

This monographic research was conducted by the staff of the Department of Finance and Banking Technology of Technical University of Georgia.

Monographic research is dedicated to the study of the challenges and prospects of the financial and banking sectors of Georgia in the modern global world. The results of the research are presented in two parts (18 chapters).

In the first part – “Challenges and Perspectives of the Financial Sector of Georgia” - the following 11 chapters are presented.

Part Two – “Challenges and Perspectives of the Banking Sector of Georgia” - Includes the following 7 chapters.

The book is designed for a wide range of readers: for scientific and practical figures, professors and students of higher education institutions. It will be useful for employees of the country's legislative and executive bodies, for all those interested in the problem of financial and banking.

**Rusudan Kutateladze** - Doctor of Economics, Professor of Georgian Technical University, Dean of the Faculty of Business Technologies

**Rati Burdiashvili** - Doctor of Economics, Professor of Georgian Technical University

**Merab Vanishvili** - Doctor of Economics, Associate Professor of Georgian Technical University.



R. Kutateladze, R. Burdiashvili, M. Vanishvili

Kutateladze, Burdiashvili, Vanishvili



*Rusudan Kutateladze • Rati Burdiashvili • Merab Vanishvili*

## Financial and banking sector of Georgia in the modern global world

3rd Volume.

Challenges and Perspectives of the Financial-Banking Sector of Georgia in the modern global world

**Rusudan Kutateladze  
Rati Burdiashvili  
Merab Vanishvili**

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**Georgian Technical University  
Faculty of Business Technology  
Department of Finance and Banking Technology**

**Collective Monograph (Volume III)**



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**FINANCIAL AND BANKING SECTOR OF GEORGIA  
IN THE MODERN GLOBAL WORLD**

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**Challenges and Perspectives of the Financial-Banking Sector of  
Georgia in the modern global world**



**FEBRUARY 26, 2026**  
Georgian Technical University  
Tbilisi, 0160, Georgia

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## **PART I. CHALLENGES AND PERSPECTIVES OF THE FINANCIAL SECTOR OF GEORGIA**

### **I.1. Trends and strategic directions in the development of financial education in Georgia**

**Rusudan Kutateladze**

Doctor of Economics

Professor of Georgian Technical University

[r.kutateladze@gtu.ge](mailto:r.kutateladze@gtu.ge)

**Rati Burdiashvili**

Doctor of Economics

Professor of Georgian Technical University

[r.burdiasvili@gtu.ge](mailto:r.burdiasvili@gtu.ge)

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Abstract.** The article, based on the analysis of the latest literary sources and comprehensive factual materials, discusses such an important issue of financial science and practice as trends in financial education and strategic directions of development in Georgia.

The current level of financial education of the Georgian population is determined by such important indicators as: Overall Level of Financial Literacy, Financial Knowledge, Financial Behaviour, Financial Attitudes, Financial Inclusion, Financial Well-Being,

The main strategic directions for the development of financial education are defined: Delivery of financial education of the young generation and preparing them for future life; Encourage reasonable financial behaviour and promotion of savvy financial attitudes of the population; Increasing the use of publicly available, impartial financial information, resources and channels; Creation and development of cooperation mechanisms with stakeholders.

**Keywords:** Financial education, Financial Literacy, Financial Knowledge, Financial Behaviour, Financial Attitudes, Financial Inclusion, Financial Well-Being.

## **1. Introduction**

One of the tasks of the National Bank of Georgia is to protect the rights of consumers in the financial sector<sup>1</sup>. And financial education is viewed as an integral part of the framework of consumer rights protection. As financially educated consumers better understand the essence of financial issues and products; Have the knowledge, skills and confidence to make informed choices; Make responsible financial decisions; They know where to get help and act in a way to improve their financial well-being.

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<sup>1</sup> Organic Law of Georgia on National Bank of Georgia, article 47

As a result, raising the level of financial education is important not only for the consumers, but also for the financial sector, as it will be much more favourable and less risky for it to deal with a consumer who is aware and responsible. Ultimately, a healthy economic environment is formed in the country, in which both individuals and the financial sector act savvy and make mutually beneficial decisions.

It is noteworthy that in order to protect consumer rights, the National Bank developed the rule<sup>2</sup> approved by the order N35/04 of the Governor of the National Bank of Georgia "On the Approval of the Rules for Providing Necessary Information to the Customers by Commercial Banks when Providing Banking Services", dated as of May 13, 2011, and the first national strategy for financial education of Georgia was approved in 2016.

It is truth that the National Bank was carrying out activities aimed at raising the financial literacy of the population even before the drawing up the strategy, however, after developing the strategy, these activities became more organized and systematic.

The purpose of drawing up the first strategy was to raise awareness about the benefits of financial education, to deepen

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<sup>2</sup> Current consolidate version of the updated rule was approved in 2021

coordination and cooperation between interested parties, and to expand opportunities for receiving financial education.

It can be said that after drawing up the strategy, more interested parties became involved in providing financial education to the population, including representatives of the financial sector and donor organizations of the relevant profile, as well as higher education institutions and public institutions. In addition, the number and scale of measures implemented in the direction of raising financial literacy increased year by year. Moreover, it should be noted, that most of them were initiated by the National Bank, however, experience of implementation of financial education activities independently by stakeholders also exists.

The developing of the strategy and the deepening of cooperation between the stakeholders contributed to the process of taking a number of important steps in the direction financial literacy: including, financial education topics were integrated into the national curriculum of the secondary education and the relevant training of teachers was initiated; The first financial education web-portal - "Finedu" ([www.finedu.gov.ge](http://www.finedu.gov.ge))<sup>3</sup> and its

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<sup>3</sup> During the COVID-19 pandemic, "FinEdu" became an important channel for the digital delivery of financial education, through which financial education activities were carried out online, such as: informational campaigns, competitions, webinars, lives etc.

supporting pages on social media were created; Annual awareness-raising events, competitions, webinars and trainings have become traditional; Financial education programs, online and printed educational materials were created, videos, games were developed for different target groups.

## **2. Research results**

**2.1. *The essence and purpose of financial education of the population.*** Based on the objectives of the study, we agree with the position according to which the term "financial literacy" is defined by the definition developed by "OECD/INFE": "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being"<sup>4</sup>. And "Financial Education" is the process by which individuals improve their understanding of financial products and concepts, and through available information, instructions and objective advice, develop the skills and confidence to make informed choices, to know where to get help and to take other effective actions to improve their financial well-being.

Financial education in Georgia can:

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<sup>4</sup> OECD Council Recommendation on Financial Literacy 2020

*Increase the financial resilience of the population and improve their financial well-being*<sup>5</sup>. A large part of the population is worried about how they will be able to cope with daily household expenses and believes that finances control their lives. Financial education helps people take control of their own finances and reduces their level of financial dependence on family members and close ones.

*Reduce the level of poverty, especially among vulnerable groups.* People living in rural areas, the elderly and the poor are more prone to poverty and depend on the financial support from family members and close ones. Improving knowledge and skills related to money management, budgeting, and short-term savings can help reduce financial stress and over-indebtedness, and increase individuals' financial confidence.

*Increase the volume of savings, including formal savings.* The level of formal savings in Georgia is low, people mostly save in cash and without specific long-term goals. Financial education, including raising awareness of formal savings and ways to save, may have long-term benefits for

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<sup>5</sup> Recommendations and information given in this chapter is based on document - Financial Education Mapping of Georgia, developed in 2020 by OECD/INFE, based on the various studies, including population's financial education studies and consultations with stakeholders.

society in general and facilitate the development of capital markets in a country.

*Increase financial inclusion by raising awareness of and providing access to financial products.* Access to finances is relatively low for rural population, low-income individuals or households, and young people. When it comes to lending or saving, most of them depend on family and friends. Encouraging the use of formal financial products can be considered part of financial education. This can be achieved by raising awareness of benefits of financial products, explaining how the product works and how the product can meet the customer's needs. It is also important to provide information about insurance products, as a very small part of the population uses at least one insurance product, which creates the need to borrow money in case of unexpected events. Using insurance may help protect households from unexpected events, which in turn can increase their financial resilience.

*Facilitate strengthening of the framework for the protection of consumer rights by raising the awareness of the population about consumer rights and, moreover, about responsible (based on the assessment of the lender's solvency) lending.* There are still risk related to the consumer rights protection on the Georgian financial market, such as over-

indebtedness, predatory lending practices, cross-selling of financial products, financial frauds related to digital transactions etc. It is important that financial education activities build consumer capability to navigate safely in the digital world, do comparison shopping, borrow responsibly and read financial agreements. Financial education can support consumer-protection objectives by helping consumers have knowledge and skills to use appropriate financial products, delivered by responsible financial service providers.

*Improve the personal finance management skills of the younger generation as well as of micro and small business owners.* Financial education can increase the economic and financial capabilities of the younger generation, as well as strengthen the entrepreneurial skills that lead them to create businesses.

*Increase the awareness of individuals about the importance of long-term savings.* In Georgia, the population tends to have a short-term view - they think that money is there to be spent, and they do not save for long-term goals. Moreover, if we compare with other South-East European countries, the population of Georgia has the least feeling of readiness for retirement age. Financial education activities can be used for the adult and employed population to raise their awareness of saving

for long-term needs, including retirement. Financial education can help individuals make important decisions from a young age, which will help them become ready for retirement age.

*Ensure that women have similar levels of financial knowledge and financial confidence than men.* In the component of financial knowledge, women have a lower score compared to men, however, despite this, their financial behaviour is similar. Financial education activities can contribute to raising women's self-confidence, better use of their financial and economic opportunities.

*Help emigrants and their families manage remittances.* Financial education programs may be targeted at both expatriates and their family members to improve their knowledge of exchange rate risks, different types of remittances, and to improve their skills in personal budgeting and financial planning.

*Facilitate the dissemination of financial education through distance channels.* Remote channels can increase access to the rural population as well as to younger generation, as well as reduce the cost of financial education delivery. However, when reaching out the older population, it should be considered use of traditional channels as well, such as radio and television.

*Facilitate the development of basic financial skills from an early age.* According to the “PISA” 2018 study, Georgian students still have a lot to improve in terms of financial knowledge, attitudes and behaviours. Developing financial skills and healthy financial habits from an early age is critical for developing sound financial behaviour and long-term stability. Financial education of youth can also have positive impact on their families.

The results of the “PISA” study show that financially educated students are more prudent and more aware of the importance of personal financial management (making and managing money on their own). Research also shows that improving the financial literacy of students with low academic performance may be one of the ways to reduce income inequality.

The results of the “PISA” also show that advantaged students (belonging to higher income families) performed significantly better than disadvantaged students. By implementing financial education in schools it is possible to reach both of above mentioned groups.

***2.2. Level of financial literacy of the population and existing challenges.*** Despite a number of activities carried out in the direction of increasing financial literacy, it remains a

challenge to broaden its scale: to cover all target groups, to implement activities customized for them and to ensure the sustainability and continuity of these activities. All the above, in turn, requires the active involvement of more stakeholders and their coordinated action.

In addition, a repeated study of the financial literacy of the population<sup>6</sup>, which was conducted in 2019, based on the methodology of the International Network of Financial Education of the Organization for Economic Cooperation and Development (OECD/INFE Toolkit), showed that the level of financial literacy of the population of Georgia is still below average of the one of OECD countries, as well as the 26 countries participating in the international study and does not significantly differ from the indicators of a similar study conducted in 2016. Georgia also participated in the "PISA" (OECD's Program for International Student Assessment) study<sup>7</sup> in 2018, which, among other areas, measures financial literacy among 15-year-olds. According to this indicator, Georgia ranks 19<sup>th</sup> among the 20 countries participating in the study.

Moreover, it should be noted, that at the time of the research, financial education topics were not yet integrated into

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<sup>6</sup> OECD/INFE 2020 International Survey of Adult Financial Literacy

<sup>7</sup> OECD PISA 2018 financial literacy assessment of students

the national curriculum and school textbooks. A survey of the level of financial literacy was also conducted among micro, small and medium entrepreneurs<sup>8</sup> in 2021. The financial literacy score of entrepreneurs is lower than the average of the 14 countries participating in the study.

***Overall Level of Financial Literacy:*** If we present the score of financial literacy according to the components, we will see that Georgia's score in the knowledge component is higher than the average score of all countries. In the behaviour component, it is slightly below the average. As for attitudes, in the mentioned component, Georgia showed the lowest result compared to other countries.

***Financial Knowledge:*** In terms of knowledge, the majority of Georgia's population understands well concepts such as: time value of money (76%), interest payable on a loan (89%), risk and return (79%), inflation (87%). Almost half of the population of Georgia understands risk diversification (54%), however, the majority found it difficult to calculate simple interest (44%) and explain the essence of compound interest (43%), and only 24% of the population correctly understand both types of interest. As for self-assessment of financial

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<sup>8</sup> OECD/INFE 2021 Study of Micro, Small and Medium Entrepreneurs' Financial Education

knowledge, the population of Georgia is more or less confident in their own financial knowledge: more than half think that they have average financial knowledge (65%), 21% considers their level of knowledge as high, and only 12% rate their own knowledge at a low level.

***Financial Behaviour:*** In terms of controlling their own finances, 57% of the population have a plan on how to control family income and expenses (have a household budget), 88% pay bills on time, 71% control their own financial situation, 70% make considered purchases and consider alternatives.

In terms of financial resilience, 66.7% of the population of Georgia are active savers, however, only 33.1% of them set long-term financial goals (in general, 40.4% of the population strives to achieve long-term goals). In addition, More than half of the population (55%) reported that during the last year, there were cases when their expenses exceeded their income. To deal with this situation, they resorted to borrowing, however, most of them borrowed money from informal sources, such as family members, friends or relatives (30.4%) or bringing a product from the store with the condition of paying later (9.2%), while a small number borrowed money from formal sources, for instance, took personal loan from financial service provider (7.7%). As for dealing with financial difficulties without

borrowing, compared to other countries in the South-Eastern Europe region, only a small number of people in Georgia cut back on spending (16.1%) and more people turned to family members and relatives for help (22.9%).

Concerning the readiness for retirement age, only 12% of the population reported that they have confidence for retirement age, which is the lowest rate in the South-East European region. The majority of the population of Georgia at retirement age depends on children and family members (68.7%), spouse (55.6%) and state pension (62.8%).

As for making an informed choice when choosing a financial product, despite the fact that in case of other products, the population investigates alternatives, when purchasing financial products directly, only 20% of the population try to compare prices, and only 38% seek independent advice. Regarding the trusted financial education sources, 28% of the population trusts none of the organizations, 27% trusts the National Bank, 10% trusts the government, 8% trusts commercial banks and 21% does not have an answer to this question.

***Financial Attitudes:*** In terms of attitudes, the majority of the population thinks that money is there to be spent (79%), and many of them completely or partially agree with the

statement that spending money gives more satisfaction than saving money for long-term (56%), and 37% tends to live for today and thinks less about tomorrow.

**Financial Inclusion:** The level of awareness of financial products among the population is high, 84% of the population knows about at least 5 financial products, however, when they were asked about usage of the products, 47% of the population mentioned, that they recently chose a financial product, and 46% mentioned, that they turned to family members or friends to borrow money or keep savings. As for the most common products, it is current account/debit card (42.1%) and credit products (39.3%), usage of investment/retirement (13.5%) and insurance products (9.8%) is low.

**Financial Well-Being:** 58% of the population agrees that they are not satisfied with their financial situation, 67% thinks that their financial situation limits their ability to do important things for them, and 59% agree that they worry about paying their normal living expenses. 67% agree that finances control their lives, and 65% is concerned about running out of money. On the other hand, the majority disagrees with the opinion that they have too much debt (62%).

**2.3. Main strategic directions for the development of financial education.** Some experience concerning activities

carried out in the direction of financial education has been accumulated over the past years, in addition, new challenges have emerged, especially in the context of the new coronavirus (COVID-19), when the behaviour of consumers has changed and, therefore, opportunities for delivering financial education remotely, "online", have been activated, new priority areas and target groups have been identified, financial literacy topics have been specified, etc.

Taking into account all of the above, there was a need to revise the national strategy for financial education and develop a new strategy. The updated strategy is a basic recommendation document for any party interested in distribution of financial education, which defines priority directions and objectives, principles of compliance of financial education programs, activities and resources with the strategy, monitoring and evaluation mechanisms of financial education programs, and will promote cooperation between stakeholders in a more flexible and practical manner.

The National Strategy for Financial Education of Georgia 2023 was developed by the National Bank, in active cooperation with the Steering Committee of the National Strategy for Financial Education and consultations with stakeholders and the public.

According to the vision of the strategy, through financial education, the population can make informed financial decisions, which will reduce their financial stress and improve their financial stability and well-being.

The mission of the strategy is to facilitate the creation of an environment in which the National Bank and stakeholders can take coordinated action to disseminate financial education to the broad masses of the population, as a result of which the population will have the appropriate information, knowledge, behavior, attitudes and skills to make informed financial decisions and act in their best financial interests.

*To fulfill the mission of the strategy, the main priority areas are:*

1. Delivery of financial education of the young generation and preparing them for future life;
2. Encourage reasonable financial behaviour and promotion of savvy financial attitudes of the population;
3. Increasing the use of publicly available, impartial financial information, resources and channels;
4. Creation and development of cooperation mechanisms with stakeholders.

For each priority area, the strategy sets objectives and desired results.

The completion and implementation of the strategy mission is carried out through an annual detailed action plan, which defines and describes the financial education activities to be carried out for the implementation of the strategy and the resources and timelines required for their implementation, as well as the stakeholders involved in the process.

For the development of financial education activities by stakeholders, the strategy defines the main topics of financial education, as well as the principles of compliance of financial education programs, activities and resources with the national strategy.

*First of all, in order to create an understanding of the concept of financial education, the strategy defines the following list of key financial education issues:*

1. Mitigation of consumer risks: responsibly engaging with financial sector:

- ⇒ Consumer rights and responsibilities;
- ⇒ Responsible borrowing and loan management;
- ⇒ Research and comparing information about financial products;
- ⇒ Financial organizations and products;
- ⇒ Financial security, financial risks, defence measures against financial fraud;

2. Building Financial capability – Managing personal and family finances:

- ⇒ Personal and family budget planning and management;
- ⇒ Money and payments;
- ⇒ Savings and investment;
- ⇒ Insurance;
- ⇒ Preparing for retirement age;

3. Knowledge of general economic issues – considering economic issues when making financial decisions:

- ⇒ Considering the environmental and social impact when making financial decisions;
- ⇒ Currency risk;
- ⇒ Inflation;
- ⇒ Taxes;

4. Building financial capability of MSMEs

- ⇒ Relationship of micro, small and medium entrepreneurs with financial organizations;
- ⇒ Financial decision making of micro, small and medium entrepreneurs.

When developing the content of financial education activities, stakeholders should consider abovementioned key topics as well as the core competencies framework on financial

literacy<sup>9</sup>, which is a list of core competencies that a financially literate person should possess and which addresses financial education issues in terms of knowledge, attitudes and behaviours.

*When developing financial education activities, in addition to the content topics mentioned above, the stakeholders should take into account the following principles:*

- ▶ The program should be content-based and address key issues identified in the National Financial Education Strategy;
- ▶ The program should be clearly presented and easy to use;
- ▶ The program should be tailored to the needs of the target segment;
- ▶ The program should have a specific vision for achieving positive change and an evaluation plan;
- ▶ The program should help people achieve their financial goals;
- ▶ The program should use a variety of channels and forms of information exchange;
- ▶ The program should be free from marketing goals.

The implementation of the strategy is coordinated and monitored by the National Bank. In order to facilitate the effective implementation of the strategy, as well as to deepen the

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<sup>9</sup> Core Competencies Frameworks on Financial Literacy

cooperation between the stakeholders, the steering committee of the strategy is functioning.

The results achieved within the framework of the strategy will be evaluated by the National Bank, including periodic financial literacy surveys carried out throughout the country.

When evaluating results, it is also important to evaluate individual financial education activities directly by the stakeholder(s) implementing the activity. In addition, the extent to which this activity has achieved its objectives will be assessed according to the mechanisms developed for the purpose of evaluating and measuring results.

### **3. Conclusions**

Despite a number of activities undertaken to improve financial literacy, scaling up remains a challenge: covering all target groups, implementing activities tailored to them, and ensuring the sustainability and continuity of these activities. All of the above, in turn, requires the active involvement of more stakeholders and their coordinated actions.

A large part of the population in Georgia controls the family budget, however, in terms of financial attitudes, the majority is focused on short-term results. The majority of the population rarely saves for long-term goals, including

retirement. They often resort to informal channels to store savings and borrow money. Stress related to finances is high.

Financial education can contribute to improving the level of financial inclusion, reducing poverty and income inequality, managing financial risks and protecting consumer rights, creating and developing micro, small and medium-sized businesses, as well as preparing the younger generation for the future.

The National Bank of Georgia has developed a National Strategy for Financial Education within the framework of its mandate to protect consumer rights.

To fulfill the mission of the strategy, the main priority areas are: providing financial education to the younger generation and preparing them for their future; encouraging prudent financial behavior of the population and promoting the formation of attitudes; increasing the use of universally accessible, unbiased financial information, resources and channels; creating and developing mechanisms for cooperation with stakeholders.

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## **I.2. Green Financing for Achieving Sustainable Development Goals: Theoretical Foundations and Georgian Realities**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Rati Burdiashvili**

Doctor of Economics

Professor of Georgian Technical University

[r.burdiasvili@gtu.ge](mailto:r.burdiasvili@gtu.ge)

**Abstract.** The research focuses on the challenges and prospects for developing green finance, which provides funds for achieving the UN Sustainable Development Goals. The objectives of the study are to assess the level of development and structure of green finance, as well as to identify the factors determining its development, taking into account recent trends in the global economy.

The article analyzes the state and development trends of the green finance market, identifies barriers to the development of green financial instruments, proposes solutions to emerging problems, and identifies the specific features of sustainable finance development In Georgia.

The study utilized the concept of sustainable development and a problem-oriented approach to green finance. The analytical work was conducted using methods of analysis

and synthesis, comparison and grouping, economic analysis, and modeling.

The study results showed that interest in green finance instruments is driven by societal demands for sustainable development and environmental conservation, which require stricter accountability requirements for green financial instruments, more stringent regulatory oversight, and reliable disclosure of information supported by more accurate data.

Conclusions were drawn regarding the need to stimulate the use of green financing instruments and develop a legal framework for sustainable development that will ensure the harmonization of green financing policies and standards not only at the national but also at the global level..

**Keywords:** green finance, green financing, sustainable development, green bonds, green loans, green investments.

## **I. Introduction**

At the current stage of society's development, "green" financing is a current and, at the same time, quite relevant trend, which is associated with the need to introduce environmental measures in business processes, the emergence of new financial instruments and their active dissemination.

Green finance is an important tool of the global financial system for achieving the UN Sustainable Development Goals, which were adopted in 2015 in the interests of future generations to ensure the sustainable development of humanity based on the implementation of three main components: economic growth, social integration of society and environmental protection.

Green finance, which includes the integration of environmental, social and governance (ESG) issues into financial decisions, plays an important role in the sustainable development of the country. This type of financing aims to take into account environmental and social responsibility issues, which contributes to sustainable and inclusive economic growth.

The article discusses important issues related to green finance, such as: theoretical foundations of green financing, green financing instruments and main development directions, and features of the green financing market in Georgia.

## **II. Results and Discussion**

*II.1. Theoretical basis of the research.* Since the mid-20th century, the idea of socially responsible investing—whereby business investment decisions are based on an assessment of a company's contribution to societal development, taking into account the environmental well-being of the population through a harmonious combination of economic and

environmental requirements—has spread worldwide, establishing a close link between financial investments and public interests [1]. This stems from the negative consequences of global processes occurring in the global economy.

The term "green finance" was first used by American economist Richard Sandor in 1992 in a course taught at Columbia University. He believed that green finance, which primarily finances projects that prevent climate change, could become the primary driver of reducing greenhouse gas emissions and transitioning to more sustainable and environmentally friendly economic growth [2].

A significant event in the field of green finance was the launch of the United Nations Environment Programme (UNEP) Finance Initiative at the UN Conference on Environment and Development, held in 1992. However, significant greening of financial markets did not occur during the 1990s [3].

The concept of "green finance" emerged in the West at the beginning of the 21st century, following the recognition by scientists and politicians that businesses should not only generate profits but also be responsible to society for the environment.

In the modern world, increasing attention is being paid to the concept of low-carbon development, aimed at reducing

greenhouse gas emissions and mitigating the effects of climate change while achieving the Sustainable Development Goals.

A number of international documents adopted by the UN, OECD, G7, G20, World Bank, EBRD, EU, IEA, IRENA (The International Renewable Energy Agency), and others propose action plans to ensure sustainable development, as well as solutions to global climate problems [4].

Furthermore, numerous initiatives and recommendations are being put forward to promote the development of green finance and achieve the Sustainable Development Goals. For example, the Principles of Responsible Investment (PRI) were formulated, calling for the consideration of environmental, social, and governance (ESG) factors in investment decision-making to improve risk management and generate sustainable, long-term returns. International organizations are being established, including the Carbon Disclosure Project (CDP), which maintains the world's largest database on corporate environmental impacts; the International Sustainability Standards Board (ISSB), which ensures the accuracy, reliability, comparability, and transparency of reporting; and others.

The green factor is destined to play a key role in the development of the financial and real sectors of both global and

national economies, according to research by D. Kahneman, P. Krugman, K. Perez, M. Spence, N. Stern, and others [5].

Currently, there are various definitions of green finance. For example, the United Nations Environment Programme (UNEP) defines green finance as "financial products, investments, and services that promote sustainable development, environmental protection, and the fight against climate change." According to UNEP, green finance encompasses a wide range of financial instruments and investments that contribute to sustainable development and the fight against climate change.

At the same time, at the 11th G20 Summit in China in 2016, the following definition of green finance was adopted: "Green finance is an investment that leads to sustainable development, taking into account not only economic but also environmental and social aspects. This includes investments in clean energy, greenhouse gas emission reduction, water management projects, biodiversity protection, etc. Green finance also includes investments in technologies that can reduce negative environmental impacts and promote economic

growth."<sup>10</sup> According to this definition, green finance not only helps protect the environment but also has a positive economic impact, contributing to job creation, increasing the competitiveness of companies, and reducing risks for investors.

In 2017, the European Commission defined green finance as "investments that promote environmental sustainability and generate economic growth." It includes investments in projects that reduce greenhouse gas emissions and combat climate change, as well as in projects to preserve biodiversity and ensure sustainable resource management.<sup>11</sup> According to the European Commission, green finance should become a tool for achieving the goals of the Paris Agreement on climate change, as well as for promoting sustainable development and the transition to a low-carbon economy. It can also contribute to the development of new technologies, increase the competitiveness of companies, and create jobs.

***II.2. Main directions and tools for the development of green financing.*** Various instruments are used to finance green

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<sup>10</sup> G20 Green finance Synthesis report. G20 Green finance study group, 05.09.2016. [https://unepinquiry.org/wp-content/uploads/2016/09/Synthesis\\_Report\\_Full\\_EN.pdf](https://unepinquiry.org/wp-content/uploads/2016/09/Synthesis_Report_Full_EN.pdf)

<sup>11</sup> Defining 'green' in the context of green finance. Final report. European Commission, October 2017. [https://ec.europa.eu/environment/enveco/sustainable\\_finance/pdf/studies/Defining%20Green%20in%20green%20finance%20%20final%20report%20published%20on%20eu%20website.pdf](https://ec.europa.eu/environment/enveco/sustainable_finance/pdf/studies/Defining%20Green%20in%20green%20finance%20%20final%20report%20published%20on%20eu%20website.pdf).

projects, including green bonds, green funds, green loans, green investment programs, green accounts, and green insurance products.

Each of these instruments has its own advantages and disadvantages and can be used to finance various types of green projects.

However, while green finance is a promising and important tool for achieving sustainable development, it has its limitations: high costs, which limit its accessibility for small and medium-sized enterprises; a lack of transparent standards for green investments, which creates challenges in assessing the effectiveness of green projects; and difficulties in taking into account all the environmental and social impacts of projects. Furthermore, green finance is used by unscrupulous companies for greenwashing<sup>12</sup>.

Nevertheless, many large companies, including those previously unrelated to environmental issues, are beginning to implement green projects and invest in green technologies. This demonstrates that green finance not only serves as a tool for

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<sup>12</sup> Greenwashing (from the English word washing, by analogy with whitewash) is the deliberate misleading of consumers regarding the goals of an organization or manufacturer regarding the environmental friendliness of a product or service, i.e., speculation on the topic of environmental and social responsibility.

achieving sustainable development but can also become a driver of economic growth and development overall.

Over the past decade, the volume of global green financing for environmentally friendly projects worldwide has increased more than 100-fold. The share of green finance in total financing is steadily increasing: while in 2012 it was approximately 0.1%, in 2021 it was over 4%. According to research conducted by TheCityUK and BNP Paribas, global lending through green bonds, loans, and equity financing through initial public offerings (IPOs) targeting green projects was valued at US\$540.6 billion in 2021, up from US\$5.2 billion in 2012<sup>13</sup>. In 2021, green finance volumes continued to grow despite adverse economic conditions related to the COVID-19 pandemic. However, 2022 has proven to be a challenging year for green finance due to the current macroeconomic environment, with green finance volumes declining year-on-year for the first time in a decade.

The green bond market began with the issuance of bonds by the European Investment Bank in 2007. In 2014, the International Capital Market Association (ICMA) developed the Green Bond Principles (GBP), which set out key requirements

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<sup>13</sup> <https://www.thecityuk.com/news/accelerating-growthfor-global-green-finance>.

for green bonds, including the use of proceeds to finance environmentally friendly projects, reporting on the use of funds, and ensuring transparency in the issuance process. Furthermore, the Climate Bonds Initiative (CBI), a non-profit organization dedicated to the taxonomy and certification of green bonds and other green financial instruments, was established.

According to the organization, green bonds are the primary instrument for green finance, accounting for over 90% of all green finance globally. The amount of funds allocated for global green bond issuance increased from US\$2.3 billion in 2012 to US\$524.8 billion in 2021 and US\$443.72 billion in 2022.

In 2020, amid the COVID-19 pandemic, there was an increase in the number of public sector green bond issuers, particularly among state-backed companies, while private investment either remained flat or declined. In 2021, there was a significant increase in green bond volume as private sector issuers returned to the market, driven by an increase in financial (+143%) and non-financial (+111%) assets. These two types of issuers together accounted for approximately 45% of total green bond volume by the end of the year. Sovereigns, where the issuer-borrower is a state, also showed growth, accounting for approximately 10%. However, according to data presented by

the Climate Bonds Initiative in 2022, sovereign issuance declined by 38.1% year-on-year, while non-financial corporate supply declined by 35.8%.

Looking at the global green bond market from 2014 to 2021, it's worth noting that developed countries accounted for the majority of issuance (71.4%), emerging markets (21%), and international institutions (7.6%). In 2021, the share of international institutions in green bond issuance declined to 4%, while developed countries' share increased to 75%. At the same time, the contribution of emerging markets increased due to the growth in the number of development banks (378%), financial (324%), and non-financial corporate (278%) issuers<sup>14</sup>.

In 2021, Europe ranked first in green bond issuance (with US\$288.5 billion), Asia-Pacific ranked second (with US\$147.7 billion in green bond issuance), North America ranked third (with US\$102 billion in green bond issuance), and Latin America ranked fourth (with US\$8.9 billion in green bond issuance).

The US continues to be the leader in the green bond market with US\$334 billion in green issuance since 2014, followed by China in second place with US\$250 billion, Germany in third place with US\$189.8 billion and France in

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<sup>14</sup> <https://www.climatebonds.net/market/data/>, 2023

fourth place with US\$189.7 billion. The Netherlands also ranks among the top five most active issuers (with \$97.2 billion in green bonds issued).

In 2022, amid heightened volatility, green bond supply in Europe declined by 32.5% to \$219.03 billion, while North American green bond issuance fell by 43.2% to \$60.22 billion. Green bond issuance in Asia-Pacific was more stable, falling by only 2.5% in 2022. China issued \$76.25 billion in green bonds in 2022, followed by Germany with \$60.77 billion in green bonds and North America with \$49.00 billion in green bonds<sup>15</sup>.

In 2021, 35 emerging market countries issued green bonds, including seven new entrants (Costa Rica, Guatemala, Nigeria, Pakistan, Paraguay, the Philippines, and Ukraine). This demonstrates that more and more countries are embracing green finance and recognizing its importance for achieving sustainable development. In 2021, other types of bonds related to social and sustainable development investments also began to be issued in this group of countries.

In terms of the sectoral composition of green investments, the three main sectors (energy, construction, and transportation) account for approximately 84% of the green bond market.

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<sup>15</sup> <https://www.climatebonds.net/market/data/>, 2023.

The sectoral composition of green investments can vary by region and country, but generally, energy, construction, and transportation are the main sectors receiving green bond proceeds. Overall, by the end of 2021, green investment in energy amounted to \$205 billion, in construction – \$166.2 billion, in transport – \$95.2 billion. This was followed by investment in water resources – \$35.5 billion, land use – \$29.4 billion, and waste recycling – \$23.4 billion.

Analysts believe global green bond issuance will recover in 2023 amid supportive government policies, a more certain interest rate environment, and a catch-up of delayed issuances compared to last year.

Green loans are an important green financing instrument. They are loans issued by banks or other lending institutions to finance projects and initiatives that reduce greenhouse gas emissions and improve the environmental sustainability of businesses and society as a whole.

Green lending began in 2005, when several major US banks, such as Wells Fargo and Bank of America, dedicated resources to ensuring the implementation of sustainable business practices<sup>16</sup>. In 2007, the International Finance Corporation (IFC) launched an initiative to create a green loan standard, which

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<sup>16</sup> [http://www.gov.cn/xinwen/2022-03/08/content\\_5677832.htm](http://www.gov.cn/xinwen/2022-03/08/content_5677832.htm).

allows for the determination of a project's green status and informs investors about projects that meet this standard. The green loan market reached a significant milestone in 2018, when the Loan Market Association (LMA), in collaboration with leading financial institutions, developed the Green Loan Principles (GLP), which are closely aligned with the Green Bond Principles (GBP). Furthermore, various programs exist to stimulate the use of green loans, such as those implemented by the International Monetary Fund, the World Bank, and others, which provide financial support to projects that meet green loan criteria. The advantage of green loans is that they can be provided under more favorable terms than conventional loans, making them attractive to borrowers. However, the use of green loans remains limited and concentrated primarily in the syndicated loan market.

By 2021, green loans worth US\$78.6 billion had been issued (compared to US\$432 million in 2017), representing a nearly 200-fold increase in these green financial instruments in four years<sup>17</sup>. By country, the largest amounts of green loans approved are in the United States, the United Kingdom, Australia, France, Japan, and China [6]. China currently ranks first globally in green lending, accounting for 90% of all green

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<sup>17</sup> <https://www.climatebonds.net/market/data/>, 2023

financing. According to the People's Bank of China (PBoC), by the end of 2021, China's green loan balance in yuan and foreign currency reached RMB 15.9 trillion, a 33% increase from 2020<sup>18</sup>.

The share of green IPOs in the green finance landscape is still insignificant, but there is growing interest in this type of investment. Green IPOs typically attract investors interested in long-term sustainability and environmental responsibility. Over the past decade, global green IPO activity has been uneven in both volume and value. In 2021, 30 green IPOs were issued, a record number. However, increased volatility due to political upheaval and macroeconomic factors, worsening forecasts, and poor post-IPO performance have led to a significant decline in the global IPO market in 2022.

ESG (Environmental, Social, and Governance) criteria remain a key topic for investors and companies filing for IPOs, regardless of sector. As global climate change and energy restrictions intensify, companies that integrate ESG principles into their core business processes will attract more investors and receive higher valuations. However, it should be noted that assessing ESG factors is quite complex and ambiguous. Some companies may perform well in one area but lag in another.

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<sup>18</sup> [http://www.gov.cn/xinwen/2022-03/08/content\\_5677832.htm](http://www.gov.cn/xinwen/2022-03/08/content_5677832.htm).

