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Serghei VASILACHI
Academy of Economic Studies of Moldova (ASEM), Republic of Moldova

Denis VOSTRICOV
PhD, Associate Professor, Academy of Economic Studies of Moldova (ASEM), Republic of Moldova

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FOREWORD

On November 22nd-23rd, 2024, the Faculty of FINANCE of the Academy of Economic Studies of Moldova (ASEM) successfully hosted the International Scientific and Practical Conference on “Modern Finance from the Perspective of Sustainability of National Economies”. The event, held in a hybrid format, brought together renowned experts from academia, the public and private sectors, including representatives of central and local public administration, as well as the banking and financial sector. The conference provided a platform for debate on key aspects of modern finance, with a focus on economic sustainability. The presentations were structured on four thematic panels, addressing topics such as: the role of banks and non-banking financial institutions in the context of modernization; public finance in the era of digital transformation; the evolution of financial market institutions and instruments; and the synergy between finance and innovation in business modeling.

Panel I
Banks and non-banking financial institutions under the impact of uncertainty and opportunities for modernization

In the first panel, participants participated in presentations and debates on topical themes and topics. These included the challenges facing the national banking system, the importance of projects for digitization and automation of internal processes, the need for continuous modernization of banking sector activities, the significance and prospects of deposit guarantee in the banking system to ensure financial stability. Also, aspects regarding the macroeconomic evolution and monetary policy measures adopted by the National Bank of Moldova (BNM) in order to reduce inflation were addressed, with an emphasis on the development of a sustainable financial framework in the Republic of Moldova, emphasizing the importance of transparency in the banking sector, analyzed from the perspective of European Union requirements, in the context of alignment with European standards of banking supervision and regulation. We express our appreciation and sincere thanks to all participants who contributed with valuable presentations and communications, especially to the *National Bank of Moldova, the Deposit Guarantee Fund in the Banking System and the Association of Banks of the Republic of Moldova.*

Panel II
Public Finance in Conditions of Uncertainty and Digital Transformations

Participants in Panel II had the opportunity to attend presentations and debates on topics such as the digitalization of tax services, crisis management at the national level, infrastructure modernization, the importance of capital investments and the benefits of the European integration process.

The representative of the State Tax Service emphasized that, in 2024, the Republic of Moldova became a member of the Inclusive Framework of BEPS (Base Erosion and Profit Shifting), an international tax structure that brings together over 140 member states and aims to develop mechanisms to combat tax evasion, improve the tax regulatory framework and ensure a transparent tax environment. In this context, the implementation of the OECD standard on the automated exchange of information on financial accounts was also highlighted, an essential tool for reducing the underground economy, countering illegal capital flows abroad, combating tax evasion and increasing budget revenues.

We express our sincere gratitude to all participants who contributed with presentations and interesting interventions, especially to representatives of the *Ministry of Finance, the State Tax Service and the General Directorate of Finance of the Chisinau Municipal Council.*

Panel III
Financial Market Institutions and Instruments: Between Involution and Development

At the level of the third panel, the participants had the opportunity to attend presentations and debates focused on topics of interest, such as the current challenges of the capital market in the Republic of Moldova, the development of investments in state securities, the digitalization of the underwriting process through the eVMS.md platform, methods of attracting investors, diversification of the portfolio of financial instruments, the activity of crowdfunding service providers and corporate governance. The role of voluntary pension funds was also highlighted as an essential instrument within the framework of retirement policies, contributing to increasing the sustainability of the pension system.

We express our sincere gratitude to all participants who contributed with valuable presentations and communications, especially the *National Commission for the Financial Market, the Ministry of Finance and OTP Bank S.A.*

Panel IV
Synergy between finance and innovation in business modeling

The International Conference "Modern Finance from the Perspective of the Sustainability of National Economies" hosted a panel dedicated to the synergy between finance and innovation in business modeling. Participants explored both how the integration of strategic financial resources with technological and operational innovations can reshape business models, as well as their importance for the economic and social development of the Republic of Moldova. The contribution of innovative business models to streamlining processes, expansion into new markets and the development of competitive products and services was highlighted, ultimately contributing to long-term financial sustainability.

