reduced export revenues hurt production, employment, and fiscal revenues.

– Foreign direct investment (FDI) flows may decline as global investors reassess risks.

7. Sovereign debt and fiscal stress: higher borrowing costs due to global interest rate increases or reduced investor confidence affect sovereign debt sustainability.

Effect:

– Emerging markets and developing economies (EMDEs) with high external debt face increased risk of default.

– Governments may cut spending or raise taxes to stabilize public finances, exacerbating economic downturns.

8. Loss of investor confidence: spillovers erode investor confidence, causing risk aversion and flight to safe-haven assets.

Effect:

– Capital outflows weaken domestic financial systems and deepen liquidity shortages.

– Lower confidence hampers private-sector investment, slowing recovery efforts.

9. Widening inequalities: spillovers disproportionately affect vulnerable populations through job losses, inflation, and reduced social spending.

Effect:

– Wealthier individuals and firms with diversified assets are better positioned to withstand shocks, while low-income groups bear the brunt of economic adjustments.

– Rising inequality can increase social and political instability, complicating recovery.

As we see financial spillovers are an inevitable consequence of economic integration, acting as both a challenge and a driver for closer cooperation and economic development.

Research by several scholars confirms the ambiguous effects of financial spillovers on economies, indicating mixed outcomes depending on context:

Cotter, Hallam & Yilmaz (2023): We find that financial markets are typically net transmitters of shocks to the real side of the economy, particularly during turbulent market conditions. This result holds both for domestic US macro-financial spillovers, and also those between the US and other advanced economies [1].

Croitorov, Giovannini, Hohberger, Ratto & Vogel (2020): Spillover from financial shocks increases with international financial integration and is practically zero under full home bias in normal times. The global

risk captures international synchronisation of financial cycles. Spillover of financial shocks is amplified at the zero lower bound, at which investment risk takes on the characteristics of a general uncertainty shock [2].

Fang, Jing, Shi & Zhao (2021): Four important findings emerge: (1) financial spillovers account for a large proportion of the variations in bond, stock, and foreign exchange markets, indicating that the international spillover effect has become an important driver of asset prices; (2) Chinese financial markets have a growing impact on global financial markets over time, especially during periods of turbulence; (3) spillovers from the G7 to China are still higher than the spillbacks from China, suggesting that Chinese markets are more influenced by the financial markets in the G7 economies than the other way around; (4) economic policy uncertainty is the main driver of cross-border financial spillovers [3].

Fukuda & Tanaka (2020): We first investigate stock market spillovers across the regions and find that spillovers from emerging Asia became significant after the global financial crisis. However, our industry-level analysis shows that the increased spillovers can be attributed to the first principal component (PC) in the manufacturing sector rather than to the first PC in the financial sector. This implies that the rise of the Asian manufacturing sector in the global market played a key role in enhancing the stock market spillovers. We next examine bilateral spillovers in short-term and long-term rates. In the tapering period, we find significant spillovers in long-term rates from the first PC in emerging Asia to Europe and the United States. However, these spillovers were much smaller than the stock market spillovers in magnitude [4].

Chen, Hamori & Kinkyo (2017): We find that a banking sector characterized by a higher degree of competition and larger margin of safety is less affected by financial spillovers [5].

Białkowski, Bohl & Serwa (2006): Applying the new testing methodology based on transition matrices, we find that spillovers from the US stock market to the UK, Japanese and German markets are more frequent when the latter markets are in a crisis regime. However, we reject the hypothesis of strong financial contagion from the US to the other markets [6].

Feng, Liu, Wu & Guo (2023): The empirical results show that (1) the linkages between financial markets significantly exist, (2) uncertainty and negative macroeconomic shocks enhance the spillover effect in financial markets, and (3) the impact of negative macroeconomic shocks on the spillover effect of the financial market is weakened at the high economic growth stage [7].

Chen, Zhong & Failler (2022): We find that China plays the role of a net recipient most of the time. China's financial cycle net spillover index fluctuates widely and is vulnerable to economic events such as the financial crisis. This implies that international capital flows have brought volatility and shocks to the Chinese financial market, such as the Asian financial crisis and the 2008 international financial crisis. In addition, during 2004-2005 and 2014-2015, the G7 countries also suffered from financial cycle spillover from China. The US received most of the financial cycle spillover from China, followed by Canada, Germany, and Italy [8].

Yildirim & Ivrendi (2021): Based on data from 20 emerging and 20 advanced countries, our empirical findings reveal that US unconventional monetary policies significantly affect financial conditions in emerging and advanced countries by altering the risk-taking behavior of investors. This result suggests that the risk-taking channel plays an important role in transmitting the effects of these policies to the rest of the world. The extent of these effects depends on the type of QE measures. QE measures such as purchases of private sector securities that lower the US mortgage spread exert stronger and more significant spillover effects on international financial markets than those that reduce the US term spread [9].

Haddou (2022): We have found evidence of financial stress spillovers on bank lending and that their distributional impacts vary across time, banks size and capitalization. However, the role of banks liquidity in shaping the impacts of financial stress on lending is found to depend on dry-ups/abundance of market funding liquidity [10].

Gulzar, Mujtaba Kayani, Xiaofeng, Ayub & Rafique (2019): We find long-term cointegration between the U.S. market and emerging stock markets, and the level of cointegration increased after the crisis period. The V.E.C.M. and impulse response function reveal that a shock in the U.S. financial market has a short-term impact on the returns of emerging financial markets. Past shocks and volatility have more effect on the selected stock markets during all time periods. The Korea Composite Stock Price Index and the Bombay

stock exchange (B.S.E.) are the only stock markets that have cross-market news and volatility spillover effects during the crisis period. After the crisis period, news effects are positive on the B.S.E. and the Russian Trading System and have a negative effect on the Kuala Lumpur Stock Exchange and the Shanghai Stock Exchange [11].

Alkan & Çiçek (2020): Employing BEKK parameterization of the multivariate GARCH model between 2006 and 2018, it found a strong mean spillover from global markets to domestic stock and bond markets, from stock and exchange markets to the bond market and from the dollar return to the stock market. For the volatility spillover, the results also supported strong spillover between each market pairs. These findings implied that the Turkish economy is well integrated into global markets and that a fluctuation in volatility in a global or domestic market immediately spreads to other domestic markets, regardless of borders [12].

In this context, an interesting research question is how integration processes in the EAEU affect the connectivity of financial markets and whether a financial spillover effect arises within the framework of this integration association.

This research sheds light on the connectivity of financial markets in the EAEU area over the long term.

**Methods**

This study hypothesizes that the creation of the EAEU has led to closer integration among the financial markets of its member states.

Research Methodological Basis:

1. The indicators under study (dataset is available upon request):

– KASE index 2010-2024 (Kazakhstan stock exchange)[1];
– KSE index 2010-2024 (Kyrgyz stock exchange)[2];
– RTS index 2010-2024 (Russian Trading System stock exchange)[3].

An important note in the study: due to insufficient data on the dynamics of stock markets in Armenia and Belarus, these countries were excluded from the analysis.

2. The object of the research: the EAEU countries, except of Belarus and Armenia, 2010-2024.

3. Research methods: correlation analysis is used to verify the hypothesis (p-value = 5%).

**Results**

The results of the correlation analysis are presented in Figure 1 and in summary Table 2.

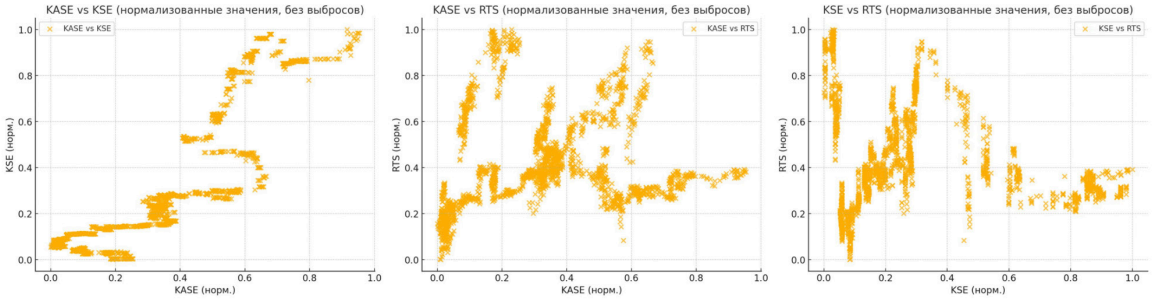


**Figure 1.** Scatter diagram correlation on stock exchange indexes in the EAEU countries
*Source: composed by the authors*

**Table 2** – Correlation analysis results for the EAEU countries

| Countries | Correlation Coefficient | P-Value | Significance |
|---|---|---|---|
| KASE/KSE | 0.443186350 | 8.75302907 | Yes |
| KASE/RTS | 0.337249876 | 4.23468602 | Yes |
| KSE/RTS | -0.01887080 | 0.34358314 | No |

*Source: composed by the authors*

[1] *KASE index dynamics (2010-2024). URL: https://investfunds.ru/indexes/357/*
[2] *KSE index dynamics (2010-2024). URL: https://investfunds.ru/indexes/1871/*
[3] *RTS index dynamics (2010-2024). URL: https://investfunds.ru/indexes/218/*

The analysis shows:
– Strong Positive Correlation (statistically significant) between: KASE and KSE;
– Moderate Positive Correlation (statistically significant) between: KASE and RTS;
– No Significant Correlation between: KSE and RTS.

**Conclusions**

This moderate positive correlation suggests a degree of alignment between the financial markets of Kazakhstan and Kyrgyzstan. The integration processes within the EAEU may be contributing to this connectivity, reflecting shared regional trends or economic linkages.

The financial markets of Kazakhstan and Russia exhibit a weaker but still significant positive correlation. This indicates some degree of interdependence, possibly driven by trade ties, shared energy sectors, or economic policies influenced by the EAEU framework.

There is no meaningful relationship between the financial markets of Kyrgyzstan and Russia. This lack of correlation might reflect differences in market structures, levels of development, or external influences on their economies.

The divergence between financial markets of Kyrgyzstan and Russia reflects fundamental differences in economic structures, financial market maturity, external dependencies, and integration levels. Addressing these disparities through targeted policies – such as enhancing financial market development in Kyrgyzstan, fostering greater regional financial integration, and harmonizing monetary policies – could help reduce this divergence over time.

Overall conclusions:

– Inter-regional financial connectivity. The positive correlations involving Kazakhstan suggest that its market is more integrated with both Kyrgyzstan and Russia, potentially making it a central player in the EAEU financial network.

– Asymmetric relationships. The weak correlation between Kyrgyzstan and Russia may point to an unequal level of financial integration among EAEU member states, highlighting areas where policy coordination or market harmonization could be improved.

– EAEU's role in integration: These results underscore the varying degrees of financial connectivity among EAEU countries, offering insights into how integration policies could enhance overall market synchronization.

Research limitations:

– data biasing the overall picture by the impact of the coronavirus pandemic and subsequent lockdown in 2020 and 2021;

– external shocks significantly affecting the dynamics of socio-economic development of the EAEU countries;

– perhaps, correlation analysis was not optimal one for research purpose addressing (the research methodology is being tested for adequate to the research objectives).

However, research results could provide a number of applied researches on interregional financial development in the EAEU countries.

**ACKNOWLEDGEMENTS**

The authors are grateful for the financial support of grant from the Russian Science Foundation No. 23-28-01774, https://rscf.ru/project/23-28-01774 /

**CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

**AUTHOR'S CONTRIBUTIONS**

Marina A. Mayorova – the concept of the research; writing the original text.
Denis V. Gerasimov – correlation analysis; data visualisation;

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Received 02.09.2024
Revised 01.10.2024
Accepted 10.11.2024

*Jraic.com*
JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS 2024; 5(4):33-38

# Realization of foreign exchange risk in Russia as a result of sanctions' impact

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ORIGINAL ARTICLE

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**Abstract.** The article is focused on the analysis of realization of foreign exchange risk in Russia due to the imposing of sanctions of 2022. The economic sanctions of 2022 have had a big impact on Russian economy in its entirety, and FX risk presents one of the biggest threats in case of its realization without proper countermeasures as it affects both international trade and capital value, primarily in the form of savings. This fundamental nature of this risk makes it crucial to understand its main points of effect and how to mitigate its negative impact, especially due to its wide spread across all sectors of the economy. Thus, the goal of our research is to analyze how FX risk has impacted Russian economy since February of 2022 and how efficient were the measures taken by the government to fight it. The objectives of this research are to: define the category of FX risk and where it comes from; analyze what impact has sanctions played in the realization of FX risk; analyze what measures have been taken to minimize the consequences of FX risk realization. To carry out the research, statistical data of the Central Bank of the Russian Federation were used. The authors draw attention to the fact that, despite the positive dynamics in short term, long term is uncertain and presents certain risks, amongst which is the currently decreasing value of Russian ruble to US dollar.

**Keywords:** foreign exchange risk; exchange rate; currency; sanctions; risk management

**JEL codes:** G15, G17

**DOI:** 10.52957/2782-1927-2024-5-4-33-38

**For citation:** EIgor P. Legky & Aleksei V. Kuznetsov. (2024). Realization of foreign exchange risk in Russia as a result of sanctions' impact. *Journal of regional and international competitiveness*, 5(4), 33.

## Introduction

Starting 2022 Russia has been subject to unprecedented sanctions to its economy overall, and its financial sector in particular. This has manifested in a large number of limits being imposed on its international activities. Amongst them were new barriers created to hinder international trade by both direct prohibitions or indirect complications connected with the use of payments systems and access to foreign currency.

Foreign currency in particular presents an interesting point of research, as it is interconnected with all sectors of economy due to its nature of means of payment and capital accumulation. The sanctions of 2022 caused massive shifts in established trading routes and forced Russia to take necessary measures to stabilize its economy and find a new position of balance. This includes changes in foreign currency use because access to the main trade currencies, such as US dollar and euro, has been blocked and requires finding ways to bypass it.

Trade limits caused overall depreciation of Russian ruble to US dollar and euro, complicated the act of getting foreign currency, and impacted currency reserves that Russia kept in other countries. All of the above makes FX risk to be one of the crucial elements to focus on in overcoming the new economic reality.

## Methodology

Foreign exchange risk (FX risk) is the risk of losses occurring due to changes in exchange rates or any limits imposed on the usage of a foreign currency. This means that a situation in which a company has reserves in one currency that has become more difficult or impossible to execute transactions in also qualifies

as realization of foreign exchange risk.

FX risk occurs during foreign trade, credit, investment, settlement and conversion transactions, as well as transactions on stock and commodity exchanges due to changes in prices of assets, liabilities, monetary claims and obligations caused by fluctuations in exchange rates [6].

Additionally, FX risk can be divided into three types:

1) operational risk – the risk of lost profit due to changes in exchange rates on expected cash flows;

2) translation risk – the risk of imbalances or losses occurring in revaluation of assets and liabilities in national currency;

3) economic risk – the risk of negative impacts changes in exchange rates may have on a company.

In our case, we are looking broadly on the economic risk in the scope of the whole country. Moreover, we are looking into the sanctions' part in the realization of that risk based on the statistical data for the period 2022-2024.

The sanctions of 2022 have affected the realization of FX risk indirectly: the limits that have been imposed overtime since February of 2022 and up to this day have complicated economic relationships (or even blocked some of them) which in turn caused shifts how foreign currency is handled. For companies, it has become vital to find ways to obtain foreign currency that is considered toxic (USD, EUR, JPY) or switch to alternative currencies (CNY, INR). The people experienced confusion and panic due to sudden changes in geopolitics, which also played part in the increasing volatility of the FX market. That, alongside the counter measures taken by the government, has led to shifts and changes we are analyzing in this paper.

**Results**

In order to identify the impact FX risk has had on the economy, we should start by analyzing the exchange rates of the main trade currencies and their dynamics. On the graph below (Fig. 1) we have depicted the dynamics of exchange rates of USD, EUR and CNY to RUB from 2022 to 2024.