Furthermore, there is a risk that companies will try to manipulate their ESG indicators to satisfy investor demands. Nevertheless, ESG investing can serve as an effective tool for achieving sustainable development and addressing global challenges.

It is worth noting the important role of the public sector and public financial institutions in the development of green finance, which possess significant financial capacity and are less susceptible to risks and negative market trends. As global experience shows, no country has been able to effectively implement a green finance system without the support of a financial regulator. Central banks can stimulate green investments by imposing regulatory requirements on financial institutions to incorporate green instruments into their monetary policy and international reserve management policies [7].

***II.3. Characteristics of the Green Finance Market in Georgia.*** Green finance is gaining popularity worldwide, and Georgia is no exception. However, the promotion of green finance is characterized by specific challenges, which are determined by the economic, political and cultural characteristics of our country. Among the main challenges in promoting green finance in Georgia are the unregulated legal framework and imperfect market mechanisms for green investments.

The Georgian government plays an important role in the development of green finance. In this regard, the Order of the President of the National Bank of Georgia dated 23.02.2024 "On Approval of the Procedure for Granting, Maintaining and Canceling the Status of Green, Social, Sustainable and Sustainability-Related Bonds" is particularly important.

In 2024, the Georgian market for sustainable development instruments grew quite rapidly. The leader in the Georgian market was the green bond market, which accounted for 80% of the market value, with investments in clean transport and renewable energy being prioritized. However, in 2025, market growth slowed significantly against the backdrop of rising key interest rates and currency volatility.

The 2024 Government Program of Georgia - "For Building a European State" - states that in order to promote the principles of a green and circular economy, the implementation of a separate system for collecting specific waste across the country will continue and the list of specific waste that will be subject to separate collection will be expanded.

To ensure financial stability and support sustainable development, the National Bank of Georgia (NBG) is actively integrating environmental, social and sustainability issues into its policies. The Bank has developed a Sustainable Finance

Roadmap, which sets out specific time-bound actions. The roadmap aims to create a sound regulatory framework and prepare the market for the transition to sustainable finance.

Together with local and international experts, the NBG also developed a Sustainable Finance (SF) Taxonomy, which was published in August 2022. In January 2023, the NBG also adopted a taxonomy regulation that defines green, social and sustainable loans and imposes monthly reporting obligations on commercial banks. As of September 2025, the green loan portfolio in Georgia related to the SF taxonomy amounted to approximately 412 million GEL, which represents less than 1% of the total credit portfolio. The majority of these loans (63%) are directed to the renewable energy sector, 57% are allocated to hydroelectric projects, and 17% to the green transport sector.

Our research has shown that the following projects are more often financed through green bonds in Georgia:

(1) *Energy efficiency and renewable energy projects:* Implementation of energy-efficient technologies, such as LED lighting and energy-efficient HVAC systems, which have reduced energy consumption, carbon emissions, and costs;

(2) *Pollution prevention and control projects:* Implementation of pollution prevention and control technologies, such as air and water filtration systems. As a

result, both air and water quality have improved and environmental pollution has been reduced;

(3) *Natural resource and land management projects:* Restoration of forests, land conservation, and protection of biodiversity. Georgia's ecosystem has been improved, biodiversity has been preserved, and an action plan to combat climate change has been developed;

(4) *Clean Transport Projects:* Development of eco-friendly transport systems, such as electric buses and bike lanes. Energy savings, reduced air pollution, and reduced transport costs;

(5) *Water and Waste Management Projects:* Development of water conservation and waste management programs, such as rainwater harvesting and waste recycling. Water resources are saved, waste is reduced, and environmental pollution is reduced;

(6) *Green Building Projects:* Construction and renovation of energy-efficient and eco-friendly buildings. Energy consumption, carbon emissions, and costs are reduced.

According to experts, given the national goals set for achieving carbon neutrality for the Georgian economy, it is impossible to finance only green projects and sectors, which would make them even greener. To achieve climate change

goals, it would be appropriate to involve companies in dirty and carbon-intensive sectors in the process using transitional bonds, which would make them more sustainable.

### **III. Conclusion**

The required financial resources for investing in the green economy are difficult to quantify due to its global, multi-sector nature and the lack of reliable data. According to the International Renewable Energy Agency (IRENA), global investment in low-carbon energy transition technologies reached a new record of \$1.3 trillion in 2022. However, annual investment must more than quadruple to exceed \$5 trillion to stay within the 1.5°C limit for global warming. By 2030, total investment in the green economy must reach \$44 trillion<sup>19</sup>.

The lack of transparency and predictability in national green investment policies impacts investor confidence. To make green finance more accessible and effective, unified green investment standards must be developed, stricter requirements for companies and projects must be established, and greater transparency and accountability must be ensured.

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### **I.3. Key aspects of implementing the participatory budgeting model in Georgian municipalities**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Medea Chelidze**

Doctor of Economics

Professor of Georgian Technical University

[m.chelidze@gtu.ge](mailto:m.chelidze@gtu.ge)

<https://orcid.org/0000-0002-3686-4201>

**Abstract.** The article, based on the latest literary sources and factual materials, consistently studies such an important issue of financial theory and economic practice as the key aspects of implementing participatory budgeting in Georgian municipalities.

The factors affecting the effectiveness of the implementation of the participatory budgeting model are discussed: the urban structure of the municipality, the size of the budget of the municipality, the development of civil society.

It is determined that any model of participatory budgeting should adhere to the following principles: model design and implementation procedures should be based on good management principles; The selected procedures should take into account the specific context of a particular municipality, including urban structure, budget size and population

participation; At the planning stage, active actors of the model, interested parties should be identified and their rights and duties defined; The model should fully comply with the legislation of Georgia and the established forms of citizen participation.

Based on the international experience and the reality of Georgia, the factors affecting the effectiveness of the implementation of the participatory budgeting model are discussed: the urban structure of the municipality, the size of the municipality's budget, the development of civil society.

It stands to reason that any participatory budgeting model should have, as a minimum, the following working procedures: population group meetings; information campaign; development and submission of project proposals; voting and final decision; Evaluation of participatory budgeting process and work procedures.

**Keywords:** participatory budgeting, city-type municipality, subsidized municipal unit, Deming cycle, urban development, civil society, project proposal.

## **I. Introduction**

Since the second half of the 80s of the last century, the budget process of the cities and municipalities of the world is increasingly implemented based on the introduction of various (Participatory Democracy, Proximity Democracy, Participatory

Modernization, Multi-Stakeholder participation, Neo-Corporatism, Community Development) models of "Participatory Budgeting".

For the first time in the world (1989), the participatory budgeting system was introduced in Porto Alegre, the capital of the state of Rio Grande do Sul in southern Brazil, and it is still functioning effectively. The model used here is a form of hybrid democracy, in which the processes of direct and participatory democracy are intermingled.

It has been 35 years since the first implementation of the participatory budgeting model. During these 3.5 decades, a number of large, medium and small cities and municipalities have tried to use the mentioned method of involving citizens in the budget process. As a result, the local budgeting process is carried out using the principles of participatory budgeting in about 1,600 cities and municipalities around the world. This method of budget planning has found a particularly wide distribution in Latin America (Brazil, Peru) and Europe (Spain, Scandinavian countries).

The world trend of introducing participatory budgeting has also affected Georgia.. Therefore, based on international practice and the experience of Georgia, it is necessary to discuss the main aspects of the implementation of the participatory

budgeting model in order to better adapt to the characteristics of a particular municipality in our country.

## **II. Results and Discussion**

### **II.1. Factors affecting the effectiveness of the implementation of the participatory budgeting model.**

According to the study, when implementing a particular model of participatory budgeting, it is necessary to take into account several main factors that have the greatest impact on the effectiveness of the model implementation, based on the realities of Georgia. These factors include (1) the urban structure of the municipality; (2) the size of the municipality's budget; (3) the development of civil society<sup>20</sup>.

*The urban structure of a municipality.* Based on the territorial arrangement system of Georgia, there are a total of 76 municipalities<sup>21</sup>. Of these, 71 are self-governing communities and five are self-governing cities. Accordingly, three types of municipalities are distinguished:

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<sup>20</sup> Each factor and its combination determine what problems we may encounter when implementing participatory budgeting and how effective the process itself will be.

<sup>21</sup> The presented number of municipalities does not include the Autonomous Republic of Abkhazia and the 4 occupied municipalities in the Shida Kartli area: Akhagori, Tighvi, Eredvi, and Kurti municipalities.

1. *An urban municipality*<sup>22</sup>. When implementing participatory budgeting in city-type municipalities (self-governing cities), the main challenges of the model<sup>23</sup> are the high concentration of the population in a small territory; less self-organization of the population, and a low level of communication in urban areas, neighborhoods, and within the neighborhood; a nihilistic attitude to the processes taking place in the municipality; a low level of awareness about the processes taking place in the municipality; a high level of politicization of society; A large number of citizens live in the township who are not registered voters in the municipality, which raises the question of allowing these citizens to participate in the municipal budget process; The need to implement large and costly infrastructure projects (Vanishvili, M., & Shanava, Z. 2022) [1].

When implementing participatory budgeting in urban-type municipalities (self-governing cities), *strengths* include the following circumstances: a relatively high desire of citizens for democratic governance; a sufficiently developed civil society,

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<sup>22</sup> Municipalities of this type are self-governing cities: Tbilisi, Rustavi, Kutaisi, Poti, and Batumi.

<sup>4</sup> Each challenge and its combination creates logistical problems, making it difficult to reach target groups and involve the masses in the decision-making process.

which is an important factor in solving problems at the local level; a large volume and less deficient budget of the municipality; municipality management is more inclined to introduce new initiatives and innovative methods in management; the ability to use developed.

These advantages can be effectively used with the use of e-Government tools and the involvement of active citizens and interest groups to implement a specific model of participatory budgeting.

2. *A Rural municipality*<sup>24</sup> When implementing participatory budgeting in rural municipalities (self-governing communities), the main challenges of the model are the conservatism of citizens and increased resistance to innovation; simultaneously with a nihilistic attitude to the processes taking place and a high level of politicization; with a low level of the municipality's own budget revenue and strong dependence on targeted and equalizing transfers from the central budget; with a complex socio-economic background; The rural township is home to a large number of voters who have moved to other

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<sup>5</sup> Municipalities of this type are represented by small self-governing communities, such as Ambrolauri, Tianeti, Kazbegi, Ninotsminda, Chkhorotsku, and others.

regions of Georgia, as well as temporarily or permanently moved to live abroad.

*The strengths* of participatory budgeting in rural settlements are the following: a sufficiently high level of self-organization of citizens within districts and communities; a high level of communication-based on family ties; a high level of involvement of residents in common cause based on archetypes of behavior historically developed in the community; the possibility of achieving visible results with small investments; less need for large and costly infrastructure projects.

These advantages can be leveraged by using direct communication tools and engaging formalized and informal community groups to implement a particular model of participatory budgeting.

3. *Mixed municipality*<sup>25</sup>. A mixed-type municipality has both the problems and advantages typical of both urban and rural municipalities. In such municipalities, as a rule, the center of the municipality (city or town) has the characteristics of an urban-type municipality, and the rest of the settlements correspond to the rural type. Accordingly, the implementation of

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<sup>6</sup> Such municipalities are represented by self-governing communities such as Telavi, Zugdidi, Marneuli, Khashuri, Gori, Samtredia, and others.

participatory budgeting should take into account these circumstances and choose an appropriate model.

***The size of a municipality's budget.*** Depending on the size of the budget revenues in Georgia, the following types of municipalities can be distinguished:

1. *Subsidized municipalities.*<sup>26</sup> A number of municipalities in Georgia suffer from a lack of budget revenues when exercising their powers and are subsidized municipalities. On the one hand, the municipality's own revenues are low due to the absence of large economic agents on the territory of the municipality and the tax policy determined by Georgian legislation. At the same time, most of their budget is formed at the expense of financial resources coming from the state budget at the expense of equalizing and targeted transfers. Because of all this, the availability of financial resources necessary for the participatory budgeting process is very low. On the other hand, it is precisely this circumstance that should push the leadership of the municipality to the result-oriented and effective planning of activities and finances. A participatory budgeting process can help a municipality's leadership to better prioritize and focus its scarce resources on the most pressing issues. In the case of

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<sup>7</sup> Municipalities of this type are represented by self-governing communities such as Tsalenjikha, Chkhorotsku, Ninotsminda, and others.

subsidized municipalities, it is possible to use the model of participatory budgeting, which is better adapted to address thematic (for example social, youth, gender, and vulnerable groups) issues (Nanuli, K., Maka, S., & Merab, V. 2022) [2].

2. *Less subsidized and/or under-subsidized municipalities*<sup>27</sup>. A number of municipalities in Georgia do not suffer from a shortage of budget revenues. As a rule, these are municipalities with large urban settlements of urban type. Revenues derived from taxes and local levies of economic entities in the municipality (including large ones) allow for the efficient provision of public services to the population, applying for funding for infrastructure, social, cultural, and other types of projects. As a result, in a participatory budgeting process, a municipality's leadership can safely allocate significant financial resources and promote the involvement of the population in the redistribution process. On the other hand, access to resources may encourage municipal leaders to prioritize their own allocation without involving the population and to direct resources to projects that the population not only does not support but even opposes.

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<sup>8</sup> Municipalities of this type are represented by: self-governing cities - Tbilisi, Poti, Batumi; Self-governing communities - Marneuli, Bolnisi, Kazbegi and others.

***Civil Society Development.*** According to the level of development of civil society (non-governmental organizations, business associations, trade unions, organized groups of citizens, etc.), the following types of municipalities can be distinguished in Georgia:

*1. Municipalities with highly developed civil society*<sup>28</sup>.

Civil society is very well developed in some municipalities of Georgia. Civil society organizations have an influence on the decision-making process at the municipal level, actively cooperate both with the population and local self-government bodies, and have networks and external relations at the local level; They enjoy high authority and trust of the population. Also, civil society has the desire and often the resources to actively support the participatory budgeting process, to help the municipality with information and educational campaigns. On the other hand, there is a danger that in the case of a strong civil society, a number of active organizations will try to gain influence over the participatory budgeting process. To reduce this risk, a form of participatory budgeting should be chosen that ensures, on the one hand, high involvement of civil society and, on the other hand, covers the associated risks.

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<sup>28</sup> Municipalities of this type are self-governing cities such as Tbilisi, Rustavi, Kutaisi, Poti, and Batumi.

2. *Municipalities with less developed civil society*<sup>29</sup>. In those municipalities of Georgia, where the level of development of civil society is low, the municipality leadership actually loses an active partner in the process of participatory budgeting. Therefore, it will be forced to shift the entire burden of logistics and information support within the process onto its own shoulders. The management of the municipality is also deprived of an external controller who will point out problems that arise in the process and jointly try to fix them. Therefore, a form of participatory budgeting should be chosen, where a low or medium level of involvement of civil society is determined, on the other hand, in this situation, precisely within the framework of the selected model, the process of participatory budgeting can contribute to the formation of a strong civil society in the municipality, to make thematic groups (vulnerable groups, disabled people, the elderly and others) to form at the formal level and to gain knowledge, experience, and authority within the process.

**II.2. Principles and requirements of participatory budgeting.** Any model of participatory budgeting should adhere to the following operational principles: (1) The model's design

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<sup>10</sup> Municipalities of this type are represented by self-governing communities such as Tsalenjikha, Chkhorotsku, Ninotsminda, and others.

and implementation procedures should be based on good governance principles, including transparency and accountability; (2) All processes of the model should follow the PDCA cycle (Plan, Do, Check, Act) also known as the Deming cycle, which ensures effectiveness and compliance with relevant legislation (PDCA, Wikipedia, 2018) [3]; (3) Customized procedures should consider the specific context of a particular municipality and its geographical characteristics, including urban structure, budget size, and population participation; (4) During the planning stage, the active actors and stakeholders of the model should be identified and their rights and responsibilities defined. It is essential that each process within the model has its responsible executor/accountable entity. Additionally, an independent organization or agency responsible for process management, monitoring, and evaluation should be established; (5) The model should fully comply with the laws of Georgia and the established forms of citizen participation. If existing forms are considered insufficiently effective in engaging the population in processes, the legislation of Georgia allows for alternative forms that better meet the requirements of citizen participation.

**II.3. Models of participatory budgeting by types of participation.** Based on the results of the assessment and

typology of existing participatory budgets at the international and Georgian levels, we can identify three types of participatory budgeting models:

1. *Procedure of the community-type participatory budgeting model.* The procedures of this model are oriented towards the active involvement of small groups within the municipality, for which the territory of the municipality is divided into smaller operational areas (zones). These areas may correspond to existing administrative divisions or historically defined thematic criteria. It is also important to consider the inclusion of diverse groups (socially vulnerable, youth, newcomers, women, elderly, PWDs, and others) in the model. The participation of a larger number of small groups in decision-making and the implementation process is crucial for a more effective and diversified allocation of funds on various projects.

The participatory budgeting model of the territorial type is characterized by the following main features: (a) The model is more focused on local, specific residential areas and the resolution of their problems, with a greater emphasis on infrastructure development/renewal projects. (b) It involves the implementation, discussion, and coordination of interzonal and subzonal project initiatives. (c) The selection of such project

initiatives, which will mainly address the existing problems of the entire municipality, is more challenging.

Some of the weaknesses of the model are the high logistical and organizational effort and the availability of human resources, but these issues can be corrected by optimizing the size of the area and planned work, as well as additional support from various actors (donors, non-governmental and humanitarian organizations, local businesses in social responsibility) through the involvement of human, material and financial resources.

The drawbacks of the model can be overcome by excluding certain types of infrastructure projects (e.g., road construction, outdoor lighting, sewage, water supply, etc.) from the line item of the participatory budgeting and transferring them to other budget items. Thus, the achievement is innovative, socio-cultural, and more focused on the needs of vulnerable groups (Vanishvili, M., & Lemonjava, L. 2016) [4].

2. *Thematic type participatory budgeting model procedures.* Within the framework of the thematic model, all project proposals must comply with a pre-defined topic (social assistance and allowances, support of youth and elderly population, development of school readiness and non-formal

education system, development of certain skills of adults, etc.) (Nanuli, K., Merab, V., & Lali, O. 2022) [5].

The thematic model of participatory budgeting is characterized by the following *main features*: (a) The model is primarily focused on addressing issues at the municipal level, through which services are provided to the entire population of the municipality. Projects can be implemented within a specific locality, but in such cases, the entire municipality should benefit, not just the residents of that particular area. (b) In some cases, this model, as implemented in different countries, excludes the implementation of infrastructure projects that provide benefits exclusively to a single territorial unit.

One of the disadvantages of this model is that the population is less ready to actively participate in the process of solving problems at the municipal level. Hence the importance of the awareness campaign. Only a well-organized and active campaign ensures the high involvement of the population.

Civil society is a very important actor in this model. Its role is all the more important the larger the budget. The involvement of active representatives of civil society in the development of model procedures and control processes will only have a positive impact on the effectiveness of the model.

3. *Procedures of the model of participatory budgeting of the mixed type.* The mixed participatory budgeting model is a compilation of the two previous models: the model allows for discussion and voting on both community proposals and thematic projects. Therefore, from the very beginning, it should be determined which part of the PB budget will be allocated to the needs of the community and which part to thematic project proposals.

The mixed-type model of participatory budgeting is characterized by the following *main features*: (a) the model is focused both on solving local problems of one particular settlement or community, as well as on the development of projects to be implemented within the municipality as a whole; (b) the main actor of the model should be the active representatives of the civil society, from which the implementing, regulatory and controlling formal bodies will be formed; (c) The structural units of the municipality are involved in the process as supporting actors who will carry out the expertise and logistical support of the project proposal.

As practice shows, the involvement of the population within the mixed model is high, as a socially active person can participate in the process of budgeting in the role most convenient for him (controlling, organizational, or group of

development of project proposals). As a result, the readiness of the population to participate in the processes and trust in the actual results is high under the competent management of the processes.

Nevertheless, in the above model, the influence of entities formed from the population on the final decision is small, because under current Georgian legislation, the mayor/governor of the municipality is responsible for developing the budget, and the developed budget is approved by the city council, so they actually have leverage over the final decision.

**II.4. The procedure for selecting a participatory budgeting model.** As we have already mentioned above, when choosing a model of participatory budgeting, it is necessary to take into account the socio-cultural and geographical features of a particular municipality. As part of this process, several basic issues should be discussed, and, based on the results, a model adapted to the municipality should be selected:

*1. The amount of funding for the participatory budgeting process by the municipality in the next budget year.* The amount of available funds determines the amount of funds needed to implement project proposals in the next budget year, as well as

the amount of work needed to develop information and education activities and the project proposal under development.

As a result of the analysis, the approximate answers reflecting the amount of financing of the participatory budgeting process are "small" and "large", after which the desired model is determined by additional questions. The given answers, in turn, determine the subsequent questions: if the answer is "low" you go to question №2, and if "high" - to question №3. Ultimately, it is important that all three questions are answered.

Georgian and international practice shows that in those models of participatory budgeting, where small financial resources are allocated, the intended goal - maximum involvement of the population - has not been achieved. At the same time, those models where large amounts of financial resources are available require more attention and external control.

Therefore, it is important to determine from the beginning what financial resources will be available when choosing a model. For the participative budgeting process, the funds needed to finance the outreach campaign and other logistical costs should be allocated. At the same time, it is necessary to carry out at least three budgeting cycles in order to

be able to evaluate both the model itself and the effectiveness of the works to be implemented.

2. *The type of urban development of the municipality.* As we mentioned above, the type of urban development of the municipality reflects the logistical problems that arise in the implementation of the model, the difficulties of delivering information to the target groups, and the involvement of the masses in the decision-making process.

As a result of the analysis, the probable answers reflecting the urban development of the municipality are "rural type", "urban type" and "mixed type". As Georgian and international practice shows, the type of urban development has a great influence on the participatory budget model. What can be easily achieved in a city-type settlement is associated with very large logistical, human, and financial costs in rural municipalities with difficult terrain (and not only), which directly limits the effectiveness of the model: (a) In most cases, in rural and mixed-type municipalities, depending on their specificity, it will be more appropriate to introduce a model of participatory budgeting that ensures high involvement of the population of historically existing communities and small settlements. This is due to the close ties of relatives and acquaintances within the community, and the experience

accumulated within the framework of community mobilization projects historically formed in the community and implemented by the efforts of various municipal or donor organizations. It is also important that the standard forms of ensuring citizens' participation defined by the Local Self-Government Code (general meeting of the settlement, meetings with the mayor/governor, and petition) are better adapted to the specifics of small settlements and communities and are actively used by the municipality's leadership; (b) In city-type settlements there are less close social ties between the population, that is why it is important to involve the civil society as much as possible in the process.

3. *The level of development of civil society.* As mentioned above, an analysis of the level of development of civil society is important for choosing a model suitable for high-budget funding and/or urban-type settlements. In these models, civil society is included both as a subject of monitoring of the process and as a subject of outreach campaigns. Moreover, active representatives of civil society have skills in developing project proposals and experience in implementing such types of work.

As a result of the analysis, the probable answers reflecting the level of civil society development are "high" and

"low". As Georgian and international practice shows, in the model of participatory budgeting, where civil society is developed, the involvement of citizens is high, the implementation of projects is effective, and the spending of public funds is efficient. Such models represent a mixed type of participatory budgeting, where project proposals correspond to both thematic and community-type processes, which ensure low risks.

At the same time, regardless of the size of the municipality's budget and/or the municipality's urban development, if the level of civil society development is low, in order to minimize logistical risks, it is preferable to select only participatory budgeting thematic models. Within such a model, the processes are easier to manage, and the methods of direct democracy can be used for decision-making (for example, municipal voting, including the use of electronic systems).

At the same time, it should be taken into account that what can be easily achieved in an urban settlement is associated with very large logistical, human, and financial costs in the case of rural and mixed-type municipalities, which directly limits the effectiveness of the model (Vanishvili, M., Katsadze, I., & Vanishvili, N. 2021) [6].

## **II.5. Work procedures of the participatory budgeting**

**model.** Any model of participatory budgeting consists of various working procedures, which must comply with a set of methods and approaches that characterize this particular model. At the same time, it is necessary to comply with the principles of good governance and to ensure their effectiveness and compliance with the law as much as possible.

Regardless of which model is chosen, the sequence of work must be very clearly established and detailed in the work procedures, and the actors responsible for it must be clearly identified. At a minimum, any model should have the following work procedures: (1) population group meetings; (2) outreach campaign; (3) development and submission of project proposals; (4) voting and final decision; (5) evaluation of the participatory budgeting process and work procedures.

*1. Group meetings of the population.* One of the important working procedures of participatory budgeting is group meetings of the population. The purpose of these meetings is to identify problems and priorities at the local and municipal levels through the involvement of the population and to identify ways to solve them.

Depending on the model, group meetings of the population can be held: (a) at the level of a community, village,

township, or city with a small area or a historically formed district; (b) at the village, district, and/or city level; (c) at the municipality level; (d) in specific vulnerable population groups.

All decisions at group meetings must be made by voting and/or other methods of direct democracy. The type of voting and how the results are determined must be determined in advance and set forth in the voting procedures for group meetings with the public. At a minimum, the ballot should identify (a) budget priorities for the next year; (b) problems at the local and municipal level; (c) possible solutions to the problems identified; and (d) representatives of the population who will be involved in the work of the entities created by election.

Conducting and facilitating group meetings should be provided by the subject introducing participatory budgeting. Besides, the active participation of public mobilizers, representatives of the mayor's office, and deputies of the city council in this activity is possible. Active participation of non-governmental organizations is also possible. But it must not reduce the level of involvement and influence of citizens on decision-making.

Maximum attention should be paid to the gathering of citizens in places for which: (a) citizens' meetings should be held

in places easily accessible to the public so that they do not have to travel long distances; (b) school buildings should be used as much as possible for meetings with young people; (c) transportation services will be provided to vulnerable groups to attend both thematic and general meetings, if necessary.

2. *Informational and educational campaign.* As part of the participatory budgeting process, it is mandatory to conduct an outreach campaign as intensively and extensively as possible. The purpose of the campaign is to raise public awareness of the rules and principles of participatory budgeting, to provide information about the development of the state budget, and multifaceted, reliable, and up-to-date information about the budgeting process.

The outreach campaign should be conducted throughout the entire budget period. It is important from the very beginning to determine both the work plan and the organization responsible for implementation and allocate the appropriate amount of financial and human resources.

As part of the outreach campaign, the following should be planned:

- Providing information on participatory budgeting (including up-to-date information on objectives, principles, working procedures, and ongoing processes). It is also important that

information about submitted project proposals be provided in as broad and detailed a manner as possible;

- *Supply of reference and outreach materials.* The materials should reflect the information and results of the implementation of various projects planned within the budget of the previous year, as well as financing from the municipal and central budgets;
- *Providing information about public and municipal budgeting rules.* Provide reference and informational materials that reflect the rules for developing public and municipal budgets and municipal projects;
- *Providing reference and information materials.* Materials should reflect the information and results of various projects planned under the previous year's budget, as well as those financed from the municipal and republican budgets;

What the working procedures of the outreach campaign will be depends entirely on the model chosen. For example: (a) If the model is based only on the extensive use of the Internet system and less attention is paid to the gathering of population groups, it is important that all available communication and media tools are provided to disseminate detailed information about the current participatory budgeting processes and the project proposals submitted; (b) If proposal development and

final decision-making is the mandate of a participatory budgeting entity, it is important that their members are trained in the rules and requirements of municipal budgeting.<sup>30</sup>

*3. Development and submission of project proposals.*

Working procedures for the development and submission of project proposals must reflect the approaches and characteristics initially incorporated into the chosen model of participatory budgeting: (a) who is the subject of submission of project proposals - only citizens or also represented by groups of citizens are acceptable; (b) submission of proposals for documentation is carried out through the Internet system or in the documentary form. The latter issues, on the one hand, are purely technical, but they need to be well understood when developing working procedures.

It is important to use all possible ways to submit project proposals and to be as close to the voters as possible. For example: additionally, project proposals can be submitted in schools located in localities and in the service centers of the Ministry of Justice, for which, on the one hand, procedures must be developed from the beginning and, on the other hand, appropriate funds and human resources must be allocated.

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<sup>30</sup> At any stage of the campaign, it is possible and desirable to involve representatives of non-governmental organizations and donor organizations.

4. *Voting and making final decisions on project proposals.* The main requirement of participatory budgeting is the determination of project proposals for funding by citizens through voting, which can be implemented using the following model:

- *Directly by citizens using traditional voting procedures.* This model requires large logistical, human, and financial costs, although its level of legitimacy is the highest. In addition, it is possible to achieve the maximum involvement of vulnerable groups by arranging a special polling station for them;
- *Directly by citizens using electronic voting procedures.* This model is similar to the previous one and relies on information and communication technologies, for which websites and phone applications are used. The drawback of this model is the low level of skills in using information and communication technologies for certain groups of the population and technical problems with access to the Internet in some municipalities;
- *Participatory budgeting by representative bodies composed of citizens and, in some cases, elected using voting procedures.* Depending on who has the right and duty to make the final decision on project proposals within the

selected model of participatory budgeting, an appropriate procedure should be developed. The content of the procedure also depends on the method of voting - electronic or traditional.

The decision itself can be made by the following type of voting: (1) single-choice voting, when a citizen chooses only one project proposal that is most acceptable to him; (2) multiple-choice voting, when a citizen chooses several project proposals that are most acceptable to him; (3) multiple-choice voting, when a citizen chooses several project proposals in the ballot, prioritizing them in the ballot<sup>31</sup>.

How many projects will be included in the municipality's budget for next year depends on the amount of funds allocated and other parameters and must be determined in advance.

*5. Evaluation of the participatory budgeting process and working procedures.* Evaluation of the participatory budgeting process and working procedures should be carried out to improve the model of participatory budgeting, increase efficiency, and gain and strengthen public confidence. Evaluation procedures are carried out by the supervisory body

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<sup>31</sup> In order to make the budgeting process even more effective, it is possible to use several voting rules, which will be adapted to each work procedure and the rights and duties of the subject.

of participatory budgeting policies and processes. The evaluation should look at how thoroughly the procedures were followed, whether there were any systemic problems and/or complaints from actors involved in the processes, how existing problems were resolved, and how effectively the allocated funds were spent. Particular attention should be paid to the effectiveness of the outreach campaign and the involvement of vulnerable groups in the processes (Vanishvili M., Chelidze M. & Gelitashvili G. 2023) [7].

The content of each procedure depends entirely on the specifics of a particular municipality, but depending on the chosen model, if necessary, it is possible to add other procedures, which will further increase the effectiveness of the planned work.

### **III. Conclusions**

When implementing a specific model of participatory budgeting, it is necessary to take into account several main factors, which most affect the effectiveness of the model's implementation, based on the reality of Georgia. These factors include (a) the urban arrangement of the municipality; (b) the size of the municipality's budget; (c) the development of civil society.

Any participatory budgeting model should be based on the following operating principles: (a) good governance principles should be respected in the model design and implementation procedures; (b) all model procedures should be based on the so-called PDCA cycle (Deming cycle). This cycle ensures the effectiveness of the procedural management system and compliance with applicable legislation; (c) the established procedures should take into account the context and geographical characteristics of the particular municipality; (d) the actors of the model should be clearly identified and their authority clearly defined at the planning stage; (e) the forms of citizen involvement defined by Georgian legislation and additionally should be used to the maximum extent possible.

Taking into account the international practice and experience in the field of participatory budgeting in Georgia, there are three types of participatory budgeting models: the model of participatory budgeting of the community type; the model of participatory budgeting of the thematic type; the model of participatory budgeting of the mixed type.

When selecting a model of participatory budgeting, the socio-cultural and geographical features of a particular municipality should be taken into account. As part of this process, several basic issues should be discussed, and based on

the results choose a model adapted to the municipality: the amount of funding of the participatory budgeting process by the municipality in the next budget year; the type of urban development of the municipality; the level of development of civil society.

Any participatory budgeting model should have at least the following operating procedures: (a) group public meetings; (b) an outreach campaign; (c) development and submission of project proposals; (d) voting and final decision; (e) evaluation of the participatory budgeting process and operating procedures.

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#### **I.4. Digital Finance and Its Impact on an Organization's Financial Situation**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Zurab Chkhaidze**

Doctor of Business Administration

Assistant-Professor of Georgian Technical University

[zurab.chkhaidze@gtu.ge](mailto:zurab.chkhaidze@gtu.ge)

<https://orcid.org/0009-0002-6200-4835>

**Abstract.** In the scientific literature, most studies in the field of digital finance are focused on the impact of digital finance on the financial sector and macroeconomics, and there are few studies that examine how digital finance affects the activities of organizations.

The article reveals one of the aspects of the problem under consideration – the impact of digital finance on the financial state of an organization. The authors have defined the concept “digital finance” which includes digital financial instruments and Fintech.

The impact of digital finance on the financial state of an organization in the context of its improvement was viewed in two aspects: by smoothing information asymmetry and reducing the financial leverage of the organization. Digital finance

increases the transparency of information flows between financial institutions and organizations and, thus, reduces the risk of bankruptcy of an organization, since information asymmetry is the main risk factor contributing to financial insolvency.

Digital finance can adjust the financial leverage of an organization to an appropriate level and reduce the risk of financial insolvency if there is detailed corporate information.

In conclusion, it is noted that digital finance has drastically changed the financial environment of the organization and has a significant impact on reducing the risk of its financial insolvency.

**Keywords:** digital finance, financial technologies, digital technologies, financial leverage, bankruptcy.

## **I. Introduction**

The rapid development of digital technologies in the financial sector has led to the emergence of a new financial model - digital finance, which has led to a wide range of scientific publications.

Research on the impact of digital finance is mostly developing in two directions: The first group of studies is mainly devoted to the impact of digital finance on the financial sector; the development of digital finance transforms financial services,

the use of digital technologies for financial activities brings great benefits to financial markets. The second group of studies is devoted to the impact of digital finance on the macro economy: the impact of digital finance on the efficiency of the state financial system and the development of digital finance plays a key role in the development of international finance.

In the scientific literature, there are a small number of scientific publications that consider how digital finance affects the activities of organizations. In this article, we will consider one of the aspects of the problem under study - the impact of digital finance on the financial condition of the organization.

The target focus of the research is to define the author's approach to understanding "digital finance" and disclosing the impact of digital finance on the financial condition of the organization.

## **II. Materials and methods of the research**

Scientific publications of Georgian and foreign authors in the field of digital finance development were used as materials for the research.

The research used a comprehensive and systematic approach to studying the impact of digital finance on the financial condition of the organization.

## **III. Results of the research and their discussion**

To confirm the relevance of the issues under consideration, the authors analyzed the scientific and methodological literature over the past 5 years, based on the results of which we can conclude that the issues of digital finance development are becoming increasingly relevant. The search query "digital finance" included the following parameters: publication title, abstract, keywords, in the full text of the publication. The results of the analysis are presented in Table 1.

**Table 1**  
**Number of published materials for the query "digital finance" for the period from 2020 to 2024**

Period	Number of publications
2020	1 423
2021	1 552
2022	1 673
2023	2 105
2024	2 069

First of all, we consider it necessary to express the author's position on the concept of "digital finance". The scientific publication [1] presents a conceptual review of approaches to defining the concept of "digital finance", based on the results of which the authors identify four approaches. According to the first approach, digital finance is defined as a tool for overcoming the limitations and shortcomings of

traditional financial services. The definition of digital finance as a technological process is attributed to the second approach. The third approach is to understand digital finance as a set of products and services, technologies and infrastructure. The fourth approach is to interpret digital finance as a tool of public administration [1, p. 242].

It is important that the authors in all approaches to defining the concept of "digital finance" highlight the positive effects of the influence of digital finance development for different economic entities:

- reducing transaction costs, optimizing resource allocation, increasing the quality of service, expanding the range of services provided to clients, reducing bias towards information for traditional financial institutions;
- simplifying access to financial products and services for consumers;
- an additional management tool for government bodies [1, p. 242].

The author's approach to defining digital finance is to highlight it as a new financial model in which traditional financial institutions and companies use digital technologies to improve the activities of the financial sector. The scale of digital finance ranges from money transfers, peer-to-peer (P2P) lending

and crowdfunding to the new world of block chain, cryptocurrencies and artificial intelligence. Digital finance is rapidly transforming the financial sector, creating intense competition from technology companies, providing cheaper and more convenient financial services, and using significantly different technologies and methods for assessing credit, setting interest rates, and making other decisions.