We sincerely thank the participants who contributed through valuable presentations*: the Organization for Entrepreneurship Development, the Center for Creative Industries ARTCOR, GreenCityLab, as well as the teaching staff from the "Alexandru Ioan Cuza" University in Iași, Romania.*

We sincerely thank the organizers BUȘMACHIU Eugenia, PhD, Associate Professor, SECRIERU Angela, PhD, Associate Professor, BOTNARI Nadejda PhD, Associate Professor, members of the scientific and organizational committees, who contributed with dedication to the realization of this event, as well as all the participants for their valuable contributions to the success of this conference.

TAX SUSTAINABILITY AND EUROPEAN INTEGRATION: CHALLENGES FOR THE REPUBLIC OF MOLDOVA

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Ludmila COBZARI
PhD habil., professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0001-7108-2670
Email: cobzari.ludmila@ase.md

Nicu ȘARGU
PhD researcher Doctoral School
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-3766-4498
Email: nicu.sargu@mail.ru

Abstract: *In the context of the European integration process, the Republic of Moldova is facing a number of major economic challenges, and fiscal sustainability is a central issue. The persistent budget deficit and the accelerated growth of public debt constitute significant obstacles to the consolidation of the economy and alignment with European Union standards. This paper analyzes the impact of European integration on the fiscal policy of the Republic of Moldova, highlighting the main challenges in the management of the deficit and public debt, the efficiency of revenue collection and the use of European funds. It also discusses the lessons learned from the experiences of other Central and Eastern European countries that have implemented fiscal reforms to meet the economic criteria of the European Union. In conclusion, the paper proposes solutions for improving fiscal sustainability and the management of budgetary resources in the Republic of Moldova, in the context of European integration.*

Keywords: *fiscal sustainability, European integration, budget deficit, public debt, fiscal reforms, Republic of Moldova, European funds, fiscal efficiency, fiscal consolidation.*

JEL Classification: *H62, F15, O57.*

INTRODUCTION

The process of integration of the Republic of Moldova into the European Union represents an essential step for strengthening the rule of law, economic development and modernization of institutions. A central element in this process is the achievement of a high level of fiscal sustainability, essential for alignment with the economic standards of the European Union. Currently, the Republic of Moldova is facing multiple fiscal and economic challenges, and maintaining a budget deficit below 3% of GDP is a fundamental condition for meeting the economic convergence criteria established by the European Union. Difficulties in managing the budget deficit, increasing public debt and inefficient collection of tax revenues endanger the country's financial stability and the capacity to implement a sustainable economic framework. Fiscal sustainability in the Republic of Moldova is thus becoming a major concern for the national authorities, being closely linked to the economic and fiscal reforms necessary for integration into the European Union. Thus, the objective of this paper is to analyze the main fiscal challenges facing the Republic of Moldova, to identify solutions to improve fiscal sustainability, and to assess the impact of European funds on the country's economic stability.

FISCAL SUSTAINABILITY CHALLENGES IN THE REPUBLIC OF MOLDOVA: BUDGET DEFICIT AND PUBLIC DEBT

One of the biggest challenges for the Republic of Moldova in the context of European integration is maintaining a controlled budget deficit. According to the European Union economic convergence criteria, a member state must maintain the budget deficit below 3% of GDP, which ensures macroeconomic stability favorable to economic development. However, the Republic of Moldova has been faced with a persistent fiscal deficit, which exceeds this threshold, deepening dependence on external loans and exerting pressure on the state's financial resources.

The fiscal deficit is based on a number of structural and cyclical factors, including high public spending, especially in areas such as social protection, health and education, but also insufficient collection of tax revenues. In this regard, the authorities must implement fiscal consolidation measures, which include both reducing public spending and increasing tax revenues by combating tax evasion and improving tax administration.