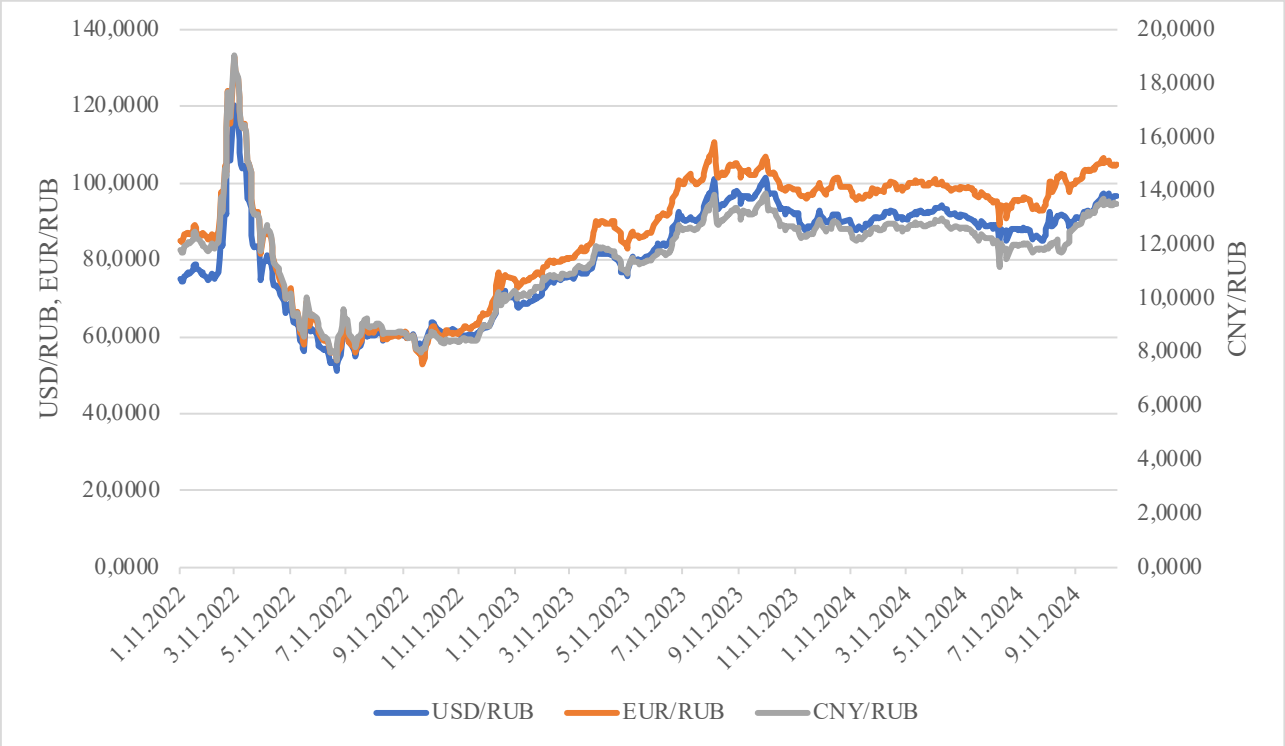


**Figure 1.** Dynamics of exchange rates, 2022-2024, RUB

*Source: Dynamics of the official exchange rate of the currency*[1]

As we can see, the two currencies USD and EUR experienced a sharp growth in value around March of

[1] *Dynamics of the official exchange rate of the currency. Bank of Russia. URL: https://www.cbr.ru/currency_base/dynamics/ (Accessed: 01.11.2024)*

2022: by 11.03.2022 the exchange rate of USD to RUB had gone up to 120.3785 (a 60% growth when compared to the beginning of the year) and the EUR/RUB currency pair had reached 132.9581 (a 56% increase from 11.01.2022). The noticeable growth started on February 26, precisely after the initiation of the first sanctions measures.

Those drastic changes had led to immediate response from the government's side. First of all, on February 28 by the decision of the Central Bank of Russia, the key rate was raised from 9.5% to 20% in order to protect the people's savings from depreciating and overall stabilize the economy in that shock state. Additionally, the Central Bank also prohibited non-residents from selling Russian securities with a goal of stopping capital outflow from the country and further devaluation of ruble [2].

On February 28 the Ministry of Finance also imposed a decision by which 80% of foreign currency income must be sold for rubles. That measure had led to overall increase of ruble's share inside the country which was another step of gradually shifting from the now considered toxic currencies.

Lastly, on March 23 by the decision of the president of Russia, the trade of Russian gas would go from foreign currencies as the means of payment to ruble. That had also played a positive role in regards to ruble's position [4].

The measures taken had proven to be effective in short term (those measures, naturally, affected all foreign currencies, including Chinese yuan). Despite that, since the beginning of 2023 Russian ruble started gradually weakening compared to other currencies, and by May of 2023 the pre-sanctions FX rates had been reached with ruble continuing to depreciate even further up to this day.

Such dynamics could be explained by several factors. First of all, the earnings from export of oil and gas experienced a significant decrease starting 2023: according to the data of the Ministry of Finance, in the first six months of 2023 they dropped by 47% compared to the same period in 2022. This change was due to both the drop in exports and the decrease of prices for oil and gas. The decline in exports also occurred due to a weak demand for resources on world markets, associated with expectations of a recession in the world's economy and a large discount to the price of oil and gas for India and China.

In addition to the imbalance of exports and imports, the weakening of the national currency was affected by capital outflow, a decrease in the current account balance, the restoration of supplies from abroad and a decrease in prices for Russian goods in the world.

Another aspect worth noting in our research is the Russian reserves in foreign currency. Their dynamics from 2022 to 2024 is depicted on the graph below (Fig. 2).

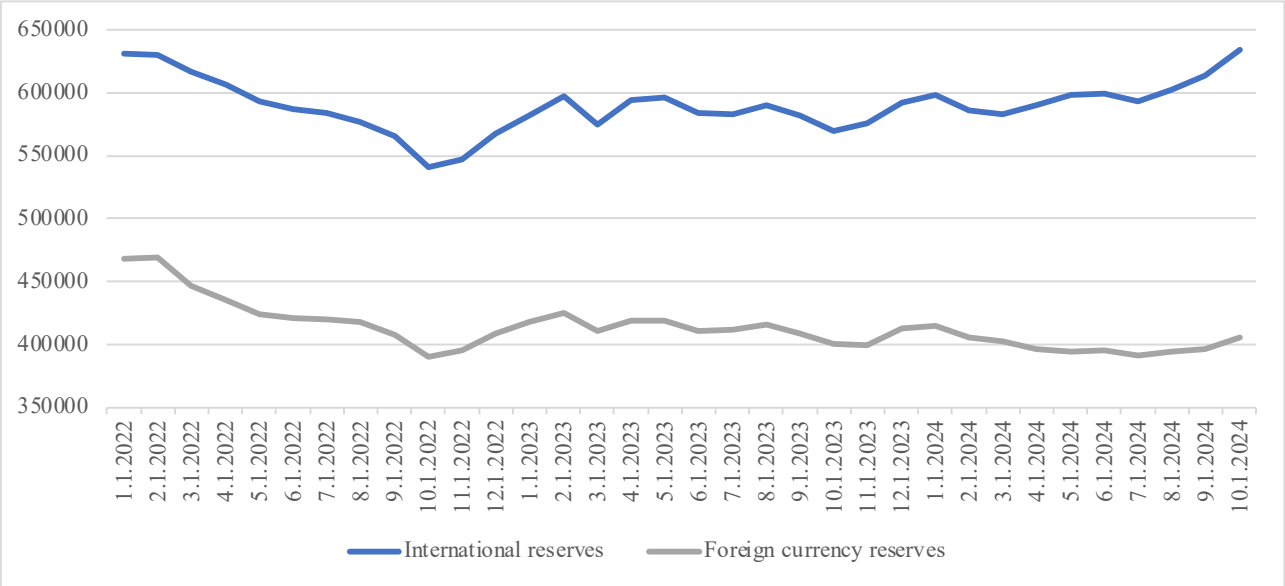


**Figure 2.** International reserves of the Russian Federation, 2022-2024, mln USD

*Source: International reserves of the Russian Federation*[2]

[2] *International reserves of the Russian Federation. Bank of Russia. URL: https://www.cbr.ru/hd_base/mrrf/mrrf_m/?UniDbQuery.*

As evident by the graph, the reserves in foreign currency show negative trend overall: by October 1 2024 they amounted to 405 081 million USD, which is 13% lower than on January 1 2022. One of the key factors of these dynamics is the freezing of around 300 billion USD worth of Russian reserves in other countries due to sanctions in 2022.

At the same time, looking at the volume of international reserves overall (international reserves include foreign currency reserves alongside accounts in SDR, reserves in IMF, and reserves in monetary gold) we can see that despite the drop in 2022, by 01.10.2024 they have returned to their volume before the sanctions. This is mainly explained by positive revaluation of reserves, especially due to growing prices on monetary gold.

To see how Russian economy is reacting to the measures taken by the government, let's analyze the currency structure of export (Fig. 3) and import (Fig. 4).

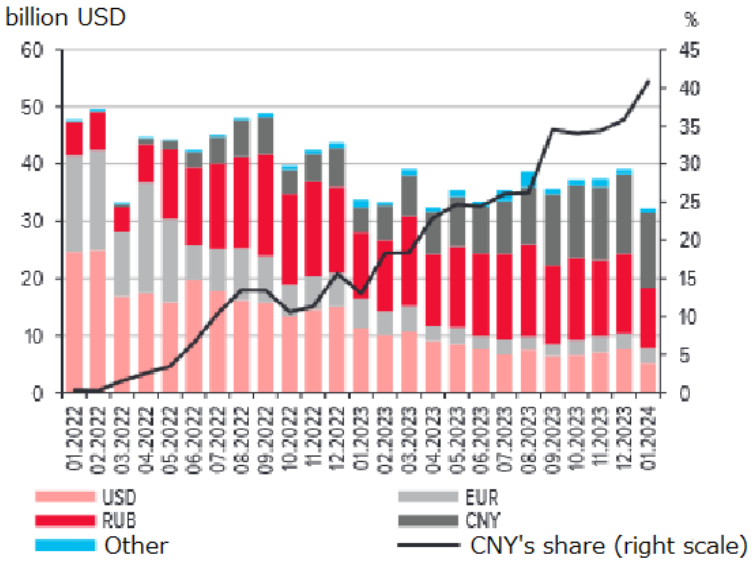


**Figure 3.** Currency structure of Russian export, bn USD

*Source: Overview of the risks of financial markets*[3]

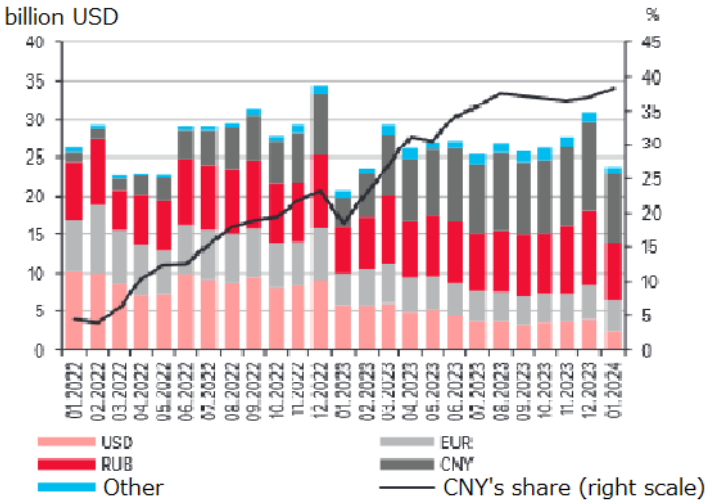


**Figure 4.** Currency structure of Russian import, bn USD

*Source: Overview of the risks of financial markets*[4]

*Posted=True&UniDbQuery.From=01.2022&UniDbQuery.To=10.2024 (Accessed: 01.11.2024)*

[3] *Overview of the risks of financial markets. (2024). 2(83). Bank of Russia. URL: https://cbr.ru/Collection/Collection/File/48958/ORFR_2024-02.pdf (Accessed: 01.11.2024)*

[4] *Overview of the risks of financial markets. (2024). 2(83). Bank of Russia. URL: https://cbr.ru/Collection/Collection/File/48958/ORFR_2024-02.pdf (Accessed: 01.11.2024)*

Amid a decline in foreign trade volumes in January, the share of the yuan in export revenue increased to 40.8%, and in payments for imports – to 38.5% (in value expression – 13.2 and 9.1 billion USD, respectively). In January, the share of transactions in rubles in export revenue decreased by 3.1 percentage points, up to 32.6%, and in payments for imports – by 0.5 p.p., up to 31.2%.

We should also note that the share of Chinese yuan has been stably growing in both export and import. While this is a positive trend from the point of view of refraining from toxic currencies that present a higher FX risk and are generally more complicated to operate in nowadays (such as US dollar and euro), this also increases a risk connected with using only yuan as the main means of payment.

**Conclusion**

Using the statistical data of the Bank of Russia, we analyzed the effects the of sanctions on the national economy through the prism of FX risk and its realization. We have defined FX risk as any potential losses caused by both fluctuations in exchange rates and any other limits regarding the use of foreign currency, as in our case it is integral to touch upon that aspect as well since sanctions have both economic and jurisdictional effects.

For the purpose of our research, we have looked at data from 2022 to 2024 and have come to several conclusions. The dynamics in exchange rates of USD/RUB, EUR/RUB and CNY/RUB have shown the serious effect the sanctions had on the economy overall. Despite that, the measures taken by the government, amongst which the most important are the increase of the key rate, prohibition of selling of Russian securities by non-residents, obligation to sell 80% of revenue in foreign revenue and the decision to turn payments for Russian gas to ruble, have proven to be effective in short term, drastically improving the position of Russian ruble in relation to other currencies. Moreover, the changes in international reserves in foreign currency show gradual stabilization of the trade balance caused by the shift to other currencies and positive revaluation of existing assets, specifically monetary gold. The trend of switching to alternative currencies is backed up by the currency structure of export and import of Russia which shows noticeable decrease in the share of US dollar and euro with a simultaneous growth of Chinese yuan. These figures allow us to conclude that so far, the government has done a relatively good and efficient job at countering the sanctions of 2022.

At the same time, we should also think about long term perspective for Russia. While the shift to alternative currencies is a positive step, we mustn't ignore the risk connected with focusing on one currency in particular, which Chinese yuan presents at the moment, so there needs to be work done on diversification of currency usage in foreign trade. This could be done with changes in jurisdiction that would stimulate Russian companies to settle in more currencies. Additionally, as trade routes have been gradually restored, to some extent, the trend of Russian ruble depreciating to US dollar and euro also presents a threat and requires attention, as it also affect ruble's position in relation to other currencies. One of the ways the Central Bank is currently using is increasing the key rate and keeping it high. More measures are also being taken, such as Ministry of Finance's interventions, as well as planned measures aimed at limiting capital outflow and further increasing foreign currency revenue selling requirement in 2024-2026.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

**AUTHOR'S CONTRIBUTIONS**

Igor P. Legky – formal analysis; data curation.
Aleksei V. Kuznetsov – conceptualization; writing – original draft.

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Received 10.10.2024
Revised 01.11.2024
Accepted 27.11.2024

*Jraic.com*
JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS 2024; 5(4):39-45

# Opportunities for the development of the coliving market (student dormitories) through the introduction of flexible forms of public administration as a public-private partnerships

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ORIGINAL ARTICLE

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**Abstract.** The article concerns with the legal and economic aspects of public administration with the use of public-private partnership for coliving development in Russia. The coliving market is actively developing in recent years in the context of increasing urbanisation and changes in the socio-economic environment. This service primarily targets at students accommodation. It also provides a range of social and cultural services attractive to students, postgraduates, young professionals. This makes it economically interesting for investors. The article analyses the prerequisites for coliving in the Russian Federation, as the shortage of affordable housing in large cities increases the demand for new models of accommodation. Therefore, coliving becomes an alternative to traditional hostels and rental housing. The purpose of this work is to assess the possibilities of using coliving in Russia within the framework of public-private partnership models. It emphasises on economic and legal aspects affecting the attractiveness of such projects for private investors and public infrastructure. According to research results, the successful implementation of coliving requires adaptive approaches to design and financing in terms of regional characteristics and the urbanisation. It makes the project economically sustainable and attractive to both private capital and the public sector. Indeed, coliving might be relevant for the governments and investors in implementing affordable housing projects for students and young professionals.

**Keywords:** public-private partnership; concessions; coliving; dormitories; student; investment

**JEL codes:** I23, I38

**DOI:** 10.52957/2782-1927-2024-5-4-39-45

**For citation:** Maria V. Olshanskaya & Anna N. Lukina. (2024). Opportunities for the development of the coliving market (student dormitories) through the introduction of flexible forms of public administration as a public-private partnerships. *Journal of regional and international competitiveness*, 5(4), 39.