Thus, digital finance is a financial model that combines financial activities with Industry 4.0 components, such as artificial intelligence, machine learning and robotics, cloud computing, and big data. The component composition of digital finance includes both digital financial instruments (smart contract, digital financial assets, digital transaction, digital currency, crypto assets, etc.) and Fintech.

The Forbes Georgia website defines fintech as follows: Fintech is a financial technology provider that provides financial services using information technology. Financial services include banking, investment, insurance and other types of services. Fintech companies help consumers manage and control their finances quickly and easily. Fintech technologies reduce costs for both the consumer and the provider (e.g., a bank). Examples of fintech are companies providing online and mobile banking services. Fintechs use artificial intelligence, bloc

kchain, big data and other modern digital technologies. Well-known large fintech companies include: Visa, Master-Card, PayPal, Ten cent, Intuit, Stripe, Ripley, etc. [2].

The Financial Stability Board (FSB), an international body that monitors and makes recommendations regarding the global financial system, defines FinTech as a technological innovation in the field of financial services that can lead to new business models, applications, processes or products with a corresponding significant impact on financial markets and institutions and the provision of financial services [3].

Modern approaches to the study of the definition of "financial technologies" in scientific publications also consider them as innovative technologies and solutions used in the process of implementing traditional financial transactions [4, p. 71].

As a result, we consider it quite reasonable for the purposes of this study to use the concept of "digital finance", the substantive content of which includes digital financial instruments and Fintech.

Recently, the growth of digital technologies such as cloud computing, big data, block chain technology, machine learning and artificial intelligence have helped the financial sector develop innovative technologies and changed the

methods of collecting information, assessing creditworthiness and managing risks. Thanks to these new technologies, financial institutions have higher operational efficiency and risk management.

We consider it necessary to focus on the subject of the research in this scientific publication. The target focus of the study is to determine the impact of digital finance on the financial condition of the organization. Determining the impact of digital finance on the methodology for assessing the financial condition of the organization is the subject of further research by the authors.

The component composition of the financial condition includes the following key elements: liquidity, financial stability, business activity, bankruptcy. For example, let us consider the impact of such a digital financial instrument as a smart contract, the current issues of application of which are discussed in the scientific publication [5], on the assessment of the liquidity of the organization. Liquidity reflects the ability of the organization to meet its short-term obligations as they fall due [6]. This ability depends on the ratio of current assets and current liabilities, the structure of repayment of current liabilities, the composition and quality of current assets, relations with creditors, etc.

Based on the target orientation of the smart contract, current assets, especially in terms of accounts receivable, and short-term liabilities will also change. As a result, the methodology for assessing liquidity will change both in terms of relative indicators and in terms of assessing the liquidity of the organization's balance sheet. For example, only to assess quick liquidity in economic literature, it is proposed to use the following relative indicators: quick liquidity ratio, intermediate liquidity ratio, litmus test ratio, adjusted liquidity ratio, urgent liquidity ratio, critical "point" ratio, critical liquidity ratio. Let us repeat that these issues are the subject of further research by the authors. Let us return to the subject of this study.

It is undeniable that the development of digital finance has changed the financial environment of organizations, which can significantly affect their bankruptcy risk. Bankruptcy risk refers to the risk of financial insolvency of an organization. This occurs due to information asymmetry between financial institutions and organizations. The crisis financial state of an organization has a significant impact on the business activity of the organization and leads to significant losses. As a result, owners must assess and manage the risk of bankruptcy of the organization.

Digital finance is expected to play a role of external governance, reducing information asymmetry [7]. By using new technologies such as big data and machine learning, digital finance can obtain more accurate information about the activities of an organization at a lower cost, identify risky operations in a timely manner. In addition, digital finance can more accurately assess the creditworthiness of an organization and make rational credit decisions. As a result, it can be concluded that organizations are less likely to fail due to the complete control of digital finance.

In general, digital finance can affect the financial health of an organization in two ways:

1. Digital finance tends to increase the transparency of information between financial institutions and organizations, and thus reduces the risk of bankruptcy of an organization, since information asymmetry is a major risk factor for financial insolvency.

2. With full information, digital finance can adjust the financial leverage of an organization to a more acceptable level and directly reduce the risk of financial insolvency [7].

Typically, financial institutions, without the ability to obtain more information about an organization, rely heavily on financial ratios when making resource allocation decisions.

However, financial ratios alone cannot accurately indicate the risk of financial insolvency of an organization. To avoid potential risks, financial institutions tend to allocate more resources to organizations with valuable fungible assets or large cash reserves, although these organizations may have less room for growth in the future.

As a result, financial resources are directed to less risky industries rather than more efficient ones. Information asymmetry between organizations and financial institutions leads to low efficiency in the allocation of financial resources. And digital finance can eliminate these problems by using digital technologies to obtain more information about organizations at a lower cost.

The positive effect of digital finance on the financial condition of the organization in the context of its improvement is also supported by the digitalization of corporate finance, which is implemented in two main directions. The first direction can be called technological, and it is associated with the digitalization of financial technologies and financial management processes. The second direction of digitalization of corporate finance is associated with the analytical work of the company's financial services [8]. The advantages of introducing digital technologies into the organizational structure of the

organization's financial resource management system are cost-effectiveness, mobility, elasticity, and ensuring the safety of financial data [9].

It should be noted that the use of digital technologies in the current activities of private and small organizations, in cash flow or financial management is not yet widespread. High cost, low level of training, skills and competencies of personnel, lack of scientifically developed and tested methodologies, unpredictability of external conditions - these are the main reasons for the slowdown of innovations [10, p. 285].

Digital finance reduces the risk of bankruptcy of organizations by increasing the transparency of information between organizations and financial institutions. Indeed, digital finance can collect more timely information on business transactions and, therefore, better track the economic behavior of organizations [7].

Thus, digital finance improves the qualitative composition of the organization's information and limits their dishonest behavior, thereby increasing the transparency of information flows. Since more transparent information can provide a more accurate assessment of the risk of financial insolvency of an organization, it can be argued that the

development of digital finance reduces the risk of bankruptcy of organizations [7].

As noted earlier, digital finance can serve as an external management mechanism and affect the risk of bankruptcy of organizations in two ways: by reducing information asymmetry and reducing the financial leverage of the organization.

Financial leverage is one of the most important tools for managing the profitability of an organization. In order to increase the volume of equity capital and accelerate their turnover, organizations take out loans. In this case, it is very important to correctly calculate the debt burden, since with a high debt burden, business development slows down, and the amount of interest payments significantly reduces the profit received. On the other hand, insufficient borrowed capital can lead to a shortage of working capital, which also negatively affects profitability. To manage borrowed funds, two interrelated indicators are used that must be distinguished: financial leverage (leverage of financial leverage, credit leverage, leverage, financial leverage) and the effect of financial leverage. Initially, the financial leverage is calculated as the ratio of borrowed and equity funds, and the higher the value of the calculated indicator, the more unstable the financial position of the organization becomes.

The impact of borrowed capital is determined by the effect of financial leverage, which allows you to calculate the optimal ratio of equity and borrowed funds, at which the profitability and efficiency of the organization are at the desired level. This indicator is more comprehensive. If the effect is positive, then attracting borrowed capital is justified. And if the effect is negative, this means that attracting borrowed capital in this amount and on these terms will lead the organization to losses and bankruptcy.

Using more accurate information obtained from digital technologies, in addition to financial ratios, digital finance uses various credit assessment models. Based on a more accurate assessment of the risk of financial insolvency, digital finance can promptly adjust credit decisions and, thus, reduce the financial leverage of the organization to an acceptable level. With appropriate financial leverage, organizations can pay off their short-term and long-term obligations and have a lower probability of financial insolvency.

#### **IV. Conclusion**

Digital finance has radically changed the financial environment of an organization and has a significant impact on reducing the risk of their financial insolvency by increasing the

information transparency of organizations (reducing information asymmetry) and reducing their financial leverage.

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## **I.5. Trans-Caspian Corridor - Infrastructure Reality and Financial Challenges**

**Koba Ablotia**

Doctor of Economics

Lecturer of Georgian Technical University

[ablotiakoba11@gtu.ge](mailto:ablotiakoba11@gtu.ge)

ORCID ID: 0009-0009-6424-7487

**Ekaterine Demetrashvili**

Lawyer, Attorney

[eka.demetrashvili555@gmail.com](mailto:eka.demetrashvili555@gmail.com)

**Lia Ablotia**

Lawyer, Ph.D. Student

Visiting Lecturer of Tbilisi State University

[lia.ablotia819@law.tsu.edu.ge](mailto:lia.ablotia819@law.tsu.edu.ge)

**Abstract.** This article highlights the growing significance of container transportation in the movement of cargo between Europe and China, and vice versa. Modern multimodal transport requires coordinated action among the countries forming the cargo transit chain, with the objective of ensuring cargo monitoring and security, while minimizing costs and transit time.

Following the imposition of sanctions on Russia and Iran, the importance of the Trans-Caspian Corridor has increased substantially for cargo transportation between Europe, the Caucasus, Central Asia, and China. The corridor begins at Georgian ports on the Black Sea, which are currently unable to handle existing cargo volumes due to insufficient capacity, including inadequate water depth. Therefore, the construction of a new port in Anaklia has become a necessity. This port is projected to surpass all existing ports in the Black Sea basin in

terms of capacity, accommodating the largest container vessels and processing up to one million containers annually at reduced costs.

The suspension of the Anaklia port project has been caused by the Georgian government's misalignment in international political positioning, which harms not only Georgia's economic interests but also those of other countries.

Port infrastructure is directly linked to railways, highways, and other logistical capacities. The article discusses the current state and challenges of these infrastructures in Georgia and beyond.

In order to ensure the resilience and enhancement of cargo throughput along the Trans-Caspian Corridor, not only European countries but also the United States, various Asian countries, and multiple international institutions have expressed their readiness to support the initiative. Provided that the Georgian government takes appropriate steps, the country may, in the near future, transform into a powerful regional logistics hub.

**Key Words:** Container, Container Transportation, Port, Railway, Trans-Caspian Corridor, Cargo, Cargo Flow, Transport, Logistics, Anaklia Port, Regional Hub.

## **I. Introduction**

The process of contemporary economic globalization is driven by open economies-through the relaxation of national economic boundaries and the liberalization of trade relations among countries. Transportation plays a crucial role in trade, with maritime shipping occupying a central position. Among these, containerized

cargo transport has become increasingly dominant. Consequently, seaports hold vital importance as nodes where cargo is received, transshipped, and redirected. Georgian ports are involved in servicing container cargo flows between the European Union and China. The Black Sea basin hosts 32 ports, naturally leading to route variations and competition among them. However, the imposition of sanctions on Russia and its ports, stemming from the ongoing Russia-Ukraine war, has transformed the status quo, leading to a new operational reality. This article aims to analyze that new reality in the context of containerized transport, particularly evaluating the condition of the Trans-Caspian corridor and prospects for increasing container rail and road traffic-directly tied to the service capabilities of ports on the Black and Caspian seas. More broadly, it assesses the growing strategic importance of the Trans-Caspian corridor and considers how the development of the Anaklia port could elevate Georgia's role as a logistics hub.

## **II. main text**

The Europe-China axis constitutes one of the most significant pillars of global trade, linking 25 countries and over 100 cities. In 2024, trade turnover between these regions reached \$785.8 billion. Georgia serves as a transportation corridor connecting Europe, Central Asia, and China, beginning with its seaports. Goods are transported from the West via the Trans-Caspian route to Central Asian republics, Afghanistan, China, and vice versa. This route is part of the revitalized Silk Road initiative, though other modern alternatives exist, including:

Western Europe - Russia - China, and vice versa; Western Europe - Southern maritime route - China, and etc.

In a context where such alternative and multimodal routes are available, the following factors become paramount for consumers: transport cost, delivery speed, cargo monitoring, and safety. Today, approximately 90% of global trade is transported via sea<sup>32</sup>. Between 2000 and 2019, maritime trade volumes increased fivefold. Of these, 60% are containerized shipments. Container transport's share in maritime trade has grown from 2.75% in 1985 to 17.8% in 2020<sup>33</sup>. According to Container Trade Statistics (CTS)<sup>34</sup>, the global container market in 2024 reached 183.2 million TEUs.

Based on data from the Georgian Logistics Association (GLA)<sup>35</sup>, in 2017, 22 million TEUs were transported between Europe and Asia (1 TEU = 20-foot container), of which 7 million moved from Europe to China, and 15 million in the reverse direction (1:2 ratio). By 2024, this imbalance reached 1:3. The majority of cargo is transported by sea. On average, maritime transport from China to Europe takes 35 days, while rail transport takes about 14 days-though the latter is twice as expensive and accounts for only 1% of total shipments. Between 2011 and 2017, the cost of sea-based container transport per ton on the

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<sup>32</sup> World Shipping Council, <https://www.worldshipping.org/our-work>

<sup>33</sup> Review of Maritime Transport, United Nations, Geneva, Report 2021, [https://unctad.org/system/files/official-document/rmt2021\\_en\\_0.pdf](https://unctad.org/system/files/official-document/rmt2021_en_0.pdf)

<sup>34</sup> Marle G.V., Container trades ended 2024 robustly, but eyes will now be on Far East exports, The Loadstar, 10.02.2025.

<sup>35</sup> Doborjginidze G., Georgia as the middle gate of the middle corridor, Forbes Georgia, 2019, 11 February.

Asia-Europe route decreased from \$4 800 to \$4 100, while rail freight costs doubled—from \$5 000 to \$10 000. GLA reports that rail container shipments from Asia to Europe are competitive with maritime routes when the value of the cargo exceeds \$300 000.

In Georgia, only the ports of Poti and Batumi are equipped to handle containerized cargo.

Out of Poti Port's 15 berths, two are specialized for container handling. Water depth ranges from 8.5 to 10 meters. The port's general vessel handling capacity is approximately 2 000 units annually, with a cargo throughput of up to 8 million tons. According to Geostat, the port handled: 531 735 TEUs in 2019; 387 368 TEUs in 2020; 302 000 TEUs in 2021; 357 600 TEUs in 2022; 592 500 TEUs in 2023.

Two of Batumi Port's 11 berths, container berths, with water depth of 12 meters (and generally 11-15 meters). Its total cargo capacity is 12-14 million tons, though up to 11 million tons consist of oil products. Thus, the share of container cargo is low. Its container capacity exceeds 100 000 TEUs. Annual figures include: 116 081 TEUs in 2019; 103 002 TEUs in 2020; 90 000 TEUs in 2021; 114 400 TEUs in 2022; 91 200 TEUs in 2024.

A key drawback of both ports is their inability to accommodate large-draft vessels—only small-draft ships can be serviced at select berths due to limited water depth. Off-shore anchoring (open roadsteads) is required for unloading larger vessels. This increases time and cost and is only feasible under mild weather conditions: sea roughness below 3 and wind speed below 5 on the

Beaufort scale. On average, the Poti port is non-operational for 90 days a year due to adverse weather.

Georgia's southern competitor was the maritime route from China to the Iranian port of Bandar Abbas, followed by land transport through Turkey into Europe. However, sanctions on Iran halted this route. Similarly, sanctions on Russia increased Georgian port activity. Total container throughput at Georgian ports was: 329 800 TEUs in 2016; 355 000 TEUs in 2017; 454 000 TEUs in 2018; 677 818 TEUs in 2019; Over 490 000 TEUs in 2020; Over 401 000 TEUs in 2021; Over 471 000 TEUs in 2022; Over 693 900 TEUs in 2023.

The Russian port of Novorossiysk was previously a major competitor and key hub on the northern EU–China route before sanctions. It features 89 berths, three of which are container-specialized. Water depth reaches 14.5 meters (and up to 19 meters in the bay), allowing accommodation of vessels with 13-meter drafts. The port services over 4 500 vessels annually, processes up to 800 railcars daily, and has a yearly container capacity of 900 000 TEUs. While operational year-round, it is occasionally disrupted during winter by strong northeastern winds (Bora) reaching 40-60 m/s.

According to USAID, the cost to handle a single container is: \$465 at Poti Port, \$165 at ports in Istanbul and Hamburg, \$360<sup>36</sup> in Shanghai, \$450 in Novorossiysk (estimated), and \$550-570 for oversized containers.

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<sup>36</sup> Mikautadze G., Poti in exchange for Anaklia, Forbes Georgia, 2020, 26 May.

Georgia transports three-quarters of its cargo to Azerbaijan, Armenia, Central Asia, and beyond. Coordinated actions by countries along the transport corridor are essential: optimized customs tariffs, expeditious document processing, and efficient port services—all of which influence the final price. For instance, USAID reports the following one-way 1 TEU container transport costs: Novorossiysk to Tashkent: \$1 795 (\$0.48/km, Poti to Tashkent (via Trans-Caspian route): \$2 568 (\$0.66/km), Novorossiysk to Bishkek: \$2 020 (\$0.49/km), Poti to Bishkek: \$2 790 (\$0.65/km), Poti to Almaty: \$2 537 (\$0.745/km), Novorossiysk to Almaty: \$1 714 (\$0.39/km). This shows the Russian route is, on average, 30% cheaper—a substantial competitive advantage.

Transporting 1 TEU from northwestern China to Europe via Kazakhstan, Russia, and Belarus (5 800 km) costs \$3 900 and takes 10 days. The same route via Azerbaijan, Georgia, and Bulgaria (6 100 km) costs \$7 950 and takes 17 days. Thus, the Russian route is 300 km shorter, \$4 050 cheaper, and 7 days faster—clear advantages prior to the Russia-Ukraine conflict. The war, however, has shifted traffic to the Trans-Caspian corridor.

Despite sanctions, non-sanctioned goods still move through Russia. Some shipments are redirected internally—for example, from China or Central Asia through the port of Saint Petersburg or via

Belarus to Europe. This takes 12-15 days, compared to 40-60 days by sea, even though the maritime route is 1.5 to 2 times cheaper.<sup>37</sup>

The activation of the Anaklia deep-sea port would enhance Georgia's competitiveness and revenue. It would not only strengthen Georgia's economy but also its security. Anaklia would be the largest port on the Black Sea focused on containerized freight. The project's value is \$2.5 billion, spanning 3,000 hectares with a 12.3 km coastline and 32 berths. Water depth would be 16 meters, with a cargo handling capacity of 100 million tons. It would accommodate PANAMAX and POST-PANAMAX vessels (up to 300 meters long, capable of carrying 10 000 containers). It would be outfitted with cutting-edge technology, offering service \$160 cheaper per TEU than competitor ports. Therefore, it would compete not with Georgia's existing ports (which handle small vessels), but with Russian ports, contrary to claims by skeptics.

Construction was divided into nine phases. Phase I (\$600 million), planned for completion in 2021, would have enabled the handling of 900 000 TEUs and 8 million tons. Phase II would add 6 million more tons, and so forth. The port would position Georgia as a critical logistics hub. The project had backing from the U.S., EU, and Asian nations. At the end of 2018-2019, the EU allocated €233 million for Phase II. Donor banks (EBRD, OPIC, ADB, AIIB) were prepared to invest \$400 million pending certain conditions. While seven

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<sup>37</sup> Скорлыгина Н., Китайские контейнеры упрямылись в ЕС, Газета «Коммерсантъ» №60 от 05.04.2024, 1 .

conditions were met, the Georgian government declined the eighth-commercial risk insurance. This decision, likely influenced by Russian pressure, prompted strong responses from U.S. and EU officials (e.g., Mike Pompeo). Although construction is currently halted, it is expected to resume, grounded in the rationale that Anaklia must be built. EU officials emphasized that Georgian ports cannot service 75% of global vessels due to insufficient depth. EU forecasts suggested that Anaklia could save Europe €10 billion by 2030.

To enhance Georgia's competitiveness (currently ranked 74th by WEF) and transform it into a vital logistics hub, the economic growth potential of Central Asian countries must be factored in. Their combined GDP in 2023 stood at \$456 billion, up from \$290 billion in 2021. The regional market includes 81 million people, growing by approximately 2 million annually, with a GDP per capita (PPP) of \$14 500. Structural reforms are underway in the region, such as: A free economic zone in Astana governed by British law; Modernization of the Aktau port on the Caspian Sea; Launch of the new Kuryk port in 2017; Renovation of Turkmenbashi port in Turkmenistan in 2018. Since 2015, transport costs for the Baku-Aktau and Baku-Turkmenbash routes have decreased from \$4 100 to \$2 900 and \$2 800 to \$2 400, respectively. As of 2024, transporting one TEU (twenty-foot equivalent unit) along the Trans-Caspian route (one-way) costs an average of \$500, while the rate for one FEU (forty-foot container) is approximately \$1000. Uzbekistan is actively liberalizing its market. Notably, in 2022, the volume of cargo destined for

Uzbekistan transported via Georgia nearly doubled, and by 2024, this figure has continued to rise. In this context, Georgia emerges as a key logistical hub. The development of its transport system is directly tied to economic cooperation with these countries, encompassing legislative and customs collaboration, among other areas of engagement. Additionally, Georgia is situated near the 17-million-strong market of the South Caucasus, with partial access to Iran, Afghanistan (and potentially **India** in the future), creating a substantial trade belt that Georgia's infrastructure must support. Several noteworthy developments have occurred in the region: Armenia has introduced changes to its customs legislation; Azerbaijan has inaugurated a second, new port in Alat, with an initial annual capacity of 10 million tons and 40 000 TEU. In subsequent phases, the capacity is expected to grow to 17 million tons and 150 000 TEU, with a final target of 25 million tons and 1 million TEU annually.

As we have seen, countries served by the Trans-Caspian Corridor are undergoing favorable transformations. What is the current state of logistics in Georgia? According to the World Bank's 2023 Logistics Performance Index (LPI)<sup>38</sup>, Georgia ranks 79th globally. However, its efficiency score (2.7) falls significantly below the average for Europe and Asia (3.01). This discrepancy stems primarily from outdated infrastructure, high logistics costs, and a lack of system reliability. These factors collectively contribute to elevated

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<sup>38</sup> Connecting to Compete: Trade Logistics in the Global Economy, The Logistics Performance Index and Its Indicators, World Bank, Report, 2023.

logistical expenses: Georgian companies allocate 15–20% of their total revenues to logistics, whereas in the European Union this figure is only 5–6%.<sup>39</sup>

The challenges facing Georgian ports include:

1. Inability to accommodate large vessels due to insufficient depth; poor weather conditions prevent operations for 75-90 days annually; and the configuration of the ports creates operational difficulties, as noted earlier.

2. Poor land access to port facilities—road congestion near container terminals, suboptimal terminal locations, and the associated time and cost implications.

3. High and often non-transparent tariffs for container services.

Rail transport is directly linked to the realization of port capacity. In Georgia, 13-15% of container shipments are handled by rail. From 2010 to 2018, rail cargo volumes declined, primarily due to high tariffs and poor management. However, from 2018 onward, container volumes increased: 2018-56 700 TEU; 2019-78 943 TEU; 2020-82 526 TEU; 2021-74 196 TEU; 2022-88 363 TEU.

Likewise, the volume of container cargo transported from China through Georgia to the EU has grown steadily: 2018-1 338 TEU; 2019-2 780 TEU; 2020-3139 TEU; 2021-10 094 TEU; 2022-10 936

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<sup>39</sup> National Transport and Logistics Strategy of Georgia for 2023–2030, Ministry of Economy and Sustainable Development of Georgia, [https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transpo rtisa\\_da\\_logistikis\\_strategia\\_2023\\_2030.pdf](https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transpo rtisa_da_logistikis_strategia_2023_2030.pdf).

TEU. This upward trend highlights the need for stronger support from the corridor countries to sustain and accelerate it. As of 2024, numerous agreements have been signed among the countries of the supply chain-such as the 2022 “roadmap” among Georgia, Azerbaijan, and Kazakhstan, and a 2023 agreement to establish a unified logistics operator. These efforts aim to enhance cargo movement speed, establish optimal tariffs, and address operational issues such as: Complexities of blockchain logistics management due to four transshipment points across the Black and Caspian Seas; Inability to track container locations due to the lack of a GPS-based monitoring system; Instability of scheduled block train movements; Underdeveloped ferry services on the Black Sea; A persistent container shortage-three times more containers leave China than return.<sup>40</sup>

The main problem facing Georgia’s rail network is its outdated infrastructure, which means that a freight train requires 10-15 hours to travel from Poti to Tbilisi. Based on our calculations, the average container speed across Georgia is approximately 850 km per 24 hours, though in some cases it may be reduced by half due to various obstacles. In comparison, the same figure in Russia is 1 060 km. This highlights the need for railway rehabilitation. Additionally,

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<sup>40</sup> National Transport and Logistics Strategy of Georgia for 2023–2030, Ministry of Economy and Sustainable Development of Georgia, [https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transpo\\_r\\_tisa\\_da\\_logistikis\\_strategia\\_2023\\_2030.pdf](https://www.economy.ge/uploads/files/2017/transport/2023/strategy/transpo_r_tisa_da_logistikis_strategia_2023_2030.pdf).

once construction of the Anaklia deep-sea port begins, building a second railway line will also become necessary.

There are also significant issues with road transport, which has increasingly become competitive with rail transport. The volume of road freight has risen from 6 million tons in 2014 to 13.8 million tons in 2022. The main challenges here involve further improving road infrastructure and enhancing safety standards.<sup>41</sup>

A notable development that would facilitate international container transport is the potential establishment of a new customs checkpoint at the Georgia-Azerbaijan border, operating under a joint management model.

The EU's trade volume with the Caucasus, Central Asian countries, and China amounts to approximately 9 million containers. According to World Bank projections, by 2026, the Trans-Caspian Corridor could carry 160 000-220 000 containers annually-provided that countries along the supply chain implement the following: 1. Establishment of a unified electronic system with integrated electronic documentation and container tracking; 2. Development of terminals for empty containers; 3. Introduction of fixed schedules for block trains; 4. Improvement of ferry services across the Black and Caspian Seas.

### **III. Conclusion**

By 2025, due to sanctions imposed on Russia and Iran, Georgia and the Trans-Caspian Corridor have become crucial cargo

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<sup>41</sup> Ibid

routes. There is growing demand for the full utilization of this potential, which requires coordinated action by the governments of the corridor countries. Integrated solutions are needed to triple cargo turnover and halve delivery times by 2030<sup>42</sup>. The construction of the Anaklia deep-sea port, development of new infrastructure, and modernization of existing systems are essential. European and international financial institutions, recognizing the corridor's strategic value, have expressed willingness to invest up to €10 billion to ensure a sustainable transport link between Europe and Central Asia via the Trans-Caspian Corridor-with the goal of keeping delivery times below 15 days.<sup>43</sup> Given that the corridor begins at Georgian ports, Georgia has a historic opportunity in the coming years to establish itself as a powerful regional transport and logistics hub.

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<sup>42</sup> Middle Trade and Transport Corridor, POLICIES AND INVESTMENTS TO TRIPLE FREIGHT VOLUMES AND HALVE TRAVEL TIME BY 2030, The World Bank, November 2023.

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## **I.6. Challenges and Prospects of Pension Reform in Georgia**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Shalva Kereselidze**

Doctor of Business Administration

Associate Professor of Georgian Technical University

[Kereselidzeshalva11@gtu.ge](mailto:Kereselidzeshalva11@gtu.ge)

**Levan Kereselidze**

Doctor of Business Administration

Assistant-Professor of Ivane Javakhishvili Tbilisi State University

[Levan.Kereselidze@tsu.ge](mailto:Levan.Kereselidze@tsu.ge)

<https://orcid.org/0009-0003-8879-2339>

**Abstract.** The article, based on the study of the latest literary sources and rich factual data, discusses an important issue of financial theory and practice - the challenges and prospects of the Georgian pension reform.

The main challenges of the pension reform are identified, such as: the independence of the pension agency, the riskiness of placement and changes in the pension law, the retirement age, the burden of state pension provision.

The possibility of overcoming the challenges existing in the Georgian pension system is substantiated and appropriate recommendations are proposed.

**Keywords:** pension reform, funded pension, retirement age, placement risk, funded pension scheme, social pension.

## **I. Introduction**

Pension reform in Georgia began in 2018 with the creation of the Pension Agency. From January 1, 2019, the collection of funds from participants in the mandatory accumulative pension scheme began.

The accumulative pension scheme is built on the principle of 2% employer + 2% employee + 2% state. Pension savings can be invested by the Pension Agency and the asset management company selected by it on the basis of the investment policy document.

This document is a framework for the management of pension assets and provides a long-term strategy for the placement of assets. The investment of assets is monitored by the Investment Board of the Pension Agency, which includes five members elected by the Parliament. The Investment Board also selects the specialized depository of the accumulative pension scheme and the asset management company. The National Bank regulates and supervises the investment activities of the Pension Agency, as well as the authorization/recognition and supervision of the asset management company and the specialized depository.

According to the law, citizens employed under the age of 40 are required to participate in the pension scheme, which means that they must contribute 2% of their salary to their pension. In addition, the employer is obliged to transfer 2% of the employee's salary to the employee's individual pension account, while the state is obliged to transfer 2% of the employee's salary (up to 24,000 GEL per year, i.e. up to 9,000 USD) or 1% (from 24,000 to 60,000 GEL per year, i.e. from 9,000 to 22,570 USD) to the employee's individual pension account [1].

Pension assets can be invested in three different risk portfolios. These are: (1) low-risk, with an investment horizon of no less than 5 years; (2) medium-risk, with an investment horizon that exceeds the low-risk investment horizon; and (3) high-risk, with an investment horizon longer than the medium-risk one.

Investments may be made in the following financial instruments denominated in both national currency and foreign currency: cash, including bank accounts held in commercial banks licensed by the state banking regulator; government securities (municipal securities in the case of national currency); debt securities issued by international financial institutions; corporate debt securities registered by the relevant regulator and

placed through a public or private offering; shares of enterprises; open-end stock instruments; securities issued by the state, municipality or state agency, if they are properly guaranteed by the relevant state (only denominated in foreign currency); other financial instruments and/or non-financial assets that may be permitted for investment by the National Bank.

The top ten countries for retirement are made up of economically developed countries of the planet<sup>44</sup>, which Georgia lags far behind. In these countries, compared to other countries, the secured old age is determined by the sustainability of their pension systems, which, in turn, is based on the wealth of these countries.

Georgia is not a rich country and does not have the luxury of not completing the reform of the funded pension system that has begun. More economically developed countries may allow themselves to compensate for errors in the management of pension assets with taxpayers' money, but Georgia certainly cannot do this. Therefore, great efforts are needed to identify the challenges that may arise during the reform and to prevent the negative consequences arising from them.

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<sup>44</sup> Norway, Switzerland, Iceland, Ireland, Australia, New Zealand, Luxembourg, Netherlands, Denmark, Czech Republic.

## **II. Research results**

As a result of the research conducted, four main challenges of the Georgian pension reform were identified:

**1. *Independence of the Pension Agency.*** Decisions on investment of pension savings should be made only by the Pension Agency, and not by the government (as is the case today).

The main task of the Pension Agency is to manage pension savings oriented towards maximum growth (primarily, protection against inflation), and not to promote the development of the capital market, which is what government agencies call upon it to do. The prospect of capital market development can be considered as a side effect of pension reform, just as, for example, economic growth is for the National Bank. The development of the local capital market and the management oriented towards maximum growth of pension savings can be conflicting goals, i.e. one can hinder the other, just as controlling inflation can hinder economic growth.

**2. *Investment risk and changes to the pension law.*** In October 2022, amendments were made to the law “On funded pensions”, which provided for the expansion of investment opportunities. However, the proposed changes did not remove the main restriction: the fund can only invest 20% in global

instruments, and, accordingly, only 20% of the portfolio can be denominated in dollars, and the rest is intended for the local market. It turns out that 3.6 billion GEL<sup>45</sup> should be invested in Georgia, while the local capital market, especially equity securities, is underdeveloped. Georgian business is trying to raise funds through banks, not financial instruments. The pension agency, of course, can invest in financial instruments, not issue loans.

The riskier the pension investments, the higher the return. As risk increases, so does the risk of losing pension savings. However, with low-risk investments, pension fund managers are unable to keep up with inflation, which is further complicated by inflation caused by international tensions.

The future of Georgia's pension savings depends on how the pension agency manages this key dilemma of risk, which pension funds in many countries face. It should also be taken into account that in rich countries, pension funds have tangible fiscal resources, while in Georgia - so meager that it is unthinkable to compensate pension savings with taxpayers'

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<sup>45</sup> As of January 31, 2024, the net asset value of the Pension Agency is 4.5 billion GEL, and the total generated investment profit for the same period reached 896.5 million GEL. From the inception of the Fund (January 1, 2019) to January 31, 2024, the total nominal investment return was 59%, and the real return (taking into account inflation) was 15.1% [2].

money. Therefore, the mistakes of pension asset managers in poor countries have a much higher price than in rich countries.

**3. Retirement age.** In Georgia, the retirement age for men is 65 and for women is 60. According to the explanatory note to the Law on Accumulated Pensions, by 2030 the total number of pension and social assistance recipients will reach 1.1 million. By 2060, the expenditure on old-age pensioners will be approximately 30% of budget revenues, if the current 18% replacement rate is maintained<sup>46</sup>. These changes seriously question the sustainability of the social pension system.

It is worth noting that a growing number of countries are realizing that the increase in the number of pensioners is burdening the economy and hindering its development. In a number of countries, along with the increase in the number of pensioners:

- Retirement ages have been raised, for example, in the Netherlands the retirement age has been gradually raised from 65 to 67 from 2013 to 2022 and, due to increasing life expectancy, further increases are planned; in Denmark, from 65 to 67 in 2019-2022; in France, from 62 to 64, where

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<sup>46</sup> By relating the pension to the average wage, the replacement rate tells us what share of the wage the pension represents.

attempts to raise the retirement age have led to widespread national resistance and paralyzing strikes;

- Movements towards raising the retirement age have been actively initiated, for example, in Germany, Sweden, Belgium, Japan and Spain;
- Changes to pension rules to provide incentives for retirees to return to work are being actively considered, for example, in the United Kingdom and Ireland. In the United Kingdom, the current state pension age (66 for both men and women) will rise to 67 in 2028 and 68 in 2046. For those born after 6 April 1978, the state pension age will be 68 [3].

In Georgia, the number of old-age pension recipients increased by 125,440 people (18.3%) between 2012 and 2024<sup>47</sup>, while pensions as a share of budget expenditures increased from 16% to 19% (1.817 billion GEL), which will reach 21% of expenditures in 2025.

**4. The burden of state pension provision.** Pension reforms in all countries had one thing in common - the realization of what would happen without reform. In fact, without reform:

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<sup>47</sup> While during the same period, the country's population decreased by 50.7 thousand people, which is a 1% decrease in the population.

- The social (basic) pension continues to grow, which hinders the country's economic growth: The undeclared justification for the funded pension system is that when the majority of state pension recipients are also beneficiaries of the funded pension system, the state pension will no longer grow or will not grow at the same rate as it would have grown without this reform. The constant increase in the social (basic) pension, in parallel with the growth of tax revenues, hinders economic growth and the development of the country.
- The increase in spending on the social (basic) pension will burden taxpayers. Under the alternative, i.e., a funded pension system, spending should grow at a slower rate than without it and, accordingly, the burden will be alleviated.
- People remain poorly provided for in old age, especially when the income of a large part of the population does not allow them to save, and those who do have it do not have a culture of saving.
- People remain dependent on the state, i.e. taxpayers, while they could depend on their own savings during their productive years.

It is worth noting that the most successful pension reforms were those where the majority of the country's population was convinced of the necessity of the reform. This

conviction was preceded by cultivating the awareness that one cannot depend on the state pension.

### **III. Recommendations**

Based on the results of the conducted research, the following main recommendations were formulated:

***1. In line with international best practices, further expand the investment mandate of the Pension Agency and increase the riskiness of investments within reasonable limits:***

without this, it is difficult to imagine keeping pace with inflation. Obviously, this is associated with additional risks, but the main question here is what pension scheme participants will receive without and with this expansion.