Another key factor affecting the fiscal sustainability of the Republic of Moldova is the growth of public debt. In the recent period, the country's public debt has registered an upward trend, reaching a level that puts pressure on the national budget. Public debt service, mainly through interest payments, reduces the availability of financial resources for productive investments and for improving public services. In this context, efficient public debt management becomes crucial for maintaining a stable fiscal balance and avoiding long-term macroeconomic risks. To ensure public debt sustainability, the Republic of Moldova needs to adopt a prudent borrowing policy, renegotiate the repayment terms of existing loans, and attract low-cost external financing. The government also needs to prioritize infrastructure and economic development projects that can generate additional revenues to the budget, thus contributing to reducing the debt burden.

Another important aspect undermining fiscal sustainability in the Republic of Moldova is the inefficient collection of tax revenues. Widespread tax evasion and poor administration of the tax system have led to low tax compliance, which contributes significantly to the budget deficit. According to estimates, the Republic of Moldova loses considerable amounts of money annually due to tax evasion, which limits the government's ability to finance public projects and support economic stability. In this regard, the Republic of Moldova needs to implement tax reforms that increase the efficiency of revenue collection and reduce the level of tax evasion. Digitalizing tax processes, simplifying tax payment procedures, and improving the transparency of tax administration are essential measures to increase tax compliance. In addition, the authorities need to strengthen control over economic sectors vulnerable to evasion, such as agriculture, trade, and the informal sector.

The Republic of Moldova faces a persistent budget deficit, often exceeding the 3% of GDP threshold, which highlights the country's economic difficulties in complying with the European Union's economic criteria. According to official data, Moldova's budget deficit was 4.7% of GDP in 2022, and public debt reached 33% of GDP, which exceeds the limits set by the European Union (Eurostat, 2023). This situation represents a major economic vulnerability, given that the continuously growing public debt may affect the country's ability to finance its development projects and may impose additional costs related to debt refinancing.

The main causes of the high public deficit and debt are:

1. Expansionary fiscal policies: Increased public spending, especially in the areas of pensions, public sector wages and subsidies, which have not been matched by sufficient growth in tax revenues.
2. Low efficiency in tax revenue collection: Tax evasion and corruption continue to undermine available budgetary resources, which hinders the reduction of the budget deficit and the stabilization of public debt.

Table 1. Evolution of the budget deficit and public debt in the Republic of Moldova (2010-2022)

Year	Budget deficit, % of GDP	Public debt, % of GDP
2010	5,3%	14,5%
2015	3,8%	23,2%
2020	4,9%	29,6%
2022	4,7%	33,0%

Source: Prepared by the author based on data presented by the World Bank, Eurostat (2023)

Thus, the Republic of Moldova must adopt rigorous fiscal measures to reduce the budget deficit and stabilize public debt. These measures include better allocation of budgetary resources, reforming the pension and wage system, and reducing unproductive public spending.

EFFICIENCY OF TAX REVENUE COLLECTION

The efficiency of tax revenue collection is one of the most significant challenges facing the Republic of Moldova in the context of its European integration process and the consolidation of fiscal sustainability. According to available data, the Republic of Moldova collected approximately 18.5% of GDP in tax revenues in 2022, a considerably lower percentage compared to the European Union average, where this indicator is around 40% of GDP (IMF, 2023). This significant difference highlights the persistent challenges faced by the tax administration in the Republic of Moldova, which not only fails to collect enough to support public spending, but is also in a vulnerable position to economic risks, which makes it difficult to meet European Union requirements.

In particular, the problem of inefficient tax revenue collection in the Republic of Moldova is generated by a combination of structural and institutional factors that affect the ability of the tax administration to implement effective tax policies. Among them, tax evasion, excessive bureaucracy and lack of appropriate tax education are the most relevant causes.

One of the most important obstacles to the efficient collection of tax revenues in the Republic of Moldova is widespread tax evasion. This is manifested by the non-payment of taxes and duties by various economic entities and individuals, due to both ignorance and avoidance of tax obligations. According to recent studies, tax evasion in Moldova is significantly higher than in many European Union countries. Factors contributing to this phenomenon include mainly informal economic activities and the unregulated sector, which are present in the business of many small and medium-sized firms, but also in tax avoidance behaviors practiced by certain large companies. These are based on strategies of manipulating accounting balance sheets and recording lower than real income.