## Introduction

Trends in the development of colivings in recent years demonstrate the increasing importance of this form of housing. It is caused by cardinal changes in socio-economic processes and steady growth of urbanisation. The issue of housing demand is particularly acute in large cities. Therefore, coliving is not just a temporary residence option, but also a full-fledged platform for social interaction. This provides a particular research interest in terms of asset management and real estate economics. Although the network of student residences has expanded as part of the Science and Universities Programme, current housing options remain inconsistent with the dynamically changing needs of students at different levels and areas of study. It shows the importance of reconsideration of existing solutions and introduction of innovative accommodation models. According to data for 2023, the provision of students with places in dormitories remains at a low level. It shows the necessity of introducing alternative approaches to housing. Recently, coliving market has developed significantly. Moreover, it is positioned as one of the possible models to address this problem. Coliving format combines living space with a wide range of social and cultural services, attracts students, young professionals,

etc. In conditions of constant growth in rental rates and a shortage of affordable housing, coliving is a living model flexible and adapted to modern requirements. The purpose of this research is considering of coliving potential application in terms of public-private partnership in the Russian Federation. The main attention is paid to the consideration of the economic and legal features of such cooperation, the analysis of cooperation effectiveness, and the attractiveness for private investors and strengthening public infrastructure.

Within the framework of the conducted research, a multidisciplinary method was used. It combines the study of scientific sources, regulatory legal acts, and accounting documentation on the practical application of concession agreements in the segment of student housing and coliving. The analysis was based on data obtained from the specialised scientific databases CyberLeninka, Scopus, and Web of Science, the legal systems ConsultantPlus and Garant. The research was conducted on the following key queries: "coliving", "public-private partnership", "concession agreements", "student housing". The 216 sources were received; 14 of the most significant, relevant, actual, and accurate were selected. An important part of the work was the analysis of regulations and projects for establishing the campuses in Chelyabinsk and Nizhny Novgorod, Russia.

**Main part**

According to the Ministry of Education and Science of the Russian Federation, the share of students living in dormitories (both their own and rented) for 2023 still does not exceed the number of those students who are currently in need of accommodation (Figure 1). The proportion of those living in rented dormitories is only 1.3%.

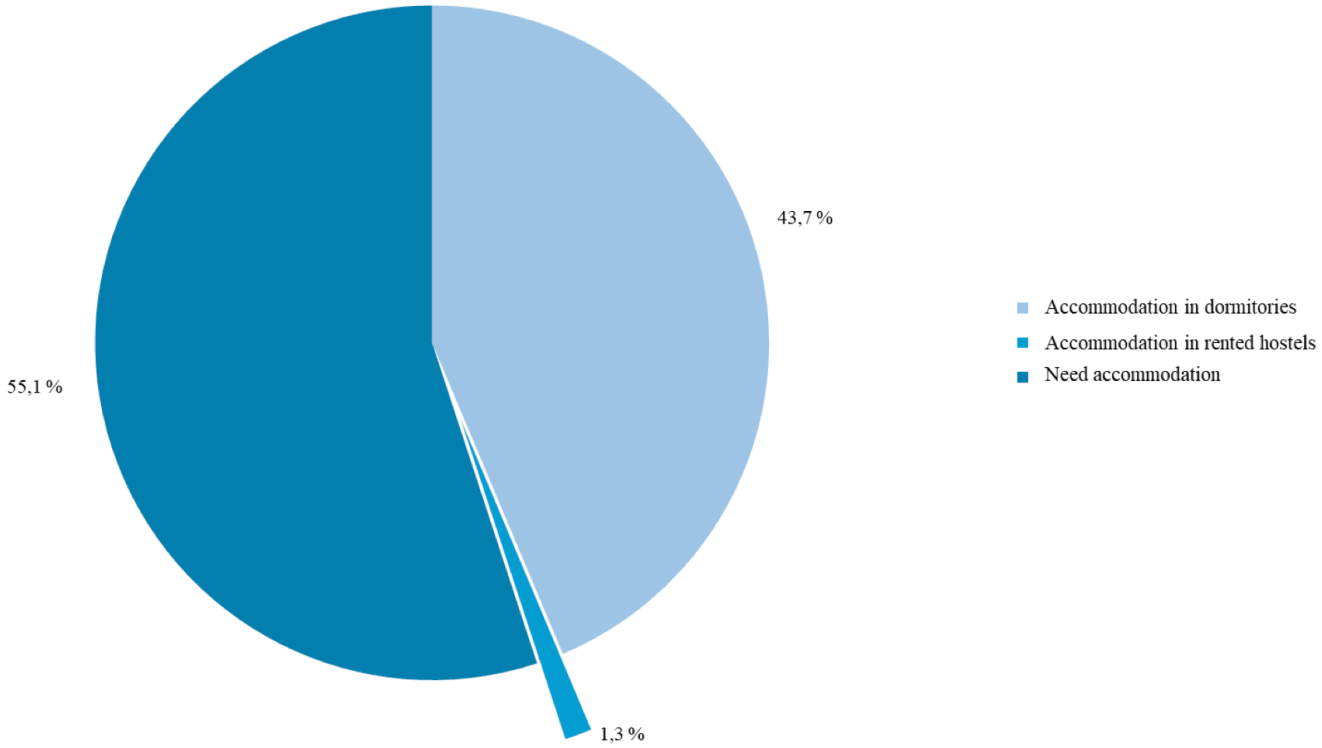


**Figure 1.** Distribution of the number of students living in dormitories and those who need it, 2023
*Source: Ministry of Education and Science of the Russian Federation*[1]

Although the network of student residences has expanded as part of the Science and Universities Programme, current housing options remain inconsistent with the dynamically changing needs of students at different levels and areas of study. Moreover, 7,683 new beds introduced in 2023 and the campuses planned for opening do not cover the full range of student needs in terms of the diversity of educational programmes and creative teams. Traditional dormitories do not always meet modern standards necessary for the harmonious

[1] *Ministry of Education and Science of the Russian Federation. URL: https://www.minobrnauki.gov.ru/press-center/news/novosti-ministerstva/77119 / (Accessed: 20.09.2024)*

development of students at all levels – from bachelors to graduate students. Apartment rentals are complicated by legislative changes. It makes the old housing formats less accessible and attractive to young people and shows the urgency of establishing innovative and adapted to modern realities housing.

The main feature of coliving market is flexibility and adaptability to the needs of young people. Nowadays, youth searching for more comfortable living conditions combined with opportunities to get other types of services.

However, growing of coliving popularity is associated with a number of external factors. For instance, during the COVID-19 pandemic many business have chosen remote work. It changes the labour market and increased mobility of young people. Colivings are usually equipped with modern conveniences providing a high level of comfort for residents, including kitchens and recreation areas. Coliving is often an alternative to rented apartments and traditional dormitories. They provide convenient infrastructure and common spaces for communication [8]. The shortage of affordable housing in large cities is one of the key factors influencing the development of housing. It stimulates demand for new accommodation formats aimed at students and young professionals. With the increasing cost of renting, students and young professionals consider coliving as an affordable alternative accommodation with a range of social and cultural opportunities. Coliving models can range from relatively simple forms of living with shared kitchens and recreation areas to comprehensive ones – with educational, cultural, and sports areas [13].

Indeed, the Government of the Russian Federation realises the urgency of establishing an innovative educational environment (campuses) and the abcense of finance in regional infrastructure. Therefore, it adopted the Decree of the Government of the Russian Federation on 28.07.2021 N 1268 (ed. dated 26.07.2021) "On the Implementation of the Project to Establishing an Innovative Educational Environment (Campuses)" using the mechanism of concession agreements within the framework of the federal project Creation of Modern Campuses Network of the national project Science and Universities (together with the Regulations on the Implementation of the Project of Establishing an Innovative Educational Environment (Campuses), Rules of Provision and Distribution Other Inter-Budgetary Transfers from the Federal Budget to the Regional Budgets of the Russian Federation in Order to Co-finance the Expenditure Obligations of the Russian Federation Regions Arising from the Implementation of Regional Investment Projects on Campeses Esteblishing)[2]. These normatives ensure partial financial support to regional investment projects for campuses establishing. Moreover, regulations on the Implementation of the Project to Establishing an Innovative Educational Environment (Campuses) establishes the following requirements for an investment projects:

- the population of the municipality for concession agreement implementation should be at least 300 thousand people;
- there should be at least 4 higher educational institutions in this municipality;
- the Ministry of Science and Higher Education of the Russian Federation should confirm the requirement in accommodation for students, teachers, scientists, and other employees of educational institutions of higher education and scientific organisations planned to be established as part of the investment project;
- the investment project should involve establishing of at least 2.5 thousand jobs.

Therefore, there is a number of significant limitations in terms of interaction between business and government.

Nowadays, there are projects concern with the establishing of campuses in the framework of concession agreements.

On October 5, 2022, the Ministry of Education of the Chelyabinsk Region and the Chelyabinsk Concession Company concluded a concession agreement on the implementation of a project for the construction of an

[2] *The Decree of the Government of the Russian Federation on 28.07.2021 N 1268 (ed. dated 26.07.2021) "On the Implementation of the Project to Establishing an Innovative Educational Environment (Campuses)" using the mechanism of concession agreements within the framework of the federal project Creation of Modern Campuses Network of the national project Science and Universities (together with the Regulations on the Implementation of the Project of Establishing an Innovative Educational Environment (Campuses), Rules of Provision and Distribution Other Inter-Budgetary Transfers from the Federal Budget to the Regional Budgets of the Russian Federation in Order to Co-finance the Expenditure Obligations of the Russian Federation Regions Arising from the Implementation of Regional Investment Projects on Campuses Establishing) via Consultant Plus (Accessed 12.10.2024)*

interuniversity campus in Chelyabinsk, Russia.

The cost of campus construction is 16.75 bn RUB; 9.13 bn RUB – from budget funding in the form of a capital grant; 7.9 bn RUB – from the federal budget; 1.23 bn RUB – from the regional budget. It is assumed that modern scientific laboratories and sites will be created on the campus for the implementation of industrial, including experimental projects in the field of new energy, robotics, IT technologies, artificial intelligence. The total area of the scientific, educational, research, and social infrastructure facilities of the campus will amount to more than 114 thousand square meters, including 68 thousand square meters of hotel space for 3.4 thousand places for accommodation of students and staff.[3]

On October 5, 2022, the Governor of the Nizhny Novgorod region and the Development of Innovative Projects LLC signed a concession agreement on the establishment of a world-class interuniversity IT campus in Nizhny Novgorod, Russia.

The total area of the facilities is 204 thousand square meters, including almost 60 thousand square meters of new state-of-the-art educational spaces. The IT campus will work in cooperation with the innovative scientific and technological center "Kvantovaya Dolina". It allows ones to apply more than 10 thousand new jobs[4].

The construction of the largest world-class Eurasian Interuniversity student campus began in Ufa, Republic of Bashkortostan, Russia. This project is a part of the implementation of the national project "Science and Universities" of the Ministry of Education and Science of Russia.

On December 15, 2022, the Government of Republic of Bashkortostan concluded a concession agreement for the construction and operation of the Eurasian Interstudent Campus for a period of 25 years with OOO Campus, Russia. The management company of the concessionaire was OOO Etalonniye kontsessii, Russia. At signing the agreement, the volume of investments was estimated at 26.9 bn RUB; 11.7 bn RUB – from the federal budget; 3.6 bn RUB – from the regional budget. The construction of the second stage facilities is scheduled to be completed in 2025[5]. Hence, coliving in Russia is confirmed by practical examples. However, there is a shortage of campuses and concession agreements do not address the problem.

Indeed, coliving has a high investment attractiveness in the framework of public-private partnership implementing the flexible model of public administration and budget co-financing. Moreover, there are also great opportunities for payback in the medium term in the possibility of providing additional services, such as renting workspaces and organising events. Therefore, this form of business is attractive for students and investors. It contributes to the further development of this market segment [2]. The economic efficiency of concession agreements in co-financing projects is assessed on the basis of financial indicators. They allow ones to balance the interests of both private investors and public institutions. The long-term profitability for private companies is one of the key aspects of such agreement. They cover the initial costs and ensure the payback period of the project. The public-private partnerships make it possible to attract significant private investments to establish appropriate infrastructure, reducing the burden on the budget [7].

However, advantages of coliving are not used by both business and authorities. Moreover, there is no clear mechanism of the interaction in this partnership.

According to paragraph 1 of Article 5 of the Federal Law No. 115-FZ on 21.07.2005 "On Concession Agreements", a public authority (a federal or a regional and local executive authority) can be a concessor, only.

A higher education institution cannot be a party to a public-private partnership.

However, it is very difficult for a private investor (concessionaire), even if he has financial capabilities and managerial competencies in the field of real estate to correlate with a large number of partners. Therefore, public-private partnership projects continue to be a particular activity than a tool for establishing an

*[3] VTB and the Chelyabinsk Region signed a concession for the construction of an inter-university campus. URL: https://www.interfax-russia.ru/ural/news/vtb-i-chelyabinskaya-oblast-zaklyuchili-koncessiyu-na-stroitelstvo-mezhuniversitetskogo-kampusa (Accessed 12.10.2024)*

*[4] Gleb Nikitin signed a concession agreement to create a world-class interuniversity IT campus in Nizhny Novgorod. URL: https://minobr.nobl.ru/presscenter/news/16528/ (Accessed 12.10.2024)*

*[5] Etalon Concessions LLC is building an interuniversity campus in Ufa. URL: https://www.kommersant.ru/doc/6761960?erid=F7NfYUJCUneLs2MkxXE5&ysclid=m1zyvrc5194060557 (Accessed 12.10.2024)*

innovative infrastructure and attracting business.

Indeed, coliving in the framework of the public-private partnerships is an effective tool allows ones to establish affordable and high-quality housing for different categories of citizens: students, young professionals, specialists, and companies constantly rent housing for their employees. This mechanism is beneficial to business, government, and users.

For instance, one of the options for construction a financial model is a risk-sharing model. According to this model, higher education institution provides certain income guarantees, while private investors provide financing for the construction and management of the facilities [9]. The assessment of long-term profitability for investors in such projects is based on a number of indicators, including the coefficient of internal rate of return (IRR) and the payback period of investments. The average payback period for coliving projects implemented through concession agreements ranges 10-15 years (it depends on the region and project conditions) [1]. Moreover, investments in coliving facilities spaces have a high degree of liquidity, since the facilities can be used not only for students' accommodation, but also for short-term rentals during the off-season [5]. Assessment of concession agreements effectiveness concerns with educational fees and students living standards. Concession projects can help reduce the cost of living for students by attracting private investment and optimising operating costs. The flexibility of concession agreements allows government agencies to control pricing by setting rent limits for students. It makes such projects socially oriented [6]. An important aspect of concession projects economic efficiency are innovative technologies to increase profitability. However, digital solutions for managing coliving spaces, including automation of booking processes, monitoring of energy consumption, and integration of smart security systems reduce operating costs and increase convenience for residents. They also increase project attractiveness for investors [10].

Concession agreements in the field of coliving can provide new sources of income for educational institutions. It allows universities to cover their infrastructure maintenance costs, reinvest the funds received in educational programs, and improve the quality of education [3].

To improve the legislative framework governing concession projects in the field of coliving, it is necessary to develop more detailed investor support mechanisms. They are as follows: additional tax benefits for private partners undertaking significant financial obligations under concession agreements, reduction in income taxes for investors for the payback period of the project, minimising financial risks, and speed up the process of returning invested funds [11]. Moreover, it is necessary to consider mechanisms of financial direct participation of the public partner in the form of: end-user fees, capital grants, public partner fees, etc. It allows them to minimise the financial burden of the investor, make the participation of the private party more attractive, popularise the projects, and reduce the financial burden on the final consumer [12]. Another important aspect of legislative regulation is the introduction of mechanisms for monitoring the quality and affordability of housing within the framework of such projects. Since the services received by the user are complex, it is necessary to develop quality standards for coliving facilities from design and construction to operation. The introduction of such standards will improve the quality of life of residents, and make them more attractive to both governmental and private investors [4].