According to the Capital Market Development Strategy of Georgia for 2023-2028, the total value of pension fund assets is planned to increase to 6.55 billion GEL in 2025, which is a 3.25-fold increase compared to 2021. In 2028, the same figure will reach 12.1 billion GEL, which is a 6.02-fold increase compared to 2021.

Such a growth rate requires investing in higher-risk assets than the current one, namely: *1.1. Increasing or abolishing the limit on investments in foreign assets, so that the manager can determine what part of the assets he will place in*

foreign assets and what not<sup>48</sup>; 1.2. Giving the agency more flexibility to determine the limits for placement in low-risk, medium-risk and high-risk assets, to reflect the changing situation<sup>49</sup>.

**2. Based on the awareness-raising campaign among the population:** 2.1. Prepare a decision to terminate the social (basic) pension for participants in the funded pension system if their savings are above a certain threshold. There will come a time when the majority of basic (social) pension recipients will simultaneously be beneficiaries of the funded pension system, while those who voluntarily opted out of the funded pension scheme (as of the latest status, 170,111 employees) will remain in the basic (social) pension scheme. The state has a reduced obligation towards those who opted out<sup>50</sup>; 2.2. Determine a

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<sup>48</sup> The main advantages of investing in the assets of foreign companies are: the ability to diversify investments; high returns (discounted for risks); companies that, unlike Georgia, operate in countries with stable economies, indirectly create the opportunity to import local results/potential.

<sup>49</sup> Giving preference to one instrument, for example, investing mainly in bonds or bank deposits, especially against the background of rising inflation, cannot provide stable real returns and a “decent” pension upon retirement. In addition, the traditional portfolio of stocks and bonds is no longer as effective as it once was. The main challenges for pension funds around the world are low levels of diversification, rising inflation and falling real income. Pension funds are struggling to achieve planned returns, and investors are demanding investments in new and potentially riskier products.

<sup>50</sup> The main goal of the funded pension system is to reduce the burden on taxpayers. Providing additional social pensions to participants of the funded pension system will make it impossible to achieve this goal.

*deadline from which the increase in the social (basic) pension, including indexation, will be suspended.* By January 1, 2019, when the funded pension system was launched, those people who had reached retirement age by that time could not join the scheme. The state has an obligation to them. However, the time will come when the majority of basic (social) pension recipients will not be those who could not join the funded pension scheme due to age, but those who opted out of the funded pension scheme. For them, continuing to increase the basic pension, as mentioned above, will be a completely unjustified burden, especially since the majority of them, expecting their own self-sufficiency in the future, consciously opted out of the funded pension scheme<sup>51</sup>.

***3. Against the backdrop of the growing number of pensioners, it is important to start working to raise public awareness in order to maintain the country's fiscal sustainability, in order to raise the retirement age.*** Given the current scarce fiscal resources, a significant increase in the number of pensioners in Georgia and, consequently, the share of

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<sup>51</sup> The two main justifications for a funded pension system are that the basic pension should increase at a slower rate under a funded scheme than without it, and therefore be less burdensome to taxpayers.

pensions as a share of budget expenditures significantly hinders the country's orientation towards development.

In Georgia, the increase in the retirement age does not cause as much opposition as in some other countries. For example, according to a survey by the Institute for Social Research and Analysis of the Population's Attitudes to Pension System Reform, when asked how appropriate it is to increase the retirement age, which would allow the state to use the saved budget, as well as the funds accumulated by citizens, to grow the economy, 27.9% of respondents do not oppose the increase in the retirement age, and 72.1% categorically oppose it, while, for example, in France, a much larger part of the population opposes Macron's pension reform, which envisages an increase in the age from 62 to 64 [4].

***4. Pension savings should be invested in financial instruments (securities, banking products), and not, for example, in infrastructure projects, which the government is talking about.*** Financing investment in infrastructure is essentially the business of banks. Where governments take on such risks, they also assess the possible losses that may be incurred by such decisions. Pension asset managers are very opposed to investment ideas dictated by public policy objectives, for example, the UK government's decision to

transfer billions of pounds of pension savings into long-term investments such as startups and infrastructure, i.e. illiquid assets.

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## **I.7. Issues of Green Finance Awareness Among Higher Education Institution Students**

**Lia Otiashvili**

Doctor of Business Administration  
Assistant-Professor of Georgian Technical University  
Otiashvililia11@gtu.ge

***Abstract.*** The presented article is based on recent data collected from surveys conducted among students of various higher education institutions in Georgia, as well as on published literature sources. It examines the level of students' knowledge in relation to green finance. The article outlines the current issues concerning students' awareness and understanding of green finance. It also highlights the opportunities available to students for enhancing their knowledge, which would enable them to pursue careers in the relevant field in the future. Furthermore, the paper provides recommendations which, if implemented, would help students acquire high-level, qualified knowledge in this area.

This study explores the level of awareness of green finance among students in higher education institutions. Green finance refers to a combination of financial instruments and mechanisms aimed at funding environmentally sustainable projects. The objective of the research is to assess students' knowledge, attitudes, and engagement with green finance,

which is particularly important for countries with transitional economies such as Georgia. The research methodology is based on the use of questionnaires and quantitative analysis. The findings can be applied in the education sector and policymaking processes to improve environmentally oriented financial education and enhance student awareness.

**Keywords:** *Green Finance, Sustainable Economy, Higher Education*

## **I. Introduction**

In recent years, there has been a noticeable increase in awareness of green finance. New financial instruments have emerged, such as green loans and sustainability-linked bonds. It should be noted that green finance faces several challenges. One of the main issues is the lack of standardized definitions. Generally, the “green” economy is a new economic concept that aims to improve the well-being of the population while reducing environmental risks. According to the United Nations’ definition, the “green” economy should facilitate the transition of society towards sustainable development. The foundation of the “green” economy lies in the rational use of natural resources, the introduction of new technologies, and the enhancement of environmental culture. Green financial instruments play a

decisive role in directing funds towards projects that have significant environmental benefits.

Sustainable financing and the associated financial risks are linked to climate change, which has long-term impacts on the economy and poses threats to financial stability by creating uncertainties within the economic system. [1]

Commercial banks in Georgia provide green financing through credit products. In 2024, the National Bank of Georgia published a report titled “Sustainable Financing in Georgia,” which states that out of 13 commercial banks, 7 submitted data on the volume of green loans issued in 2024. In 2023, the total volume of green loans amounted to 1.9 billion GEL, excluding the effect of exchange rate fluctuations. This represents a 73% increase compared to 2022 and a 17% growth compared to 2021. In 2023, green loans accounted for 2.7% of the total loans issued by commercial banks. [2]

In this regard, it is important to assess the accessibility of education and awareness-raising on green and sustainable finance for students in higher education institutions in Georgia.

## **II. Aim of research**

The objective of this study is to examine the level of awareness among students. To achieve this goal, a questionnaire was developed targeting active students from all three levels of

higher education. The questionnaire was designed to determine students' understanding of what green finance is, the positive and negative factors it has on the country's economy, whether they have ever heard of green finance, what they consider to be the potential benefits of green financing, and whether the university has offered opportunities to learn about and raise awareness of green finance. In the future, the aim of the research is to develop refined standards for the teaching and awareness-raising of green finance.

The interviews and research conducted through the questionnaire we developed provide answers to our questions and address a highly relevant issue—specifically, to what extent students possess knowledge about green finance and whether they understand the positive impacts that green finance has on the country's economic sector.

Within the scope of the conducted research, the circumstances and challenges faced by students regarding this issue were identified.

### **III. Materials and Methods**

The research employed a mixed-methods approach, combining both quantitative and qualitative research methods to obtain relevant data on green finance education in Georgian universities. The primary objective was to assess the current

state of green finance education and identify gaps and challenges. The quantitative part of the study was conducted among diverse groups of students from higher education institutions using a pre-designed questionnaire. The goal of this phase was to evaluate the level of awareness and interest in green finance among students in Georgian universities. The questionnaire covered various aspects, including knowledge of green finance concepts, the perceived importance of green finance education, and the current inclusion of green finance topics in university curricula.

Participants in the study were selected based on the principle of voluntariness and purposive sampling, involving those who expressed willingness to engage in the research activities. The qualitative part of the study was conducted through focus groups and interviews with relevant stakeholders and industry experts involved in green finance. Throughout the research process, anonymity of the participants was strictly maintained. The research findings provided comprehensive insights into the current status of green finance education in universities and potential directions for its future development.

#### **IV. Results and discussion**

The survey results revealed that there is a varying level of awareness about green finance among students of higher

education institutions. Approximately 15.2% of students have never heard of green finance, indicating fundamental gaps in financial education. However, it should be noted that several educational projects related to this topic have been offered in basic educational institutions in the capital city. This issue remains problematic because raising awareness is crucial and represents a significant step forward.

It is also important to highlight that a small, vulnerable group of students (about 5.3%) possess in-depth financial knowledge. These students can potentially influence their peers with lower levels of financial literacy. A considerable portion of the surveyed students (48%) has at least some understanding of what green finance entails, primarily among those enrolled in business administration and finance programs. For those with basic knowledge of finance and green finance, awareness can be strengthened and expanded through the introduction of several targeted courses. Additionally, elective courses on green finance awareness could be offered to students from various fields of study.

The research revealed that 22.5% of students do not know what green bonds are, 15.6% do not understand the significance of green loans, and overall, 71% of students are unaware of what sustainable finance entails. These levels of

knowledge about green finance suggest that graduates may face difficulties engaging in the green finance sector after completing their studies. This also indicates that current academic programs may be insufficiently equipped to provide students with a holistic understanding of green finance, thereby limiting their future career opportunities in this rapidly developing field.

Students primarily acquire knowledge about green finance through various courses offered by their universities, internet resources, self-study, and online materials. However, the formal education system may not fully meet the students' learning needs in this field. The research revealed that while students are aware of green finance, they lack in-depth understanding of its role as a factor promoting sustainable development by reducing environmental impact.

Superficial knowledge may lead to misconceptions regarding the practicality and effectiveness of green finance decisions. For example, understanding the role of green finance in sustainable development requires comprehending how investments can be directed toward environmentally sustainable projects, how these projects contribute to broader sustainable development goals, and the long-term benefits of such investments. Without this deeper understanding, students may

fail to fully appreciate the significance of green finance in promoting sustainable development.

Several key aspects are interesting, as they better capture students' knowledge, attitudes, and behavior. For example:

➤ Understanding the importance of environmental protection

To what extent do students consider environmental protection an important factor in financial decisions?

➤ Sustainable investments

Are they aware of what sustainable or eco-investments are, and do they have a desire to participate in such investments?

➤ Eco-branding and green products

How attentive are they to companies' environmental policies, and how does this affect their consumer choices?

➤ Green financial products

How aware are they of products such as green bonds, eco-loans, ecological conditions of guarantees, etc.?

➤ Future perspective and responsibility

To what extent do students want financial decisions to focus not only on profitability but also on environmental friendliness?

➤ Perception of the importance of environmental protection

75% of survey participants rated environmental protection in financial decisions as "very important" (5 points on a scale of 1 to 5), while 20% considered it "probably important" (4 points).

Only 5% believe that environmental protection is a less important factor.

➤ Awareness of green financial products

60% of participants are either not fully aware of or do not know about green financial products (eco-loans, green bonds). Only 25% state that they use or are familiar with these products.

➤ Perception of the eco-dimension of financial decisions

80% agree that financial decisions should be based not only on profit but also on environmental protection. 15% partially agree, and 5% disagree with this view.

The survey of various vulnerable student groups revealed several issues, including the following noteworthy challenges:

*Insufficient information about green finance among students; they believe they lack adequate education on green finance and feel that even after completing their study programs, they will have limited opportunities to further enhance their awareness in this field.*

*Higher education institutions show limited interest in ensuring the enhancement of students' knowledge through various courses or training programs. Since educational institutions play a crucial role in shaping students'*

*understanding and perception of green finance, they must be able to effectively raise student awareness in this field.*

A challenge that emerges is whether students will be able to understand the practical application of green finance in the real world and focus on its results in the future.

A significant challenge is bridging the gap between theoretical knowledge and practical application. Inviting professionals and experts from the green finance sector to engage with students will allow them to become familiar with the latest trends, challenges, and opportunities in the field. This knowledge is crucial for students to stay informed about ongoing developments and to understand the practical aspects of green finance, which are often not covered in traditional textbooks.

Students believe that universities can play a significant role in improving their practical understanding of green finance by encouraging greater engagement through various activities.

**V. Conclusion.** The conducted research showed that students from various higher education institutions in Georgia have limited awareness of the essence and importance of finance. They lack sufficient knowledge and education regarding the positive impacts of green finance on the development of a sustainable economy.

Taking all of this into consideration, we recommend that to stimulate students' interest in green finance, the subject should be integrated into the curriculum with a focus on practical, real-life situation analyses that encourage students to deepen their knowledge in this course. Leading professors of the course can create a positive and motivating learning environment by employing diverse, creative, and interactive teaching methods. Implementing approaches such as group discussions, practical exercises, case studies, and real projects will foster greater student engagement and interaction.

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## **I.8. Localization of Sustainable Development Goals in Georgia: Assessment and Recommendations**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Ramaz Otinashvili**

Doctor of Economic Sciences

Professor of Georgian Technical University

[r.otinashvili@gtu.ge](mailto:r.otinashvili@gtu.ge)

<https://orcid.org/0000-0002-7892-6159>

**Konstantine Telia**

Doctor of Business Administration

Assistant Professor of Georgian Technical University

[k\\_telia@yahoo.com](mailto:k_telia@yahoo.com)

<https://orcid.org/0009-0007-1418-599X>

**Abstract.** Based on the study of recent literature and relevant factual data, the article discusses a significant issue in economic theory and practice – the challenges and prospects of localizing the Sustainable Development Goals (SDGs) in Georgia.

Through a comprehensive examination of the topic, the article analyzes the national SDG document in the context of localization, assesses the level of awareness regarding SDGs in Georgian municipalities, identifies the key challenges and needs in the SDG localization process, and offers relevant recommendations.

**Keywords:** sustainable development, Sustainable Development Goals,, local strategy, Open Government Partnership, national strategy.

## **I. Introduction**

In September 2015, the United Nations General Assembly adopted the document "Transforming our World: the 2030 Agenda for Sustainable Development" by Resolution A/RES/70/1, which entered into force in October of the same year. The resolution outlines 17 Sustainable Development Goals (SDGs) and 169 associated targets, interconnected and equally addressing economic, social, and environmental issues.

Georgia was among the first countries to join the resolution and initiated the implementation of the SDGs. To facilitate the implementation and monitoring of the goals, the Prime Minister of Georgia established an Interagency Council on SDGs and thematic working groups to assist the Council. Additionally, Georgia developed the national SDG matrix for the 2030 Agenda, defining national goals, targets, and indicators.

Considering the universal and inclusive nature of the SDGs, it is crucial that both central and local governments are involved in the implementation process, as local self-

governments are best positioned to deliver the benefits of the goals directly and efficiently to the population.

To support this, the Institute for Development of Freedom of Information (IDFI) has been conducting a comprehensive analysis of the local context for SDG implementation in Georgia, under the "Good Governance for Local Development in South Caucasus" (GGLD) program, funded by the German Society for International Cooperation (GIZ) and commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ).

In 2019, an SDG readiness audit conducted by the State Audit Office of Georgia revealed that the SDG matrix had not been integrated into the priority documents of municipalities, as local authorities had not been involved in the SDG implementation process.

To assess the ongoing developments in this area, IDFI selected 14 municipalities<sup>52</sup> and requested public information from them. In addition, IDFI conducted a survey on SDG-related awareness among various stakeholders within the selected municipalities to generalize the trends identified.

## **II. Research Methodology**

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<sup>52</sup> Tbilisi, Batumi, Kutaisi, Telavi, Mtskheta, Zugdidi, Tsageri, Akhaltsikhe, Marneuli, Gori, Keda, Senaki, Oni, Sagarejo, and Ozurgeti.

To ensure maximum effectiveness of the analysis, in the first stage of selection, priority was given to municipalities with larger populations based on demographic data from the National Statistics Office of Georgia (GeoStat), selecting two municipalities from each region<sup>53</sup>.

Subsequent selection among the two municipalities from each region was based on the existence of local strategies and action plans, local self-governance (LSG) index<sup>54</sup> results, and IDFI's prior experience. Particular attention was also given to the municipalities' involvement in national strategies, the Open Government Partnership (OGP), and other international initiatives.

Finally, to ensure a comprehensive and inclusive analysis, preference was given to selecting one municipality with mountainous settlement status (which had already met the previous selection criteria) and one municipality predominantly populated by ethnic minorities.

### **III. Research results**

**III.1. National SDG Document in the Context of Localization:** The national SDG document was approved by the

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<sup>53</sup> Population and Demographics:

<https://www.geostat.ge/ka/modules/categories/41/mosakhleoba>

<sup>54</sup> Local Self-Government Index: <http://www.lsgindex.org/>

Government of Georgia through Resolution No. 2328 of 12 November 2019. It includes goals, targets, indicators, data sources, and responsible agencies, adapted to Georgia's context from the 2030 Agenda

Within the matrix, local authorities are mentioned under only four goals. Among the 93 defined targets, each has a designated lead agency, including the Administration of the Government, the State Security Council, the Special Penitentiary Service, the Interagency Commission on Gender Equality and Violence against Women and Domestic Violence, the National Statistics Office of Georgia, the Governmental Commission on Migration Issues, the Legal Aid Service, the Prosecutor General's Office, the Public Service Development Agency, and various ministries. However, no local self-government body is designated as the leading agency for any target.

In the context of the first goal, local self-governments are referenced in the fifth target, which aims to implement local disaster risk reduction strategies, with an indicator measuring the percentage of municipalities that have implemented such strategies. The fifth target under the fifth goal addresses ensuring equal opportunities for effective participation and decision-making by women at all levels of political, economic, and public

life, including an indicator regarding the proportion of women in municipal councils. The sixth target under the eleventh goal covers municipal waste management and air pollution control, which fall under the jurisdiction of local self-governments. Lastly, the seventh indicator under the sixteenth goal promotes inclusive, participatory, and representative decision-making processes, including an indicator measuring the proportional distribution of positions in public institutions (including local governments) based on gender, age, and disability status compared to the national average.

In the 2020 Voluntary National Review (VNR) report, under the section on conclusions and future plans, it is mentioned that the state plans to encourage local authorities to integrate SDGs into budgetary processes. To this end, the SDG Council developed a plan for localizing the SDGs at the local level. IDFI requested and analyzed this document from the Government Administration.

The plan outlines two main objectives:

- Establishing a system for engaging local authorities in the SDG implementation process;
- Raising awareness at the local level regarding SDGs and their significance.

The first objective will be implemented in three phases:

- In the initial phase, the Government Administration will develop an SDG localization guide, informational brochures, and training modules for municipal employees regarding SDG monitoring and implementation. The Ministry of Finance will reflect SDG issues in the program budgeting methodology and develop relevant recommendations;
- During the pilot phase, the Government Administration will conduct working meetings with five selected municipalities (Batumi, Kutaisi, Zugdidi, Rustavi, and Telavi). Employees of these municipalities will undergo training based on the previously developed modules. The municipalities will prepare and approve SDG implementation documentation and subsequently develop monitoring reports;
- In the final phase, these activities will be extended to all municipalities by the end of 2025.

As for the second objective, the Government Administration and municipalities will jointly plan and conduct awareness-raising activities with local stakeholder groups, local media outlets, and representatives of vulnerable groups. The plan also envisions conducting media campaigns and organizing thematic conferences.

**III.2. Awareness of the Sustainable Development Goals (SDGs) in Municipalities:** When assessing the implementation of the Sustainable Development Goals at the local level, it should be noted in advance that the SDG matrix is not integrated into the priority documents of municipalities. This is linked to the fact that municipalities are not actively involved in the SDG implementation process.

In the process of localizing the Sustainable Development Goals, the involvement of all stakeholders is equally important, as it ensures the identification and execution of activities tailored to the real needs. For this purpose, it is crucial that all target groups are informed about the SDGs and about the role that local groups play in their implementation.

To identify existing trends regarding awareness of the 2030 Agenda, IDFI conducted a survey across 14 selected municipalities. The goal of the survey was to assess the level of awareness and needs of various stakeholders (local government representatives, civil society, media, private sector, academia, and others) regarding the Sustainable Development Goals. A total of 152 people participated in the survey. It should be noted that the small number of respondents may cause a relatively high margin of error.

Respondents were almost evenly distributed among the age groups 21–30, 31–40, 41–50, and 51–60. According to the results, 93% of the participants had heard about the UN's Sustainable Development Goals, 82% correctly identified the number of goals, and 75% correctly explained the concept of sustainable development.

The largest number of responses came from the non-governmental sector, accounting for 45% of the respondents. Representatives of local public institutions (city halls, municipal councils, legal entities) made up 23%, while academia and the private sector represented 16% and 10%, respectively.

It is noteworthy that according to 46% of the respondents, their municipality is involved in the SDG implementation process. Furthermore, only 54% had heard about the national document on sustainable development, while 62.6% stated that, in the scope of their activities, they had interacted with at least one of the UN's Sustainable Development Goals, with most of them referencing the first five goals and Goal 13.

The majority of respondents (81.4%) had heard about the Sustainable Development Council, and 63% correctly named the Government Administration as the agency responsible for coordinating the SDGs. However, only 5% said they had

participated in the work of the Council (mostly representatives of civil society organizations based in Tbilisi).

More than half of the respondents believe that the Government of Georgia monitors the implementation of the Sustainable Development Goals and is accountable to the UN. Three-quarters of them consider the implementation of the SDGs to be mandatory for Georgia.

Regarding the financing of SDG implementation, 6% believe the funding comes from the government, 5% think donor funds are the main source, and the remaining 89% believe that both sources could be used to finance these activities.

The questionnaire also included a question about financial resources needed to implement the SDGs at the local level. According to 15.6% of respondents, municipalities need additional resources for the SDG implementation; 8.4% believe municipalities should manage this with their own resources, and the remaining 76% think both options are appropriate.

A striking 98% of respondents believe that statistical information is necessary for Georgia to measure its progress toward achieving the Sustainable Development Goals. An equal percentage agrees that municipalities should be involved in the implementation of the SDGs.

When asked about the potential benefits of the UN's Sustainable Development Goals for the country, respondents mainly highlighted economic development and job creation.

It is also noteworthy that three-quarters of the respondents have not received any training related to the Sustainable Development Goals. However, 97% of them expressed a desire to participate in such training and to receive more information about the SDGs. The same percentage of respondents expressed their willingness to collaborate with local stakeholders (municipality, council, non-governmental sector, media, business, academia, etc.) regarding the implementation of the Sustainable Development Goals.

**III.3. Key challenges and needs in the process of localizing the Sustainable Development Goals:** In the national matrix, local authorities are mentioned within the scope of only four goals. Of the 93 defined targets, each has a leading agency assigned; however, local government bodies are not designated for any of the targets. In the full list of the working group members, all other stakeholders mentioned in the guiding document are represented, except for representatives from local self-government. It is noteworthy that the SDG localization plan envisions the addition of municipal representatives to the list,

which will be implemented considering the developed mechanisms for their involvement.

Therefore, it is important to define the roles and responsibilities of the involved agencies and organizations alongside the thematic working groups. Action plans should be developed for the SDG Council and the working groups, outlining short- and medium-term activities, timelines, and necessary resources. Given the universal and inclusive nature of the SDGs, it is crucial to ensure the involvement of both central and local governments in their implementation.

It is also important to establish effective mechanisms for municipalities to integrate the SDGs into the formation of individual policies, strategies, action plans, priority documents, and budget approval procedures, thereby ensuring that the views and experiences of local stakeholders are considered. In addition to the local context, municipalities must consider the nationalized goals and their potential contribution toward their achievement.

The mayor has the authority to create councils, commissions, and working groups to study specific issues and to prepare relevant conclusions and recommendations. However, based on public information requested from municipalities, no municipality has yet established a local SDG

council or a similar advisory body. Furthermore, while existing councils, commissions, and working groups address individual SDGs, they do not systematically incorporate the nationalized SDG framework.

According to the 2019 audit report, the SDG matrix lacked a formal structure, and its defined goals, targets, and indicators were only partially integrated into the country's Basic Data and Directions (BDD) 2019-2022, strategic documents, ministries' 2019-2022 medium-term action plans, and municipal priority documents. Although the latest BDD documents over the past three years directly mention several SDGs, their consideration remains fragmented, and municipal priority documents still do not reflect the SDGs. Therefore, it is essential to incorporate the SDGs into the methodology for drafting priority documents. To address these challenges, the government can use the methodology and practical guide developed with the support of GIZ for integrating SDGs into the budget.

Responses to public information requests sent to municipalities reveal that the majority have not received an official letter from the Interagency Council on SDGs and, accordingly, do not participate in its work. It is also notable that municipalities currently do not use the SDGs in the process of

developing strategies, medium-term plans, or budgets. Furthermore, there are no systems in place at the local level for monitoring and evaluating the implementation of action plans and strategies.

A survey conducted by IDFI shows that almost half of the participating municipal public officials had never heard of the SDGs, and 80% reported that they had never received training on the subject. This highlights the urgent need for awareness-raising activities, especially given that the vast majority of participants expressed interest and readiness to engage in such initiatives.

At the local level, the primary responsibility for the localization of the SDGs rests with municipalities. The involvement of mayors, their deputies, and other decision-makers is particularly crucial, since according to the methodology set forth in the Minister of Finance's Order No. 385, the mayor is responsible for forming the leading working group for the municipal budget process. Meanwhile, it is advisable to conduct awareness-raising activities for other municipal employees.

When localizing the SDGs, it is important that municipalities ensure the participation of various stakeholders—either by creating new working groups or consultative

mechanisms or by incorporating SDG-related issues into the agendas of existing groups.

Moreover, it is vital to involve the National Association of Local Authorities of Georgia (NALAG) in the SDG localization process. NALAG unites all local self-government entities in Georgia and aims to enhance the local self-government system, develop local democracy, decentralize state power, and strengthen local self-government institutions. Consulting with NALAG, other local civil society organizations, and representatives of academia will provide additional information and analysis, ensuring a more complete and comprehensive localization process.

Finally, municipalities must focus on involving the local population in the implementation and monitoring processes of the Sustainable Development Goals (SDGs) and raising their awareness. This is crucial because the accountability of elected political officials before the public represents a strong democratic mechanism for achieving the SDGs at the local level.

**IV. Recommendations:** Based on the results of the conducted research, the following main recommendations are formulated:

**Territorial Disaggregation of SDG Indicators:** The indicators outlined in the national SDG document must be

disaggregated at the territorial level. It is commendable that the implementation of this has also been considered in the SDG localization plan. The addressee of this recommendation is the Administration of the Government of Georgia, responsible for coordinating SDG implementation in the country and for initiating the development of a regional document based on this recommendation.

**Strengthening the Involvement of Local Authorities in the National Council:** The participation of local self-government representatives in the National Council for Sustainable Development should be intensified, both at the decision-making (Council) and working levels (working groups of the Council). It is welcome that this has also been incorporated into the SDG localization plan. To achieve this, it will be necessary to implement the recommendations of the State Audit Office and ensure the effective involvement of municipalities in the central government's SDG platforms.

**Enhancing Municipal Statistics:** Since statistical information is the main source for monitoring and evaluating the achievement of SDGs, it is essential to strengthen the production of municipal statistics by allocating additional financial and human resources. Moreover, it is necessary to develop and adopt common guiding principles and standards for local-level

statistics production, particularly within the framework of national SDG targets, in close collaboration with the National Statistics Office of Georgia. It is equally important to retrain municipal public servants in statistical data production, especially based on the guidelines and standards developed for municipalities.

**Integration of SDGs into the Budgetary Process:** It is necessary that the structure and content of budget documentation prepared during the municipal budgetary process reflect the links between municipal programs and subprograms and the Sustainable Development Goals. This will enable municipalities to calculate the budget allocated for each SDG. In the case of identifying budget deficits, municipalities should initiate the mobilization of additional financial resources, involving both the private and international sectors. This process must be planned and implemented transparently, ensuring maximum adherence to the principles of inclusivity. Additionally, this will allow municipalities to determine the cost of achieving each goal individually.

**Greater Integration of SDGs into Municipal Policy Development:** Since the achievement of SDGs is not a parallel process separated from the country's internal policy-making, it is essential that the development of separate policy documents

(strategies, action plans, concepts, and priority settings) at the municipal level ensures the integration of Sustainable Development Goals<sup>55</sup>.

**Establishment of SDG Advisory Bodies at the Municipal Level:** It is recommended that advisory bodies for the Sustainable Development Goals be established at the municipal level. These bodies should include representatives from the public, private, international, and local civil society sectors. Their function will be to assess the compliance of municipal policies with the SDGs and to oversee the implementation process. These bodies must work in close cooperation with the national-level SDG Council. The active involvement of the National Association of Local Authorities of Georgia (NALAG) and the Ministry of Regional Development and Infrastructure of Georgia in fostering the collaboration between these advisory bodies and the national council is critically important.

It is recommended that supervisory councils for the Sustainable Development Goals (SDGs) be established at the level of municipal councils . Their primary function would be to

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<sup>55</sup> This means that all priorities and plans are consistent with the goals and objectives of sustainable development, and directly or indirectly relate to their implementation, and the aforementioned connection and compliance can be verified in all relevant municipal policy documents.

monitor the implementation of the SDG agenda by the mayor's office, identify challenges during the process, and propose responsive legislative or other types of initiatives. This model would increase the openness of municipal efforts toward the achievement of the goals and enhance the transparency of the process.

**Raising Awareness Among the Local Public and Civil Sectors:** It is essential to regularly conduct training sessions and informational campaigns to raise awareness within the local public and civil sectors. It is commendable that this activity is also included in the SDG localization plan. Ideally, the awareness-raising campaigns on thematic goals should be localized to reflect municipal needs and take on a more campaign-style character at the local level.

**Capacity Building of Local Public Servants:** Additionally, it is critically important to provide retraining and support to public servants employed in local self-government, especially decision-makers, to deepen their understanding of the significance of sustainable development. It is encouraging that this need is also recognized in the SDG localization plan. Comprehensive and substantive knowledge of the SDGs by local officials serves as a natural and indispensable lever for focusing attention on the issues, integrating them into the political

agenda, and attributing appropriate importance to sustainable development efforts

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## **I.9. Financial capabilities and advantages of Georgia's transport infrastructure under public-private partnership**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Nanuli Kokashvili**

Doctor of Economics

Associate Professor Of Gori State University

[nanulikokashvili@gmail.com](mailto:nanulikokashvili@gmail.com)

<https://orcid.org/0000-0003-3036-609X>

**Irakli Katsadze**

Doctor of Business Administration

Professor of Batumi State Maritime Academy

[i.katsadze@bsma.edu.ge](mailto:i.katsadze@bsma.edu.ge)

**Abstract.** The article, based on the study of the latest literary sources and relevant factual data, discusses an important issue of economic theory and practice - Georgian transport infrastructure under public-private partnership conditions: challenges and recommendations.

Based on a fundamental study of the issue, challenges hindering the deepening of public-private partnership cooperation in the field of transport infrastructure in Georgia have been identified, such as: the current political situation in the country, the ideological views of the leading political force, myths established in society, the lack of access to objective and

high-quality analytical information by society, and the low level of public awareness on this issue.

By generalizing the research results, it is substantiated that the optimal form of joint management of transport and logistics facilities in Georgia with the private sector or implementation of new infrastructure projects will be public-private partnership.

Relevant recommendations are proposed: establishment of a transparent legislative and legal framework and regulations, expansion and strengthening of institutional capacities, improvement of project preparation, evaluation and selection procedures, rationalization of risk allocation, ensuring free competition and transparency, establishment and strengthening of regulatory oversight.

**Keywords:** public-private partnership, transport infrastructure, infrastructure project, concession, transport project, geopolitical potential, logistics facilities.

## **I. Introduction**

In modern conditions, in different countries of the world, the establishment of private interests in public projects is increasingly common. On the basis of such agreements, partners from the private sector participate in the design, construction, management and financing of transport projects. The increase in

cases of public-private partnership in this area is clearly noticeable.

Public-private partnerships for the implementation of transport infrastructure projects are particularly common in South America<sup>56</sup>, Southern Europe<sup>57</sup> and the United States<sup>58</sup>. In many developed and developing countries, public-private partnerships are an important and attractive alternative for financing and managing transport arteries and highways.

It is noteworthy that improving the quality of transport infrastructure is one of the most frequently used strategies by politicians to improve road safety. In addition, the high risk of uncontrolled growth of public debt and certain budgetary constraints push governments to take care of improving the quality of road transport and infrastructure by maximizing the

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<sup>56</sup> Guasch, J. Luis, Laffont, Jean-Jacques, & Straub, Stéphane. (2008). Renegotiation of concession contracts in Latin America: Evidence from the water and transport sectors. *International Journal of Industrial Organization*, Elsevier, vol. 26(2), pp. 421-442, <https://doi.org/10.1016/j.ijindorg.2007.05.003>

<sup>57</sup> Albalade, D. (2014). *The Privatisation and Nationalisation of European Roads: Success and Failure in Public-Private Partnerships*. Edward Elgar Publishing. ISBN: 9781 78195 392 1. Extent: 272 pp. [https://www.researchgate.net/publication/264933449\\_The\\_Privatisation\\_and\\_Nationalisation\\_of\\_European\\_Roads\\_Success\\_and\\_Failure\\_in\\_Public\\_Private\\_Partnerships](https://www.researchgate.net/publication/264933449_The_Privatisation_and_Nationalisation_of_European_Roads_Success_and_Failure_in_Public_Private_Partnerships)

<sup>58</sup> Bel, G., & Foote, J. (2009). Tolls, Terms and Public Interest in Road Concessions Privatization: A Comparative Analysis of Recent Transactions in the USA and France. *Transport Reviews*, 29(3), pp. 397-413. <https://doi.org/10.1080/01441640802432144>

savings of public financial resources. Over time, public-private partnerships have emerged as the most common and effective practice for implementing transport infrastructure projects, bypassing budgetary constraints<sup>59</sup>. In fact, governments have found a reliable base in the form of the private sector to offer citizens new and better transport infrastructure.

In this regard, the example of Georgia is particularly interesting, where public-private partnerships have a long, albeit somewhat unknown, history. In particular, the Chiatura-Poti railway section was built and operated in the form of a concession in the 19th century; the Tbilisi-Lisi funicular, the Tbilisi tram and water supply network, and the Tbilisi airport were organized in the same form.

Today, a proper assessment of the potential of Georgia's international highways, the geographical location of Georgia and the diversity of its terrain provide the country with the opportunity to gain the status of a true "transport hub", which requires the development and modernization of a network of all

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<sup>59</sup> Etienne B Yehoue, Mona Hammami, & Jean-François Ruhashyankiko. (2006). Determinants of Public-Private Partnerships in Infrastructure. IMF Working Papers, Volume 2006: Issue 099. ISBN: 9781451863598. ISSN: 1018-5941. 37 pp. <https://doi.org/10.5089/9781451863598.001>  
Albalade, D., Bel, G., González-Gómez, F., & Picazo-Tadeo, A. J. (2017). Weakening political connections by means of regulatory reform: Evidence from contracting out water services in Spain. *Journal of Regulatory Economics*, 52, pp. 211–235.

types of roads and corridors - road, rail, air and sea. In order for Georgia to operate as a “transport hub” with optimal efficiency, it is necessary to provide timely and efficient transportation to each strategic location via highways. Overall, the transport infrastructure can be improved using a public-private partnership model.

It is noteworthy that Georgia has an important geopolitical position in the Eurasian Economic Union (EAEU), not least because the South Caucasus is one of the most favorable transport routes compared to other regions. The transport corridor leading to the historical Silk Road and one of its important links - Georgia - is a connecting corridor between Europe and Asia, where almost all types of transport networks are developed.

Therefore, taking into account economic feasibility and in order to make freight transportation through Georgia more intensive, the operation of international roads in Georgia under the public-private partnership model is of great importance<sup>60</sup>, as

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<sup>60</sup> Resolution of the Government of Georgia No. 371. (July 18, 2022). “On Approval of the List of Motor Roads of International and Domestic Importance” on Amendments to the Resolution of the Government of Georgia No. 407 of June 18, 2014. (*in Georgian*).