Another significant factor is the presence of a large agricultural sector, which is traditionally less regulated and more difficult to control in terms of tax collection. Tax evasion can also be exacerbated by the lack of effective control and sanctioning mechanisms for those who violate tax regulations, which has led to low citizen trust in tax authorities. Thus, combating tax evasion is a priority for the tax authorities of the Republic of Moldova, which need to adopt more effective prevention and sanctioning strategies.

Another significant factor contributing to the inefficiency of tax revenue collection in the Republic of Moldova is administrative bureaucracy. The country's tax system is often characterized by excessive complexity, with procedures and regulations that prove difficult to understand and implement, both for taxpayers and tax authorities. In addition, the complexity of tax regulations leads to a large volume of documentation required for filing tax returns, and this process is often inefficient in terms of time and resources. Thus, these bureaucratic procedures can discourage taxpayers from fulfilling their tax obligations correctly and on time.

In many cases, taxes are collected manually and financial information is processed with a low degree of automation, which contributes to errors and delays in the collection process. This type of inefficient administrative system increases the risk of tax non-compliance and reduces transparency, having a direct impact on the tax revenues collected by the government.

Another significant factor affecting the efficiency of tax revenue collection is the lack of tax education among citizens and businesses. Many of them are not fully aware of their tax obligations, and sometimes even completely ignore the procedures for filing tax returns or do not fully understand the tax implications of their economic activities. According to some research, a large part of the citizens of the Republic of Moldova are not familiar with the existing tax regulations and do not understand the importance of their contributions to the national budget. The lack of a continuous and effective educational program on tax issues is a major problem in this regard.

In addition, there is a general reluctance towards tax authorities and the tax system, fueled by a history of inefficiency and a high degree of corruption in previous tax administrations. This contributes to a passive attitude towards tax obligations, which makes the revenue collection system inefficient and suffers from a high degree of tax evasion.

Table 2. Comparison of tax revenue collection efficiency in Moldova and the EU (2022)

Locality	Tax revenues, % of total GDP
Republic of Moldova	18,5%
European Union (media)	40%

Source: Prepared by the author based on data presented by the IMF (2023)

To address these challenges, the Republic of Moldova needs to implement a series of measures aimed at improving the efficiency of tax revenue collection. These measures need to be integrated into a comprehensive strategy that aims to reform the tax administration, improve tax education and reduce administrative bureaucracy. One of the first necessary measures is to modernize the tax administration, with the aim of making it more efficient and transparent. This process should include digitizing tax processes, simplifying tax return filing procedures and implementing a more efficient tax collection system. It also needs to introduce computerized mechanisms for tracking tax payments, which would reduce the risks of tax evasion and facilitate voluntary compliance by taxpayers.

To combat tax evasion, authorities need to strengthen tax controls and impose stricter penalties for tax violations. In addition, more effective tax audit programs should be developed to quickly identify and correct tax irregularities. It is important for tax authorities to improve their capacity to monitor the informal sector and gradually integrate these economic activities into the formal economy.

Educating citizens and businesses about their tax obligations is essential to increasing tax compliance. Information and training campaigns can play an important role in improving taxpayers’ understanding and acceptance of tax obligations. Tax education should also be an integral part of the educational curriculum to ensure that new generations understand the importance of their contribution to the public budget.

Improving the efficiency of tax revenue collection is a fundamental objective for the Republic of Moldova, with direct implications for fiscal sustainability and the European integration process. By reforming the tax administration, combating tax evasion and promoting tax education, the Republic of Moldova can build a fairer and more efficient tax system that supports financial stability and contributes to achieving the objectives of economic development and European integration.

THE IMPACT OF EUROPEAN FUNDS ON FISCAL SUSTAINABILITY

The European Union (EU) plays a significant role in supporting the economy of the Republic of Moldova, in particular through the Structural and Cohesion Funds, which are essential for the development of key sectors of the economy and for improving the country's infrastructure. These funds are intended to support projects in infrastructure, education, health, environmental protection and other areas that contribute to the economic and social development of the Republic of Moldova, having a direct impact on long-term fiscal sustainability. In the context of economic and political integration into the European Union, access to these funds is an important tool through which the Republic of Moldova can build a more robust and resilient economy, capable of facing internal and external challenges.