**Conclusion**

The specifics of urban planning and the characteristics of each particular region should be considered to make these projects successful. Coliving concession projects in different regions experience different challenges depending on the level of urbanisation, economic activity and population social structure. More urbanised regions may demand these projects among students and young professionals. The less densely populated regions may have limited demand for such facilities. It requires flexibility in the approach to the design and operation of coliving facilities, the use of various financing and support models depending on the regional specifics [14]. The development of the coliving market has significant potential to address students and young professionals housing. The economic effectiveness of public-private partnership agreements and concession agreements in co-financing projects is confirmed by financial modeling using various scenarios. It allows investors and government agencies to achieve mutually beneficial results. The long-term profitability

of such projects is ensured through the flexibility of agreements, the use of innovative technologies, and the optimisation of operational processes. The impact of concession projects on educational costs and students' living standards is also significant. Indeed, these projects help to reduce living costs and improve the quality of services provided.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

**AUTHOR'S CONTRIBUTIONS**

Authors contributed to this manuscript equally.

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Received 11.09.2024
Revised 20.10.2024
Accepted 01.11.2024

# The structure of students' personal competitiveness as a determinant of target setting formation in academic educational process

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ORIGINAL ARTICLE

**Abstract.** Competition in the labour market provides the need for training specialists with both developed personal qualities and special professional knowledge, skills, and abilities. Competence and competitiveness are the fundamental qualities to achieve success at the beginning of their professional activity. Therefore, the study of personal competition in the system of higher professional education is very relevant. The issue of student professional competitiveness remains the one of the most important problems existing in education. It concerns with the logic of educational cognition and represents the driving force of personality development. However, the development of professional competitiveness cannot exist separately from personal development without individual's need for effective, purposeful activity. Therefore, self actualisation dwells on realising creativity and intellectual potential. Professional competitiveness is also effective mastery of knowledge and methods of working. Therefore, there is a need to develop personal competition skills in the process of studying at a university. The article presents the results of a study aimed at identifying the structure of competitiveness of university students and empirical substantiation of ways to improve the quality of personal competition skills, readiness to form a professional activity strategy in accordance with the objectives of academic educational process. The main task is to identify the relationship between the conditions of the local labour market and the target settings of the university's educational process in terms of university graduates competitiveness. The object of research were 1st-4th year students (Bachelors' Programme in Economics), Kostroma State Agricultural Academy, Kostroma, Russia and 1st-4th year students of Yaroslavl State Technical University, Yaroslavl, Russia (Bachelors' and Masters' Programmes, all institutes). We conduct a research by a survey using a Google form, the total sample size – 600 people.

**Keywords:** labour market; personal competition; personal competition skills; target orientation; personality development; work activity

**JEL codes:** A14

**DOI:** 10.52957/2782-1927-2024-5-4-46-53

**For citation:** Irina V. Popova, Marina B. Abramova, Alexey V. Zorin. (2024). The structure of students' personal competitiveness as a determinant of target setting formation in academic educational process. *Journal of regional and international competitiveness*, 5(4), 46.

## Introduction

In our unstable socio-economic reality, it is important to acquire professional competence, and adapt to constantly changing conditions in a competitive labour market, have competitive behavior skills. In this regard, professional relocation can be viewed through the prism of personal competition. In particular, the ability to quickly reorient in accordance with modern requirements for professional activity, independence in mastering new types of work, and expanding knowledge.

Professional and personal competitiveness is determined by economic factors, socio-cultural environment, life situation, and real opportunities. On the one hand, it is influenced by external conditions: the multifunctional nature of labour use, motivation, an imbalance of jobs and labour resources, an increase in unregulated labour movements, and an increase in natural staff turnover. On the other hand, the internal qualities of the employee: rapid entry into the production process, professional adaptation for crisis situations, flexible response to changes in demand in the labour market, interest in various innovations, a high degree of flexibility, etc.

The educational process plays an important role on in professional development and career choice. The education provides access to various social roles and statuses. Therefore, the need for educational services is constantly growing. Young people understand the importance of education for further professional activity. At the same time, the form and nature of the educational process are not of fundamental importance. Young people acquire knowledge and use it in the process of their entire active life. Acquired knowledge and skills become a working tool of professional work. And educational institutions provide opportunities for career growth. Vocational education influences the formation of fundamental social needs, value orientations, interests, beliefs, and also corrects individual personality qualities. It encourages people to act in a desirable, productive, meaningful direction and helps them to find a new effective application of knowledge and skills. An educated young man has more opportunities to realise his or her interests; it is easier for him or her to transfer from one activity to another.

However, we live in a world "where people have to change their field of activity often, where fundamental training is important, which would be aimed at ensuring that a person who has received an education can more or less freely change the areas of application of their activities and, accordingly, the realisation of their interests" [4, p. 58].

In Russian society, there is an increasing need for professionals ready to address non-standard problems, find individual solution, and capable of constant self-education. It is easier for educated young people to integrate into the professional structure of society and achieve career aspirations, respectively, interest in education does not decrease.

Therefore, according to Rosstat, the number of students in the higher education system has been stable since 2019 (more than 4 mln students). In 2022 it increased slightly and amounted to 4.1 mln students; 85.8 thousand more than in 2021 [11, p. 44]. The number of students enrolled in the middle-level programmes in 2019-2022 has grown from 2.36 mln to to 2.98 mln students [11, p. 42].

Education is one of the conditions for the formation of a specialist capable to chooseo a professional trajectory in changing market conditions. Professional training acts as a competent application of their knowledge and skills.

Market economic transformations in modern Russia cause the transformation of social processes. Social and labour relations are changing, the reproduction of market subjects is expanding, there is a free choice of life position and changes in standards of labour behavior, a revision of values, and revising of personal competitiveness understanding.

The transition to a market economy formed a transitive economic model and many issues requiring special preparation of higher educational institutions graduates. The transition to the labour market is characterised by a contradiction in balancing the demands of society and the state. Competition in the labour market provides the need for training specialists with both developed personal qualities and special professional knowledge, skills, and abilities. Competence and competitiveness are the fundamental qualities to achieve success at the beginning of their professional activity. Indeed, an education system should develop competitive skills, methods, tools, techniques, and technologies for professional training of graduates. Therefore, the study of personal competition in the system of higher professional education is very relevant.

A review of modern scientific research on competitiveness considers it as an integrative phenomenon because of multidimensional and complex nature (economic, organisational, social, psychological, pedagogical) at personal, educational, and social levels. All factors of higher educational institutions graduate competitiveness in the labour market can be divided into two groups: external and internal.

External factors include education, specialty, work experience, demand for the services of young professionals in a particular field, availability of vacancies, demand and supply of labour services, etc. To understand the level of influence of these factors on graduates competitiveness, it is necessary assess labour market conditions in terms of the higher professional education system. However, we analysed the local labour market as an external factor of competitiveness of Yaroslavl State Technical University graduates in [12]. Indeed, it is necessary to correlate the relationship between local labour market conditions and the goals of the university's educational process in terms of graduates competitiveness. The object of research were the students of Kostroma State Agricultural Academy, Kostroma, Russia (KSAA) and the students of Yaroslavl State Technical University, Yaroslavl, Russia (YSTU).

The internal factors of university graduate's competitiveness include personal qualities (both innate and acquired). It allows them to compete in the labour market.

The competitiveness of graduates is also related to the competitiveness of universities themselves. It includes the requirements for the organisation of various university activities, the quality of the teaching staff, and the entire history of its existence. The basic principles of the traditional state educational policy are also relevant. Therefore, the training of specialists should be concentrated mainly at the federal level ensuring the effectiveness of the country's development by providing highly qualified specialists to the labour market.

However, according to Rosstat data in 2020-2022, 76% of graduates' jobs were related to their specialty in the university; 24% do not work in their specialty [11, p. 133].

There are many reasons for graduates not working in their specialty. They are as follows: not always acquired knowledge and skills can meet modern demands. Also, there is an increasing disagreement between employers' requirements for potential employees, their knowledge, skills and experience, lack of experience, prevailing wages, leading to the outflow of highly qualified, educated young workers into unskilled labour activities.

Hence, to ensure the training of competitive specialists in terms of the requirements of economics and the labour market, it is necessary to apply an integrated, consistent approach to addressing this issue on the federal state. The concept of "competitiveness" should be the basis for the design of all educational activities. The development of student competitiveness and the formation of a competitive young specialist should be a priority task of modern higher education.

Many researchers consider the issue of the essence of competitiveness. For instance, R.A. Fatkhutdinov [13], N.V. Bordovskaya [3], V.N. Mezinov, S.V. Markova [8], L.M. Mitina [10], V.I. Andreev [2], E.V. Maximova [7].

According to these researches, a personal competitiveness management system promoting the self-development of graduates increases their competitiveness during their studying at the university.

Therefore, it is possible to identify some features of the management system of students' personal competitiveness as follows:

- university basic training system is variety of different types of training;
- interaction with the employers and the university;
- students conscientiousness in labour relations, correct distribution, and consumption of material goods.

Hence, the concept of "university student personal competitiveness" is students' ability to be able to provide himself or herself with high levels of knowledge and skills in the labour market in the conditions of increasing competition with the use of his or her capabilities and potential. One of the most important properties of a person's competitiveness is to determine an own system of individual personality qualities. Therefore, the study of this determination patterns should be considered as a fundamental direction in addressing the issue of forming a student's competitiveness [9].

E.V. Maximova identifies such signs of a student's competitiveness at a university: intellectual potential, a desire to self-actualise, a realistic assessment of the capabilities, self-study, developed leadership qualities, creativity, adequate value orientation, a desire for professional self-determination [7, p. 15].

Moreover, the researchers emphasise individual properties determining the competitiveness as

essential ones. However, individual competitiveness in educational and professional activities depends on the availability of knowledge, skills, and motivation. An important criterion for a student's competitiveness is the ability to identify, quickly and effectively use their advantages, special personal and professional qualities. According to V.I. Andreev, the competitive personality of a student is an integral characteristic including the following personality traits: hardworking, striving for a high-quality final result, stress resistance, the ability to overcome difficulties, a creative approach to business, academic and professional self-improvement, risk management, sociability, cooperation, and the ability to self-education, self-realisation and self-development [2, p. 377]. L.M. Mitina interprets competitiveness as a complex property with its own resources, such as age, mental and physical health, appearance, abilities, intelligence level, energy reserve, a system of values, beliefs, etc. [10, p. 236].

Hence, the main condition for the professional and social success of a student is an integral part of vocational training in universities. To form a student's readiness for personal and professional and self-development, it is necessary to acquire and develop professionalism, personal, socio-psychological, moral characteristics, the ability to cooperate and work in a team.

**Main part**

The issue of forming student's professional competitiveness is one of the most important problems of pedagogical science in terms of the diversity of contradictions existing in education. It concerns with the logic of educational cognition and represents the driving force of personality development. Scientists see the source of professional competitiveness of an individual in the social conditions of life, in the active essence of a person. However, the development of professional competitiveness cannot exist separately from personal development without individual's need for effective, purposeful activity. Therefore, self actualisation dwells on realising creativity and intellectual potential. Professional competitiveness arises on the basis of persistent actions of a person to address the creative tasks and mobilise attention and other psychological processes to search for new knowledge. Moreover, the interest in knowledge arises on the basis of conscious motivation is of great importance for the educational process. Therefore, to develop the professional competitiveness of students means to develop theoretical thinking, form skills and abilities of independent search for new knowledge, methods of their processing and application, the ability to perform targeted actions aimed at achieving the planned results [6]. Professional competitiveness concerns with the content and process of teaching, effective mastering of knowledge and ways of working to achieve goals, mobilising moral and volitional efforts, transformation of the surrounding reality, intensity of actions performed, effectiveness of activities, etc. Intensification and improvement of future specialist professional competitiveness effectiveness requires mutual and purposeful activation of cooperation between a teacher and a student, innovative changes in the organisation of the educational process, and the interrelationships of study, research, and design at the university. Therefore, a holistic approach only provides development of students professional and personal competitiveness, high creative potential, deep knowledge, and an active lifestyle. Hence, it is necessary to direct their efforts to stimulate students' interest in the profession, promote the development of a positive active attitude to study, independent cognitive activity in terms of the pedagogical conditions. According to literature analysis, the indicators of the personal competitive factor are as follows:

- knowledge, computer literacy, business communication skills, practical training;
- retraining, professional development, mastering additional specialties;
- receptivity to innovation, sociability, adaptability, criticality;
- integrity, effectiveness, creativity, self-development ability, organisation;

Therefore, there is a need to develop personal competition skills in the process of studying at a university. The article presents the results of a study aimed at identifying the structure of competitiveness of university students and empirical substantiation of ways to improve the quality of personal competition skills, readiness to form a professional activity strategy in accordance with the objectives of academic educational process.

We conduct a research by a survey using a Google form, the total sample size – 600 people.

Both universities are federal budgetary educational institutions under strict state regulation, and with

a low degree of self-autonomy.

The object of the study are students of the technical University and the Agricultural Academy. Therefore, the results of the study allow us to assess the competitiveness of graduates in the local labour market. The assessment of the opportunity to compete in the labour market dwells on the choice of an educational institution. Indeed, 32.3% of YSTU students and 10.4% of KSAA students chose a university considering it prestigious. However, before the submission, every third student at YSTU and every fifth at KSAA have already assessed the importance of personal competition in the labour market. At the time of the survey, 61.5% of KSAA students and 47.6% of YSTU students had not decided whether they would work in their specialty after graduation. We can note the lack of motivation to get knowledge in the chosen profession.

To assess professional competitiveness factor, we estimate some indicators of mastering professional competencies. Therefore, the one of the survey questions was: "What do you consider important / unimportant in your profession?"

**Table 1** – Assessment of professional competencies by KSAA, Kostroma, Russia students (% of the number of respondents)

| Competence | Important in the profession | Unimportant in the profession |
|---|---|---|
| Knowledge of the acquired specialty | 94.9 | 5.1 |
| Career growth | 84.7 | 15.3 |
| Interest in the work | 92.4 | 7.6 |

*Source: composed by the authors*

**Table 2** – Assessment of professional competencies by YSTU, Yaroslavl, Russia students (% of the number of respondents)

| Competence | Important in the profession | Unimportant in the profession |
|---|---|---|
| Knowledge of the acquired specialty | 89.9 | 10.1 |
| Career growth | 94.4 | 5.6 |
| Interest in the work | 96.7 | 3.3 |

*Source: composed by the authors*

An important criterion for a student's competitiveness is the assessment of their personal qualities. It allows them to effectively use their advantages in a competitive environment. To get a self-assessment of personal qualities related to competition, the survey contains a question: "Which of the following personal qualities would you need to develop for yourself, since you are not good enough at it yet?"

**Table 3** – Self-assessment of personal qualities according to the "need to develop" index of YSTU and KSAA students (% of the number of respondents)

| Indicator | YSTU | KSAA |
|---|---|---|
| Professionalism | 89.3 | 76.9 |
| Selfintroducton | 71.6 | 53.8 |
| Self-actualisation | 70.0 | 35.8 |
| Self-confidence | 64.6 | 48.7 |
| Initiative | 64.3 | 51.2 |
| Efficiency | 57.5 | 28.2 |
| Communicative skills | 55.8 | 28.2 |
| Purposefulness | 51.8 | 20.5 |
| Leadership | 43.5 | 33.3 |

| Indicator | YSTU | KSAA |
|---|---|---|
| Duty | 41.8 | 33.3 |
| Responsibility | 39.3 | 30.7 |

*Source: composed by the authors*

The result shows the difference in the self-esteem of students. This difference in arranging the results hierarchically.

**Table 4** – Comparative hierarchy of students' self-assessment, YSTU and KSAA (% of the number of respondents)

| YSTU | KSAA |
|---|---|
| Professionalism | Professionalism |
| Selfintroducton | Selfintroducton |
| Self-actualisation | Initiative |
| Self-confidence | Self-confidence |
| Initiative | Self-actualisation |
| Efficiency | Leadership |
| Communicative skills | Duty |
| Purposefulness | Responsibility |
| Leadership | Efficiency |
| Duty | Communicative skills |
| Responsibility | Purposefulness |

*Source: composed by the authors*

The revealed difference may be related to the strategy of professional activity implementation in accordance with the objectives of the education. The purpose study was to get students' ideas about the labour market. A block of questions was created for this purpose. We use the same technique: comparing the results for two universities.

This block of the survey contains the question: "What difficulties can you face when applying for a job?"

**Table 5** – Correlation of students' perceptions about local labour market in two universities (% of the number of respondents)

| Options | YSTU | KSAA |
|---|---|---|
| Absence of self-presentation skills | 38.9 | 25.6 |
| Lack of professional knowledge | 47.1 | 33.3 |

*Source: composed by the authors*

This block of the survey contains the question: What do you think employers pay the most attention to when applying for a job? (you could choose three options; amount is more than 100%).