<https://www.matsne.gov.ge/ka/document/view/5524325?publication=0>

improving transport infrastructure and increasing its capacity is a fundamental prerequisite for this goal<sup>61</sup>.

## **II. Research Objectives and Methodology**

The research aims to identify the potential of Georgia's transport infrastructure in the new geopolitical situation, to better utilize the geopolitical potential, to clarify the possibilities of increasing the involvement of private structures and interests in the implementation of transport infrastructure projects, to better demonstrate the economic, political and social feasibility of the development of this direction (including identifying factors facilitating and hindering public-private partnership, studying obstacles and new opportunities). Based on the research results, recommendations will be developed for the effective management of the country's existing strategic transport infrastructure facilities and the development of new infrastructure projects in the transport sector.

The research used primary and secondary research methods. Two in-depth interviews were conducted within the framework of the primary research: the first interview was

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<sup>61</sup> Veshapidze, Sh., Jamagidze, L., Kereselidze, L., Putkaradze, R., Daudishvili, T., Kitashvili, S., & Megreladze, G. (2025). Georgia's European Integration Perspective. Monograph. Publisher: „Smarty“ Publishing, Tbilisi. 242 pp. (*in Georgian*).  
<https://dspace.tsu.ge/items/774abb1f-044e-462e-8e0d-81250dd4a167>.

conducted with the founder and manager of one of the largest banks in Georgia (TBC), who was subsequently involved in the implementation of Georgia's largest transport infrastructure project (Anaklia Port) and in relations with major investors. The second interview was conducted with a respondent with extensive experience in the public sector, who had direct contact with issues related to the subject of the research. A comparative analytical approach was used within the framework of the secondary (desktop) research. In particular, the secondary research includes an analysis of the results of previous research conducted by other researchers, a review of examples and best practices from different countries, and an assessment of the compatibility of these examples and practices with the reality of Georgia.

The main limitation of the study was the inability to conduct focus groups on the research questions with the local population in different regions of Georgia. This would have allowed us, on the one hand, to assess the current situation in the country from the first-hand perspective, and on the other hand, to find out the attitude of the local population to the features of public-private partnerships (details of the benefits and risks of the created transport highways). In addition, interviews could not be conducted with representatives of central and local

authorities, which is why the results of this study could not reflect their opinions on the research questions.

### **III. Results and Discussion**

The study revealed that the development of the Georgian transport and logistics system is stagnating, and in a number of areas is even going backwards.

Based on the study of relevant scientific literature, research reports, the use of best practices and comparative analysis, the analysis of public information related to the issue, as well as interviews with practicing economists and representatives of the business sector with relevant experience, it is clear that the optimal form of joint management of transport and logistics facilities in Georgia with the private sector or the implementation of new infrastructure projects will be public-private partnership. This, among other factors, is determined by Georgia's geopolitical potential.

In addition, it was determined that the main obstacle to the deepening of public-private partnership cooperation is not economic feasibility, lack of interest from the private sector or the opposing opinion of international partners or a combination of other objective factors, but the current political situation in the country, the ideological views of the leading political force, myths established in society, the lack of access to objective and

high-quality analytical information by the public, and the low level of public awareness on this issue.

Despite the above-mentioned skepticism, according to the interviewed respondents, this challenge can be overcome if decision-makers, based on economic feasibility, take political “risks”.

As a result of the interviews conducted and the analysis of the information obtained, it was determined that the management of Georgia's infrastructure facilities and services in cooperation with the private sector, as well as the development of new infrastructure projects, has repeatedly been on the agenda and has even been partially implemented in such areas of the national economy as water supply and healthcare.

It was revealed that international donors and partners of strategic large transport infrastructure projects being built in Georgia are not only not opposed to the deepening of cooperation between the Georgian government and the private sector, but also welcome the start of such a process and are ready to actively contribute to the deepening and development of such partnerships.

Moreover, there is the European PPP Expertise Centre, which is an integral part of the European Investment Bank's consulting services, whose mission is to help different countries,

including candidate countries, to better work on public-private partnerships. With the help of this centre, a number of projects were financed worldwide from 1990 to 2024.

As a result of the analysis of the current situation, the following challenges and risk factors for the public-private partnership model operating in the field of transport infrastructure in Georgia were identified:

- ⇐ The inherent shortcomings of the current political system in Georgia - informal governance, weak independence of state institutions, problems with the rule of law - have a negative impact on both the political situation in the country and its socio-economic development. Without an agenda based on real needs and challenges, the behavior of the country's executive authorities is devoid of long-term strategic vision and, often, inconsistent. This is the biggest challenge that contradicts the country's economic development in general, including the development of its transport infrastructure network.
- ⇐ Incoherent policy, lack of succession - the current model (when transport highways are owned by the state) makes it impossible to quickly overcome the challenges facing the country. More than once, there have been cases of politicians not keeping their promises, a significant change in the path

taken by their “successors,” and a radical shift in priorities. For example, in 2016, Prime Minister Giorgi Kvirikashvili presented a rather ambitious plan for the “Spatial Development Project of the Country,” according to which, by 2020, it was planned to build up to 1,000 km of roads, build 550 km of highways, rehabilitate and reconstruct up to 800 km of roads, build up to 300 bridge crossings, and build 50 road tunnels<sup>62</sup>. He emphasized that Georgia has the full potential to become a transport and logistics hub connecting Europe and Asia. In this context, an important role was assigned to the improvement of road infrastructure and its development according to modern, European standards. However, despite the promise, the Prime Minister's ambitious plan could not be implemented, as the completion of most projects was postponed first until 2022, then until 2024, and some of the initiatives have not yet begun (Magali-Tad, Rustavi-Tsiteli Khidi road).

⇐ Corruption in the tenders for announced infrastructure projects is increasing the cost of building transport highways. It is important that in 2019, Transparency

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<sup>62</sup> Government of Georgia. (2016-09-16). Presentation of the Country's Spatial Planning Project. (*in Georgian*). [https://www.gov.ge/index.php?lang\\_id=GEO&sec\\_id=434&info\\_id=57765](https://www.gov.ge/index.php?lang_id=GEO&sec_id=434&info_id=57765)

International Georgia revealed possible corruption risks through the “revolving door” problem. For example, the transfer of former Deputy Head of the Road Department Givi Chochia to the Turkish company POLAT YOL & MAPA, which won the tender for the Batumi bypass road worth 329 million GEL. Also, the transfer of former Deputy Head of the Road Department Zaza Simonia to the Chinese company “Sinohydro”, which is building the Samtredia-Grigoleti section of the expressway for 253 million GEL. According to media reports, Simonia was a member of the tender group that provided financing to Sinohydro.

- ⇐ Low level of qualification of employees in the transport infrastructure sector and the absence of a policy to correct this difficult situation.
- ⇐ Economic instability due to the political instability in the country.

Within the framework of the study, the effectiveness of public-private partnerships was assessed in the context of the experience of other countries in the context of “Value for Money Analysis”. In general, world experience shows that public-private partnerships are a means of effective use of public and private sector spending, the defining indicator of which is Value for Money Analysis (VFM analysis). The OECD study showed

that 19 out of 20 surveyed countries use VFM analysis to assess project effectiveness.

VFM analysis includes the following stages:

*1. Qualitative analysis - the initial stage of assessing the effectiveness of public-private partnerships.* At this time, the issue of whether the project will meet the needs or expectations of users is considered. Different countries have pre-defined criteria for assessing this, for example: (1) According to the UK Treasury, a qualitatively desirable public-private partnership is when the services of a private company are long-term and predictable; the private sector can manage risks and implement the project; there is competition in the market for investors; (2) In France, the priority is the optimal distribution of risks between the private and public sectors; (3) In Virginia and the USA, public-private partnerships meet the criteria of qualitative analysis in the case when the project proposed by the private company covers various complex issues for further operation<sup>63</sup>.

I believe that according to the practice of the above-mentioned countries, in the context of Georgia, public-private

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<sup>63</sup> Report from World Bank Global Round, 2013:  
[https://www.google.com/search?q=Report+from+World+Bank+Global+Round%2C+2013\)&oq=Report+from+World+Bank+Global+Round%2C+2013\)&gs\\_lcrp=EgZjaHJvbWUyBggAEEUYOTIGCAEQRRg80gEJNDY4MWowajE1qAllsAIB&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Report+from+World+Bank+Global+Round%2C+2013)&oq=Report+from+World+Bank+Global+Round%2C+2013)&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIGCAEQRRg80gEJNDY4MWowajE1qAllsAIB&sourceid=chrome&ie=UTF-8)

partnerships may be desirable in the context of qualitative analysis if the private company takes responsibility for ensuring that the roads of international transit importance, if operated by it, meet the infrastructure standards envisaged by the agreement, while ensuring safety, increasing throughput and achieving implementation within the project timeframe.

2. *Quantitative analysis - the second stage of assessing the effectiveness of public-private partnerships.* In particular, in order to assess the effectiveness of public-private partnerships: (1) in Chile, each The costs are compared, on the one hand, the total cost in the presence of a public-private partnership, and on the other hand, the cost of construction by the state; (2) In Colombia, Canada, Korea and South Africa, the risks that are transferred from the government sector to private companies are expressed in terms of possible losses, i.e. if the cost of a public-private partnership exceeds the construction carried out using the traditional model, this is justified by the fact that the private sector bears the risk.

The difficulty of the calculation lies in the fact that in terms of quantitative analysis, there is no source of relevant costs in Georgia when implementing a public-private partnership. That is why, when assessing the effectiveness in terms of quantitative analysis, the costs of the existing model in Georgia

should be compared with the average costs of European countries where public-private partnerships operate.

According to the Georgian Roads Department, the construction of the 35-km Tbilisi-Sagarejo highway is financed from the state budget and its total cost More than 527 million GEL. A simple mathematical operation shows that the cost per 1 km is more than 15 million. It should be noted that against the background of the above costs, Georgia was assigned 2.7 points in the World Bank's Logistics Performance Index (LPI) in 2023, while Ireland was assigned 3.6 points in the above-mentioned rating<sup>64</sup>. And Ireland's cost per 39 km is 400 million euros, of which 50 million are land acquisition costs (which the Georgian government does not have), that is, the amount spent on infrastructure improvement alone is per 1 km:  $(400 \text{ million} - 50 \text{ million}) / 39 \text{ km} = 8 \text{ million euros per 1 km}$ .<sup>65</sup>

When assessing cost-effectiveness, average wage rates should be taken into account. Average monthly salary in Georgia

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<sup>64</sup> Logistics Performance Index (LPI).

<https://lpi.worldbank.org/international/global>

<sup>65</sup> Transport Infrastructure Ireland (2019):

[https://www.google.com/search?q=Transport+Infrastructure+Ireland+\(2019&oq=Transport+Infrastructure+Ireland+\(2019&gs\\_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBCTUzNTVqMGoxNagCALACAA&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=Transport+Infrastructure+Ireland+(2019&oq=Transport+Infrastructure+Ireland+(2019&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRigAdIBCTUzNTVqMGoxNagCALACAA&sourceid=chrome&ie=UTF-8)

1280 GEL, while the average monthly salary in Ireland is 3683 EUR.

It is worth considering the ratio of construction costs per 1 km to the GDP of Ireland and Georgia. Ireland's GDP as of 2022 is 533.1 billion USD<sup>66</sup>, while Georgia's GDP as of 2022 is 24.78 billion USD,<sup>67</sup> or approximately 69.384 billion GEL. The calculation shows that Georgia's cost per 1 km is 0.022% of GDP, while Ireland's is 0.002%. Finally, it is clear that Georgia's cost per GDP is 11 times higher than Ireland's, which highlights the inefficiency of the current model.

A comparative analysis shows that in addition to the lack of cost-effectiveness in Georgia, the current model does not Infrastructural quality that meets international standards is achieved. In Ireland, where costs are lower and the private sector has more spending on human resources in the form of salaries, cost-effectiveness is achieved, along with road infrastructure development.

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<sup>66</sup> Data Commons. Ireland.  
[https://datacommons.org/place/country/IRL?utm\\_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource,GrossDomesticProduction&hl=en](https://datacommons.org/place/country/IRL?utm_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource,GrossDomesticProduction&hl=en)

<sup>67</sup> Data Commons. Georgia  
[https://datacommons.org/place/country/GEO?utm\\_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource,GrossDomesticProduction&hl=en](https://datacommons.org/place/country/GEO?utm_medium=explore&mprop=amount&popt=EconomicActivity&cpv=activitySource,GrossDomesticProduction&hl=en)

Based on the conducted research, it was revealed that Georgia is unable to expand its transport infrastructure network at a pace and volume that would meet the priorities set for the country both in international policy and in the country's socio-economic development. In addition, Georgia is experiencing a decline in the relevant ratings of the World Bank and other leading international financial organizations, according to all the data that reflect the development of the transport and logistics network of individual countries.

It was revealed that due to the unhealthy political system operating in the country, the delay in democratic development, the unformed economic policy, the lack of quality information and the lack of appropriate advocates, Georgia cannot ensure the timely and high-quality development of its transport infrastructure network. This situation hinders the country's socio-economic growth, weakens its position in the international arena, which is benefiting from other, competing international transport corridors (connecting the East and the West).

It has also been revealed that corruption risks, problems with the rule of law, political instability and opaque decisions made in international projects (for example, the Anaklia port) hinder both the involvement of the local private sector and the

interest of international companies in the implementation of Georgian infrastructure projects.

Taking into account all of the above and based on the characteristics of Georgia's political and socio-economic development, the only alternative way to modernize and develop the transport infrastructure network is to develop public-private cooperation in this sector. The society of our country is poorly or not at all informed about the benefits that deepening cooperation with the private sector, in particular, the development of the transport and logistics network in the form of public-private partnership, can bring. Therefore, along with the elimination of the above-mentioned problems, it will be important to raise public awareness of the benefits that this form of cooperation can bring to the transport infrastructure sector and, in general, to the development of the country.

#### **IV. Recommendations**

The experience of Poland, Hungary, the Czech Republic, Croatia, Slovenia, Romania and Serbia over the past 10-17 years has shown that taking into account the recommendations below is a fundamental prerequisite for creating a favorable environment for public-private partnerships in the transport infrastructure sector, as well as attracting investments from the private sector to meet rapidly growing infrastructure needs:

*IV. 1. Establishing a transparent legislative framework and regulations:*

- Developing legislative acts and regulations that facilitate public-private partnerships, which will clearly establish the roles and responsibilities of public and private partners;
- Enforcing mechanisms and procedures for preventing corruption risks at the legislative level;
- Creating and considering effective mechanisms for protecting private investors in the legislative framework;
- Standardizing public-private partnership contract terms and procurement procedures to ensure efficiency and transparency;
- Strict adherence to the principles of the rule of law<sup>68</sup>.

*IV. 2. Enhancing and strengthening institutional capacity:*

- Increasing the technical capacity of the Public-Private Partnership Agency and the level of expert knowledge of its employees;
- Improving the capacity of public service employees with the skills and knowledge necessary to deepen public-private

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<sup>68</sup> Queiroz, C. (2005). Launching Public Private Partnerships for Highways in Transition Economies. *The World Bank Group*. 13 pp. <https://documents1.worldbank.org/curated/en/459631468030579372/pdf/33910a10trp090PPPs0Highways.pdf>

cooperation (identification, management of public-private partnership projects, etc.);

- Coordination and improvement of the database of public-private partnership projects, standardization of project documentation.

*IV. 3. Improving the procedures for preparing, evaluating and selecting projects:*

- Objective and in-depth study of the feasibility of public-private partnership projects, risk analysis;
- Prevention of corruption interests, money laundering and international economic sanctions in public-private partnership projects Identifying and preventing risks of self-harm;
- Objective and independent assessment of the fiscal sustainability of public-private partnership projects;
- Development of a national strategy for the development of transport infrastructure and alignment of public-private partnership projects with it;

*IV. 4. Rationalization of risk allocation:*

- Allocation of risks among public-private partnership partners on the principle of ensuring their optimal management;

- Ensuring proper identification and reflection of risks in public-private partnership contracts;
- Ensuring guarantees of support from the state for the management of those risks that the private sector cannot manage independently<sup>69</sup>.

*IV. 5. Ensuring free competition and transparency:*

- Ensuring the independence of the judiciary and unwavering adherence to the principles of the rule of law;
- Ensuring fair competition and transparency of the procurement process for public-private partnership projects;
- Standardizing the selection of private sector partners in public-private partnerships, ensuring equal conditions for them;
- Establishing transparent and objective criteria for selecting potential partners in public-private partnerships, evaluating their proposals, and adhering to them as much as possible <sup>70</sup>.

*IV. 6. Establishing and strengthening regulatory oversight:*

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<sup>69</sup> De Vera, M., Timbang, M., Torio, P., & Siriban, C. (2013). Asian Public-Private Partnerships: An Overview of Trends and Innovations. *Asian Institute Of Management. Business and development research*. 42 pp.

[https://www.researchgate.net/publication/256048239\\_Asian\\_Public-Private\\_Partnerships\\_An\\_Overview\\_of\\_Trends\\_and\\_Innovations](https://www.researchgate.net/publication/256048239_Asian_Public-Private_Partnerships_An_Overview_of_Trends_and_Innovations)

<sup>70</sup> Flor, L. (2018, August 16). Three ways governments can create the conditions for successful PPPs. World Bank Blogs. <https://blogs.worldbank.org/en/transpart/three-ways-governments-can-create-conditions-successful-ppps>

- Establishing effective mechanisms for resolving disputes between parties to public-private partnerships and ensuring the impartiality of the court;
- Creating an independent body to oversee the conclusion and implementation of public-private partnership contracts and the protection of consumer interests;
- Establishing transparent tariff-setting mechanisms and ensuring attractive investment conditions for private sector partners.

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[https://www.researchgate.net/publication/256048239\\_Asian\\_Public-Private\\_Partnerships\\_An\\_Overview\\_of\\_Trends\\_and\\_Innovations](https://www.researchgate.net/publication/256048239_Asian_Public-Private_Partnerships_An_Overview_of_Trends_and_Innovations)

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## **I.10. Implementing the Sustainable Development Goals in Georgia: Challenges and Prospects**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Shalva Kereselidze**

Doctor of Business Administration

Associate Professor of Georgian Technical University

[Kereselidzeshalva11@gtu.ge](mailto:Kereselidzeshalva11@gtu.ge)

**Levan Kereselidze**

Doctor of Business Administration

Assistant-Professor of Ivane Javakhishvili Tbilisi State University

[Levan.Kereselidze@tsu.ge](mailto:Levan.Kereselidze@tsu.ge)

<https://orcid.org/0009-0003-8879-2339>

**Abstract.** The article, based on the study of the latest literary sources and relevant factual data, discusses an important issue of economic theory and practice - the assessment of the implementation of sustainable development goals in Georgia.

Based on a fundamental study of the issue, the state of implementation of national sustainable development goals in Georgia is assessed, the main challenges and needs of the process of implementing sustainable development goals are identified, and appropriate recommendations are proposed.

**Keywords:** sustainable development, sustainable development goals, SDGs Council, municipal program budget, SDGs Matrix, municipal priority document.

## **I. Introduction**

In September 2015, the UN General Assembly adopted Resolution A/RES/70/1 “Transforming our world: 2030 Agenda for Sustainable Development”,<sup>1</sup> which entered into force in October of the same year. The resolution outlined 17 Sustainable Development Goals (SDGs) and 169 targets that are interlinked and address economic, social, and environmental issues in equal measure.

Georgia was one of the first countries to join the resolution and begin the process of nationalization and implementation of the Sustainable Development Goals. In order to facilitate the implementation of the goals and the monitoring of this process, an Interagency Council for Sustainable Development Goals (hereinafter referred to as the Council) and thematic working groups (hereinafter referred to as the Working Groups) have been established to assist the Council by the order of the Prime Minister of Georgia. In addition, a national agenda document for 2030 was developed - the SDGs matrix, defining national goals, targets, and indicators.

Given the universal and inclusive nature of the Sustainable Development Goals, it is important that both central and local governments be involved in their implementation, as it is the local self-government that can deliver the benefits to the

population in the most effective and expeditious manner. To facilitate this, with the financial support of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), the Institute for Development of Freedom of Information (IDFI) has conducted a comprehensive analysis of the local architecture of Sustainable Development Goals in Georgia within the frames of the programme - Good Governance for Local Development South Caucasus (GGLD).

The report covers topics such as: Involvement of local governments in national mechanisms for the implementation of the SDGs; Identify key municipal structures for the introduction and implementation of the SDGs at the local level; Establish links between the program budget of municipalities and the budget required for the implementation of the SDGs.

## **II. Research results**

To demonstrate the progress in implementing the national Sustainable Development Goals and the main challenges identified so far, the State Audit Office examined Georgia's readiness to achieve the Sustainable Development Goals. Specifically, the audit examined the activities carried out by the SDG Council and ministries involved in SDG

implementation from 2016 to December 2018 to integrate the 2030 Agenda into the national/institutional context. The audit identified 3 main objectives:

- ⇒ Integration of the Goals into the national context;
- ⇒ Identification of resources necessary for the implementation of SDGs;
- ⇒ Establishment of a framework for monitoring and reporting.

Among other shortcomings identified in the process of integrating the 2030 National Agenda, the Audit Office noted that the SDG matrix still lacks formality and that the goals, objectives, and indicators set out in it are only fragmentarily integrated in the main data and directions of the strategic documents in the country for 2019-2022, in the medium-term action plans of the ministries for 2019-2022, and in the documents of the priorities of the municipalities.

As a result of the report, the Audit Office issued 7 recommendations to the government administration and 4 recommendations to the ministries involved in the implementation of the SDGs:

***Recommendations to the SDG Council:***

1. Taking into consideration the universal and inclusive nature of SDGs, it is important to involve central and local

governments in their realization. Consequently, SDGs Council should ensure that municipalities are included in the implementation of SDGs.

2. In order to position SDGs matrix as an effective formal framework of nationalized agenda, SDGs Council should make timely initiatives for its formal approval by the government.

3. In order to achieve inclusiveness and effective functioning of SDGs Council and thematic working groups:

- In cooperation with thematic working groups, all relevant stakeholders should be identified
- and after increasing their awareness, they should be involved in the SDGs council and thematic working groups, considering their relevance;
- In cooperation with thematic working groups, the roles and responsibilities of working group members should be determined;
- There should be elaborated action plans for SDGs Council and thematic working groups, presenting short-term and medium-term activities, milestones and required resources.

4. To guarantee timely and efficient monitoring and reporting about SDGs, SDGs Council should develop a monitoring and reporting framework, which implies:

- Timely completion of monitoring web-portal and launch into practice;
- Development of a reporting framework and timeline by ministries towards SDGs council;
- Defining a timeline for national progress reporting about the achievement of SDGs.

**Recommendations to the SDG Council and Ministries:**

5. In order to eliminate the gaps in the SDGs matrix, the SDGs Council and ministries should:

- Identify specific agencies responsible for each target/indicator.
- Analyze the nature and scope of the interconnections between the goals and targets, on the basis of which, the direct responsibility of each agency will be defined in regard with achievement of each target.

6. In order to achieve SDGs and corresponding targets in a timely, efficient, and successful manner, SDGs Council and ministries, in cooperation with all relevant bodies involved in the realization of the goals, should analyze and evaluate

necessary means of implementation: human and financial resources, ICT, data and statistics.

7. In order to process proper monitoring of the implementation of the targets, SDGs Council, in cooperation with line ministries and other relevant bodies, should present information in SDGs matrix about baselines and data sources for each indicator.

**Recommendations to ministries:**

8. The ministries should integrate SDGs, targets, and corresponding indicators they are responsible for into their strategies, policies, medium-term action plans, and program annex of the state budget law.

**III. Conclusion**

IDFI requested information from the Audit Office on the implementation of these recommendations. As of April 2021, 3 of the recommendations issued to the Administration have been implemented, 3 partially implemented, and 1 ongoing. Of the ministries, only the Ministry of Economy and Sustainable Development has implemented all four recommendations. Out of 4 recommendations issued to the Ministry of Environment Protection and Agriculture, 2 have been implemented and 2 have been partially implemented. The other ministries have

implemented 3 recommendations, with 1 ongoing or partially implemented.

It should be noted that the next 3 BDD (Basic Data and Directions) documents developed after the publication of the report mention the individual SDG indicators more directly and relate them to specific programs to be implemented. For example, a social security program is accompanied by an addition stating that cash disbursements to vulnerable groups under the program will help meet the 1.3.1 indicator set by the Sustainable Development Goals (SDGs) (National SDG Matrix).

Additionally, the Environment and Agriculture Program is related to the implementation of SDG 15.1 and SDG 15.5 targets related to biodiversity monitoring and the creation of a unified database based on condition assessment. The environmental monitoring, forecasting, and prevention program is also linked to the nationalized SDG 11.6 and 14.4 targets, which include monitoring air pollution and the Georgian Black Sea coast, statistical analysis of inland fisheries and determination of environmental status. Finally, in the description of the infrastructure program of the Ministry of Education, Science, Culture and Sports of Georgia, there is a general statement that corresponds to the implementation of the

program in accordance with SDG 4 and its implementation indicators.

These can be found in both the 2020-2023 BDD document and the 2021-2024 and 2022-2025 BDD documents.

As for the assessment of the state of implementation of the Sustainable Development Goals at the local level, the SDG matrix is not integrated into the municipalities' priority documents. This is due to the fact that municipalities are not involved in the implementation of SDGs. According to the Audit Service, at this stage there is no audit in this direction.

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## **I.11. Challenges and Prospects of Green Financing in Modern Georgia**

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Shalva Kereselidze**

Doctor of Business Administration

Associate Professor of Georgian Technical University

[Kereselidzeshalva11@gtu.ge](mailto:Kereselidzeshalva11@gtu.ge)

**Levan Kereselidze**

Doctor of Business Administration

Assistant-Professor of Ivane Javakhishvili Tbilisi State University

[Levan.Kereselidze@tsu.ge](mailto:Levan.Kereselidze@tsu.ge)

<https://orcid.org/0009-0003-8879-2339>

**Abstract.** This article examines a topic whose relevance is growing due to the need to clarify the concepts of a "green" economy in the new geopolitical and economic environment.

The study draws on theoretical approaches to the concept of a "green" economy, reflected in scholarly works on the green economy and green financing, substantiating the need and potential for using new financial instruments in the context of sustainable development.

Green financing practices are examined, and the factors influencing changes in previous approaches to financing, administering, and regulating activities related to greening the Georgian economy are analyzed. Proposals to reduce

administrative influence in the environmental protection system are particularly prominent.

**Keywords:** Sustainable development, Sustainable Development Goals, Green Economy, Green Financial Instruments, Green Financing.

### **I. Introduction**

In modern Georgian and foreign economic science, the concept of sustainable development occupies a prominent place, becoming a “fashionable” trend in research and discussion, since it meets the need to reconsider the attitude towards the irrational and inefficient use of resources in the process of human activity, which has led to serious environmental problems such as air pollution, changes in water quality, soil degradation, destruction of the ozone layer, climate change and the growth of various diseases.

Sustainable development was first discussed in 1972, when the need for conscious production and consumption became clear. One of the Club of Rome's (an international public organization) reports, "Limits to Growth," presented the results of a study on the environmental impacts of production. Conscious consumption is a way to satisfy one's needs in an environmentally responsible manner, striking a balance between personal comfort and the planet's benefit. And conscious

production is production that adheres to established environmental standards and regulations. Furthermore, the United Nations Environment Programme was launched that same year.

In 1992, a UN conference was held in Rio de Janeiro, where sustainable development was defined as development balanced across economic, social, and environmental dimensions. It was in this year that "sustainable" development was defined as "a set of measures aimed at meeting current human needs while preserving the environment and resources, that is, without compromising the ability of future generations to meet their own needs" [1].

A "green" economy—one that aims to improve human well-being and ensure social justice—has become a priority in various global discussions [2,3].

65 countries have embarked on a "green" economy and related strategies. By transforming their economies into drivers of sustainability, they have expressed their readiness to address the key challenges of the 21st century, from urbanization and resource scarcity to climate change and economic instability.

However, the concept of a "green" economy is still virtually unknown in Georgian law. While some official documents discuss "green" investments and "green" economic

growth, currently, green economy instruments in Russia are primarily reflected in the development of energy efficiency and conservation regulations, as well as in taxation and collection of fees for environmental management.

The United Nations Environment Programme notes that developing a "green" economy by 2050 requires annual investments equivalent to 2% of global GDP—approximately \$1.5 trillion [4].

Based on this, the financial component for the development of a "green" economy is a crucial foundation for achieving sustainable development.

The interest of foreign and domestic researchers in the field of "green" finance is focused on both corporate and public finance [5,6].

However, the majority of publications are devoted to "environmentally responsible financial behavior of enterprises and banks and the practice of environmental and social governance (ESG)" [7].

## **II. Research Objectives and Methods**

The aim of the study is to identify opportunities for the use of green financing instruments in the context of sustainable development.

Research methods include general scientific methods (analysis and synthesis, generalization, and comparison) and specialized methods (expert assessments and statistical data analysis).

The study is based on theoretical approaches to the concepts of sustainable development and the green economy, which suggest the need to justify the use of new green financial instruments.

In writing this article, the authors used open-source data published on official Georgian and international websites. Existing scientific works on the green economy and green finance were analyzed.

### **III. Results and Discussion**

Green finance is "a set of financial products and services (in the form of investments or lending) that consider environmental impacts and enhance environmental sustainability, while providing activities to reduce environmental and climate risks to global economic development" [8].

The green finance market is understood as a set of interconnected institutions, financial instruments, infrastructure and service organizations that play a significant role in the implementation of environmental projects.

Sources of funding for green projects come from the public and private (commercial and non-commercial) sectors. Mobilizing these resources is a task of green financial policy, which must be achieved through the activation of the entire arsenal of scientifically sound financial mechanisms, including their methods, instruments, and so on. Green financing involves the use of green financial instruments to implement sustainable business models in the implementation of green projects and programs.

According to [9], the concept of green financing describes the interaction between the environment, finance, and investment.

Sustainable development projects include those that ensure minimal or no environmental harm, as well as those that involve measures to eliminate adverse environmental impacts, prevent their occurrence, improve the environmental situation, and promote more efficient use of resources. These projects primarily focus on renewable energy development, clean transportation, pollution monitoring and prevention, green construction, and the implementation of environmentally efficient production technologies.

Green finance has already become a fundamental condition for economic development based on sustainable

principles. At the same time, Georgia faces a number of challenges that hinder the development of green finance. However, it should be noted that this situation is also characteristic of other countries around the world.

According to several authors, the slowdown in green economic growth at the global and national levels is due to:

- ⇒ a lack of strategic signals;
- ⇒ disparate methods for assessing the impact of green investments;
- ⇒ a lack of uniform criteria for green finance [10].

The Georgian government and businesses already recognize the importance of the sustainable development agenda for the national economy, although limited financial resources determine the speed of its “greening”.

A separate issue, without which it is difficult to understand the ongoing processes, is standardization. The development and implementation of "green" standards is necessary, but under current circumstances, a solution to this problem is not expected in the near future (participation in the relevant international organizations is necessary).

New threats have emerged that will likely slow the development of the "green" economy. The country is already facing challenges that are changing previous approaches to

financing, administering, and regulating activities related to the "green" aspect. These challenges include:

1. A reduction in funding volumes and instruments: This means that the financial impact will be felt both by the organization itself and by the programs designed to research, conserve and restore nature.

2. The decline in the importance of the environmental agenda: The ongoing geopolitical and geoeconomic crisis is now coming to the forefront, shifting the focus from the sustainable development agenda in general and the environment in particular: First, most domestic corporations are facing declining revenues, which may force them to reduce funding for environmental projects, educational programs, and volunteer movements. Second, non-profit organizations have reported a sharp decline in the number and volume of voluntary donations, which means a proportional decline in the quantity and quality of environmental projects and their promotional efforts. Third, international corporations that previously actively supported environmental projects and promoted eco-culture are leaving the country.

3. Proposals to reduce administrative influence in the environmental protection system. To reduce business costs, the Georgian Union of Entrepreneurs has proposed relaxing a

number of environmental requirements, specifically: shifting deadlines for achieving emission reduction targets, as well as environmental efficiency programs and environmental protection measures.

At the initiative of the Ministry of Environmental Protection and Agriculture of Georgia, certain state and international projects have been implemented in recent years to overcome the above-mentioned challenges.

One such project is ECO.Georgia. It is a Green Climate Fund (GCF) project jointly implemented by GIZ and the Government of Georgia, which supports the implementation of forest sector reform in Georgia. The project duration is 7 years (2021-2028) and aims to mitigate greenhouse gas emissions through close-to-nature forest management and energy efficiency improvements, thereby reducing the demand for wood fuel.

The objective of the ECO.Georgia project is to support the Government of Georgia in implementing a transformative forest reform agenda to bring forests across the country under a sustainable forest management (SFM) framework.

This will be achieved by implementing a sustainable forest management system at the national level (under the first component of the project), developing energy-efficient stoves

and alternative fuel markets (under the second component of the project) to reduce the degradation of Georgia's forests and unsustainable use of wood fuel; the third component of the project will support the implementation of reforms through livelihood diversification and strengthening local self-government in communities close to forests. The capacity of local governments and the population to better engage in sustainable forest management will be strengthened. The third component of the project aims to diversify income sources by improving the forest-related value chain and providing access to forestry-related knowledge and skills.

The government partner of the project is the Ministry of Environment and Agriculture of Georgia. In addition to the Green Climate Fund (GCF), the project is co-financed by: (1) the Government of Georgia (GoG), (2) the German Federal Ministry for Economic Cooperation and Development (BMZ), (3) the Swiss Agency for Development and Cooperation (SDC).

The project will result in a reduction of national greenhouse gas emissions of approximately 5.2 million tonnes of CO<sub>2</sub> equivalent over 7 years. In addition, the project will strengthen institutional and regulatory systems for planning and developing emissions reductions at the national and regional levels, as well as improving law enforcement.

#### **IV. Conclusion**

Sustainable development is a global challenge. Many countries have committed to achieving carbon neutrality and greening their economies by 2050.

To ensure a green economic transition, various green instruments must be implemented: tax breaks and non-tax incentives, preferential financing for environmentally oriented projects, permits and regulations that promote green investments, green loans, and more.

It is essential to develop a long-term vision for the transition to planetary sustainable development, which will reduce the impact of environmental degradation and create the necessary foundation for its development and improved living conditions. Investments in environmental innovations, projects, green technologies, environmental education, and awareness-raising provide the potential for sustainable development.

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## **PART II. CHALLENGES AND PERSPECTIVES OF THE BANKING SECTOR OF GEORGIA**

### **II.1. Assessing the borrower's credit history as an important basis for granting a loan**

**Giorgi Tsaava**

Doctor of Economic Sciences  
Professor of Georgian Technical University  
tsaavagiorgi11@gtu.ge

**Rati Burdiashvili**

Doctor of Economics  
Professor of Georgian Technical University  
r.burdiasvili11@gtu.ge

**Ani Bibiluri**

Doctor of Business Administration  
Assistant Professor of Georgian Technical University  
[anibibiluri@gmail.com](mailto:anibibiluri@gmail.com)  
0009-0004-3679-6415

**Abstract.** The study of scientific literature and existing statistics shows how important, in the conditions of a market economy, the role of credit is for most spheres of society's life. Credit relations have gone through an interesting and long path of development, there are many organizations that are in the field of lending, although the bank was, is and will be the number one creditor for the borrower. Our topic also concerns the criteria for assessing the borrower's creditworthiness directly in the case of a commercial bank, although the above principles are common to others.

All important aspects that help the bank make the right decision in the process of issuing a loan are discussed, in order to avoid the risk of non-return of funds and all the dangers that may arise in the activity.