According to the European Commission, during the period 2014-2020, the Republic of Moldova benefited from approximately 1.2 billion euros through various European assistance mechanisms, including the European Regional Development Fund and the European Social Fund, for the implementation of infrastructure and economic development projects. These funds were used to modernize transport infrastructure, expand water and sewage networks, improve access to education and health, and develop energy infrastructure. During this period, the Republic of Moldova received 348 million euros for infrastructure projects alone, which allowed for the modernization of national roads and the development of renewable energy networks. Also, approximately 460 million euros were allocated to improve education and access to health services, especially in rural areas (European Commission, 2023).

Table 3. Use of European Funds in Moldova (2014-2020)

The sector	share
Infrastructure	45%
Education	25%
Health	20%
Others (agriculture, environment, etc.)	10%

Source: Prepared by the author based on data presented by the European Commission in the Annual Reports on the Use of European Funds

European funds are an important tool for supporting the European integration process of the Republic of Moldova. These funds can be used to finance infrastructure, economic and social development projects that support economic growth and reduce regional disparities. However, for these funds to have a significant impact on fiscal sustainability, efficient and transparent management measures must be implemented. In this regard, the Republic of Moldova needs to improve the capacity of the institutions responsible for managing European funds and ensure their implementation in accordance with European standards. Excessive dependence on external funds must also be avoided, and the authorities must adopt policies that favor the mobilization of domestic resources.

The experiences of the Central and Eastern European countries that joined the European Union in 2004-2007 offer valuable lessons for the Republic of Moldova. These states have implemented significant fiscal and economic reforms to meet the economic convergence criteria, and their success can serve as a guide for our country.

The fiscal reforms implemented by Poland, Romania and Hungary have had a positive impact on fiscal sustainability, contributing to increasing the efficiency of revenue collection and reducing the budget deficit. The lessons learned from these experiences can also be applied in the context of the Republic of Moldova, which needs to adopt a set of coherent measures to improve fiscal performance.

To ensure fiscal sustainability, the Republic of Moldova needs to adopt a series of rigorous economic and fiscal measures that will contribute to reducing the budget deficit, effectively managing public debt and increasing the efficiency of tax revenue collection.
Reforma sistemului fiscal este esențială pentru a asigura sustenabilitatea fiscală pe termen lung. This should include simplifying tax legislation, adapting it to European standards and creating a more transparent and fairer system. Progressive forms of taxation should also be encouraged and tax policies that support investment and private sector development should be implemented.

An efficient tax administration is crucial for implementing tax reforms and increasing tax revenues. The digitalisation of the tax collection system and the implementation of computerised solutions will reduce administration costs and facilitate voluntary compliance by taxpayers. In addition, continuous training of tax staff and strengthening control over tax evasion are necessary.

To reduce tax evasion, the Republic of Moldova needs to adopt policies that encourage entrepreneurship and support the transition of the informal sector to the formal economy. Simplifying administrative procedures and providing tax incentives for small and medium-sized enterprises will contribute to increasing tax revenues and stimulating sustainable economic growth. Fiscal sustainability is an essential condition for the European integration of the Republic of Moldova.

CONCLUSIONS

In view of the economic and fiscal challenges facing the Republic of Moldova, it is imperative that national authorities adopt rigorous fiscal reforms that support not only fiscal sustainability but also long-term European integration. The implementation of well-designed fiscal reform measures can significantly contribute to increasing the efficiency of revenue collection and improving the country's economic performance. In this regard, fiscal authorities should focus their efforts on optimizing the tax structure, reducing tax evasion and combating tax fraud, which are essential aspects for strengthening a transparent and efficient fiscal system.

An important first step in this process is to review the tax revenue collection system, with the aim of improving tax compliance. To this end, the Republic of Moldova needs to invest in modernizing the tax administrative infrastructure, implementing advanced technologies for tax monitoring and collection. The use of efficient electronic platforms, which allow for the filing of tax returns and payment of taxes in a fast and transparent manner, will reduce bureaucracy and facilitate access to the tax system for citizens and economic agents. In addition, expanding tax education and continuously informing taxpayers about their tax rights and obligations can increase the level of tax compliance, contributing to more efficient revenue collection.