**Table 6** – Students' view of employers' requirements in terms of personal competitiveness (% of the number of respondents)

| Options | YSTU | KSAA |
|---|---|---|
| Professional knowledge | 82.8 | 87.2 |
| Grades in the diploma | 4.2 | 10.3 |
| Communicative skills | 65.0 | 64.1 |
| Ability to perform at your best | 67.2 | 48.7 |
| Self-confidence | 76.8 | 82.1 |

*Source: composed by the authors*

This block of the survey contains the question: How do you assess the level of competition for young professionals in the labour market in your city?

**Table 7** – Students' assessment of the level of competition for young professionals in the local labour market (% of the number of respondents)

| Options | YSTU | KSAA |
|---|---|---|
| The competition is high, it is difficult to get a job in the specialty | 47.8 | 48.7 |
| The competition is not high, it is possible to get a job in the specialty | 48.3 | 51.3 |

*Source: composed by the authors*

**Conclusion**

The results of the empirical study made it possible to identify the structure of YSTU and KSAA students personal competitiveness and assess the differences. The interpretation of the obtained data made it possible to formulate a fundamentally important position in terms of the purpose of the study: the formation of personal competition skills and readiness to build a professional activity strategy should correspond to the target settings of the educational process of the educational institution. For the formation of personal competition skills in the process of studying at a university, an empirical justification of the educational process is necessary. It will improve the quality of personal competition skills formation.

The structure of YSTU and KSAA personal student's competitiveness includes:

- personal component (knowledge of the specialty, the ability to communicate with others, the ability to show your best side, self-confidence);
- motivational (professionalism, diploma grades, dedication);
- activity component (ability to win, diligence, efficiency).

The formation of professional and personal competitiveness should be considered in terms of graduate readiness for independent activity. It involves mastering professional knowledge, methods of competitiveness self-development, independent cognitive actions, the development of personal qualities, communication skills, etc.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The authors declare no conflict of interest.

**AUTHORS' CONTRIBUTION**

Irina V. Popova – writing – original draft.
Marina B. Abramova – data curation, formal analysis, validation.
Alexey V. Zorin – conceptualization, project administration, writing – review & editing.

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Received 12.08.2024
Revised 11.09.2024
Accepted 12.10.2024

# Sustainable finance and ESG investing: a global analysis of market dynamics and future trajectories

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ORIGINAL ARTICLE

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**Abstract.** With an emphasis on how sustainable finance is changing, this paper offers a thorough study of the trends, obstacles, and opportunities in ESG (Environmental, Social, and Governance) investing. This research looks at major growth drivers as ESG factors become more and more integrated into investment plans and company practices. It draws attention to important difficulties such data dependability, greenwashing, and the difficulties in funding net-zero carbon transitions. The study also looks at new trends such as the acceptance of sustainable products by the general public, the increased vigilance against greenwashing, and the growing significance of sincerity and firm promises in ESG practices. The study highlights the revolutionary effect of ESG investment on financial markets and business behavior via a thorough analysis of these dynamics, stressing the necessity of openness, responsibility, and creativity in achieving sustainability goals. This research provides insights into how businesses and investors can adapt to the ever-changing ESG investing landscape and help create a more robust and sustainable global economy.

**Keywords:** Environmental Social and Governance; investment; sustainable finance; regulations; greenwashing; ESG Data

**JEL codes:** 52, G15, O44

**DOI:** 10.52957/2782-1927-2024-5-4-54-64

**For citation:** Nguyen Huu Phu. (2024). Sustainable finance and ESG investing: a global analysis of market dynamics and future trajectories. *Journal of regional and international competitiveness*, 5(4), 54.

## Introduction

Environmental, Social, and Governance (ESG) investment has become a popular financial strategy in recent years, notably after the COVID-19 pandemic, when many people had predicted it would only be a passing fad in the next fiscal year[1]. Over one-third of the projected $140.5 trillion worldwide total by 2025 may be represented by assets managed in accordance with ESG principles if a growth rate of 15% is assumed, which is half the rate observed during the previous five years[2]. Additionally, Global business executives are addressing ESG investments with the same focus on profits as they do with regular investments. Notably, 71% of these executives concur that future investment decisions will always ESG considerations into account[3]. Subsequently, sustainable investment choices are guided by ESG policies, which have an effect on overall business's success and business's orientation [8].

The move toward ESG investing is a reflection of a larger change in the global financial scene as well as a new norm, where it is becoming more widely accepted that managing long-term risks and opportunities requires incorporating sustainability into investment decisions[4]. Together with that, strong corporate social responsibility (CSR) policies that prioritize sustainability are becoming more and more important. This commitment entails upholding moral behavior, guaranteeing open management, and complying with national and international laws [1]. As a result, companies are shifting from prioritizing profits above social

[1] *Hafke, T. (2024) 5 ESG investing trends and developments to watch in 2024, AlphaSense. URL: https://www.alpha-sense.com/blog/trends/esg-trends/ (Accessed: 7.07.2024)*
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[4] *Amir, A. (2023). The rise of ESG: Sustainable investing becomes the new norm. URL: https://www.linkedin.com/pulse/rise-esg-sustainable-investing-becomes-new-norm-ali-amir-fcca/ (Accessed: 04.09.2024)*

and environmental responsibilities in the 21st century. Tech, laws, and shifting stakeholder expectations, particularly those of younger generations. will all have an impact on the future of CSR and ESG [9].

Therefore, understanding the factors that influence ESG investment is crucial for financial professionals as well as businesses trying to remain competitive, as sustainability becomes more and more essential to regulators and investors [2]. This paper's major objectives are to present a thorough study of worldwide ESG investing patterns, look at the factors that have fueled this industry's quick acceptance, and assess the strategy's prospects going forward. The author highlights the consequences for investors, legislators, and corporate entities while offering insightful information about the elements influencing the ESG investing trend. By looking at these aspects, this research paper aims to add to the current conversation on sustainable finance and provide light on what lies ahead for ESG investment.

*Literature review*

Researchers from all across the world have shown a great deal of interest in the subject of ESG. Though it has expanded greatly in the last few years, the idea of ESG investment is not a new phenomenon, but it has existed for many years back to 1970s [13]. During that period, social concerns were also given priority in economic activity. Investment funds started to exclude equities of US corporations involved in the war in Vietnam. Funds that emphasized businesses that excelled in human rights and environmental preservation also developed at the same period [10]. In the mid to late 1990s in the United States, health awareness campaigns had an influence on tobacco stocks, while socially responsible investing (SRI) became more and more focused on supporting sustainable environmental development [4].

After that, the early 2000s saw a rise in corporate governance awareness and a progressive improvement in the average ESG Combined scores across national boundaries [3]. In the past two decades, ESG has been considered as a new socioeconomic development model when financial markets have faced major disruptions from the 2008 Great Financial Crisis, the acceleration of climate change, and the COVID-19 pandemic [7]. At the same time, global scholars have been concentrating more on this subject at the same time, as evidenced by the roughly doubling of yearly publications on the subject since 2017. Given the speed at which research is expanding, it is likely that ESG ideas – such as green investing, the circular economy, and RE100 – will become more and more important worldwide [11].

The effect of adding EESG standards to equity portfolio allocation techniques is investigated by Spiegeleer and colleagues [6], with a focus on the effects these standards have on the risk and return properties of portfolios. A company's ESG features can change over time, and these changes can be useful financial indicators as well as ESG evaluations may also be successfully included into financial studies and policy benchmarks[5]. However, markets differ in how much of an impact ESG factors have. In case of China, portfolio diversification and risk-adjusted returns can be improved by investing in ESG equity indexes [15]. Similarly, portfolios with strong ESG goals have recently outperformed other strategies in terms of financial performance in the US markets. On the other hand, it doesn't seem that implementing ESG limits improves portfolio profitability for European markets [5].

ESG investment is a fast developing sector that is growing more and more important to global finance and drawing investor's attention, according to the literature [12; 14]. Even while it is now known a great deal more about how ESG issues affect investment performance, there are still a lot of unanswered questions, especially when it comes to regional differences, long-term performance analysis, and metric standardization. The continuous expansion and development of ESG investing as a popular financial strategy will depend on closing these gaps.

**Results**

With regional differences reflecting different legislative frameworks, cultural attitudes, and market dynamics, the worldwide panorama of ESG investment has changed significantly.

[5] *Weighing the evidence: ESG and equity returns. URL: https://www.readkong.com/page/weighing-the-evidence-esg-and-equity-returns-3126967 (Accessed: 7.07.2024)*

*North America*

Over the past ten years, ESG investment has grown significantly in North America, especially in the United States (see Figure 1).

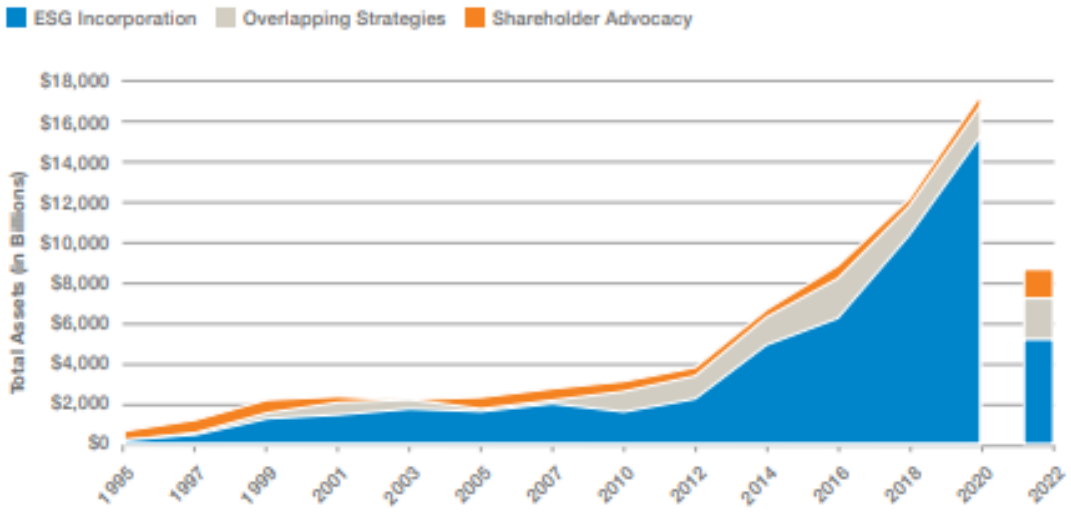


**Figure 1.** Sustainable investing in the United States 1995-2022
*Source: US SIF: 2022 Report. On Us Sustainable Investing Trends*

According to the 2022 US SIF Foundation report, 13% of all professionally managed assets in the United States, or $8.4 trillion, were U.S. – domiciled assets managed with sustainable investing methods at the end of 2021. According to the research at the beginning of 2022, there are $7.6 trillion under management using different ESG techniques and $3.0 trillion linked to shareholder engagement for ESG problems. Money managers prioritize various issues such as combating corruption ($1.02 trillion), avoiding investments in tobacco ($1.70 trillion), fossil fuel divestment ($1.23 trillion), and climate change ($3.45 trillion). When it comes to adopting ESG for institutional investors, top three are climate change take the lead ($3.96 trillion), conflict risk ($3.28 trillion) and board issues ($2.87 trillion).

Additionally, there has been a shift in US regulations that supports ESG investing. Although the United States has historically trailed Europe in implementing ESG standards, recent advancements suggest a change in this regard[6]. The Securities and Exchange Commission (SEC) intends to impose stricter regulations on corporations for the disclosure of their climate-related risks and other ESG issues. On march 6, 2024, final regulations was published mandating that both domestic and international registrants disclose comprehensive climate-related information in their periodic reports and registration statements[7]. The SEC has stepped up its attention on ESG disclosures. This regulatory impetus is probably going to help ESG investing in the area develop even faster.

Even though its market is smaller than that of the United States, ESG assets have grown significantly in Canada. According to the Responsible Investment Association (RIA) Canada, a half of all assets under management (AUM) in Canada are responsible investments, with CAD $2.931 trillion in 2022 (down from $3.014 trillion in 2021). In Canada, among investors looking to make an influence on the social or environmental front, an intriguing pattern has emerged (see Figure 2).

Organizations mostly take into account ESG considerations when making investment decisions since, according to 35% of respondents, minimizing risk over time is their top concern. All all, 74% of respondents listed risk reduction as one of the top three benefits of incorporating ESG factors. This was closely followed by

[6] *Linkedin. URL: https://www.linkedin.com/pulse/transatlantic-comparison-us-vs-eu-sustainable-finance-fr%C3%A9d%C3%A9ric-vonner/ (Accessed: 15.07.2024)*
[7] *ASidley. URL: https://www.sidley.com/en/insights/newsupdates/2024/03/sec-finalizes-climate-related-disclosure-rules-ushering-in-a-new-era#:~:text=On%20March%206%2C%202024%2C%20the,registration%20statements%20and%20periodic%20reports.&text=These%20include%20disclosure%20of%3A,Climate%2DRelated%20Risks (Accessed: 15.07.2024)*

61% of respondents who mentioned increasing profits over time. All of these results point to the importance of improving risk-adjusted returns as a motivator for prudent investors. This emphasis is consistent with the current Canadian market trend of ESG integration, which calls for investors to consider ESG factors while assessing relevant information.

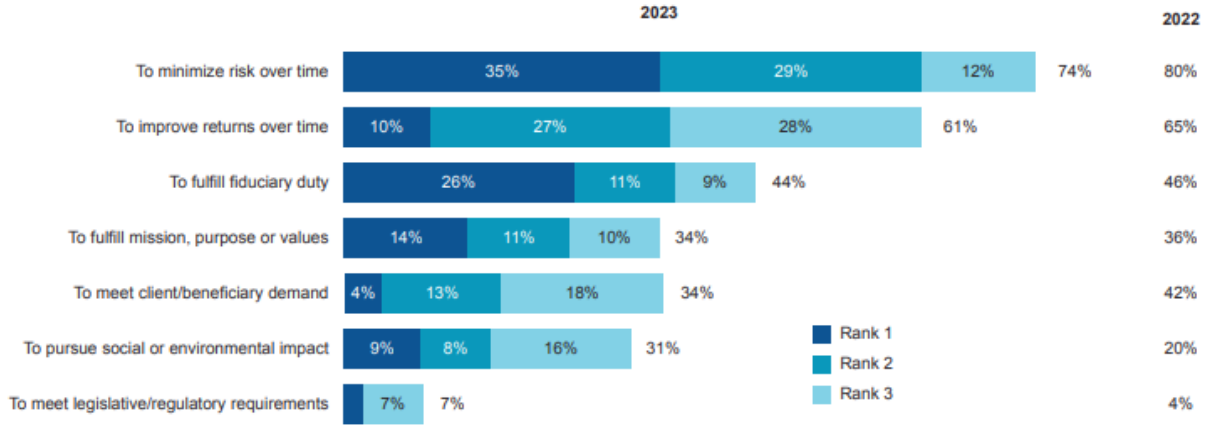


**Figure 2.** Reasons organizations consider ESG factors in investment decisions
*Source: 2023 Canadian Responsible Investment Trends Report*

In 2023, climate change mitigation, board diversity and inclusion, and greenhouse gas (GHG) emissions were the top three ESG concerns that had a substantial impact on investment choices in Canada. 93% of investors took into account GHG emissions, a significant rise from 85% in 2022 and evidence of growing concern over dangers associated with climate change. The significance of board diversity and inclusion increased as well, from 80% to 87% of investors last year, indicating a rising focus on social equality in corporate governance. The relevance of climate change mitigation remained constant at 84%, highlighting the ongoing importance of environmental sustainability in investment plans.

*Europe market*

In terms of the amount of assets and the sophistication of ESG integration techniques, Europe is largely acknowledged as the worldwide leader in ESG investment. Stricter regulatory requirements and a move toward more conservative fund labeling and reporting methods may be to blame for Europe's decrease from 42% to 38%. This pattern coincides with the enactment of several legislation and rules as part of the Action Plan for Sustainable Finance (see Table 1). The region's extensive legislative structure, which established the worldwide benchmark for ESG investing, contributes to its supremacy.