**Keywords:** Commercial Bank, Borrower, Credit, Risk, Creditworthiness.

### **I. Introduction**

The history of commercial banks dates back to the 15th century, when the first bank appeared, which laid the foundation for the emergence of a completely new type of organizations throughout the world. The last period of the 20th century was especially important, when commercial banks were actively formed, which have a great influence on the country's finances and economy. The term commercial itself tells us that the main goal of the activity is to obtain maximum profit. The law itself defines the concept of a bank as follows: "Commercial bank - a legal entity licensed by the National Bank of Georgia, which accepts deposits and, using them, carries out banking activities defined by the legislation of Georgia in its name".<sup>71</sup> A commercial bank is essentially a universal credit organization, as it performs many banking operations for individuals and legal entities. However, among them, the main and important area of

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<sup>71</sup> Law of Georgia on Commercial Banks Activities, 1996.

banking activity is the existence and correct formation of a credit policy, since the bank is the central link of the financial sector, which implies its obligation to make a certain contribution to the economic development of the country. A sound monetary policy affects the daily life of each of us, because its implementation ensures the appropriate dynamics of the money supply, which stops inflationary processes and promotes the development of production. Accordingly, a similar result can be achieved with a flexible interest rate, interbank lending and generally with the correct management of the credit sector. That is why it is important how well the bank's lending system, forms of bank credit and how correctly the borrower is assessed when issuing a loan are important.

## **II. Materials and methods**

The research materials used were scientific publications by Georgian and foreign authors working in the banking and finance field, which are diverse and interesting studies and allow us to discuss the criteria for borrower creditworthiness on a broad scale.

## **III. Results and discussion**

What does creditworthiness mean? Creditworthiness is the ability to obtain credit, that it can be returned and is determined by certain indicators that characterize the borrower

as a result of previously received credits, as well as the current financial situation, social status and prospects. It is a kind of ability, if necessary, to collect the necessary funds from various sources.

The first logical question that arises when a borrower applies to a bank is whether he has sufficient income and, accordingly, how creditworthy is he? The answer to this question, in many cases, is the basis for making a final decision.

When considering a credit application received from a borrower, it is an important factor for the bank to take into account and correctly calculate the maximum amount of the requested amount, so that in a crisis situation, which often happens, the client will no longer have the opportunity to repeatedly request additional funds. More specifically, in such a case, the bank is left with two options and an unfavorable choice. For example, if the client encounters financial problems and certain difficulties, there is a danger for the bank that it will no longer be able to receive the amount issued as a loan, and in order to avoid such a situation, it may take a greater risk and issue additional financial resources so as not to lose the previously issued loan amount. Accordingly, the bank is obliged to carry out a correct, deep and detailed analysis in its credit activities, in order to identify unforeseen circumstances at the

very beginning and try to avoid them. Therefore, first of all, it is a priority to clarify the source of a person's income, because this criterion determines on what basis the borrower plans to repay the loan debt. For an individual, the main source of income is salary, remittances, rent and similar funds. For a legal entity, as a rule, the means of repaying the loan is the profit received by the organization. The main task of the bank is to verify the borrower in each specific case, that is, how he will ensure the repayment of the loan.

It is also important for the bank to determine the optimal loan repayment term before making a decision to issue a loan, because the longer the loan term, the riskier it is and the greater the likelihood of unforeseen events. After determining the loan term, it is necessary to study the client's assets that will be used as collateral. Collateral must also be appropriate depending on the form of credit. However, if collateral exists and the borrower is creditworthy, but the investment project or the purpose of the loan is unpromising, then lending under such conditions makes no sense.

All loans carry risk, and the bank's goal is to make maximum profit, but in reality a detailed analysis of the borrower must be carried out. “Bankers must be able to correctly assess the repayment capacity given “on paper” and the real

possibility of repayment.” Employees of the bank’s credit department need to determine the borrower’s reputation, reliability and find all the necessary information that will help them make a decision. One of the criteria for issuing a loan is the purpose of the loan, what the borrower needs the requested amount for, which ultimately helps the bank determine the type of credit and repayment schedule. When considering a client’s application, it is mandatory to analyze its reasonableness and relevance, assess its strengths and weaknesses, determine the interest rate, determine collateral and associated risks. The final stage of issuing a loan is its approval and signing an agreement, which is a means of defense for the bank, because if the borrower does not fulfill his obligations, it can take legal measures if necessary. The stages of issuing a bank loan must be recorded and spelled out in the credit policy. However, the bank does not fully The relationship with the customer does not lose before repayment, because it is only a small part of the loan application, the main stage begins after the money is issued, when the credit requires constant management or monitoring, so that it is finally returned within the established period. In order to avoid non-repayment or difficulties arising from the client after the loan is issued, it is necessary to determine who applied to us and why the money is needed. Commercial banks of highly developed

countries pay great attention to a detailed study of the borrower, what kind of family situation, reputation and relationships he has. It is believed that the borrower is ideal if he is distinguished by stability in family relationships, does not often change his place of residence and work, has a strong family, is known for his sense of responsibility, from which it follows that such a person will not violate the rhythm of his calm life, stability and, accordingly, will faithfully fulfill the obligations assumed before the bank.

When examining a loan application, the bank is obliged to pay special attention to the following issues:

1. Lending principles, which are individual for each borrower, for which it is necessary to obtain necessary and adequate information;
2. Determination of the purpose of the loan, the amount of the loan, the term of the loan agreement and the scope of the collateral;
3. The reputation of the client and his dossier;
4. The value and condition of the property accepted as collateral for the loan.

The borrower's creditworthiness, as we have mentioned, is the ability of an individual or legal entity to fully and within the given time frame to cover existing debt obligations. That is

why determining creditworthiness is the basis for issuing a loan and it is necessary to consider the following factors, such as:

- Borrower's character

The borrower's character implies the borrower's real need for financial resources and his intention to repay them. The loan officer is obliged to find out what the borrower's goal is and how much the client's psycho portrait corresponds to the bank's credit policy, how responsible he is, whether the information provided by him is true and whether he plans to repay the loan on time and within the established period. It is precisely these criteria that determine the borrower and his "character". If a bank employee realizes that the customer is not committed to disposing of the received funds for their intended purpose and believes that he will not repay the loan on time, he has every right not to issue financial resources, since such a loan may become problematic. When filling out a loan application, the qualities and skills of a person are clearly visible, because the manner of speaking and behavior determine the impression that the bank employee will have of the borrower, namely whether he will inspire trust. As you know, there was a period when unsecured so-called fast loans were actively issued in Georgia, which ultimately led to the fact that most of the population found themselves in debt with various organizations and their credit

history was ruined. That is why, recently, new regulations have been introduced to determine the terms of loans individually according to the forms, the rules for calculating income, and other important criteria, the observance of which is mandatory for commercial banks. This protects both the borrower and the bank from losses.

- **Monetary means**

One of the important aspects of filling out and reviewing a credit application is determining how much income the borrower will receive in the future to be able to repay the loan in full. Often, sources of income for the purpose of repaying a credit are grouped as follows:

1. Cash flow/income (salary, remittances, rent, company profits);
2. Sale of assets (property, machinery, etc.);
3. Raising funds to pay off debt by issuing securities or borrowing (selling shares or borrowing from another lender).

The issue of cash is much more acceptable for the bank, because if we are talking about selling the organization's assets, the question arises whether this action will lead to a further deterioration of the enterprise's balance sheet? A decrease in cash often reflects the difficulties in the borrower's financial

situation. In the business sector, it is common when companies unwisely accumulate inventories with the help of loans, produce "unnecessary" products, which is accompanied by a burden of unsold goods or difficulties in collecting receivables, which ultimately means that the bank has a problem client.

That is why the loan officer should review the borrower's income, salary slip, certificate, frequency of remittances, company cash flow statement, reporting, and take into account the current situation in order to easily answer several questions:

- ✓ How stable is the income or sales volume?
- ✓ Is there a probability or chance that this situation will remain stable for the duration of the loan?

If the answer to both questions is yes, the issuance process can be successfully implemented, but if it is no, then the bank should seriously consider whether this client is worth the risk.

- **Collateral**

At the modern stage, there are many forms of credit: consumer, mortgage, car loan, etc. The essence of each of them is its repayment, maturity and security, which are specified by law in all banks in their credit policies. The credit officer should pay attention to how much the security provided by the person corresponds to the required amount, it should be taken into

account that machinery and equipment and some technologies experience wear and tear and obsolescence, which makes it difficult to convert them into cash.

- **Conditions**

A commercial bank needs to have access to the borrower's credit history, receive relevant information about the borrower's income, and have information bases where the necessary data will be collected. It is necessary to consider how changing economic conditions will affect the repayment of loans. As you know, the COVID19 pandemic has clearly shown us that even in a completely stable environment, unforeseen events can occur, which can lead to various losses. During the pandemic, the banking sector was forced to transfer loan debt to customers and provide them with relief in this form, because otherwise the credit portfolio of commercial banks itself would be at great risk.

- **Control**

An important criterion for determining the borrower's creditworthiness is the impact of control, which includes the question of how much legislative changes, global standards, etc. affect the borrower's activities. In reality, legislative restrictions may lead to disruptions in the activities of any type of business. For example, if a company is engaged in export-import and is

prohibited from exporting a specific product or importing materials, how much will this affect its activities? Of course, this will hinder the organization's activities and call into question its creditworthiness and solvency.

When granting a loan, the bank needs to determine the level of risk it is taking on. How much it trusts the client, their financial situation and reputation. However, the decision must be made based on both the past and present circumstances, since the credit is granted now and will be repaid in the future.

- **Borrower's reputation**

The reputation of the borrower is a comprehensive concept, as it implies his honesty, decency and diligence in fulfilling the obligations assumed under the contract. However, determining this criterion is relatively difficult, since a bank employee does not know in advance what a specific situation will bring to the borrower. In such cases, great attention is paid to the fact of how he fulfilled his obligations in the past, that is, to what extent he covered the so-called "debt". The loan can be repaid by selling assets when the credit is secured, but banks do not like such operations, as they are an additional expense for them and may have a serious negative impact on their image. It is also unacceptable for the bank to repay a loan from another bank if this action is not stipulated in advance by agreement. It

is unjustified if a customer has financial difficulties and can easily find financial resources at another bank, because in such a case, there should be no possibility of obtaining a loan.

Regardless of the borrower's reputation, the stability of his source of income is required. If it is a salary, how stable is it? If it is an enterprise, how well is production going, does it use modern technologies, or does the collateral correspond to the required amount? In fact, the quality of assets, property, or owner's capital, plays a major role in determining the amount of credit, as it is a kind of guarantee for the repayment of the issued amount or simply for the compensation of losses to the bank.

- **Economic situation**

The economic environment has a great influence on bank lending, because it is precisely the state of the aforementioned that determines the areas where loans are needed most, at the same time, economic stability or instability affects the borrower's creditworthiness, although this criterion is an external factor that neither the bank nor the client can influence. The borrower may be a person with a good credit history and income, but the economic situation in the country may make the bank refuse to finance a specific sector. In particular, the longer the requested loan, the riskier it is for the bank, because it is impossible to determine economic fluctuations in advance,

which are never the same and are not subject to regularities, and therefore manifest themselves differently in different regions and industries.

When granting a loan to a company, the bank must be interested in what role it plays in the economy, what it does, and what kind of management it has, because if the company does not have an essential function, loan officers are usually unfriendly to such credit applications. If an enterprise is being granted credit, unlike individuals, it is about a larger credit volume, therefore, thinking and determining the credit terms are very important, because in case of non-fulfillment of the terms of the issued loan, the bank is exposed to more risk than at other times. Accordingly, in such cases, a detailed study of the financial statements is necessary so that the bank employee can make the right decision based on the information provided, which may include the following points:

1. The borrower's ability to manage and control costs;
2. Effective use of resources - sales promotion, production and cash generation;
3. The ability to sell the products produced, i.e. how quickly they are sold;
4. The ability to cover initial costs with the firm's income, which was spent on production;

5. The borrower's liquidity;
6. The borrower's profitability;
7. The borrower's debt-to-equity ratio (financial leverage).

The bank necessarily considers the borrower's ability to control costs as a positive factor, since this indicator determines how well the enterprise is managed and its profitability margin is maintained, which ultimately serves as a means of obtaining cash and repaying a bank loan. Many financial indicators are used by credit officers to evaluate the borrower, such as: salary costs, sales volume, etc. However, there are a number of issues that are of interest to the bank and are sometimes not reflected in the borrower's application. Namely:

- ✓ Taxes that have not been paid;
- ✓ Lawsuits and disputes brought against the enterprise;
- ✓ Personal guarantees and sureties;
- ✓ Restrictions, etc.

When lending, the main factor for the borrower is the interest rate, which should be high enough for the bank's profit and risk, while low enough so that the client can successfully fulfill the obligations undertaken and not need another lender. At first glance, filling out a loan application and signing a credit agreement seems like a simple procedure, but each bank employee must understand how important the lending process is

for the banking sector, because if a loan is issued to an insolvent, non-creditworthy borrower, it will turn out to be a loss for the bank, and if the number of such clients is large, then the bank itself will eventually find itself in a crisis situation.

We think it is important to mention the timely decision to implement the „larization“ process, which refers to the program of liquidating loans issued in foreign currency before January 1, 2015, which protected borrowers from currency risks, and with the changes that have been in place since 2019, small loans of up to 750 thousand GEL are issued only in the national currency. This is welcome and generally correct. A person who needs a small amount and has income in the national currency is better off taking out a loan in GEL only. In banking practice, there were frequent cases when people with income in GEL took out loans in dollars, as a result of which they exposed themselves to currency risk. Moreover, foreign currency is already actively circulating in the country, which can cause or deepen inflationary processes, which is why it is necessary to transition to a dominant position of the GEL.

If we look at the statistics published by the National Bank, we will see how big a role and place lending plays in their activities and revenues. The volume of loans issued by commercial banks (excluding interbank loans) increased by

832.22 million GEL (1.33%) in March 2025 compared to the previous month (excluding the exchange rate effect, it increased by 1.70%) and amounted to 63.41 billion GEL at the end of March - the National Bank of Georgia reports.

The annual growth of loans, excluding the effect of the exchange rate, amounted to 16.60%. In the same period, compared to the previous month, the volume of loans issued in the national currency increased by 492.16 million GEL (by 1.38%), while the volume of loans issued in foreign currency increased by 340.07 million GEL (by 1.26%) (excluding the effect of the exchange rate, it increased by 2.13%).

As of the end of March 2025, the „larization“ ratio of total loans amounted to 56.89%. Compared to the end of the previous month, it increased by 0.030 percentage points (excluding the exchange rate effect, it decreased by 0.18 percentage points).

Statistics show that the lending process is actively underway, therefore, assessing the borrower's creditworthiness plays an important role in banking activities, since a large part of commercial banks' revenues comes from the sale of credit products.

#### **IV. Conclusion**

The bank is an integral part of each of our lives, because it is found and needed in any field of activity. Credit products and lending issues are inexhaustible, because it is the main source of income of the banking system, whether it is a credit card, consumer loan, installment plan or anything else, when issuing, the bank needs to reasonably determine the circle of clients, because an incorrectly formed loan portfolio is loss-making and carries a high risk. Credit is a form of banking product and service spread throughout the world, which is due to its need, but it also carries large and diverse risks, because the bank is a universal banking institution that covers a wide range, where a number of services are concentrated. Which we use in everyday life.

In conclusion, we can say that the given criteria for assessing the borrower's creditworthiness are the authors' vision, which is based on the needs of commercial banks. However, it should also be noted that the timing of the loan issuance plays a big role for the loan officer, the risk officers of the credit department, since the approval or disapproval of the loan is sometimes the result of their subjective decision.

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## II.2. Contemporary Methods of Credit Risk Evaluation and Opportunities for Enhancement

**Valeri Mosiashvili**

Doctor of Economics

Professor of Georgian National University Seu

[vmosiashvili@seu.edu.ge](mailto:vmosiashvili@seu.edu.ge)

<https://orcid.org/0000-0001-9506-3765>

**Abstract.** This article explores the most widely adopted methods of credit risk assessment in the global banking sector, both in theory and practice. Among the methodologies discussed are Operational Risk Capital (ORC), the Standardized Approach (TSA), Value at Risk (VaR), and the Risk Assessment Method based on Expected Shortfall. While these tools have proven effective in identifying credit risks, implementing preventive strategies, and mitigating potential losses, they still require ongoing refinement and modernization.

The paper critically examines the limitations of existing credit risk assessment approaches and presents enhanced, modified, and technically advanced models better suited to the evolving needs of the banking sector. It offers the author's conceptual contributions and recommendations for improving the effectiveness of risk evaluation practices.

In particular, the article introduces an original application of the Application-Scoring Method tailored to the Georgian banking sector. It emphasizes a new Fraud-Scoring

System for potential borrowers and a Behavioral-Scoring Model designed to predict a client's future creditworthiness. This includes behavioral variables such as tax compliance, usage of credit limits, installment preferences, and other spending patterns.

Additionally, the study discusses the Collection-Scoring Method—one of the more complex yet essential tools for managing overdue loans and developing effective strategies for dealing with delinquent clients.

To support the theoretical analysis, the article incorporates mathematical modeling of scoring systems, referencing the practical frameworks developed by prominent scholars such as Edward Altman and Richard Taffler.

**Keywords:** risk management, financial risk, banking risk, weighted risk, Liquidity risk

## **I. Introduction**

Risk assessment covers all aspects. Even variants whose probability is theoretically less expected will be calculated. It is generally accepted in business that qualitative analysis consists of identifying the cause of a risk, identifying its sources and subsequent stages or works that may reduce it or reduce it to zero altogether.

Early risk assessment is considered to be the most important for any entrepreneur or investor. Experienced businessmen will say without a doubt that this figure reflects how successful their project will be.

## **II. Research method**

In the process of working on the scientific paper, we used a combination of methods such as the principle of historical and logical unity, systemic approach, methods of induction and deduction, methods of statistical and economic-mathematical analysis. For the purpose of this paper, we also used a **problem-based research method** that describes coefficients calculated by different methods that actually show whether progress has been made in calculating new indicators.

## **III. Results**

1. Banking risks are in themselves the probability of unfavorable completion of operations performed by credit institutions or unforeseen situations. Credit risk is defined as the risk that the debtor will incur a loss to the bank as a result of non-performance or non-performance of financial obligations in accordance with the terms of the contract. This is why managing this aspect is considered to be one of the most important tasks of the banking system and the economic life of the country as a whole;

2. The main task of risk management is to support its profitability, security and liquidity ratio in the process of managing the bank's assets and liabilities, that is to minimize bank losses;

3. Risk management process in itself - includes risk assessment, determination of their probable magnitudes and consequences, development and implementation of measures to eliminate or minimize related losses;

4. The credit risk of the bank can be minimized, in this regard it is a traditional and better way - to get valuable property, liquid assets as collateral. In the event of collateral impairment, insurance is the most effective model for minimizing credit risk;

5. Various models and methods of credit risk assessment are developed, such as: Mathematical modeling of the scoring method, models: "Operational Risk Capital - ORC", "TSA", "Value at Risk - VaR", "Shortfall at risk - SaR", methods: E. Altman, r. Taffler, r. Lisi, which are considered to be the most effective and weighted risk assessment tools as a whole, enable the development of balanced management decisions, minimizing the risk of credit organizations, and reducing the share of problem loans.

**IV. Main part.** There are many methodologies, tools and approaches today to study this factor, but the basic part

remains virtually unchanged and consists of the following steps<sup>72</sup>:

- Identification of possible risk zone;
- Identifying and assessing the risk associated with the firm's subsequent activities;
- Calculation of negative outcomes;
- Reflecting the benefits in eliminating the risk and its consequences.

Quantitative risk assessment is available at all listed stages. Calculation with further numerical representation allows not only to see the probability of occurrence of one of the circumstances in a percentage ratio, but also to expand the picture as a whole. After summarizing the analysis, a risk quality assessment is performed, which is the final stage and allows to determine the appropriateness of the project as a whole or the decision to be taken.

Risk assessment is completely divided into three main schools<sup>73</sup>:

- Statistical methods;
- Analytics;

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<sup>72</sup> <https://docs.google.com/gview?url=https://issmsai.wordpress.com/wp-content/uploads/2024/11/e183a1e183a2e18390e183a2e18398e18390-1.docx&embedded=true> 14.05.2020];

<sup>73</sup> <https://doi.org/10.46609/IJSSER.2024.v09i04.007> [Last seen 24.05.2025]

- Method of expert evaluations.

1. Each of them has many of its own directions, technologies and approaches. It is worth noting that the assessment of each risk through the specified methods has its specifics and, consequently, the final results. One type - to predict management decision-making, the other - to identify the degree of risk when a firm buys securities, and so on. Is directed ([https://www.nbg.gov.ge/uploads/legalacts/fts/likvidobis\\_gadaf\\_arva.pdf](https://www.nbg.gov.ge/uploads/legalacts/fts/likvidobis_gadaf_arva.pdf) [Last seen 15.05.2025]).

Only setting a specific goal and task allows you to choose one method or take a number of actions. There are many expert firms in the market today that offer their services in different price categories.

In order for risks to take place they need to be assessed (measured). Consider the classification of financial risk assessment methods of the enterprise, identify their advantages and disadvantages, which are presented in the table below (see Table 1.). All methods can be divided into two large groups.

**Table 1**

**Divide the financial risk assessment methods of the enterprise into two large groups**

	<b>Advantages</b>	<b>Disadvantages</b>
<b>Quantitative Methods</b>	Objectivity of financial risk assessment, creating a model of change based on statistical	The difficulty of numerically formalizing the qualitative financial risks of the enterprise.

	data of this or that risk.	
<b>Qualitative Methods</b>	Ability to assess qualitative risks.	Subjectivity of financial assessment of enterprise risks, result of expert assessments.

Thus, let us consider in more detail the quantitative methods of financial risk assessment:

**Operational risk assessment methods.** Operational risks are one of the types of financial risk. Consider an **operational risk** assessment method for a banking sector company. According to the basic method of operational risk assessment of the financial organization (Operational Risk Capital, ORC), the reserve is calculated, which should be allocated annually to cover the given risk. So, for example, in the banking sector 15% of the risk is assumed, ie banks have to make a reserve of 15% of the average annual gross income for the last three years each year.

The formula for calculating the operational risk for the bank will be as follows:

$$\text{ORC} = \alpha \times \text{GL},$$

Where: ORC - is an operational risk;

$\alpha$  - is the coefficient set by the Basel Committee;

GL - is the average total income for each type of bank activity.

**A) Standardized Methodology for Operational Risk Assessment TSA:**

A complication of the **BIA** method is the **TSA** method, which calculates the bank according to the operational risks arising in different functional areas of activity. To assess operational risks, it is necessary to identify the directions in which they may arise, and the nature of the impacts on financial activities. Consider the Bank's operational risk assessments as an example (see Table 2.).

As a result, the total amount of deposits will be equal to the total amount of deposits according to each allocated function of the bank:

$$ORC = \sum \alpha x GL,$$

It should be noted that, as a rule, operating risks are considered for companies in the banking sector, and not for industrial or entrepreneurial companies. The point is, most operational risks are the result of human mistakes.

**Table 2**  
**Example of Bank Operating Risk Functional Assessment**

<b>Bank functional Business</b>	<b>Depreciation ratio</b>
1. Corporate Finance (Implementation of Banking Services in the Capital Market for Clients, Public Bodies, Enterprises)	18%
2. Trading and selling (stock market transactions, buying and selling of securities)	18%

3. Banking services for individuals (services for individuals, providing loans and credits, consulting, etc.)	12%
4. Banking services for legal entities	15%
5. Payments and transfers (making payments according to accounts)	18%
6. Agency Services	15%
7. Asset management (management of securities, cash and real estate)	12%
8. Brokerage activities	12%

**Liquidity risk assessment methodology.** The next type of financial risk is liquidity risk, which shows the inability of an enterprise / company to repay its obligations to creditors and borrowers in a timely manner. This ability is also called enterprise solvency. Unlike creditworthiness, solvency provides the ability to repay debt not only at the expense of cash and fast liquid assets, but also at the expense of medium and low liquid assets (<https://www.sabanko.com/wigni> [Last seen 04.10.2020]).

To assess liquidity risk, enterprise liquidity ratios are required: the current liquidity ratio and the instantaneous liquidity ratio should be estimated and compared with the baseline norms (see Table 3).

The analysis of different liquidity ratios shows the ability of an enterprise to cover its liabilities through the following three different types of assets: fast-liquid, medium-liquid and low-liquid assets (see Table 3).

**Table 3****Formulas for calculating enterprise liquidity ratios**

<b>Coefficients</b>	<b>Calculation formula</b>	<b>Normative</b>
Current liquidity ratio	Working Assets / Current Liabilities	>2
Absolute liquidity ratio	Cash + short-term financial investments / short-term liabilities	. 0,2
Instant liquidity ratio	Current Assets - Inventories / Current Liabilities	0,7 – 1,0

**Market Risk Assessment Methodology - VAR.** The next type of financial risk is market risk, which in itself is a negative change in the value of the assets of the enterprise / company as a result of changes in various external factors (industry, macroeconomics and microeconomics). The following methods can be used for quantitative assessment of market risk (Mosiashvili, 2020: 314):

- Method VAR (Value at Risk);
- Shortfall method (Shortfall at Risk).

**A) Risk assessment method VAR:**

The VAR (Value at Risk) method is used to assess market risk, which allows the probability and magnitude of losses in the event of a negative change in the value of the company in the stock market. The calculation formula is as follows:

$$\text{VAR} = V \times y \times \sigma$$

**Where:**  $V$  - is the current value of the shares of the company / enterprise;

$Y$  - is a quantum of normal distribution of company / enterprise stock returns;

$\sigma$  - is the change in the return on the shares of the company / enterprise, expressing the risk factor.

### **B) Risk Assessment Method Shortfall:**

Market Risk Assessment Method Shortfall (analogue: Expected Shortfall, VaR Average value at risk, Conditional VaR) is more conservative than the VAR method. The risk assessment formula is as follows:

$$\text{Shortfall}_\alpha = E(X \mid X > \text{VAR}_\alpha(X)),$$

Where:  $\alpha$  - is the selected level of risk. For example, the value may be 0.99; 0.95.

The Shortfall method allows you to better repel "heavy tails" in the distribution of stock returns.

**Credit risk assessment methods and minimization techniques.** The following types of transactions are primarily carriers of credit risk:

- Direct and indirect lending;
- Buying and selling assets without prior payment from the counterparty;

- Transactions by third parties without guarantee of payments.

Credit risks include the likelihood of a debtor deteriorating. This is not only about the deterioration of the financial situation.

No less important factors are: the reduction of the company's position in the region, the unwillingness of the industry, the deterioration of the business reputation, etc. That is, everything that can cause a person to have problems in paying funds. But not being able to repay the debt is not the only loss a bank can lose.

Credit risk can also be indirect (for example, if certain actions require an increase in the amount of securities, issuer bills or credit reserves). In the process of determining credit risks, attention is paid to several factors (Tsaava, 2020: 231; Beridze, 2009: 193):

- Risk of default;
- The probability that the borrower will be in a state of default after a certain period of time;
- Credit rating;
- Assessing the reliability of various securities;
- Credit migration;

- Likelihood of changing the credit rating of the debtor, transaction, counterparty, issuer;
- Credit risk below the amount;
- The level of losses that the bank may lose in the event of a default.

Practice shows that absolutely any transaction, which is based on the entry of the parties in the relationship between the creditor and the borrower, the emergence of debt obligations carries with it a certain share of risk.

There is a concept of so-called "risky investments" - in this case, credit risk is minimal and conditionally equal to zero. But even in such a situation it still exists, so it must be taken into account.

It is necessary to study in detail the credit history submitted by the borrower, his field of activity and all available information. Self-assessment of credit risks should be carried out by qualified specialists, because this is an area where even a small mistake can lead to the greatest loss.

**Enterprise credit risk assessment methods.** Credit risk assessment methods include the following economic models and methods of risk diagnosis:

**Credit risk assessment application - scoring method:**

The most important and most common method of credit risk assessment is the **Application** method, a method of checking the solvency of the client. If you get an insufficient number of points according to this method of evaluation, then it will be very difficult for you to get a loan. As an option you can offer other lending options - higher interest rates or less loan amount ([https://www.nbg.gov.ge/uploads/publications/legal\\_regulation/regulations.pdf](https://www.nbg.gov.ge/uploads/publications/legal_regulation/regulations.pdf) [Last seen 22.10.2020]).

The next step in the assessment is to determine the potential borrower 's propensity to commit adultery. It is evaluated by the **Fraud-Scoring** system. The criteria used to calculate this parameter are the commercial secrets of each bank. **Behavioral-scoring** - is a type of check that allows the client to predict future solvency. This system of analysis also allows to identify some "behavioral" factors, such as: how the client will use the loan, whether he will pay in full and on time, will use the credit card limit immediately if he uses the money in installments and much more (Kovzanadze, 2014: 38).

There is another, more inconvenient type of check-up - Borrower **Collection - Scoring**, which is very important for developing arrangements for working with overdue clients. It is required for adequate risk assessment of loan repayment and timely application of prophylactic impact measures.

As long as the credit scoring program is implemented, it can be seen that it will not be difficult to deceive the system - it is enough to give "correct" answers only from the point of view of the bank. But this is not the case, such an attempt can be successful only if the program is built in such a way that some data about you can not be verified immediately (Riagin, 2016: 137. Nikonov, 2019: 182).

**Scoring-checking** the cost-benefit ratio, the existence of previously unpaid loans, etc. are also carried out. Of course, the list of issues to be assessed by the system in different banks can be quite different, but surely in each of them you will be asked about additional sources of credit. Bank employees will be interested in whether you have additional sources of funding, whether you are the owner of a cottage, garage, plot of land, car (if any, then directly). The bank will also be interested in what you want the money for, whether you have applied for a loan before, how well you have fulfilled your obligations to the lending organizations. Points will also be added to each of these criteria (Tesla, 2017:209).

Although the **scoring program is quite high-tech, it still has some drawbacks**: banks use a fairly low scale for calculations, which is simply inaccessible to the average borrower by many indicators; Customer-specific data are not

fully taken into account, for example, a small area and a low-quality engineering building (residential house) in the center of the capital can be assessed as acceptable real estate, and somewhere far from the river can be considered by the cottage system as a "settled village"; The normal existence of a scoring system presupposes the existence of a proper and appropriate infrastructure (Mosiashvili, 2020: 324).

But some **shortcomings can not outweigh the positive aspects of using the scoring method of the most important and most common credit risk assessment:** the system provides the most unbiased assessment, the impact of employees' personal impressions is minimized; Financial institutions using the scoring system offer their clients a more favorable interest rate as long as the risk of non-return is minimized; Skorong allows the bank to reduce the number of staff employed in processing applications; Decision making time is reduced to 15 - 20 minutes; In the event of a negative decision, a list of factors influencing the client to receive a low scoring rating will be issued - which will allow him / her to correct the mistakes made in the further appeal.

**Mathematical modeling of the scoring method of credit risk assessment:**

The tasks of operative assessment of the condition of the companies in the bank's loan portfolio during the financial crisis, as well as the objective approach to the decision to issue loans to new clients, become especially relevant (<sup>74</sup>).

In this regard, the **Scoring model** is a very effective tool for credit risk assessment and it facilitates the development of a balanced, balanced management decision. Accuracy and reliability of such models - allows you to minimize the risks of the credit organization, reducing the share of problem loans in its portfolio (<https://www.sabanko.com/wigni> [Last seen 03.06.2025]).

There are differing opinions today as to what can be understood by the term "scoring". Consider this concept from the point of view of mathematical modeling (Lavrushin, 2020: 401).

The task of minimizing credit risk is fundamental to the optimization of banking. To date, most banks continue to use the MS Excel package. This approach has many disadvantages: high probability of unauthorized penetration, lack of adaptability, increased time for decision making. Thus, at the moment, the

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<sup>74</sup> <https://docs.google.com/viewer?url=https://issmsai.wordpress.com/wp-content/uploads/2024/12/2-2-2.docx> [Last seen 01.06.2025]

**development and implementation of an automated scoring system is a topical task (Carl, 2015: 108).**

It should be noted some of the papers devoted to various types of credit scoring studies and issues related to the development and implementation of these systems. One of the easiest approaches to assess borrowers' solvency is to use a borrower survey and study of their credit history to calculate points or grades, which will characterize the probability of loan repayment. Given the above, the simplest scoring model can be developed:

$$S(X) = X_1W_1 + X_2W_2 + K + \dots + X_nW_n,$$

Where:  $X_1, X_2, K, X_n$  - are the parameters that are the characteristics of the borrower,

$W_i$  - weighted coefficients are  $X_i$  attributes.

These figures make it possible to calculate the  $S(X)$  scores, according to which the borrower will be assigned to one of the  $X$  classes ("Benevolent"; "Unreliable") from which, therefore, the decision to grant a loan will be made.

**Example:**

Consider a numerical example in relation to the scoring tables of one of the conditional banks in Tbilisi. Visibility scores are calculated for the following 3 groups of borrowers: student,

typical middle-class worker, and person with “above average” income (see Table 4).

**Table 4**

**Conditional Bank Scoring Table Features**

<b>Borrower Characteristics Group</b>	<b>Sign feature</b>	<b>Coefficient</b>	<b>Expert rating</b>
1. Residential Place	<ul style="list-style-type: none"> <li>• Rent</li> <li>• Municipal area</li> <li>• Owner</li> </ul>	1,42	0 5 10
1. Internship last 2. Work 3. on the place	<ul style="list-style-type: none"> <li>• Less than one year</li> <li>• 1 - 5 years</li> <li>• More than 5 years</li> </ul>	0,63	0 5 10
3. Age	<ul style="list-style-type: none"> <li>* From 50 years</li> <li>* Under 35 years</li> <li>* Over 5 years</li> </ul>	0,35	0 5 10
4. Family Condition	<ul style="list-style-type: none"> <li>• Divorced/ widowed</li> <li>• Single</li> <li>• Married</li> </ul>	0,92	0 5 10
5. Education	<ul style="list-style-type: none"> <li>* Medium</li> <li>* Medium special</li> <li>* Higher</li> </ul>	0,94	0 5 10
6. Position level	<ul style="list-style-type: none"> <li>• Employee</li> <li>• Intermediate level head</li> <li>• Head of the highest link</li> </ul>	0,4	0 5 10
7. Credit History	<ul style="list-style-type: none"> <li>• Negative</li> <li>• No data</li> <li>• Positive</li> </ul>	2,64	0 5 10
8. Life experience in the region	<ul style="list-style-type: none"> <li>• Less than one year</li> <li>• 1 - 5 years</li> <li>• More than 5 years</li> </ul>	1,06	0 5 10
9. Ratio /"Tax" / / "Income"	<ul style="list-style-type: none"> <li>• From 40</li> <li>• 30 - 40</li> <li>• 20 - 30</li> <li>• Up to 20</li> </ul>	1,15	0 5 7 10

The bank has set a passing score equal to 60, ie if the borrower  $S(X) < 60$ , then it is considered "unreliable", if it is higher, then it is considered "reliable".

1) Student:

$$S(X) = 1,42 \times 10 + 0,63 \times 0 + 0,35 \times 5 + 5 \times 0,92 + 0,94 \times 0 + 0 + 5 \times 2,64 + 10 \times 1,06 + 0 = 44,35.$$

2) According to the calculations, the student falls into the category of "unreliable borrower".

3) Middle class worker:

$$S(X) = 0 + 0,63 \times 10 + 0,35 \times 10 + 0,92 \times 10 + 0,94 \times 5 + 0,4 \times 0 + 2,64 \times 10 + 1,06 \times 5 + 1,15 \times 5 = 61,15.$$

The calculation shows that the middle-class worker matches the established game.

Higher level worker:

$$4) S(X) = 1,42 \times 10 + 5 \times 0,63 + 5 \times 0,35 + 10 \times 0,92 + 0,94 \times 10 + 0 + 2,64 \times 10 + 1,06 \times 10 + 1,15 \times 10 = 85,20.$$

The calculation shows that the "top worker" is a "trustworthy" borrower for the bank, which is true.

However, it should be noted that the given system is even "moderately" demonstrable, but it does not always meet the reality, as there are a number of factors that are not taken into

account in such a simple model. In this regard, many borrowers receive a negative response in lending (Shapkina, 2017: 207).