In parallel, the Republic of Moldova needs to adopt a coherent set of fiscal policies that support the diversification of domestic revenue sources. This includes reviewing tax regimes for certain economic sectors, stimulating investment in strategic industries, and attracting foreign capital. Reforms should aim both at improving taxation of income and profits, and at implementing green taxes that respond to global challenges related to climate change. These measures would contribute not only to domestic fiscal stability, but also to the integration of the Republic of Moldova into a broader European framework that emphasizes the development of a green and sustainable economy.

Another pillar of fiscal sustainability is the efficient use of European funds. The Republic of Moldova benefits from important resources from the European Union, which can support infrastructure, education, health and environmental projects. However, in order to maximize their impact on economic development, it is essential that the Moldovan authorities ensure transparent and efficient management of these funds. A solid mechanism for monitoring and evaluating projects financed from European funds will contribute to increasing transparency and reduce the risks of corruption or their improper use. It is also necessary for the Republic of Moldova to avoid excessive dependence on external funds, while investing in the development of a robust internal fiscal system that can support national projects in the long term.

The implementation of these fiscal reform measures and the efficient use of European funds will contribute to increasing the competitiveness of the Republic of Moldova's economy and will strengthen fiscal stability. This process will not only facilitate the fulfillment of the economic requirements of the European Union, but will also support the sustainable integration of the country into European economic and political structures. Thus, by consolidating an efficient, transparent and sustainable fiscal system, the Republic of Moldova will be able to achieve its development and European integration objectives, while providing a stable framework for attracting foreign investment and stimulating long-term economic growth.

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THE REPUBLIC OF MOLDOVA FINANCIAL SYSTEM ADJUSTMENT TO THE EUROPEAN MONETARY ORDER

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Viorica LOPOTENCO
Habilitated Doctor, Associate Professor
Academy of Economic Studies of Moldova, Moldova,
ORCID: 0000-0003-1296-1995
E-mail: lopotenco.viorica@ase.md

Doina ISAC
Academy of Economic Studies of Moldova, Moldova,
E-mail: Isac.domnita@ase.md

Abstract: *The aspirations of the Republic of Moldova to become an EU member state send an essential message to both the national economy and the financial system; the accession process will mark the economic and financial developments of the Republic of Moldova. Also, this message reinforces the conclusion that economic - mainly financial - integration must be carefully monitored and managed but not delayed. Such a conclusion confers a severe responsibility on all participants in the Moldovan financial system. As a result, the purpose of the publication is to analyze the financial system of the Republic of Moldova from the perspective of the European monetary order to identify its non-conformities. For this purpose, a three-dimensional matrix is built, correlating the EU criteria regarding the national financial systems with those of the Republic of Moldova. As a result of the analysis, it was highlighted that the ability of the Moldovan financial sector to provide financial services largely depends on the support of financial infrastructure institutions. Therefore, infrastructure institutions are needed, which could, on the one hand, reduce risks and vulnerabilities and, on the other hand, ensure the efficient functioning of the financial system.*
The matrix's design not only elucidated the existing inconsistencies but also enabled the identification of potential solutions. These solutions not only correspond to the EU requirements but also hold promise for the future, instilling a sense of hope about the potential of the Moldovan financial system. This study concludes that although the Moldovan financial system's configuration is essentially in agreement with EU norms, there are still inconsistencies that need to be corrected.

Keywords: *financial system, financial infrastructure, European Monetary Order.*

JEL Classification: *E44, E58, F02.*

INTRODUCTION

In recent decades, the world has known a tendency to strengthen regional economic integration processes. This is largely explained by the growing processes of globalization, in which individual countries strive to combine economic and financial potential within the framework of regional integration. Integration processes cover the entire complex of economic relations, but its financial level has become the object of special interest of economists and politicians of different countries in recent years. The strengthening of globalization processes, which lead, among other things, to global monetary and financial crises, makes it necessary to cooperate with individual groups of countries in the monetary field to strengthen the stability of national financial systems.