**Table 1** – Proportion of sustainable investing assets relative to total managed assets, 2014-2022 (%)

| Region | 2014 | 2016 | 2018 | 2020 | 2022 |
|---|---|---|---|---|---|
| Europe | 59 | 53 | 49 | 42 | 38 |
| United States | 18 | 22 | 26 | 33 | 13 |
| Canada | 31 | 38 | 51 | 62 | 47 |
| Australia & New Zealand | 17 | 51 | 63 | 38 | 43 |
| Japan | 3 | 18 | 24 | 34 | 34 |

*Source: Global Sustainable Investment Review 2022*

Globally, europe's portion of global assets for sustainable investment climbed dramatically from 34% to 46% between 2020 and 2022. This increase is a result of both changes in American methods and the rise of the European market. Other areas had significant shifts within the same time period: Australia and New Zealand's combined stake increased from 3% to 8%, while Japan's share increased from 8% to 14%. On the other hand, the United States' portion decreased from 48% to 28%, while Canada's part decreased from 7%

to 4%.

One of the most important legislative advancements in the ESG field is the Sustainable Finance Disclosure Regulation (SFDR), which was introduced in 2018[8]. In order to increase accountability and transparency, the SFDR compels financial advisers and asset managers to report how they incorporate environmental, social, and governance (ESG) issues into their investment choices. Furthermore, a uniform framework for determining what constitutes a sustainable investment is provided by the EU's Taxonomy Regulation, which classifies economically viable activities. ESG practices have been widely adopted throughout Europe thanks in large part to these requirements.

Strong societal and cultural ideals around sustainability have also had an impact on European investors, in addition to governmental forces. Particularly in Northern Europe, social welfare and environmental stewardship have lengthy traditions, and this is reflected in their investment strategies. Leaders in ESG investment are Sweden, Denmark, and the Netherlands, where a sizable portion of the national asset base is managed in accordance with sustainable practices.

*Asia*

The Asia area is witnessing a tremendous growth in ESG investment. However, due to varying disclosure legislation and standards across different economies, investors and corporations face a difficult environment. Important economies including Singapore, Hong Kong, Japan, and China have all seen recent substantial advancements in market and regulatory frameworks pertaining to ESG[9].

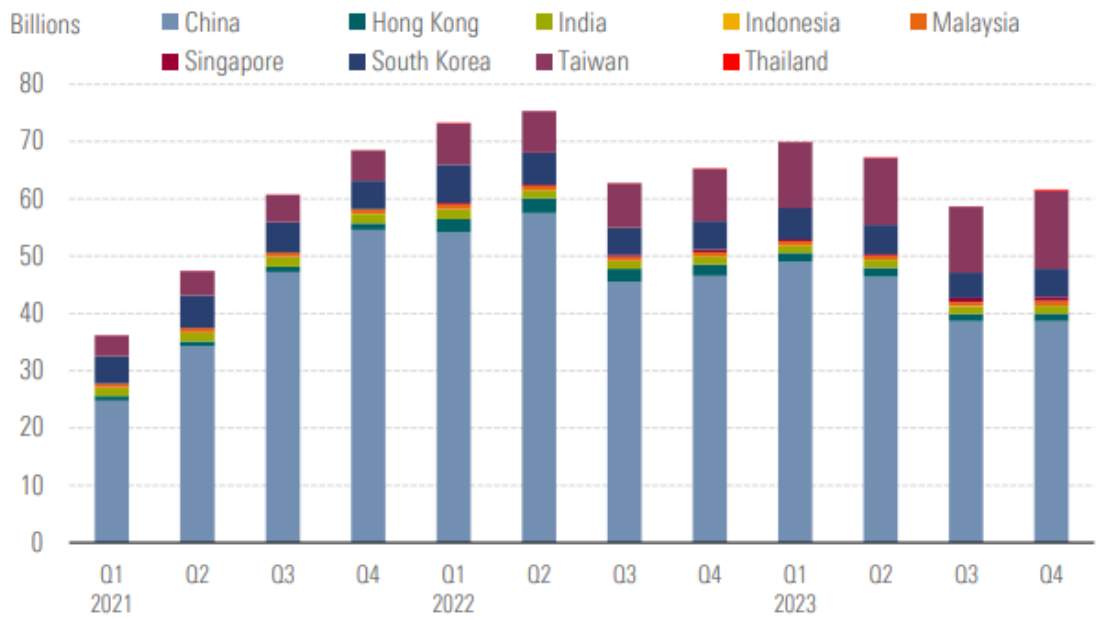


**Figure 3.** Asia ex-Japan sustainable fund assets (USD, bln)

*Source: Morningstar – Global sustainable fund flows: Q4 2023 in Review*[10]

Asia's total assets in sustainable funds, excluding Japan, rose by 5% on a quarterly basis to USD 61 billion. With 22% of the sustainable assets in the area, Taiwan continues to be the largest market outside of China. Taiwan's sustainable fund assets increased by about 50% by the end of 2023, totaling USD 13.6 billion. The robust local market performance, as seen by the 17.5% return on the MSCI Taiwan Index and the 18.4% gain on the MSCI ESG Leaders Index in the fourth quarter of 2023, helped to fuel this expansion.

At the end of December, equity funds held two-thirds of the total assets in the sustainable fund market in Asia ex-Japan. This made them the largest asset class in the market. Fixed-income funds and allocation

[8] *SWEEP. URL: https://www.sweep.net/insights/what-is-the-sustainable-finance-disclosure-regulation-sfdr (Accessed: 20.07.2024)*
[9] *Morgen Lewis. URL: https://www.morganlewis.com/pubs/2024/07/esg-investments-the-asia-pacific-regulatory-perspective (Accessed: 25.07.2024)*
[10] *Morningstar. URL: https://www.morningstar.com/lp/global-esg-flows (Accessed: 25.07.2024)*

accounted for 6% and 23% of the total. With passive sustainable funds getting inflows of USD 1.13 billion in the fourth quarter of 2023, up from 38% of total flows the year before, the difference between passive and active strategies continued to narrow.

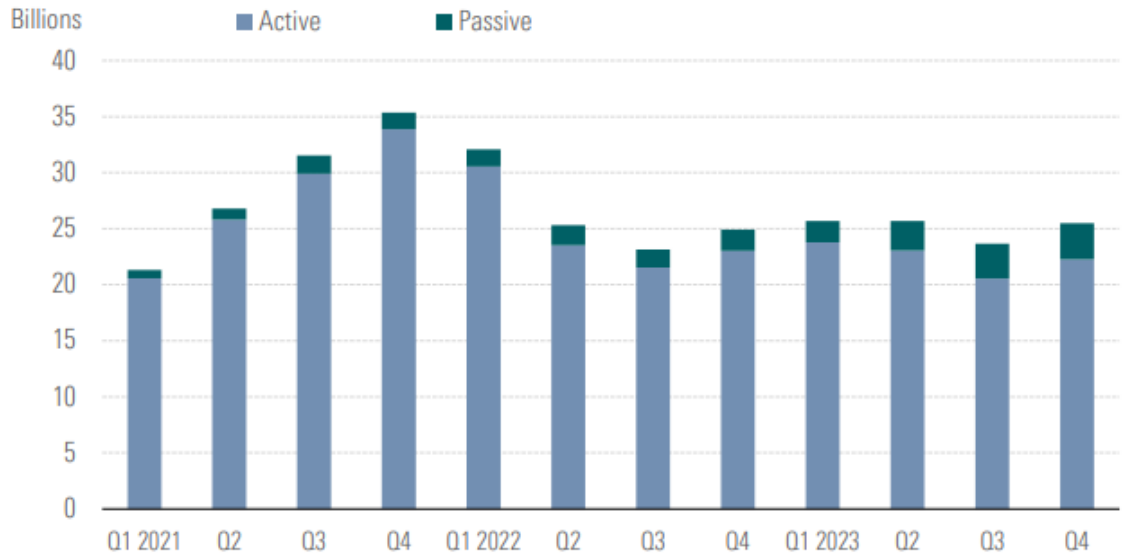


**Figure 4.** Japan sustainable fund assets (USD, bln)
*Source: Morningstar – Global sustainable fund flows: Q4 2023 in Review*[11]

In all, Japan-domiciled sustainable funds' total assets increased to USD 25.4 billion at the end of the fourth quarter, up 7.2% compared to end-September, driven by market appreciation – the Nikkei gained 5% during the same period. As far as the breakdown of the Japan sustainable fund market is concerned, actively managed funds and equity funds are 87% and 85% of the total assets, respectively.

Japan represents the largest ESG investment market within Asia. It would be utilized by the Japanese Government Pension Investment Fund, or GPIF-the largest pension fund in the world with approximate assets under administration of US$1.4 trillion as at December 31, 2022, as part of an investment approach benchmarked to enhancing gender diversity within Japan. The GPIF has been a strong supporter of ESG integration, allocating a significant portion of its portfolio to ESG-compliant securities. More recently, the FSA issued recommendations encouraging companies to improve their ESG disclosures in order to help foster ESG investment in Japan.

*Key Drivers of ESG Investment Growth*

Over the past ten years, some powerful forces, acting in a cumulative manner, have combined to bring about huge changes in the global investment environment and fast fuel the rise of ESG investing. These changes include shifting investor tastes, shifts in regulations, increased concern with climate-related risks, improvement in ESG data and analytics, and influences brought about by norms and efforts set at the global level.

Amongst the main variables driving current ESG expansion, one might include the evolved taste of some key investor cohorts-institutional investors, millennials, and high net worth investors, among others. A mounting volume of investors is willing to combine investment and value. Business accountability and disclosure about ESG practices are on an upward surge as they force business harder in that direction. In fact, 95% of Millennials and 85% of the general population are currently demanding sustainable investing solutions. The percentage of involvement, showing this rising passion, is particularly high: 67% of Millennials and 52% of the general public have participated in at least one sustainable investing activity[12].

[11] *Morningstar. URL: https://www.morningstar.com/lp/global-esg-flows (Accessed: 25.07.2024)*
[12] *Sustainable signals: Morgan Stanley. URL: https://www.morganstanley.com/content/dam/msdotcom/infographics/sustainable-investing/Sustainable_Signals_Individual_Investor_White_Paper_Final.pdf (Accessed: 04.09.2024)*

The investing industry is seeing a notable increase in the emphasis placed on gender parity and diversity. When making investment decisions, women emphasize ESG considerations more than other groups[13]. It's possible that the increasing proportion of female investors is contributing to a greater understanding of gender diversity as a major opportunity in socially responsible investment (SRI). The need for investment solutions that actively support diversity, equality, and inclusion (DEI) in addition to providing competitive financial returns has increased as a result. This change suggests that a wider spectrum of investors are realizing how crucial it is to match financial strategy with principles of social responsibility and equality.

By establishing a more uniform and transparent framework for ESG disclosures and reporting, regulation has been a major factor in the expansion of ESG investment. The incorporation of ESG considerations into investment choices is being required or encouraged by governments and regulatory organizations around the globe. With programs like the EU Taxonomy for Sustainable Activities and the SFDR, the EU has been at the forefront of ESG legislation. Similarly, in 2023, to encourage the growth of ESG investing even further, the U.S. Department of Labor has released guidelines allowing fiduciaries of retirement plans to take ESG aspects into account when making investment decisions[14].

Another major factor pushing ESG investment is the growing awareness of the hazards associated with climate change. The likelihood of experiencing climate-related natural disasters like hurricanes, floods, and wildfires has increased, and with it has come an increased awareness of the financial hazards involved. Increased shareholder involvement in climate-related problems and disengagement from fossil fuel businesses are results of rising concern over climate change. Until February, 2022, more than 1500 organizations worldwide, with a combined asset value of over $40 trillion, have pledged to divest from fossil fuels[15]. Simultaneously, through shareholder resolutions and active participation, investors are increasingly leveraging their power to pressure corporations to adopt more sustainable practices.

Together with that, recent years have seen a considerable improvement in the quantity and caliber of ESG data, empowering investors to make better-informed choices on ESG integration. This evolution has been largely influenced by developments in artificial intelligence, data analytics, and technology. Investors can evaluate a company's ESG performance with the use of comprehensive ESG ratings and indexes offered by an increasing number of ESG rating firms, including Refinitiv, Sustainalytics, Dun & Bradstreet, ISS, FTSE Russell, and MSCI[16]. These ratings enable investors to compare firms with their counterparts by taking into account a variety of characteristics, such as social responsibility, environmental impact, and governance procedures.

The development of ESG-focused investment has been greatly aided by efforts to establish standardized frameworks for ESG reporting, such as those produced by the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI). These frameworks offer standardized recommendations that businesses may use to report on their performance in areas like social responsibility, environmental effect, and governance procedures. These rules make it easier for investors to assess a company's ESG performance by guaranteeing that ESG data is presented in a consistent and comparable manner. As a result, there is an increase in openness and investors are able to base their selections on comparable and trustworthy data regarding the firms they are examining.

The adoption of ESG investment has also been accelerated by international efforts and standards, which foster stakeholder engagement and best practices. Launched by the UN in 2005, the Principles for Responsible Investment (PRI) is an international network of investors dedicated to incorporating ESG issues into their

[13] *Women in Focus Gender diversity and socially responsible investing. Barclays. URL: https://www.ib.barclays/content/dam/barclaysmicrosites/ibpublic/documents/investment-bank/global-insights/women-in-focus-gender-diversity-and-socially-responsible-investing-2.4mb.pdf (Accessed: 04.09.2024).*

[14] *SThe Regulatory Review. URL: https://www.theregreview.org/2023/01/26/stern-retirement-plan-fiduciaries-can-now-consider-esg-factors/ (Accessed: 27.07.2024)*

[15] *Stand.earth. URL: https://stand.earth/press-releases/fossil-fuel-divestment-movement-hits-40-trillion-in-represented-assets/ (Accessed: 28.07.2024)*

[16] *ESGvoices. URL: https://www.esgvoices.com/post/esg-score-rating-agencies-key-organizations-and-their-impact (Accessed: 28.07.2024)*

investment decisions. Almost 4,000 signatories, or more than $121 trillion in AUM, were part of the PRI as of 2021[17]. ESG investing has been greatly aided by the PRI's influence, which has inspired asset managers and owners to adopt ethical investing methods.

The rising understanding of the tangible impact of sustainability in the financial markets, along with altering investor values, is driving the expansion of ESG investment. ESG investing will become even more essential to the investment plans of both people and institutions as global initiatives promote its wider adoption, regulatory frameworks get stricter, and technology improvements continue to increase the quality of ESG data. Sustainable development in ESG investment is expected, influencing the direction of global finance as these factors keep changing and interacting.

*Challenges, Future Trends and Prospects*

Even if ESG investing is becoming more and more popular, there are still a number of obstacles in the way of the industry's further expansion. These problems are intricate and multidimensional, involving problems with data integrity, greenwashing, and striking a balance between financial gains and ESG objectives.

Although there has been different improvements in terms of ESG data and ESG report standards, the absence of trustworthy and consistent data is one of the biggest obstacles to ESG investment[18]. Due to the inherent complexity and subjectivity of ESG measures, there is a great deal of variation in the measurement and reporting of ESG aspects. Discrepancies in ESG rankings may result from various ESG rating firms evaluating the same company in different ways. In addition, a large number of businesses – especially small and medium-sized businesses (SMEs) and those in developing nations – do not make thorough ESG disclosures, and those that do may use data that is out-of-date, inconsistent across industries, or both[19].

The act of firms fabricating or misrepresenting their ESG credentials in order to look more sustainable than they actually are, known as "greenwashing", seriously undermines the credibility of ESG investing[20]. The possibility of "greenwashing," in which businesses and even some investment funds promote themselves as "green" or "sustainable" without having the underlying procedures to support these claims, has increased along with the demand for ESG investments. Greenwashing damages the trust that investors have in ESG goods and can result in money being misallocated to businesses that are not really dedicated to sustainable practices. The difficulty is compounded by the absence of widely accepted definitions and standards for what qualifies as an ESG investment.

The difficulties of funding the shift to a net-zero carbon economy is also one of major barriers in the context of ESG investment. Investing heavily in innovative processes, infrastructure, and technologies that can drastically lower carbon footprints across industries is necessary to achieve net-zero carbon emissions[21]. However, many businesses, particularly those in carbon-intensive industries, find it difficult to get the required finance for such ambitious changes due to the high upfront costs, lengthy development periods, and uncertainty around returns. Additionally, the finance process is further complicated by the intricate nature of the net-zero transition, which calls for the development of new technologies, the refit of existing assets, and the navigation of regulatory frameworks.