**A) Credit risk assessment e. According to the Altman model:**

E. Altman model provides an opportunity to assess the risk of bankruptcy of an enterprise / company or to reduce its creditworthiness based on the following discriminatory model:

$$Z = 1,2 \times K_1 + 1,4 \times K_2 + 3,3 \times K_3 + 0,6 \times K_4 + K_5,$$

Where: Z - is the total Altman's assessment of the creative risk of the enterprise / company;

K1 - is the sum of own working capital / assets;

K2 - is the net profit / sum of assets;

K3 - is the sum of profit before tax and interest / assets;

K4 - is the market value of the shares / borrowed capital;

K5 - is the sum of returns / assets.

To assess the credit risk of an enterprise, it is necessary to compare the credit risk score with the value of the Tafflerian risk criterion level in the table below (see Table 5.):

**Table 5**

**Risk level indicators E. Altmane criteria**

<b>E. Altmane criteria</b>	<b>Credit risk (Probability of bankruptcy):</b>
1.8 and less	Very high risk
From 1.81 to 2.7	High risk
From 2.8 to 2.9	Moderate risk

More than 2.99	Low level of risk
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It should be noted that the given model can be used only for enterprises that have ordinary shares in the stock market, which allows them to adequately calculate the K4 rate. Decreasing creditworthiness increases the company's total financial risk.

**B) Credit risk assessment r. According to R. Taffler model:**

C) The following model of credit risk assessment of an enterprise / company is - R. Taffler model, whose calculation formula is as follows:

$$Z = 0,53 \times K_1 + 0,13 \times K_2 + 0,18 \times K_3 + 0,16 \times K_4 ,$$

Where: Z - is the total Tafflerian assessment of the creative risk of the enterprise / company;

K1 - enterprise profitability ratio (profit before tax / current liabilities);

K2 - working capital ratio (total current assets / liabilities);

K3 - Financial risk of the enterprise (long-term liabilities / total assets);

K4 - Liquidity ratio (Return on sales / total assets).

To assess the credit risk of an enterprise, it is necessary to compare the value of the obtained credit risk with the value

of the criterion level of R.Tafflerian risk in the table below (see Table 6.):

**Table 6**

**Risk level indicators R. Tafflerian criteria**

<b>R. Tafflerian criteria</b>	<b>Credit risk (Probability of bankruptcy):</b>
>0,3	Low level of risk
0,3 – 0,2	Moderate risk
< 0,2	High risk

**D) Credit risk assessment according to R. Lisi model:**

E) The economist R. Liss proposed a credit risk assessment model for UK enterprises, the calculation formula of which is as follows:

$$Z = 0,0063 \times K_1 + 0,092 \times K_2 + 0,057 \times K_3 + 0,0014 \times K_4 ,$$

Where: Z - is the credit risk assessment of the enterprise / company. Lysian total rate;

K1 - is the sum of working capital / assets;

K2 - is the sum of profit from sales / assets;

K3 - is the sum of retained earnings / assets;

K4 - is equity / borrowed capital.

To assess the credit risk of an enterprise, it is necessary to compare the obtained value of the indicator with the indicators of the criterion level of risk in the table below (see Table 7.):

**Table 7**

**Risk level indicators R. Lysian criteria**

<b>R. Lysian criteria</b>	<b>Credit risk (Probability of bankruptcy):</b>
>0,037	Low level of risk
< 0,37	High level of risk

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### **II.3. Peculiarities of the influence of globalization and digitalization on the banking system**

**Medea Chelidze**

Doctor of Economics

Professor of Georgian Technical University

[m.chelidze@gtu.ge](mailto:m.chelidze@gtu.ge)

<https://orcid.org/0000-0002-3686-4201>

**Gocha Abutidze**

Doctor of Business Administration

Assistant-Professor of Georgian Technical University

[g.abutidze@gtu.ge](mailto:g.abutidze@gtu.ge)

<https://orcid.org/0000-0003-0786-893X>

**Goga Gelitashvili**

Doctor of Business Administration

Senior Lecturer of Georgian Technical University

[g.gelitashvili@gtu.ge](mailto:g.gelitashvili@gtu.ge)

<https://orcid.org/0000-0001-7924-7943>

**Abstract.** The development of the banking sector is one of the important conditions for ensuring the sustainability of the economy, a factor of successful economic development and increasing the country's investment attractiveness.

In recent years, banking activities under the influence of globalization and digitalization have been undergoing transformation due to the expansion and complication of banking products and services, the emergence of digital banks, the growth of competition between financial institutions and fintech companies, the increase in the volume of the financial market, the growth in the number of banking risks, the need to improve the quality of regulation and

supervision, the need to develop common mechanisms for the transformation of both individual banks and the banking system as a whole, and others.

All this leads to changes in approaches to the functioning of the banking sector. Previously traditional characteristics applicable to banking activities are being replaced by new ones due to the ongoing structural changes and the emergence of innovations, which contributes to the transformation of banks.

Taking into account modern trends, the factors and mechanisms of formation of a competitive banking system should be determined, which in the conditions of transformation will allow the banking sector to strengthen its positions in the financial market.

**Keywords:** globalization, digitalization, banking sector, financial technologies, financial institution, risk.

## **I. Introduction**

Globalization and digitalization contribute to the emergence of fundamentally new economic ecosystems with a new business architecture of companies. At the same time, in most cases, the introduction of digital technologies depends on the objective historical basis for the development of the infrastructure of the state structure, traditions, and

culture. The ongoing transformation of the global economy has also affected the financial system. The development of global capital markets is currently determined by a number of major factors, including the pace of technical and economic development, the level of liberalization of national capital markets, and the degree of political stability.

Globalization of banking activities, first of all, has led to the emergence of new institutions operating in the international banking market, increased competition, and the development of transnational banks. Under the influence of globalization, currently among the main trends in the development of the banking system, we can single out the merger of regional banking segments and their subsequent integration into a single world banking market. Significant consequences of globalization have been the lowering of entry barriers to capital and the accelerated transition of financial institutions from specialization to universalization of their activities.

In addition to expanding the customer base, this allowed banks to diversify risks and to be more competitive by flexibly responding to such features of the market environment as changing depositor behavior, shrinking margins, rising costs, development of information

technology, identification of new sales channels, growing/changing customer requirements, new approaches to risk management, high capital requirements, fierce competition in the market, etc. The globalization of the economy and financial services should be emphasized. It should be emphasized that in the context of the globalization of the economy and financial services, it is necessary to strengthen the regulatory mechanisms of the banking system, as capital flows between countries are increasing, and transnational companies, given the scale of their activities, can cause irreparable damage to the world economy.

## **II. Results and discussion**

Experts at the Organisation for Economic Co-operation and Development (OECD) attribute the accelerated development of digitalization to the emergence of new development vectors in the global economy. These vectors only exacerbate risks, including cyberattacks, data theft/leakage, or fraud, infrastructure failures, and one of the main challenges of digitalization—the increase in misinformation. Digitalization of banking is changing the business processes of banking organizations, driven by the introduction of modern digital technologies in banking activities to meet the new demands of consumers for banking

products and services. Competition and the need to take leading positions force companies to change their own economic and production models and transform and diversify existing business lines. Digitalization has facilitated a complete reform of almost all structural elements of credit institutions. Modern banks are markedly different from their predecessors. Today, banks are at the center of digital innovation. They consider e-commerce business models, offer customers innovative products and services, participate in fintech partnerships and financing of innovative start-ups, contribute to the development of the digital market, the formation of a fair competitive space, the protection of user rights, and the growth of trust and cybersecurity. More innovation ultimately means more efficient new products and services that better meet customer needs, making it easier and more convenient for customers to interact with the bank. Innovation also helps companies make existing services better and more accessible. It is important to note that as digitalization facilitates and encourages the emergence of new players in the banking system, ensuring fair competition among all market participants is of particular relevance. This issue is of paramount importance given all the risks (associated with the provision of banking services) and the

quality of regulation and supervision. Integration of financial technologies and traditional banking organizations in the sphere of legal regulation often leads to certain conflicts. This happens for many reasons: first, fintech aims at decentralization, which is associated with segmentation risks; Second, fintech products are complex services with financial characteristics and based on digital technologies; Third, fintech uses technologies such as artificial intelligence, machine learning, cloud computing - all of which can bring significant benefits to both banks and consumers, but at the same time are associated with significant risks.

Over the last decade, the volume of assets of the global banking system increased almost 2.5 times; the capitalization of banks among the world's top 1000 banks exceeded USD 10 trillion; the share of financial system companies was 40% of the total value of profits of all Fortune Global 500 companies and the share of their assets was 74% of the total assets of all companies. The share of financial system companies was 40 percent of the total profit of all Fortune Global 500 companies, and the share of their assets was 74 percent of the total assets of all companies. At the same time, there has been a decline in the number of traditional banks and the share of their assets. One of the main

reasons is the growth in the number of fintech companies, whose assets account for more than half of the global banking system, and whose growth rate has significantly exceeded that of traditional banking organizations.

In fact, globalization and digitalization have influenced the emergence of new trends in the development of the world banking system, as well as new characteristics of banking activities, which have become a catalyst for increased competition not only between banks themselves, but also between banks and other financial institutions. This contributes to the emergence of new banking products and channels of interaction with customers, as well as the formation of entire ecosystems around financial institutions, which forces banks to use new methods of organizational management in order to ensure competitiveness in the market.

The trends in the development of the global banking system, the consequences of globalization and digitalization and new competitive factors are shown in picture 1.

**Picture 1**

**Impact of globalization and digitalization on the banking system<sup>75</sup>**

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<sup>75</sup> Gorelaya N.V., Karminsky A.M. Fundamentals of Banking. Publisher: FORUM Publishing House. 2022. 272 p.

Trends in the development of the world banking system	Expansion of the range and complexity of technologies of banking products and services; increasing competition between financial institutions and the tendency to deregulate their activities; the impact of technological revolutions on the development of the banking system; globalization and consolidation of banking activities, geographical expansion of financial institutions; increasing cost of financial resources and the desire to minimize the cost of banking products and services; general increase in the level of banking risks and the need to improve the quality of prudential supervision of financial institutions
Consequences of globalization and digitalization	Widening the difference in business size between large multinational and local banks; transition from a traditional bank (Bank 1.0) to a digital bank (Bank 4.0); blurring of boundaries between banking and non-banking products and services; of increasing role of synthesized products combining several products and services; increasing technological sophistication and complexity of risk management of banking systems; the need to increase the technological sophistication of the banking products and services offered; transition from paper-based information processing to digital information processing
New competitive factors	Internationalization including the penetration of foreign banks into local markets and fintech companies in the Internet space; opening of new capital markets, gradually transforming traditional deposit systems; diversification of banking activities; increasing segmentation of consumer groups; competition from para-banking organizations; development of systemic banking products and services; increasing influence of technology on banking activities and the emergence of banking ecosystems

Currently, the development of the banking system, taking into account various digital mechanisms and channels for the provision of banking products and services, is carried out in the following main directions:

- Creation of new ecosystems: inclusion of non-core enterprises previously non-core banks into a single ecosystem;
- Development of business architecture: introduction of digital technologies in the assessment of customer experience, creation of innovative products, value creation;
- strengthening the foundation: upgrading the technological base (e.g. flexible information infrastructure, cybersecurity, networking capabilities, big data and advanced analytics, comprehensive software), changing the corporate culture and organizational model.

Undoubtedly, the development of globalization and digitalization will continue to have a significant impact on the transformation and development of the banking system, while the very functioning of the former banking system is under threat due to the rapidly increasing segmentation of the global economy.

### **III. Conclusion**

Under the influence of globalization and digitalization, among the main trends in the development of the banking system are the following: merger of regional banking segments and formation of separate banking markets with their subsequent integration into a single global banking market; lowering of entry

barriers to capital; transition of financial institutions from specialization to universalization of their activities; reforming of almost all structural elements of banks; increasing influence of fintech companies in the banking markets and emergence of services in their activities,

To meet modern standards, a traditional bank must organically integrate into the existing environment. In order for a bank to take a leading position in the market, its activities should be based on a competent innovation policy and efficient use of resources/technologies in performing banking operations and providing services. At the same time, it is important to build ties with fintech companies and other institutions of the financial system in order to reduce costs, combine the strengths and features of partners and counterparties.

The experience of credit organizations and fintech companies has shown that, if properly built, banking ecosystems should proportionally combine financial banking products, advanced banking and non-banking services. At the same time, the ecosystem approach should not be seen as the final stage in a bank's digital transformation. In order to reduce the risks arising from digital transformation and globalization, as well as to achieve overall cumulative synergies, banks and fintech companies need to cooperate in organizing and implementing partnership programmes, as well as making investments, joint ventures and possible merger/acquisition procedures.

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## **II.4. The impact of operational risks on the Georgian banking sector**

**Aleko Kutateladze**

Doctor of Technical Sciences

Professor of Georgian Technical University

[a.qutateladze@gtu.ge](mailto:a.qutateladze@gtu.ge)

<https://orcid.org/0009-0003-2532-7210>

**Mariam Shanava**

Credit Operations Monitoring Manager Bank of Georgia

PHD student of Georgian Technical University

[Marishanava9@gmail.com](mailto:Marishanava9@gmail.com)

**Abstract.** This article examines the impact of operational risks on Georgia's banking sector, which has encountered significant challenges in the context of ongoing digital transformation. Operational risks—stemming from technical failures, human errors, and cybersecurity issues—exert a considerable influence on the financial stability and reputational standing of banks. Reports published by Georgia's leading financial institutions—TBC Bank, Bank of Georgia, and Liberty Bank—indicate the development of systematic approaches for the identification and management of operational risks. These approaches incorporate technological innovations, employee training programs, and process optimization strategies. Despite these efforts, the financial losses attributable to operational risks remain substantial. In 2024, operational

losses increased to 31.1 million GEL, marking a 6% rise compared to the previous year.

International evaluations suggest that the Georgian banking sector maintains overall stability; however, further actions are required to enhance cybersecurity resilience. In pursuit of this goal, the International Monetary Fund (IMF) issued recommendations at the end of 2024 aimed at strengthening the National Bank of Georgia's cybersecurity regulations and supervisory mechanisms. These recommendations are expected to support more effective risk management and bolster the sector's long-term resilience.

Effective management of operational risks represents a critical pillar of business continuity. It not only mitigates potential financial losses but also ensures organizational stability, facilitates prompt responses to emerging issues, and safeguards the continuity of core processes in an evolving environment.

**Keywords:** Operational Risk, Georgian Banking Sector, Risk Management, Cybersecurity, Financial Stability, Digital Transformation, Operational Losses, Banks, Risk Assessment, International Monetary Fund (IMF)

## **I. Introduction**

The modern banking sector operates in a rapidly changing and technologically advanced environment, which significantly increases the variety and intensity of associated risks. Among them, operational risk represents one of the most critical threats to the banking system, as it is linked not only to financial losses but also to reputational damage. In international practice, operational risk is defined as the risk of loss resulting from ineffective processes, human errors, technical failures, or external events.

In Georgia, the banking sector constitutes the backbone of the financial market and is recognized as a particularly dynamic system that is continuously shaped by digital transformation. Within this context, the identification, assessment, and management of operational risks acquires critical importance.

In the 21st century, operational risks have emerged as one of the most pressing issues due to rapid technological development, increasing complexity of business processes, and the growing significance of cybersecurity. Modern organizations are increasingly dependent on digital platforms and automated systems, which raises the probability of both technical failures and cyberattacks. As a result, effective management of operational risks has become a fundamental

prerequisite for ensuring organizational resilience and preserving the stability of the financial sector.

This article focuses on analyzing the impact of operational risk exposure on the financial stability of Georgia's banking sector and explores the key challenges the sector currently faces.

## **II. Materials and methods**

The research draws upon scholarly works on the development of operational risk, published by both Georgian and international sources, as well as annual reports released by the National Bank of Georgia.

The analysis of perspectives was conducted using a comprehensive and systematic approach, enabling a multidimensional assessment of the impact of operational risks on the financial condition of organizations

## **III. Results and discussion**

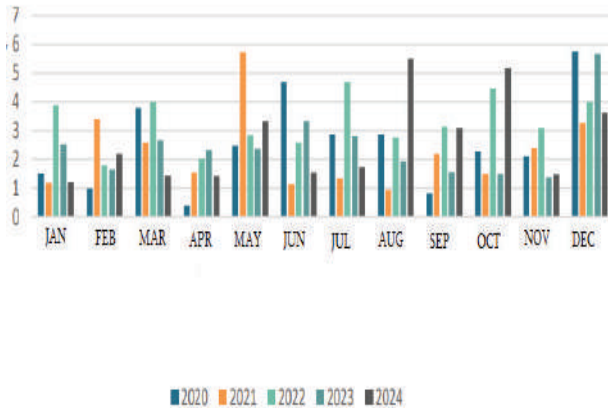
The discussion of operational risks is particularly relevant in the context of the modern banking environment, where financial institutions are increasingly reliant on digital technologies and automated systems. As a consequence of this reliance, the incidence of technical failures, human errors, and cybersecurity threats continues to rise. Contemporary regulatory frameworks demand stricter risk management practices from

banks, as any operational failure can lead to significant financial and reputational damage. In light of global trends, understanding and responding effectively to operational risks has become a matter of critical importance for banking institutions.

The fact that operational risk poses a significant challenge for Georgia's banking sector is also supported by data published by the National Bank of Georgia. The chart illustrates the dynamics of total operational losses in the Georgian banking sector over the past five years (2020–2024). [1]

Using the example of several major banks, the process of identifying operational risks and the approaches employed to mitigate them can be illustrated as follows:

TBC Bank approaches operational risks in a systematic and multidimensional manner. To ensure accurate identification and categorization of risks, the bank utilizes both quantitative and qualitative methods. This comprehensive approach facilitates timely and effective risk management. The bank actively evaluates and implements risk mitigation strategies, which include technological upgrades, employee training programs, and process optimization. These measures are aimed at minimizing operational risks and preventing potential financial and reputational damage. [2]



Source: National Bank of Georgia, Annual Summary Report, 2024.

Bank of Georgia promotes a systematic and comprehensive assessment of risks. The bank employs both qualitative and quantitative methods in risk identification, which supports effective operational risk management and the preparation of appropriate response plans. To mitigate operational risks, the bank develops measures across various areas, including technological infrastructure enhancements, process improvements, and employee training programs. The overarching goal of this strategy is to minimize risks and limit both financial losses and reputational exposure.[3]

Liberty Bank employs a systematic approach to identifying operational risks, which includes comprehensive risk reviews as well as qualitative and quantitative analyses. Through

this approach, the bank ensures timely detection and assessment of risks. To mitigate these risks, Liberty Bank implements various measures such as process improvements, upgrades in information technology, and continuous employee training. Additionally, the bank utilizes insurance and other risk transfer mechanisms to reduce the impact of operational risks. [4]

Against this background, in 2024, commercial banks in Georgia reported total operational losses amounting to GEL 31.1 million, representing a 6% increase compared to the corresponding figure in 2023. This amount reflects the direct financial losses resulting from operational incidents. In 2023, the total losses associated with operational risks amounted to GEL 29.7 million, which marked a 32% decrease compared to 2022. [5]

In November 2023, the international credit rating agency S&P Global Ratings published an assessment of risks in Georgia's banking sector. The report highlighted that the Georgian banking sector maintains overall stability despite regional instability. The sector's strengths were identified as financial system stability, a supportive macroeconomic environment, solid levels of capitalization and liquidity, as well as strong profitability and low credit losses. [6]

Cybersecurity remains the most significant challenge in the context of operational risks. Accordingly, in December 2024, the International Monetary Fund (IMF) published a technical assistance report aimed at strengthening the cybersecurity regulations, supervisory framework, and testing mechanisms of the National Bank of Georgia (NBG). While the NBG already has cybersecurity regulations in place—including requirements for incident reporting—the report identified several gaps, particularly in the areas of information and communication technology (ICT), that require further improvement.

The report emphasized the need to refine supervisory priorities and standardize operational processes. It also highlighted the importance of developing a more comprehensive testing framework, including various types of simulations and exercises, to enhance the cybersecurity resilience of the financial sector. The IMF mission recommended that the National Bank of Georgia develop a specialized cybersecurity strategy for the financial sector, outlining key objectives and goals for the next 3 to 5 years. [7]

Cyber risk has become a central concern in modern business operations, as information technology often functions as both a facilitating tool and a critically essential component of

core processes. Despite this, many organizations—including financial institutions—still lack adequately tailored processes to manage such risks effectively.

Research indicates that IT-related risks often stem not only from technical failures or human errors but also from deficiencies in governance and internal controls. Therefore, managing cyber risk must be approached in a way that ensures the secure and reliable functioning of financial institutions. Unlike other types of operational risks, cyber risks tend to spread more rapidly and systemically, making them a unique category. Their impact can be felt simultaneously across multiple organizations, significantly increasing the potential for financial losses.

Moreover, the effects of cyber risks are relatively under-researched, complicating the ability to estimate precise financial consequences. For instance, it remains unclear what the outcome would be if a hacker were to manipulate the national currency exchange rate or alter interest rates tied to key monetary policy instruments.

From a financial risk perspective, cybercrime alone—excluding systemic failures and technical malfunctions—is projected to cost the global economy approximately USD 10.5 trillion by 2025. A substantial portion of this loss is expected to

affect the financial sector, which remains one of the primary targets for cybercriminals. [8]

Effective operational risk management is critical to ensuring business resilience. It involves the timely identification and assessment of risks, alongside the application of technological solutions to reduce the likelihood of potential losses. Employee engagement and the support of a risk-aware organizational culture also play key roles in strengthening operational risk frameworks.

Organizations that succeed in managing operational risks typically adopt comprehensive approaches, including early risk detection, data analysis, and the implementation of automated systems. In addition, they invest in regular employee training and apply rigorous control mechanisms and monitoring systems. These efforts contribute to prompt responses to emerging issues and help minimize potential risks. [9]

Operational risk management entails strengthening organizational culture and establishing a governance framework in which responsibilities are clearly defined. Effective communication and reporting are essential to ensure transparency in risk management and to foster teamwork across the organization. Ultimately, operational risk management should be viewed as a continuous and ongoing process—one



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## **II.5. Important aspects of banking business security**

**Ramaz Otinashvili**

Doctor of Economic Sciences

Professor of Georgian Technical University

r.otinashvili@gtu.ge

<https://orcid.org/0000-0002-7892-6159>

**Tamar Otinashvili**

Master's student at Georgian Technical University

**Giorgi Otinashvili**

Student of Kutaisi International University

**Abstract.** The article discusses the mechanisms for ensuring banking business security, the nature of risks and their management practices, both at the local and global levels. Recommendations are presented for strengthening the system taking into account modern challenges.

The role of banks in the economy is invaluable. It is the “vascular” system of the economy, which ensures the efficient movement of resources, financing of investments and the continuity of business processes. The sustainable functioning of banks is a decisive factor for economic stability.

Ensuring the security of banking business faces multifaceted challenges. Threats are divided into economic and political risks. The security of banking business requires: constant technological updating, raising consumer awareness, ensuring legal compliance and implementing an integrated risk management system.

Cases of cyber attacks on the banking sector are discussed. Due to their scale, their negative impact leads to global threats that threaten not only the banking business but also the national security of countries.

Taking into account the main directions and recommendations for ensuring the security of the banking business will help improve the sustainability of banks, and active monitoring of existing threats will transform cybersecurity measures into a solid and sustainable system.

**Keywords:** Business, banking sector, cyberattack, security, management.

The banking sector is one of the largest and most successful businesses in the world. The role of banks in the economy is invaluable, as they are the foundation of the financial system. The role of banking in the economy is determined by the following factors:

1. Promoting economic growth. Through lending activities, banks finance both small and medium-sized businesses and large corporations. Investments are realized through loans, which are the main driver of economic growth;

2. Ensuring financial security. A strong and transparent banking system is the basis of the history of the economy. Banks fulfill the requirements of the regulator, maintain reserves and

anti-crisis plans, which minimize the likelihood of systemic risks spreading;

3. Mobilizing finances and redistributing costs. The banking system collects savings, generally from individuals and legal entities. In this way, banks contribute to investment activity and the efficient allocation of capital;

4. Ensuring the tax system. Banks ensure the efficient, secure and fast movement of payments (card systems, online and mobile banking, transfers), which facilitates business activity;

5. Conducting monetary policy. Banks are the implementers of monetary policy (e.g., the refinancing rate) determined by the Central Bank. By regulating interest rates, they affect aggregate demand and prices.

6. Promoting social policy. They participate in social activities, finance infrastructure, education and healthcare projects. They also contribute to the growth of financial inclusion and improving access to finance for broad segments of the population.

As a result, the banking business is the “blood vessel” system of the economy, which ensures the efficient movement of resources, financing of investments and continuity of business processes. Its sustainable functioning is a decisive factor for both local and global economic stability.

Ensuring the security of the banking business faces many challenges, the only thing worth noting is that only 10-20% of the bank's working capital is its own. 80-90% of its funds are attracted. i.e. high-risk. Therefore, the effectiveness of the activities of commercial banks significantly depends on the correct management of challenges.

Threats are divided into economic and political risks. Economic risks are caused by mismanagement, unbalanced liquidity, etc. Political risks are caused by socio-political instability in the country and the world, currency fluctuations, etc.

The banking sector is quite sensitive to political processes. Psychologically, even a political statement by a government representative against a specific bank can negatively affect the activities of the bank.

Banks work with customers' financial assets and personal data, which makes them a target for both cybercrime and internal fraud.

The article discusses the mechanisms for ensuring security in the banking business, the nature of risks and their management practices, both at the local (Georgian) and global levels. As a result of the assessment and analysis, we present recommendations for strengthening the system, taking into account modern challenges.

The main challenges of banking security are:

1. Cybersecurity – the growth of digital threats. Banks are often targeted by hackers in the form of phishing, DDoS and data leaks. The lack of security in old IT infrastructure increases the risk of system intrusion;

2. Low level of user awareness. Insufficient cyber education, many customers are not aware of the threat of phishing or fraudulent messages. Weak passwords and single-factor authentication increase the likelihood of hacker intrusion;

3. Internal fraud and disclosure of confidential data are a serious challenge, due to ineffective internal controls;

4. Rapid change in regulations and standards. Delayed implementation of legislative requirements. Timely implementation of international standards (GDPR, ISO 27001, FATF) is often complicated by a lack of technical or financial resources;

5. Financial fraud and money laundering. Ineffective AML systems, insufficient automation and lack of appropriate analysis make it difficult to detect suspicious transactions in a timely manner;

6. Data protection and confidentiality. The risk of personal data leakage is high. Banks store sensitive information about customers, the protection of which is critically important;

7. Integration of technological innovations and digital products. The use of new technologies (FinTech, blockchain, cloud services) accelerates information exchange, but creates new threats. Cooperation with external service providers increases the risk of data leakage and their control.

As a result, the security of banking business requires: constant technological innovation, raising consumer awareness, ensuring legal compliance, and implementing an integrated risk management system.

There are many known cases of attacks on the banking business. In 2019, Capital One (USA) was the victim of a cyberattack that led to the leakage of bank account and brokerage information, as a result of which the data of thousands of clients became public.

Although Capital One had a strong cybersecurity policy, an external software flaw, specifically a configuration error in Amazon Web Services, became a weak point. Security mechanisms were incorrectly configured in the AWS system, which made penetration possible.

This case showed us that strong banking security strategies are less effective if the configuration of third-party services is not monitored at the appropriate level.

Another example is the case of WannaCry, one of the largest software attacks that took place in May 2017. The attack was carried out on the computer systems of government agencies and private companies. Its important circumstances are: WannaCry was a Windows vulnerability that was “infecting” digital systems, accompanied by a ransomware attack, which paralyzed the healthcare, financial and technology sectors of more than 150 countries, including the US, Germany, the UK, and the Russian NHS (National Health Service). The hacking group “Lazarus” was allegedly associated with North Korea.

NotPetya (2017) was also a large-scale cyberattack that mainly affected Ukraine and other European countries. The hacking program initially attacked Ukrainian banks, the energy sector, and transport systems, and then spread globally. It was directed not only against commercial organizations, but also against state infrastructure, which posed a serious threat to the national security of countries.

The largest cyberattack in Georgia was carried out in October 2019. A hacking group has damaged the websites of dozens of government, commercial banks and media organizations.

The sites were blocked using "distributed denial of service" (DDoS) technology. The attack aimed to paralyze public and private sector Internet platforms.

As a result, due to the scale of cyberattacks, their negative impact leads to global threats that threaten not only the banking business but also the national security of countries.

The main directions for ensuring the sustainability of the banking business are:

#### 1. Cybersecurity

- Information systems protection: Banks need a robust IT infrastructure, including firewalls, antiviruses and intrusion detection systems (IDS/IPS).
- Encryption: Data transmission and storage should be carried out using modern encryption algorithms (e.g. TLS, AES).
- Remote services protection: Online and mobile banking security should include multi-factor authentication (MFA) and biometric systems.

#### 2. Physical security

- Branch and office security: CCTV monitoring, security personnel and access control (cards, biometrics).
- Safes and physical asset protection: Secure areas, special protection standards for valuables.

#### 3. Internal Control and Fraud Prevention

- Regular Audit: Financial and operational checks to identify internal risks.

- Employee Monitoring: Access restrictions, recordkeeping controls.

- Bank Code of Ethics: Compliance with internal standards and rules of conduct.

#### 4. Regulatory Compliance

- Banking Supervision Requirements: Compliance with National Bank and international norms (e.g. Basel III, GDPR, AML/CFT).

- Know Your Customer (KYC): New customer registration, data verification and risk assessment.

#### 5. Education and Training

- Employee Retraining: Regular training on security standards, phishing and fraud schemes.

- Consumer Awareness: Raising consumer awareness on security issues.

Effective management of banking sector challenges requires complex and integrated management strategies, which should be based on both modern technologies and human factors, ensuring system sustainability and customer protection.

The developed recommendations will contribute to improving banking sustainability.

### 1. Combining cybersecurity strategies

- Market protection infrastructure upgrade. To ensure the sustainability of the cybersecurity system, constant upgrades are required, which include both mathematical security models and the use of blockchain technology and diverse encryption techniques.

- Multi-factor authentication (MFA) is essential for security. Similar passwords and a single protection method are no longer enough. Both passive and active protection systems are needed. For example, biometrics, OTP, multi-factor authentication, etc.

### 2. Tools and methods for preventing cyberattacks.

- Early detection of digital threats. The bank should be equipped with security monitoring systems that notify us in a timely manner about any unauthorized activity. This requires automated notification systems.

- Ransomware prevention. It is necessary to create state-of-the-art protection systems against ransomware attacks. All banking products should have a backup system, which eliminates data loss.

### 3. Raising awareness of employees and customers

- Banking organizations should provide both customers and employees with the necessary education on cybersecurity issues. It includes:

- Creating passwords correctly.
- Virus detection techniques.
- Access management control (RBAC) and a constant rating of authorized persons in the system significantly improve the quality of security.

#### 4. Risk management strategies and regulations

- A banking risk assessment should be constantly conducted and appropriate measures should be taken. Both external and internal risks should be assessed, including: cyber attacks, data leakage. Virus attack, financial fraud, etc.

- Banking business should be prepared for changes in regulations. Especially such as GDPR, FATF, AML and other local and international legal acts. It is necessary for the bank to constantly check and update its own security standards.

#### 5. Control of third-party services

- If the bank uses third-party platforms (e.g. cloud computing, payment systems), it is necessary to constantly monitor their security standards. An integrated audit will identify challenges and fraud at an early stage.

- Monitoring of partner transactions. Fintechs should be used during transactions, which allow suspicious operations to be detected.

#### 6. Data protection and information security

- Protecting users' personal information should be a priority.

A low-risk (Data Minimization) policy should be developed to avoid collecting unnecessary information.

- Disaster Recovery. If the bank is faced with a threat (e.g. DDoS attack, data leak), it is important to have recovery systems that can quickly restore all data and provide services without interruption.

#### 7. Use of advanced technologies

- Blockchain technology is effective for verifying and reliably storing data. It provides a high level of security, as any data change is not allowed without authorization.

- Computer vision and AI (Artificial Intelligence). The bank should use financial systems that provide automation of analytical processes. Artificial intelligence effectively protects user data and easily detects fraudulent transactions.

The economic development of Georgia depends significantly on the successful functioning of the banking business. A complex of measures must be carried out to create a reliable banking security system. Initially, it is necessary to assess the situation surrounding a specific bank. Analysis of the market environment at both the macro and regional levels, as well as at the level of partners and competitors. When assessing the social environment, many aspects should be taken into

account: the political and socio-economic situation in the country and the region, the forecast of the policy pursued by state management structures, the state of market infrastructure, legal basis, material, energy and labor resources, the criminogenic situation in the country, the price level, the competitiveness of manufactured products, the opportunities for establishing business contacts, the presence of real or potential competitors, etc. An important factor in the process of improving the banking security system is not only technological, but also human and organizational approaches. Developing integrated strategies that include technological innovations, internal security procedures, and raising consumer awareness not only ensures the effectiveness of protection, but also creates an environment where consumers have complete confidence in the banking system. Active monitoring of existing threats transforms cybersecurity measures into a solid and sustainable system.

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## II.6. Intergenerational Collaboration in Modern Organizations in the Context of Artificial Intelligence

**Giorgi Sulashvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[g.sulashvili@gtu.ge](mailto:g.sulashvili@gtu.ge)

ORCID ID: 0000-0001-5194-3541

**Giorgi Zaalishvili**

PhD Student of Georgian Technical University

[giorgi.zaalishvili3333@gmail.com](mailto:giorgi.zaalishvili3333@gmail.com)

ORCID ID: 0009-0001-1665-4848

**Tinatin Upham**

Master's student at Georgian Technical University

[tsertsvadzetika@gmail.com](mailto:tsertsvadzetika@gmail.com)

ORCID ID: 0009-0008-7235-9035

**Meri Tsulukidze**

LEPL Creative Georgia

[mtsulukidze@creativegeorgia.ge](mailto:mtsulukidze@creativegeorgia.ge)

**Abstract.** Organizations today employ five generations at the same time, which is an interesting phenomenon never seen before. This has become possible because experienced older employees, who possess valuable knowledge, stability and a strong attachment to their work remain active in the labor, while a new wave of younger generation enters with determination, ambitions and a strong innovational orientation.

Due to this unusual overlap, it becomes important to understand how these generations intersect. What values they

share, what differences do they have, and how their different approaches can be used to strengthen their cooperation.

This becomes even more relevant with the introduction of AI in the workforce, which influences generations differently and requires a balanced, sensitive approach. To examine these dynamics, interviews were conducted with employees from different organizations, focusing on their experiences with AI in operational and financial processes.

Relevant recommendations are proposed: Based on the interviews and participants' experiences, relevant recommendations are suggested to help improve intergenerational cooperation and the adoption of AI, including trainings, managerial strategies and support for technology integration.

**Keywords:** intergenerational cooperation, Artificial Intelligence (AI), workforce dynamics, generational differences, organizational efficiency

## **I. Introduction**

For the first time in history, up to five generations can be working in the same organization. Each generation has grown up in a different social, economic and technological environment which shapes how they think, work and act. This creates a very interesting mixture of events and can cause

misunderstandings if managers and employees don't understand the differences.<sup>76</sup>

Older generations, like Traditionalists, Baby Boomers and Generation X, usually bring experience, stability and deep knowledge of how organizations work. Younger generations, such as Millennials and Generation Z, rely more on new technologies, have fresh ideas and are open to change. This combination could be really impactful if the organization finds ways for those generations to learn from each other and work together hand-to-hand.

21<sup>st</sup> Century also known as Information era and era of technologies, is changing the way we work. What's effective today, might not be functional tomorrow. One of those technologies and tools is Artificial Intelligence (AI). AI is becoming increasingly common in workplaces. It is used to automate tasks, help with decision-making and improve efficiency in areas such as operations and finance. According to latest Randstad Workmonitor Survey, focusing on AI in the workplace. Younger generations such as Gen Z and millennials

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<sup>76</sup> <https://gogpac.com/knowledge-center/generational-differences-in-the-workforce/>

use AI more frequently in their work than Traditionalists, Baby Boomers and Gen X.<sup>77</sup>

Because of these differences in how generations use technology, AI becomes a turning point where cooperation is being challenged. Younger employees adapt quickly to new digital tools, while older generation relies more on practical experience and understanding of organizational processes. When these 2 are combined, AI can be used more effectively and responsibly. AI generally isn't something that should be used as a standalone instrument, that's when older generations experience steps in and guides the younger generations ambitions into the correct direction. Ignoring this natural process will only create confusion in the workplace. This is why studying intergenerational cooperation in the context of AI is important. It helps organizations understand how to support all employees and create technology becomes a shared advantage rather than a dividing line.

To better understand how intergenerational cooperation works, it is important to first look into at what previous research says about different generations in the workplace. Therefore, the next section will focus on the literature review. In this chapter,

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<sup>77</sup> <https://www.randstadusa.com/about/press-room/press-releases/randstads-workmonitor-q3-pulse-reveals-generational-trends-ai/>

each generation will be discussed separately, including Traditionalists, Baby Boomers, Generation X, Millennials, and Generation Z. the goal is to create a general picture where we will be able to clearly see commonly observed strenghts, their styles and challenged as described in the studies.<sup>78</sup>

After reviewing existing theoretical background, the paper moves from theory to practice. The following section presents the results of a survey conducted in the fields of operations and finance. These areas where chosen because they are highly affected by automation, data-driven decision-making and AI based tools. The survey captures current attitude toward AI and different perceptions seen from the eyes of the interviewed.

Based on the survey results, the paper then discusses currect situation inside the orgranizations, underlining where intergenerational cooperation works well and where challenges remain. It focuses on how different generations use AI in daily tasks, decision-making and problem solving. Finally, practical recommendations are given to support AI in workplaces. Emphasizing knowledge sharing and training to turn

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<sup>78</sup> <https://www.purdueglobal.edu/education-partnerships/generational-workforce-differences-infographic/>

generational diversity into an advantage rather than a source of conflict.

## II. Literature Review

Before carrying on with this paper, it is important to define the five generations in today's workforce and outline their main characteristics, including strengths and weaknesses<sup>78</sup>

	Born	Shaped by	Motivated By	Communication style	Worldview
Traditionalists	1925-1945	The Great Depression, World War II, Radio, Movies	Respect, recognition, providing long-term value	Personal touch, handwritten notes	Obedience over individualism, age equals seniority
Baby Boomers	1946-1964	Vietnam War, Civil Rights Movement, Watergate	Company Loyalty, teamwork, duty	Whatever is most efficient, including phone calls and face to face	Achievement comes after paying one's dues, Sacrifice for success
Generation X	1965-1980	The AIDS epidemic, the fall of the Berlin Wall, the dot-com boom	Diversity, work-life Balance, personal-professional interests	Whatever is most efficient, including phone calls and face to face	Favoring Diversity, quick to move on if their employer fails to meet their needs.
Millennials	1981-2000	Columbine, 9/11, the internet	Responsibility, quality of manager, unique work experiences	IMs, texts and email	Seeking challenge, growth and development, a fun life and work balance
Generation Z	2001-2020	Life after 9/11, the Great Recession, access to technology from a young age	Diversity, personalization, individuality, creativity	Social media, texts, IMs	Self-identify as digital device addicts, value independence and individuality.

**FIG. 1 Generational Differences in the Workplace**

The modern workforce is unique in that it brings together up to five generations, each shaped by distinct historical, social and technological environments. These differences not only change on what they value but also how they approach work and personal life.

Traditionalists, Born between 1925-1945, grew up during The Great Depression and World War II, They tend to value Respect, Loyalty and providing long term value to the organizations. They think that age equals seniority and communicate personally and with handwritten notes.

Baby Boomers, Raised in 1946-1964 has gone through Vietnam War, Civil Rights Movement and political scandals such as Watergate. They just like Traditionalists Value Loyalty, Respect and Teamwork. They prefer face to face encounters and think they would do anything necessary for success.

Generation X, born from 1965-1980 went through Events like the Fall of the Berlin Wall, and the dot-com boom. They started valuing their personal life more than previous Generations, they like communicating efficiently, whatever is more efficient counting face to face communication. They are likely to move on if employer fails to meet their needs.

Millennials, are the Generation Born between 1981-2000 their values are shaped by Columbine tragedy, 9/11 and a rapid

spread of internet. they are looking for unique connections and work experiences. Communication is key and texts and emails are their go to. Their worldview revolves around growth and development while keeping a balance between fun life and work.

Generation Z, latest generation after Millennials and probably the most creative ones. They have access to technology from a young age. They are very creative, diverse and individual. They are self aware with the fact that they know they are additcted to digital devices.

It is also important to consider demographics. Millennials have surpassed older generations to become largest adult number. For example, in The United States, they outnumber Baby Boomers and continue to grow. It also can be noted that Millennials have represented 75% of the global workforce in 2025.<sup>79</sup> Meanwhile, Generation X continues to make up a significant portion of mid-level management and technical roles, bringing experience and problem-solving skills to organizations. Baby Boomers and Traditionalists, although decreasing in numbers due to retirements, often remain in

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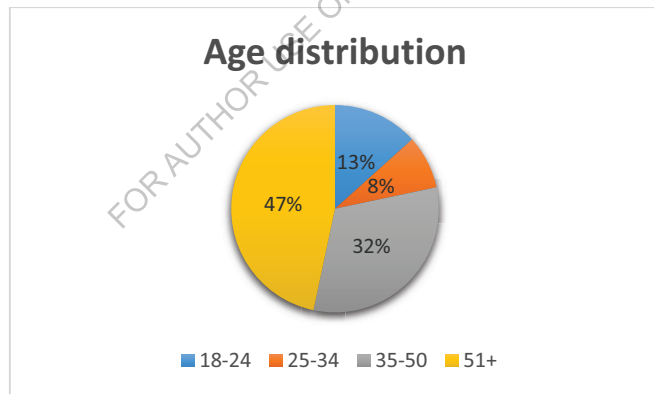
<sup>79</sup><https://teamstage.io/millennials-in-the-workplace-statistics/#:~:text=of%20this%20generation,-,Top%20Millennials%20in%20the%20Workplace%20Statistics%3A%2020Editor%E2%80%99s%20Choice,the%20global%20workforce%20by%202025>

leadership or advisory positions, contributing institutional knowledge, stability, and mentoring capabilities. Generation Z is now entering the workforce, adding fresh perspectives, digital fluency, and familiarity with emerging technologies like AI. Together, these five generations create a unique workplace.

To help with the theoretical understanding of generational differences in the workplace, a small-scale survey was conducted focusing on employees' experiences with AI in operational and financial processes. The survey aimed to capture how different generations interact with AI tools. The Survey Aimed to capture how different generations interact with AI tool. Attention was given to confidence to adopt AI, and attitudes towards technolgh driven change.

The survey was conducted using an online questionnaire distributed to employees from different organizations and professional backgrounds. A total of 60 respondents participated in the study, representing different age groups and generations currently active in the workforce. The diversity made it possible to compare perspectives across generations and identify common patterns as well as differences. Notable differences can first be observed in the age of respondents. Out of 60 participants, 28 were aged 51 and above, forming the largest group in the survey. This is followed by 19 respondents in the 35-50 age

group, representing a significant amount of mid-career employees. Younger generation aged 25-34 were 5 respondents, and 8 respondents belonged in the 18-24 age group. The distribution reflect the current picture of many organizations where experienced employees still hold a large part of workforce, particularly in operational and financial roles. Although the sample is not full representative, it provides valuable ideas on how different generations perceive AI and cooperate within organization.<sup>80</sup>



**Fig 2. Age Distribution of Survey Respondents**

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<sup>80</sup> Zaalishvili, G. (2025). Increasing operational and financial efficiency through the use of artificial intelligence (Master's thesis). Georgian Technical University.

The first group of survey questions were focused on general technology adoption within organizations. Two key aspects were inspected, use of AI in operations and use of AI in financial analysis.

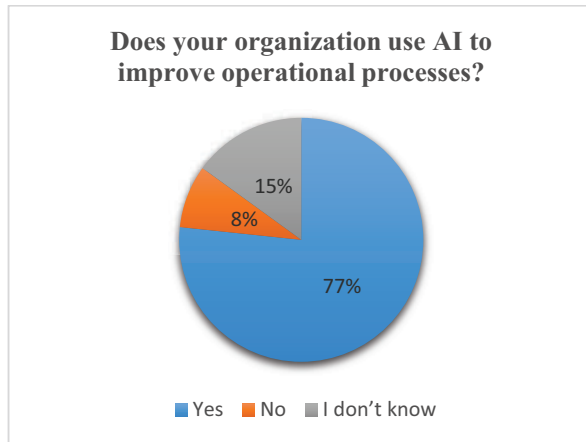
**Operational Processes:**

- 46 respondents (out of 60) Stated that their organization uses AI to improve operational processes
- 5 respondents said “No”, and 9 answered “I don’t know.”

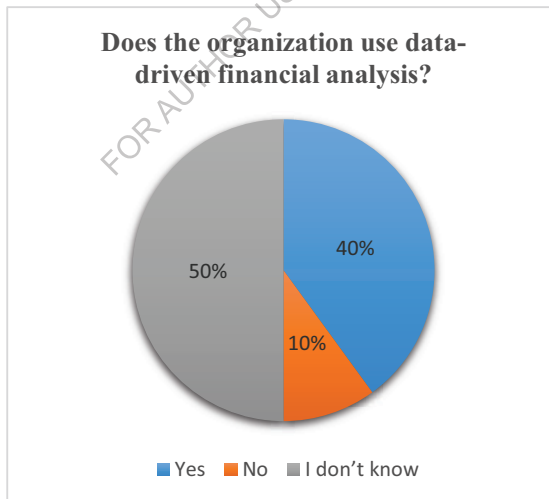
**Data-Driven Financial Analysis:**

- 24 respondents confirmed that their organization uses data-driven financial analysis.
- 6 respondents said “No”, and 30 responded with “I don’t know”

Results show a clear differences between usage of AI in operational and financial technology usage. Operational Technologies appear to be more widely adopted. While data-driven financial tools are less familiar to many employees.



**Fig 3. Use of AI in Operations**



**Fig 4. Use of AI in Finances**

The next group of survey questions focused on employees perceptions of AI and overall performance.

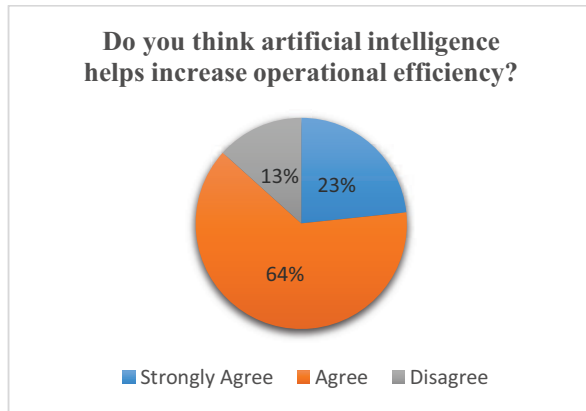
**Impact of AI on Operational Efficiency:**

- 38 respondents agree that AI helps increase operational efficiency.
- 14 respondents strongly agreed.
- 8 respondents did not agree.

**Assessment of Financial Stability:**

- 22 respondents rated their organization's financial stability as good.
- 35 respondents rated it as average.
- 3 respondents rated it as poor.

While Employees generally consider their organization financially stable, most rate it as average and leave a room for improvement. It appears that AI is more commonly seen as tool for operational improvement than for financial decision making, which aligns well with trends observed in generational technology adoption.



**Fig 5. Impact of AI on Operational Efficiency**



**Fig 6. Assessment of Financial Stability**

Another group of survey questions is focused on the current use of AI technologies and general readiness to impement new technologies

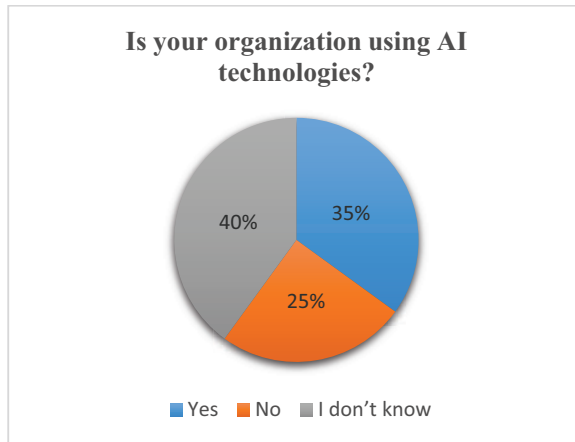
**Use of AI Technologies:**

- 21 respondents stated that their organization is currently using AI technologies
- 15 respondents said that their organization does not use AI.
- 24 respondents were unsure

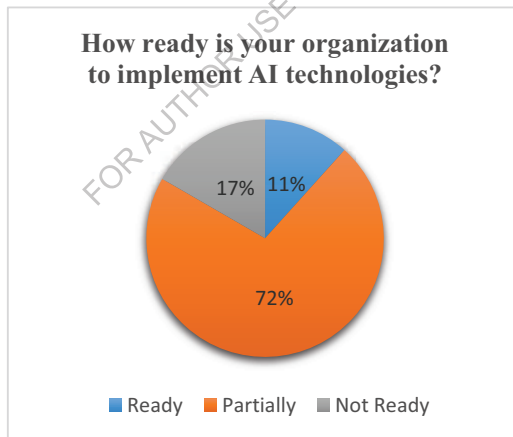
**Readiness to Implement AI Technologies:**

- 7 respondents considered their organization fully ready to implement AI.
- 43 respondents said that their organization was partially ready
- 10 respondents stated that their organization is not ready

These Results suggest that AI adoption is present in some organizations, some portion of employees are either unsure or think that they are only partially prepared. This indicated that there is still work to be done in terms of training, awareness and strategic planning to integrate AI more effectively across all organizational levels.



**Fig 7. Use of AI Technologies**



**Fig 8. Readiness to Implement AI Technologies**

The final group of survey questions examined employees personal attitudes toward AI and their views on its importance for the future of organizations:

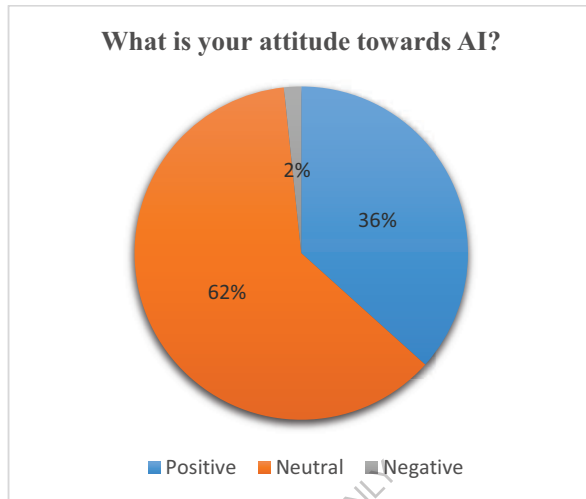
**Attitude Towards AI:**

- 22 respondents reported a positive attitude towards AI.
- 37 respondents were neutral
- 1 respondent was negative about it.

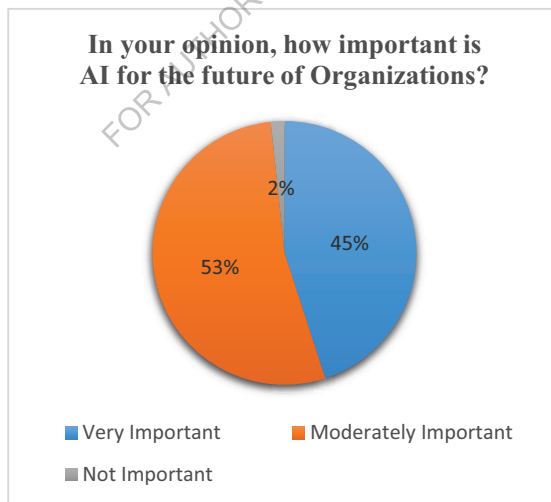
**Perceived Importance of AI for the Future:**

- 27 respondents considered AI very important for the future of organizations.
- 32 respondents considered it important.
- 1 respondent stated that it is not important.

These findings indicate that most employees recognize the need and relevance of AI for organizational development, the data also suggests that employees see AI as a strategic tool for the future, Stating the need of effective implementation.



**Fig 9. Attitude Towards AI**



**Fig 10. Perceived Importance of AI for the Future**

### III. Results and Discussion

The survey results demonstrate generational patterns in the adoption and perception of AI within organizations. Younger employees, particularly Millennials and Generation Z, reported higher familiarity and engagement with AI tools in operational processes, while older generations such as Generation X, Baby Boomers, and Traditionalists were less familiar or uncertain about these technologies. This aligns with findings from the **Randstad Workmonitor survey**<sup>81</sup>, which states that younger generations adopt AI more easily in the workplace, while older employees show lower usage rates. These differences are very important because they highlight both the opportunities and challenges of intergenerational cooperation.

The observed trends can also be explained using a technology acceptance perspective. According to **an extended UTAUT framework**<sup>82</sup> shows that demographic factors, including age, organizational role, and prior experience, influences how employees perceive and adopt AI. Younger employees often see AI as a tool that enhances efficiency and creativity, while older employees may initially approach it

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<sup>81</sup> <https://www.randstadusa.com/about/press-room/press-releases/randstads-workmonitor-q3-pulse-reveals-generational-trends-ai/>

<sup>82</sup> <https://arxiv.org/abs/2510.15142>

carefully, relying more on traditional practices and accumulated organizational knowledge. This difference does not necessarily create conflict; rather, it presents an opportunity for structured intergenerational learning. By pairing technologically confident younger staff with experienced older employees, organizations can maximize the benefits of AI while preserving operational stability and institutional knowledge.

Moreover, research by Guo and Wei (2025) on AI and intergenerational knowledge transfer <sup>83</sup>demonstrates that AI technologies can serve as facilitators of cooperation across generations. Younger employees often act as guides in the adoption of digital tools, teaching older colleagues how to integrate AI into daily workflows. Older employees provide mentorship and understanding, helping younger employees apply AI insights more effectively and responsibly. This reciprocal relationship underscores the potential of AI to be a unifying factor rather than a divisive one. It also reflects the survey responses, where operational AI adoption was higher than in financial processes, suggesting that AI in practical, day-to-day applications is more shared among all generations.

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<sup>83</sup><https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1673730/full>

The differences in perception and use of AI also influence attitudes toward organizational efficiency. Our survey found that employees overwhelmingly agreed that AI enhances operational efficiency, with 38 respondents agreeing and 14 strongly agreeing, while 8 did not see a significant impact. This contrasts with financial applications, where familiarity and perceived benefits were lower. Such patterns suggest that operational AI tools are easier to adopt across generational lines, possibly because their usage is more tangible and visible in workflow improvements. The literature supports this notion; when AI applications are clearly linked to task performance and outcomes, adoption rates are higher, especially when younger and older employees collaborate<sup>84</sup>

Intergenerational cooperation in AI adoption is therefore not merely a question of access to technology but involves communication, mentorship, and knowledge sharing. For instance, older employees cautious approach to AI can be understood as a safeguard against overreliance on automation, ensuring decisions remain balanced and informed. Simultaneously, younger employees comfort with AI allows them to introduce new efficiencies and innovations. This

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<sup>84</sup> <https://www.randstadusa.com/about/press-room/press-releases/randstad-workmonitor-q3-pulse-reveals-generational-trends-ai/>

complementary relationship emphasizes that AI can act as a shared resource, enhancing productivity, decision-making, and cross-generational collaboration<sup>85</sup>

Finally, these insights highlight practical implications for management. Organizations aiming to implement AI successfully should consider structured training programs that encourage peer learning between generations, promote confidence in using AI tools, and recognize the distinct<sup>86</sup> strengths of each age group. By doing so, technology adoption becomes a group process rather than an individual challenge, reinforcing a culture of intergenerational cooperation. Such strategies not only improve operational and financial efficiency but also foster a more inclusive and adaptive workforce capable of leveraging AI's full potential.

#### **IV. Recommendations**

The findings of this study underlined that while awareness of artificial intelligence is relatively high, practical readiness and confidence vary significantly across organizations and generations. Therefore, effective AI adoption requires a balanced approach that integrates technological advancement

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<sup>85</sup><https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1673730/full>

<sup>86</sup> <https://arxiv.org/abs/2510.15142>

with human-centered workforce strategies. Based on survey results and supported by international research, the following recommendations are proposed.

### **1. Promote Human-Centered AI Integration**

Organizations should adopt a human-centered approach to AI implementation, ensuring that technology supports rather than replaces human decision-making. The World Economic Forum <sup>87</sup>emphasizes that AI delivers the greatest value when combined with human judgment, creativity, and experience. This is particularly relevant in financial decision-making, where trust and accountability remain critical.

Survey results showing a high proportion of neutral attitudes toward AI suggest uncertainty rather than opposition. Clear communication regarding the purpose, scope, and limitations of AI systems can reduce anxiety, especially among employees who are less familiar with digital technologies. AI should be framed as a tool for efficiency enhancement, not workforce reduction.

### **2. Encourage Intergenerational Collaboration**

The coexistence of multiple generations in the workforce presents an opportunity for knowledge exchange. Younger

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<sup>87</sup> [chrome-extension://efaidnbmninnbpcjpcglclefindmkaj/https://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2023.pdf](chrome-extension://efaidnbmninnbpcjpcglclefindmkaj/https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf)

employees often demonstrate higher adaptability to AI tools, while older employees contribute institutional knowledge, ethical awareness, and strategic insight. According to the World Economic Forum<sup>88</sup>, organizations that successfully manage this balance are better positioned to benefit from AI-driven transformation.

Cross-generational teams should be encouraged, particularly in pilot AI projects. Reverse mentoring initiatives—where younger employees assist senior colleagues with AI tools—can accelerate adoption while preserving organizational experience. This cooperative approach strengthens trust and reduces resistance to technological change.

### **3. Invest in Continuous and Inclusive Training**

Survey findings indicate that most organizations are only partially ready to implement AI technologies. This aligns with Microsoft's Work Trend Index<sup>89</sup>, which identifies skills gaps as a major barrier to effective AI adoption. Training should therefore be continuous, practical, and inclusive of all age groups.

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<sup>88</sup> [chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2023.pdf](chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf)

<sup>89</sup> <https://www.microsoft.com/en-us/worklab/work-trend-index/will-ai-fix-work>

Rather than assuming digital fluency based on age, organizations should provide structured learning opportunities focused on real-world applications of AI in operational and financial processes. Workshops, hands-on demonstrations, and role-specific training programs can improve confidence and usability across generations.

#### **4. Implement AI Gradually Through Pilot Projects**

A phased approach to AI adoption is recommended. Survey results show stronger AI presence in operational processes than in financial analysis, suggesting that operations may serve as a suitable entry point. Gradual implementation of AI allows organizations to better assess potential risks, collect employee feedback, and develop internal skills before introducing these systems on a larger scale. Pilot projects give employees the opportunity to see how AI works in practice and to experience its concrete benefits, which can help reduce uncertainty and skepticism. At the same time, insights gained during early implementation phases can be used to improve decision-making and shape more effective long-term AI strategies across the organization.

#### **5. Establish Clear Ethical and Governance Frameworks**

Finally, organizations should develop transparent governance structures for AI usage. Trust in AI largely depends on how clearly organizations define data usage, responsibility, and the role of human oversight. Employees from different generations are more willing to accept and use AI systems when ethical guidelines are transparent and applied consistently. Open communication about data protection, accountability, and decision-making processes helps reduce uncertainty and builds confidence in AI-supported tools. In addition, regular evaluation of AI systems ensures that their use remains aligned with organizational values, employee expectations, and existing legal frameworks.

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## II.7. Formation and development of auditing activities in post-Soviet Georgia

**Levan Grigalashvili**

Doctor of economic science

professor of Georgian Technical University

[l.grigalashvili@gtu.ge](mailto:l.grigalashvili@gtu.ge)

**Merab Vanishvili**

Doctor of Economics

Associate Professor of Georgian Technical University

[m.vanishvili@gtu.ge](mailto:m.vanishvili@gtu.ge)

<https://orcid.org/0000-0001-8908-7605>

**Abstract.** The formation and development of auditing activities has a long history. The word "audit" is of Latin origin and means "listening" in Georgian. As is clear from the scientific and economic literature, professional auditing in Western countries first emerged in Scotland in the mid-nineteenth century. When various types of English investors traveled to America, auditors came here with them to protect the interests of investors. Since then, the development of auditory activity has taken on a purposeful character in the civilized countries of the West. Its main goal was to control socialist state property and financial resources. During the Soviet era, there was no independent audit system or auditing profession. Instead, there was a state control and audit system, the essence of which was fundamentally different from the independent audit system.

The establishment of independent auditing in Georgia began with the transition to a market economy. It has gone through several stages of development and, one could say, was proceeding with certain shortcomings, although progress was already noticeable. Nevertheless, the current state of this field still requires improvement.

**Keywords:** Audit, independent audit, state audit system, International auditing organizations, International Auditing Standards, National Auditing Standards,

## **1. Introduction**

If we look at the history of the development of auditing in the world, the following picture emerges:

As early as 1844, the canons regulating entrepreneurial activity were adopted in Great Britain, which obliged companies to invite an auditor to study their financial situation once a year. The development of auditing activities took on an irreversible character in the United States of America. In 1881, the “American Association of Auditors” was formed. Later, the “American Institute of Certified Public Accountants” stood out in this field, which published manuals for accountants and auditors. The manual contained the fundamental principles of auditing, regarding the implementation of audit procedures for both large and small and medium-sized companies.

In 1939, the American Institute of Certified Public Accountants (AICPA) established the „Auditing Procedures Committee“ to review, discuss, and issue guidance on auditing matters. This committee is considered the forerunner of the Auditing Standards Board, which issued the Statements of Auditing Procedures (SAP) in 1941. This was the first recognition that audits should be conducted in accordance with auditing standards, and the committee issued a booklet called „the Generally Accepted Auditing Standards“.

In 1978, the American Institute of Certified Public Accountants, after extensive research, established the Auditing Standards Board (ASB), as the authoritative body for auditing. It required all members of the American Institute of Certified Public Accountants to adhere to the Auditing Standards Board's requirements for the conduct of audits, attestation, and quality control. The Auditing Standards Board (ASB) defines the responsibilities of the auditor and issues guidance to enable accountants and auditors to prepare reports and audits in accordance with the standards issued. The internal audit system began to take shape alongside external audit. At the same time, consulting activities, which were also previously carried out by auditors, gradually developed.

While auditing activities in Western countries were gradually developing, in the Soviet republics, including Georgia, the Soviet system of financial and economic control was being formed. In the 90s of the last century, from the very beginning of the transition period to a market economy, the great importance of auditing was highlighted in terms of proper management of companies, increasing competitiveness, and other directions. The transition to new economic relations made it clear that the current system no longer corresponded to the conditions of a market economy and that its transformation was necessary. An attempt was made to bring the audit system into line with international practice.

## **2. Research results**

For a correct understanding of the essence of auditing, its definition is of great importance. In the scientific and economic literature, it is presented in various interpretations. Here we should highlight the contribution of Robert Montgomery, the founder of the American Institute of Certified Public Accountants and later its president. He proposed an early classification of auditing, which was recognized and distributed throughout the world. As early as 1909, he published in America the book “Audit: A Practical Guide to Auditing”, published in

England by Lawrence R. Dix. Noting that American practice differed from British practice, he published the first American book on auditing in 1912, *Auditing: Theory and Practice*. Later called *Montgomery's Auditing*, he clearly outlined the auditor's professional responsibilities, audit strategy, audit methods, technology, and more.

According to the American Accounting Association's Auditing Concepts Committee, "an audit is a systematic process of objectively collecting and evaluating evidence about economic activities and transactions to determine the degree to which this evidence complies with established criteria and to communicate the results of the examination to interested parties."

The Management Dictionary defines the concept of audit as follows – “An audit is any examination of any aspect of a firm's operations, even if it is carried out by the firm's employees.”

Some sources, instead of defining an audit, provide its purpose and objective. For example, according to the “Directory of Official Technical Documents on Auditing” published by the International Federation of Accountants, “The objective of an audit of financial statements is to enable the auditor to express an opinion on whether the financial statements are prepared in

accordance with the financial reporting framework, taking into account all material aspects.”

According to the Law of Georgia "On Auditing Activities" in force until 2012 - "The purpose of an audit is to determine the accuracy, completeness, and compliance with applicable legislation and regulations of the entrepreneurial activity, public accounting and reporting, taxation and economic and financial activities and statutory requirements of an economic entity."

According to other authors - "Audit is an independent examination based on accounting, balance sheet, reporting and internal audit data."

Despite the different opinions on the definition of audit, they do not differ much in content. In our opinion, “an audit is an examination of public financial statements with a view to determining their reliability, completeness, and compliance with applicable legislation and rules for the preparation of accounting and financial statements, which is carried out using specified principles and procedures.”

According to the generally accepted classification, auditing is divided into the following categories: independent audit, internal audit, and state audit.

Independent auditing is a relatively new form of financial control in Georgia. The Law of Georgia “On Auditing” was adopted on February 7, 1995. It should be noted that auditing in Georgia, as a system of independent control over the activities of economic entities, began without the preparation of proper foundations, although in the conditions of the transition to a market economy, its existence was dictated by objective circumstances. In the shortest possible time, a system of procedures for awarding the qualification title of auditor was developed, which included such issues as: certification (attestation) program, testing, certificate sample and procedures for its issuance, composition of the qualification commission, etc.

Initially, almost all economic entities were subject to audit, namely, limited liability companies, joint-stock companies, banks, insurance companies, state funds, commodity exchanges, investment institutions and other private law entities, including small enterprises. The audit report was submitted to the tax authorities along with the balance sheet.

The almost universal nature of conducting an audit has had its positive and negative consequences. For example, it has had a positive impact on the development of the audit market, to some extent contributed to the regulation of accounting and reporting in

enterprises, the mobilization of taxes, etc. At the same time, the audit has acquired a universal character and, one might say, has been mainly within the sphere of interests of tax authorities. The above-mentioned circumstance has to some extent determined the necessity of implementing changes and, accordingly, conducting an audit has become mandatory only for a certain circle of economic entities.

The abolition of the mandatory nature of the audit has had a negative impact on the audit market in general. The need for private auditing was limited almost exclusively to property valuation, while auditing financial and administrative activities remained largely ignored.

The reform processes, albeit with major shortcomings, continued. On June 29, 2012, the Law of Georgia “On Accounting and Auditing of Financial Statements” was adopted, which was supposed to regulate the rules for accounting, preparation, submission of financial statements and auditing in Georgia. The main postulates of the law are as follows: 1) the statuses of a certified professional accountant and a certified accountant were clarified; 2) the status of an accredited professional organization was determined; 3) the professions of a professional accountant and an auditor were equated, although a professional accountant was not perceived as an auditor at the

same time; 4) The statuses of the professional certification standard, continuing education standard and accredited professional organization were clarified. Despite these positive aspects, the law contained significant negative definitions. For example, it contradicted the Law of Georgia “On Competition”. It transferred all rights to the only professional organization with this status in Georgia, thereby hindering the development of auditing activities. The main principle of a market economy - placing all economic entities on equal terms - was violated.

The main goal of the reform was to ensure transparency of reporting by business entities, develop capital and financial markets, and improve the investment environment, which in turn is determined by the compliance of accounting and auditing regulations with European directives and strict adherence to them. It is against this background that the Law “On Accounting, Reporting and Auditing” was adopted on June 8, 2016. The Law establishes the legal basis for the preparation and submission of accounting, financial reporting, management reporting, and reports on payments made to the state in Georgia, professional certification, audit fees, and supervision.

Auditing activities are considered as - work performed by an auditor or an audit firm on the basis of relevant international standards, aimed at expressing an opinion on the accuracy,

fairness and completeness of financial statements (including special purpose financial statements) based on an audit, taking into account all material aspects, on the basis of which they are prepared in accordance with the appropriate basis for presentation; to draw up a conclusion of the auditor or audit firm on the basis of a review of financial statements; to express an appropriate opinion or draw up a conclusion on the basis of other substantiated transactions, etc.

In accordance with the legislation in force in Georgia, enterprises are divided into categories. According to the above categories, economic entities are subject to different obligations regarding accounting and reporting, which relate to (Table 1): accounting and reporting standards, preparation and presentation of financial statements; The requirement for an audit of financial statements; the requirement for management reporting; the requirement for reporting on payments made to the state.

**Table 1**

**Enterprise liabilities by their categories**

<b>Category</b>	<b>Financial Accounting and reporting</b>	<b>Publication of financial Statements</b>	<b>Audit</b>	<b>Management Reporting</b>	<b>Reporting on payment</b>

Public interest persons	IFRS	Mandatory	Mandatory	Mandatory	Mandatory
I	IFRS	Mandatory	Mandatory	Mandatory	Mandatory
II	IFRS for SME	Mandatory	Mandatory	Mandatory	Voluntary
III	IFRS for SME	Simplify	Voluntary	Voluntary	Voluntary
IV	Simplify	Voluntary	Voluntary	Voluntary	Voluntary

In accordance with the above table, the general principles can be formulated as follows:

For enterprises of the first category and public interest entities, it is mandatory to prepare reports in accordance with international (IFRS) standards, publish financial statements that are confirmed by an auditor and submit management reports.

For enterprises of the second category, financial accounting and reporting is required to be prepared in accordance with the IFRS for SME standard. For entities of this

category, it is also mandatory to publish financial statements that will be confirmed by a registered auditor and submit management reports.

A third-category enterprise is also required to prepare financial statements and reports in accordance with the IFRS for SME standard and publish financial statements in a simplified form. Auditing of financial statements is voluntary for this category, and submission of management and tax reports is also optional.

Enterprises of the fourth category are required to maintain accounting and reporting in accordance with the simplified financial reporting standard. Publication and audit of reports are mandatory for entities of this category.

An analysis of the state internal financial control system shows that this system is currently not functioning at the proper level. The main problem is that the level of independence and, accordingly, the effectiveness of the control bodies is very low. There are frequent cases when internal audit departments do not have annual and individual work plans that would define the scope of internal audit, its duration, methods of its implementation, scope, types of audits, etc.

The lack of order in the internal control system, in turn, prevents the implementation of external control at the proper

level, since the effectiveness of external control largely depends on the effective functioning of internal control. The final result is that financial and economic violations, wasteful and inefficient spending of funds still occur in state structures and individual institutions.

### **3. Recommendations**

Based on the above, we can conclude that:

- It is necessary to establish a unified system of internal and external financial control, based on a unified methodology and legislative framework. In this regard, it would be appropriate for the internal audit services established in state structures to be (dual) subordinated to the State Audit Service of the main state control body, on the one hand, and to the leadership of structural units, on the other.
- In the conditions of the diversity of control bodies, it is necessary to create an independent structural unit within the State Audit Service, which would ensure the development of legal and methodological foundations of financial control, as well as the examination of draft normative acts related to control.
- Considering that such forms of financial control as state audit and independent audit are increasingly developing in the country, it is necessary to accelerate its methodological

provision, in particular, to develop national audit standards based on international audit standards, this approach will be in full compliance with the state control regulatory system of the EU member states;

- The establishment of financial order in the country largely depends on the current legislative and normative acts. Unfortunately, there are still such acts that allow for the inefficient and wasteful use of state budget funds. Therefore, we consider it an urgent task to review legislative and normative acts with the involvement of appropriately qualified experts.
- Considering that compliance audit is an integral part of financial audit, we consider it appropriate to maintain two types of audit at the legislative level in Georgia: “financial audit” and “performance audit”. This will make it easier for audit bodies or individuals to determine the status of an audit, both in the planning and execution process

We consider it appropriate to implement the following measures to improve the state audit system:

- Transition from a unitary system of structural organization to a decentralized system, which implies the existence of representative offices (audit bureau or audit office) in the regions of Georgia;

- Establishment of a system for monitoring recommendations in order to ensure their implementation and implementation.
- Determination of strategic directions for the development of the supreme audit institution, such as: professional development, organizational development, public reputation and external communication;
- Establishing an effective system of retraining auditors; Simplifying the system of granting qualifications to public sector auditors and increasing its efficiency;
- Strengthening the audit mandate, which is reflected in granting the Supreme Audit Institution the authority to conduct tax revenue audits. The main challenge in this direction is to clearly state the mandate to conduct tax revenue audits in the legislation.

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