The apparent trade-off between attaining ESG objectives and financial gains is another difficulty in ESG investment[22]. ESG investing Some contend that an excessive emphasis on non-financial issues might result in underperformance, especially if the investments include greater prices or limitations on specific industries, such fossil fuels. There is ongoing discussion in the investment world on the possibility of short-term underperformance, despite the fact that several studies have demonstrated that ESG investing may result in competitive or even better financial returns, especially over the long run.

[17] *Unpri. URL: https://www.unpri.org/about-us/about-the-pri (Accessed: 29.07.2024)*
[18] *Ground, J. (2022) ESG Global Study 2022, The Harvard Law School Forum on Corporate Governance. URL: https://corpgov.law.harvard.edu/2022/06/17/esg-global-study-2022 (Accessed: 29.07.2024)*
[19] *Linkedin. URL: https://www.linkedin.com/pulse/criticality-data-esg-reporting-current-failures-access-siva-narayanan/ (Accessed: 30.09.2024)*
[20] *Lyhouse. URL: https://www.lythouse.com/blog/what-does-greenwashing-mean-in-sustainable-investing (Accessed: 2.10.2024)*
[21] *Insights. URL: https://insights.grcglobalgroup.com/key-3-challenges-for-esg-investing-whats-next/ (Accessed: 31.07.2024)*
[22] *Harvard Business Review. URL: https://hbr.org/2022/08/esg-investing-isnt-designed-to-save-the-planet (Accessed: 2.10.2024)*

*Future Trends in ESG Investment*

One of the most important future trends in ESG investing is the mainstreaming of sustainable products across many sectors, with fast fashion being an industry rapidly losing its appeal due to increasing ethical and environmental concerns[23]. This turn in tastes is above all because of the young generations, Millennials and Gen Z, who are basically very aware of climate change, loss of biodiversity, and the immediate need for sustainability. As Millennials and Gen Z enter into the workforce and are able to spend more, they will continue to have an increasing impact on market dynamics. In fact, these generations are very likely to become the majority of consumers soon and support businesses that follow tight environmental and sustainable standards with their wallets.

Whereas the demand for real ESG practice is on the rise, at the same time, greenwashing practices are under increasing denouncement. Though the greenwashing practices have long been under critical consideration by both consumers and regulators, in 2024 and beyond, more impetus is likely to go in the direction of accountability, underpinned by tighter legal definitions and stronger penalties for violators[24]. In 2023, DWS, the investment arm of Deutsche Bank and one of Europe's largest asset managers, was fined $19 million for misleading claims about its ESG investment process[25].

Another new trend that is emerging with the evolution of the ESG investment environment is the emphasis on pledges and authenticity in corporate sustainability activities[26]. Vague promises and superficial commitments will no longer suffice for either customers or investors. Instead, they are pushing companies to actually be transparent about their sustainability practices and to show clarity with measurability in commitments to ESG goals. In addition, the trend of transparency and commitment is not just about meeting today's expectations; it's about preparing for what's next. Demonstrating a genuine commitment to ESG issues will be ever more important to long-term success as global issues like climate change and social injustice continue to intensify. Companies that don't risk losing out as customers and investors start supporting those who can show a genuine, quantifiable effect.

Private equity firms have increasingly focused on ESG investments in view of the increasing importance of sustainability to create long-term value. It was revealed that the majority of private equity firms have considerably increased the amount of work they put into integrating ESG factors into their investing strategy. This rising tide of ESG in private equity marks a surge in commitment towards sustainable investment approaches, rather than a fad. A suite of ESG goals that many PE firms today set for portfolio companies includes reducing carbon emissions, improving labor standards, and reinforcing governance structures. Improvement in the ESG performance of a company is increasingly regarded as central to its success and profitability; therefore, such initiatives are often attached to objectives related to long-term value creation.

Finally, a new wave of ESG disclosure regulations is coming that will fundamentally change how investment in ESG is done. Starting in 2026, more than 10,000 US public and private businesses will have to disclose their carbon footprint and give very particular accounts of how climate risks could affect the daily operation and bottom line of their business[27]. This legislation represents a sea change in how companies approach risk management and sustainability, not a tweak. The shift to mandated disclosure is likely to have far-reaching implications in many ways. It is likely to bring about more consistency and comparability in ESG data, which shall aid investors in making better decisions. Companies will also be under additional pressure to implement more sustainable practices amid increased public scrutiny, investor scrutiny, and regulator scrutiny of their climate-related operations.

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*[23] Corporate Governance Institute. URL: https://www.thecorporategovernanceinstitute.com/insights/guides/10-esg-trends-to-watch/?srsltid=AfmBOooYvziABgaQ0yr-SaOEIIf67q9YPRNrxUeEHHmwIng-vKFycy6B (Accessed: 15.10.2024)*

*[24] Fiscalnotes. URL: https://fiscalnote.com/blog/top-esg-trends-2024 (Accessed: 13.10.2024)*

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*[26] Diligencevault. URL: https://diligencevault.com/6-trends-shaping-the-future-of-impact-and-esg-investing/ (accessed: 15.10.2024)*

*[27] Sphera. URL: https://sphera.com/resources/blog/actions-to-take-now-in-preparation-for-the-california-climate-laws/ (Accessed: 15.10.2024)*

**Conclusion**

In conclusion, the ESG investment environment is experiencing a huge transition due to various changing trends and circumstances. The current status of ESG investment has been analyzed in this research paper, considering key factors such as advanced technology, changing consumer preferences, and legislative changes. It also discusses the flaws the industry has in faulty data and the perils of greenwashing. This discussion has shed light on increased scrutiny by investors and regulators alike, along with growing emphasis on sincerity and actual promises in the sustainability initiatives of corporate entities.

The rise of sustainable finance is the industrial revolution in how investments are manufactured and managed, rather than some flash in the pan. For example, the adoption of strict disclosure regulations, such as climate disclosure in the United States, represents one of the biggest moves toward responsibility and transparency. These rules should boost the integration of ESG into investment plans and business operations at deeper levels and establish new thresholds in ethical and environmental governance.

Future trends for ESG investing are expected to include a stronger focus on measurable impact, better alignment of investment approaches with sustainability goals, and ongoing innovation in the measurement and reporting of ESG factors. The shape of the sector will be the result of how investors, companies, and regulators work together to resolve the challenges posed and grasp the opportunities available in moving toward a greener way of providing finance.

Taken together, these dynamics suggest that in large measure, ESG investing will be a major driver of global business behavior in the allocation of capital for the foreseeable future. Business and investor success, contributing to truly sustainable outcomes for the future, will depend importantly on adaptation to this changing landscape. The growth of the ESG investing ecosystem will drive progress toward a resilient and equitable society by reflecting and working to address some of the pressing global challenges of our time.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The author declares no conflict of interest.

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Received 29.10.2024
Revised 19.11.2024
Accepted 25.11.2024

*Jraic.com*
JOURNAL OF REGIONAL AND INTERNATIONAL COMPETITIVENESS 2024; 5(4):65-75

# Dedication to A.V. Buzgalin

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IN MEMORIAM

**For citation:** Vasiliy V. Chekmarev. (2024). Dedication to A.V. Buzgalin. *Journal of regional and international competitiveness*, 5(4), 65.

## Introduction

Alexander Vladimirovich Buzgalin left the earthly world. But at the same time, he remains in it – in his books, articles, and business speeches. He remains in our memory and in our hearts.

However, we are learning to tolerate the loss of friends. There are a lot of them: Oktay Mammadov, Viktor Ryazanov, Vadim Belov, Georgy Tsagolov, and Alexander Buzgalin. Patience becomes a methodology of life.

A.V. Buzgalin united the generational in the editorial board of the journal «Issues of Political Economy». Unfortunately, outstanding people from the editorial board of the journal left, too. But they help to defend Doctoral and Candidates dissertations to Natalia Yakovleva, Mikhail Pavlov, Olga Barashkova, Gleb Maslov, etc. It provides the intergenerational continuity of the editorial board.

The selection of the issuing editors is an organisational and pragmatic task. It involves the formation, conceptualisation, and statuisation of methodological competencies, methods and regulations of activity. This is the development of network interactions.

However, A.V. Buzgalin realised the «strong-willed imperialism» of man over circumstances. His life is a «quantum transition» in political economy, ensuring its development.

According to K. Marx's, «critique of political economy» is the political economy of the second wave of civilization. Therefore, ideas of modern political economy as the political economy of informatisation of society, supported by A.V. Buzgalin is the political economy of the third wave of civilisation. It forms the noosphere [6; 11; 8].

Recent works by A.V. Buzgalina were devoted to problems related to intangible reality [20]. He explored the meanings and emotions providing people to work together. He understands the drastic change in the nature of work, the emergence of new labour technologies, and the correlation of globality and globalisation. A.V. Buzgalin considered the social atmosphere of work. He argued that the society can be progressive and regressive. He considered the reasons for the shortage of doctors and teachers in big cities and rural areas, and wanted to change the quality of the social sphere for the development of the society.

## Main part

*Part 1.*

The range of characteristics of A.V. Buzgalin is extremely broad: from lectures to speeches in Literaturnaya Gazeta and on YouTube, from the Editor-in-Chief of the journals «Issues of Political Economy» and «Alternatives», to the co-organiser of political economic congresses.

He has contributed to public activities in the development and implementation of strategic socio-economic projects. He was the first Deputy Chairman of the Permanent Organising Committee of the Moscow Economic Forum; coordinator of the International Political Economic Association of the CIS and Baltic Countries; First Deputy Chairman of the Public Movement «Education for All». His interviews had fundamental knowledge, persuasiveness, firmness, and integrity.

A.V. Buzgalin' works are not a repetition of the long-mastered and well-established «ideological and economic». Moreover, he always looked beyond the historical horizon, where it was not customary for scientists to look during his formation as a political economist [5; 17; 13; 14].

Indeed, A.V. Buzgalin expanded the object and subject of modern political economic knowledge by

focusing research attention on values outside the context of the Soviet period of political economists of the 20th century.

Furthermore, his scientific search was close to Andrei Ivanovich Kolganov [8; 1; 2; 3; 4]. The evidence is their work «Global Capital». He considered the search of like-minded people as a task of life. Therefore, Lyudmila Alexandrovna Bulavka-Buzgalina supported his activity.

In fact, he became a collector of the tradition of the best scientists of the political economists of Moscow, Leningrad, the Upper Volga region and Siberia. They raise the social rating of the Department of Political Economy of Lomonosov Moscow State University by political economic congresses (VII Congresses were already held).

Unfortunately, he did not have time to publish his vision of the new situation in the global economy. The trends of its formation have just been outlined and the geo-economy has yet to uncover the causes of employee's shortage in different countries. The study of the processes of possible formation of new relations between Man and the Biosphere, declared by the emergence of the Noosphere, today is considered in terms of digitalisation and Artificial Intelligence not geopolitics. Moreover, he recorded the reflection of long-term economic development negative dynamic of over-accumulation of capital.

A.V. Buzgalin noted that the general trend in demand does not allow the development of new, most promising technological industries within the framework of capitalism. He also interpreted education as an institution for creating faith in the future.

Professor A.V. Buzgalin is politically economy-centric person. Moreover, he is an atypical one. He possesses energy, knowledge, experience, professional honor, love for the country and its history. But there is another his wonderful, rare and most valuable quality.

However, Alexander Buzgalin loved poetry. In this he was very logocentric. Indeed, he loved «The Years of Teachings» by poet Vladimir Mikushevich.

And I'm going to ask the last question,
I recognised it in the silence of late summer
Lightning hair radiation
Instead of light and maybe,
instead of an answer.

And not knowing well, and not knowing evil,
Nothing but the sky, not taking on the road,
She looked into me and calmly entered,
Like the spring sun to a bear's den.

There was only one word left to whisper,
And it would not be for nothing that the soul would be called a disciple,
If this feels like a tempting path
The body is sent as a walking tomb.

The innermost guest will touch the heavens
And he will resurrect me, brightening up inadvertently,
Because only the one is free,
Who is resurrected?
In this lingering dream,
hopelessly deep.

*(«The Years of Learning»)*

*Part 2. A sign of fate*

Professor A.V. Buzgalin was involved into political economy. Unfortunately, he left this world. Today, we remember him, his life, his work.

When we think about A.V. Buzgalin, we realise that the tragedy of death is the discrepancy between life and the time of life. And our farewell to Alexander Vladimirovich Buzgalin is not a farewell to the last journey, but to a long journey through a mysterious forest wood.

*The mysterious forest wood –*
*A haven for goldfinches and basilisks.*
*Voices are heard at night*
*Among the plane trees and black obelisks.*

*There are lifeless traces of hot campfires.*
*Rotten hollyhocks and water scarcity.*
*A mysterious forest woods.*
*The stop is two or three kilometers away...*
*Dry leaves, like sails*
*On a schooner warped by the wind.*

*The film is illuminated, the flash is ruined.*
*There is no connection. The mobile tower does not work.*

*The mysterious forest woods*
*Varakushka coos with disbelief.*
*It takes half an hour to walk from the highway,*
*Clinging to thorny trees.*

*Acacia crowns, stormy elder,*
*And behind the trunks there is a cloudy veil.*
*The mysterious forest woods*
*It became a talisman for the pilgrims.*
*In winter, they remember the addresses here,*
*Tramps stopped by the snow.*

*I saw her from the window of the train*
*And the hands of the clock broke like matches.*

*Part 3. Chrononavigator*

My first meeting with A.V. Buzgalin was three decades ago in the Russian State Library, Moscow, Russia. We were the moderators of one of the sections of the scientific conference.

Today I believe him a chrononavigator. It controls and manages the time. A.V. Buzgalin's acute sense of time is conveyed in appropriate assessments of what is happening through facts and events illustrating his speeches or comments on any phenomena embedded in the audience minds. It provides a feeling of agreement with his position.

In fact, he is a leader and orator. In communication with A.V. Buzgalin there is no need to transform your personality into anything else. Although, according to S. Snegov, incomplete personality renewal is as important as first love. And even more important than love, because love arises involuntarily. Its object is often accidental and, once it has arisen, it is difficult to influence it. And in the case of personality, chance is excluded, because you choose yourself the way you want to be[1]. Therefore, A.V. Buzgalin was beloved by

[1] *Snegov, S.A. Chrononavigators. URL: https://izborsk-club.ru (Accessed: 10.10.2024)*

the enemies not only by the friends. For instance, he always correctly clarifies the interlocutor's position, synchronises himself and the listener at the same time. It is the extra essential feeling. Understanding.

And A.V. Buzgalin simply followed his destiny, being sure that fate is a series of amazing coincidences in time. In the human body, health is our biological time. It is also a coincidence of the time of existence of various organs and systems. A.V. Buzgalin was engaged, in fact, in helping us overcome ourselves (even if you are asleep, keep your eyes open). Sometimes we are afraid of change, sometimes we dream about it. Sometimes we strive to change everything ourselves, and sometimes we wait for the manifestation of the destiny. The enemy is always closer than it seems, the enemy is always inside us. We know enough to understand, but still so little to believe.

The internal base of the personality of A.V. Buzgalina: admiration for creative people. He had huge organisational work. I want to express my professional solidarity with him. Emotionally, he could be extravagant, ironic. A.V. Buzgalin, like the best university lecturers, possessed intellectual charm, and believed, after M. Zhvanetsky, that a man approaching the age of 70 should feel his right to kiss any woman without her consent and without his hope[2]. He strived to create ideas, excite someone's mind, look for opponents and supporters. These human aspirations are not peculiar to everyone engaged in scientific activity.

The political economic knowledge of the XVIII-XIX centuries was clear firstly. The progress of the social development and the expansion of production to economics changes industrial relations to economic ones, formed huge number of concepts, multiplied the categories, deformed the objective economic laws by subjectivity of international ones. Historical laws, side by side with physical and biological ones, began to be psychological, etc.

Furthermore, A.V. Buzgalin was outstanding researcher. He was interested in books, history, poetry, science, work, and life itself. We believe him immortal person. He continues to live in our memory and minds.

One can emphasize the human role of Professor Buzgalin in different ways, but it seems that his main merit is to become a tireless civil activist. And this is the essence of his destiny, destination, and fate. A.V. Buzgalin's fate is on the edge of two epochs, Russian and Soviet ones. His talent and experience can be called a wisdom. His thoughts are deep. A.V. Buzgalin, being a Soviet scientist and a Russian man, realized himself, achieved success, and recognition in world economic science. He also was beloved by relatives and friends. Thanks to his extraordinary thinking, he looked for GOODNESS in every person. It is the good, in his opinion, that unites the WORLD.

He also had a dream. According to his speech in Literaturnaya Gazeta, he dreamed of peace. About peace between all for all in terms of the ability to negotiate and cooperate with each other. Subjectivity and emotionality of perception of reality should not (and cannot) to be closed by the objectivity of scientific knowledge of social scientists (including political economists).

However, Buzgalin did not live (like many) in parallel worlds – real and fictional. He pointed real events, interpreting their causes and features. For example, he did not change the classical political economy with the terms and definitions of a new political economy.

The beginning of the XXI century has technologically similar features to the XX century. However, ones should not try to duplicate ways to solve them formally. And Professor Buzgalin believed that although the tasks are indeed similar due to a certain cyclical nature of historical processes, the challenges and threats today are completely different, especially if we talk about the technological aspects of civilisation. In this case, technology means not only «hardware» and not only applied natural sciences, but also social construction, and, most importantly, methods of forming the person himself or herself.

*Part 4. Karl Marx and the Marxist A.V. Buzgalin*

Many significant forums were organized on A.V. Buzgalin's initiative. For instance, the Marxist forums. In May 2018, the International Forum «MARX-XXI», dedicated to the bicentennial of the birth of Karl Marx was held at the Lomonosov Moscow State University, Moscow, Russia. It posed a wide range of issues related

[2] *Ivanov A. The heart of Parma, or Cherdyn, is the Princess of the mountains. URL: https://www.labirint.ru/reviews/goods/228766/ (Accessed: 12.10.2024)*

to the development of both the theory of Marxism and the practices claimed the implementation of this scientific school.

The continuation of this dialogue devoted to the critical analysis of Marxism in terms of worldwide modern problems [9; 12] was (November 2022) The Second Moscow Marxist Forum. After these forums, Professor Buzgalin was claimed as the leader of Russian Marxism. However, we should note A.V. Buzgalin is a controversial person. He is a real professional in his field. Moreover, he always assessed modern processes and phenomena properly. For instance, he believed sanctions are implemented as a mechanism for the destruction of economic laws. He used moderate rhetoric to defend his understanding of Marx. Thinking on the government's action to prevent an increase in gasoline prices, A.V. Buzgalin used the term «cooling» prices by order, rather than by the institutionality of the actions of economic laws. Recently, Professor Buzgalin has increasingly returned to Nature [10].

In 2019, A.V. Buzgalin considered an issue of the economic growth and development. According to the Nobel laureate Stiglitz and President of the VEO Bodrunov, he reported on his understanding of the difference between growth and development, and proved the importance of understanding this difference. He believed in the development without growth and the growth without the development. To live in the society containing is the growth without the development, there is a need to mitigate social inequality. Indeed, he focused on the introduction of the Scandinavian model in Russia. According to it, the social inequality is reduced, even with the same volume of gross national product.

Furthermore, considering the economic development not only in terms of the economic growth, it is fundamentally important to assess the items decrease and increase. There is no need to increase everything. To ensure the development, we need to implement the state programmes. We suggest the plan economy: a five-year plan ensures the further development of economy and industrial policy [16; 18; 19].

These industries will have low taxes rates, loans for five years. They also will have the public investments and the special plans for the governmental programmes. The owner has the right to plan the activities of his own companies. State-owned companies should work for the state, not for their profits. Hence, the implementation of this plan will ensure the adaptation of one plan approved by the president. Therefore, we will have some guarantee of strategic development for achievement of the strategic national goals.

However, we have no defined goals. Hence, there is a need to set the goals of socio-economic development, sufficiently deep reforms, etc. Indeed, there is a need to discuss the issue of funding. The governmental strategy is understudied [17; 2].

We would like to emphasise that Professor Buzgalin was against the use of the GDP indicator in state planning. He also dwells on the paradigm of economic development, competition, coexistence, etc. Moreover, he highlights the political economy as the law of human and environmental evolution, and the needs of the society and the individuals [9; 13]. Indeed, the needs of the economy are not the needs of production. Therefore, for a correct understanding of the essence of economics, we should define the human needs as economic ones.

A.V. Buzgalin believed in the ability of people to act based on their own beliefs. Irina Poe dedicated a following poem to him:

Read a little at night,
At the lamp, nodding one's head.
A novel, a story, a poem is not the point.
The whole point is that, falling asleep,
Find the answer between the word-letters,
There are landmarks in the map pages,
Sail away from the word «no» in a dream,
In nightmares, deceive vampires.
In all worlds, in all ages
The lines were forged with iron rhymes.

Read for the night, gentlemen,
And smile like prophets!

Professor A.V. Buzgalina is paradoxical in his combination of intelligence and conscience. He was dedicated to the political economy. A.V. Buzgalin was the last «leader» of Marxism in modern Russia. We should note, he was categorically against such an assessment of him. Professor A.V. Buzgalin explained to his students that Marxism is a very complex and multidimensional phenomenon. A range of political trends and movements emerged on Marxist soil. They are as follows: bernsteinianism, phenomenological Marxism, Freudian Marxism, etc. As a result, Marxism is still very diverse. Even in the United States, it is difficult to find a university where departments are not headed by people representing different currents of Marxism. Bolshevism in this respect, of course, derived from Marxism, but it is not identical to all its many directions. Bolshevism opposed many of them, so it is important to define Bolshevism difference from other Marxist movements.

At the Second Congress of the RSDLP in 1903, in the polemic of Mensheviks and Bolsheviks, the question was clarified whether a revolution was possible in Russia. According to Plekhanov, «Russia has not baked the «pie of capitalism», that a developed system of capitalist relations has not yet been formed in the country, there is no «bourgeoisie-proletariat» link, therefore revolution is impossible. The Bolsheviks, contrary to the arguments of orthodox Marxists considered the possibility of the revolution in Russia [10; 7].

Marxism is a system of views on the possibility of living in unity with Nature. However, political scientists before Marx could not understand the connection between the laws of Nature and economic laws [2; 4]. A.V. Buzgalin finds this connection. In his consistency of Marx's ideas, Professor Buzgalin contributed to the preservation of Russia. Borisenko N.A. dedicated A.V. Buzgalin the poem.

**A poem about property**

The property arose a long time ago,
In centuries long forgotten.
There, what I found, I appropriated,
So let's say the property is primary.

But as time went on, she changed,
Its essence and content were being filled.
And here two blocks of views have accumulated:
Economists and lawyers are divided.

The Economists' block is wide and spacious:
Democritus, Plato and Aristotle are here,
Thomas More, Fourier and Saint-Simon are here,
Adam Smith, Proudhon and Chernyshevsky are here.

The XIX-XX century has accumulated ideas, just look for them.
We will divide them all into groups of three:
Of the first group, the most important is Marx
And from the second, there is a Menger and a Viser,
From the third group Osipov, Chichinskas
And they are all important, as a selection.

As a legal category,
What is everyone talking about now,

We considered Ricardo's property
And A. Buzgalin gave his vast glance.

Only property is the basis of production,
She will determine the structure of society,
The masses are the cause of discontent
And the result of the work will distribute!

And that's the result of all the transformations
The variety of shapes is all on the face,
There is a private type, and there is a nationwide one,
And then the dismemberment is all given.

There is both a personal and a collective one here,
There are state and municipal,
And there is a mixed one, and in the transformation,
Both PPP and SPP are countless.

Each form has its own place,
There is a word for the effectiveness of each,
And the objectivity of these changes
Introductions have developed from a number of factors.

The variety of forms, the condition of growth,
And it's not so easy to switch to it
And get the expected effect,
And not like us, a completely bad answer.

There are a lot of facts of violations of the privatization of facilities,
As a result, it led to the collapse of the entire childhood system:
Stagnation in enterprises, downtime in agriculture -
We would have listened to less advice from the West.

We have also studied reforms in other countries,
And here they were building on made-up plans.
The initial relationship has been privatized
And there are fewer advantages and more performances here.

Now, as a result, there is only a small business,
Only trade is developed, workshops for ten places.
But it is necessary to introduce industry into the basis,
Only this will help us grow up higher:

Improve efficiency, raise prestige growth,
To return the role to the state, here the course is not so simple.
The scale of production, the volume of GDP,
And our Kyrgyzstan will be at the right height!

June 2010

The idea of dynamical forms of ownership forms is in this text. In our opinion the New Economic Politics (NEP) influences this dynamic. The NEP was introduced in March 1921. There is no its exact end date. Some sources consider the period from 1921 to 1927, others – the late 20s - early 30s. The comedy «Zoika's Apartment», written by Mikhail Bulgakov by order of the Vakhtangov's Theater (the premiere took place in October 1926, the play was staged by Alexey Dmitrievich Popov, played by a star cast: Mansurova, Ruben Simonov, Zakhava, Dmitry Zhuravlev), allowed the performers to make their verdict of modernity.

The play had a success. The funny plot, the recognizability of comedic characters in real life, risky catchy lines caused continuous laughter from the audience. The inflated Nepman time burst onto the Moscow stage with its collapsed plans and hopes. Enterprising, gambling, dexterous heroes were sharpened to frantically run up, grab and run away. They managed to rebuild in time, as required by reality, but they failed to integrate into the real course of history. Hence the grimaces of fate and the reigning «feast during the plague». According to many opinions, the performance resembled a «creepy farce». But M. Bulgakov himself defined the genre of the play in its final version (1935) as a tragic farce. Other definitions can be found in the posters: tragicomedy, tragic grotesque, tragic buffoonery, etc.

Furthermore, Professor A.V. Buzgalin initiated a workshop in the framework of the journal «Issues of Political Economy».

There were considered quite new phenomena considering in terms of the experience of the past without denigrating either the past itself or the people who made the mistakes. Meanwhile, it's important to focus on not repeating mistakes, not on whether it's good or bad that they have been made. For instance, Chinese scientists are rich or wealthy. According to the film «The Task of Three Bodies», there were no miserable scientists in China at all. Simply because a Chinese scientist is important to the country.

Moreover, there is an issue of the worldwide challenges for China. Professor A.V. Buzgalin often spoke at forums, conferences, and symposiums. And to questions about when he manages to prepare for participation in a particular scientific meeting, he answered something like this: «Life is something without a blank. The flash of a match in a dark room. The main thing is to see, not to construct. But without reading the fundamental heritage of those whom we call classics, this is impossible. As well as without reading the works of those who are just entering the research path. Their share of helplessness in front of the word today, eventually turns into granite of thought».

A.V. Buzgalin believed that the study of Karl Marx's Capital is useful for today's students. They can search for an answer to the question why the sixth chapter was written after the fifth, and not after the ninth chapter, it forms logical thinking (so necessary today). After all, the fantastic idea of sophon, an elementary particle programmed to stop terrestrial scientific activity, turns out to be broader and fully reflects the modern competition within humanity, between countries that have mastered advanced technologies and those that are just trying to achieve them. Therefore, political economy is designed to focus (unlike economic theory as a science) on describing the forms of various functional relationships in the industrial sphere, understanding the objective foundations of the system of geopolitical, socio philosophical and cultural-moral relations on the Earth.

In this context, the role of geopolitics as a science is obvious due to its predictive potential.

**The epilogue**

A.V. Buzgalin ensured the development of the economic relations. Unfortunately, the magical power of fate took him away from us, only then did we see its Light in our understanding of the world order through the universality of political economic laws, understood the incorporation of economic currents through the confrontation of physical and financial capital.

A.V. Buzgalin was very responsible scientist, preserving the ideas of political economic research. His relations with colleagues from the provinces are warm, but specifically peculiar. Firstly, A.V. Buzgalin needed a territorial (beyond Moscow) expansion for political economy. On the basis of Kostroma State University and in colloboration with V.V. Chekmarev, Buzgalin cooperated with the Western political economists.

Secondly, Buzgalin, instead he is an adherent of Marxist version of Soviet political economy, discussed

the Western political ideas within the paradigm of Kostroma Economics Scientific School. There was always K. Marx «Capital» discussed in the form of communication with Western economists and funds).

Whereas, political economy was being driven out in Russia under the slogan of fighting for national interests. Distancing the economy from the political economy was a government trend.

Nevertheless, A.V. Buzgalin approved the identity of Karl Marx's «systematic approach» to the market economy, and was an arbitrator in the processes of preserving political economy as a global science in general. At the same time, he did not point it as a state-forming principle, however, as well as on recognizing the role of the Russian people. However, he applied scientific and technical features of the development of civilization, and used the concept of «precariat» instead the concept of «proletariat». Moreover, he did not recognise the processes of state destruction in the formation of a new economic structure of society.

He cooperated with the Academician O. N. Smolin, co-organized the KRON, and a supported the idea of a «knowledge society». He had never opposed his ideas to the ideas of illiteracy, not considering it necessary to spend his time on it.

He had never supported the ideas personifies the prerequisites of the Bologna process and creates prerequisites for the collapse of the survival of capitalism (Schwab and K). Indeed, the works of A.V. Buzgalin has always emphasized Russian identity in the organisation of the national economy. A.V. Buzgalin remained honest forever, he did not promote the ways of plundering and selling off property and sovereignty of Russia. At the same time, the economic security did not become an element of his system of views on new political economy structure. Moreover, Buzgalin had never joined to the scientists who do not want the good for their country. It was the vector of his civic position.

Medicine has long known the placebo effect (improving a person's well-being due to the fact that he or she believes in the effectiveness of some effect, in fact neutral). I believe, a scientific literature acts as a political and economic placebo for their authors. The authors, without offering anything new to the political economic knowledge, only describe some individual phenomena and processes, the possible mechanism for changing the economic space are not declared.

In the book «K» [1] Buzgalin, together with Kolganov, gives us an information signal concerning with the capital of the future. His views are original, but not paradoxical. He got into a time warp. This diversity promotes a new image of the role of work, paradoxes of its nature changing. Indeed, it also promotes the differences in the nature of work in the new world economic structure.

A.V. Buzgalin did not learn from the mistakes of others. He was doing his own ones. He appreciated a valuable skill in everyday life, but this is far from someone else's experience. For instance, financing varies greatly in different regions. The Moscow school got about 150,000 RUB per year for the education of each student; Voronezh – 35,000 RUB; Lipetsk – 30, 000 RUB; Kostroma – less than 28,000 RUB. At the same time, teachers are required to work within the framework of a single standard of education and the Unified State Exam. However, the conditions for preparing for this Exam are quite different.

I believe, the teacher should spend all his time with the students, not with reports and paper work. Generally, the teachers just have no time for the students.

For most parents, the main concern is the safety of their children at school. It includes physical safety on the stairs, in the corridors, in the gyms, and psychological security, including the Internet, etc. Indeed, many parents know the words «trolling», «bullying», «mobbing», «outing», «freighting». I believe, the teacher can notice something wrong timely only if he or she is in the contact with children and is not overloaded with the paperwork[3]. Therefore, the university professor A.V. Buzgalin proposed to remove up to 90% of all reporting and paperwork for school teachers. The teacher has to spend time with the children, not with the normative documents.

Indeed, A.V. Buzgalin was an extraordinary scientist and person. He was brilliant in answering the sophisticated questions, in addressing the complicated issues, and in resolving non-standard situations. According to A. Tarasov, A.V. Buzgalin (and Kolganov) tried to reconsider the political economy in terms of the modern societal, economical, and political conditions. Indeed, the political economy is still relevant.

[3] *Teachers were offered to make a minimum salary of 75,000 RUB. URL: https://ura.news/articles/1036281010 (Accessed: 10.10.2024).*

For instance, Marx's law on surplus value is studied in all economic institutions of the world. However, currently there are some challenges in terms of victory of the proletariat, because, contrary to Marx's ideas, the proletariat is numerically sharply decreasing. There are more managers and engineers than workers. They provide the future progress.

Marx lived a century and a half ago. Currently, the ideology should correspond to the new realities. Moreover, I.V. Stalin, at his last, XIX Congress in 1952, said that «we should study theory», he understood that new times require new ideas. Indeed, we should avoid the mistakes of the Bolsheviks. K. Marx did not write about the «total socialization», but about the total equity and happiness. Hence, Professor Buzgalin always struggled for the transformation of human existence into progress, creativity, and development.

**FUNDING**

The work was done on a personal initiative.

**CONFLICT OF INTEREST**

The author declares no conflict of interest.

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Received 26.09.2024
Revised 25.10.2024
Accepted 25.11.2024

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