Globalization is a multifaceted process: a broader interpretation of the concept of "globalization" affects all areas of international public life, including economic, political, social relations, as well as ecological, security, religious and cultural issues. However, in this study, we will focus on the financial sphere of integration. It should be noted that integration implies the transition of quantitative growth of international flows of capital, goods and labor (internationalization) into a qualitative change of their interaction.

The impetus for the globalization of financial markets was given, first of all, by the rapid development of scientific and technological progress, which made it possible to transmit huge flows of information in the shortest possible time at a relatively low cost (Issing, 2000). Secondly, this is the liberalization of the economy, expressed in the liberalization of trade as a result of the efforts of the GATT/WTO, thanks to which trade barriers have fallen by almost 80% in the last 50 years, as well as the financial liberalization associated with the emergence of a system of exchange rates floating exchange rates and the shift from "organized" systems of solving individual countries' balance of payments deficits through IMF loans to direct borrowing of international liquidity in financial markets. Thus, financial liberalization with the direct participation of the achievements of scientific and technological progress suddenly pushed the development of world financial markets.

Globalization has other, qualitative manifestations, the study of which is necessary for a complete understanding of the trends that appear in the world economy. In particular, the following consequences of the impact of globalization are highlighted: increased global competition, increased dynamism of the world economy, increased instability of the world economy, increased income inequality between countries (Prasad et al, 2003).

THE FINANCIAL SYSTEM OF THE REPUBLIC OF MOLDOVA TRANSITION TO THE EUROPEAN MONETARY ORDER

The most successful example of consistent movement towards economic, monetary and financial integration is the European Union (EU). Integration in Europe began more than half a century ago under the conditions of a rather difficult economic situation in which the European states found themselves after the Second World War. And although the integration processes of European countries have never been without clouds, accompanied by difficulties of both economic and political nature, it must be recognized that, over several decades, European states have accumulated a unique experience of integration, in the process of establishing the European monetary order, the study of which remains one of the most important tasks of economic science.

Immediately after the Second World War, the economies of Western Europe needed to be restored. There were serious problems with inflation, shortages of food, raw materials and energy resources. At the same time, European capital markets were virtually inactive, and many banks significantly reduced operations. All this took place against the background of a severe shortage of "real money" and the growing role of the United States in the international monetary system (Mongelli, 2008).

In these difficult conditions for Europe, integration processes emerged, which after a few decades led the European countries to one of the highest stages of integration – the economic and monetary union.

The evolution of integration in Europe has gone through several stages. The following five stages of the post-war economic development of Western Europe are widely recognized:

1. 1945-1957 - restoration of the economy undermined during the war;
2. 1957-1974 - manifestation of centripetal tendencies in Western European countries;
3. 1974-1985 - the weakening of integration processes under the influence of world economic crises;
4. 1985-1992 - long-term economic recovery, deeper integration, consolidation of Western Europe's position in the world;
5. since 1992 - the deepening of interstate and supranational regulatory activities in the monetary, financial and foreign exchange sphere.

The ECB defines financial integration as the state of the market for a given set of financial instruments and services when all potential participants in such a market (ECB, 2007):

- are governed by a single set of rules in their activities of buying or selling financial instruments or services;
- have equal access to financial instruments and services;
- they have equal working conditions in this market.

At the same time, the concept of market is used here in a broad sense, covering all possible transactions of exchange of financial instruments or services through both organized and unorganized markets.

Regarding the definition of a single set of rules, a clarification can be found in one of Jean-Claude Trichet speeches (since then, this concept has not been deciphered in any other speech of the ECB president): "The term" rules" specified in the ECB's definition of "financial integration" is used in a broad sense and includes legal norms such as laws and regulations, orders of supervisory authorities, market agreements and rules of self-regulatory organizations as well as business standards. and practices related to the financial infrastructure markets". It is quite difficult to assume that all these legal norms will ever be uniform for all EU member countries (and today there are already 27) or at least largely unified or harmonized. Rather, over time, the EU definition of financial integration will be guided by a narrower interpretation of a single set of rules or with some reservations (BIS, 2008). Despite the broad content of a single set of rules and a certain abstractness of the concept of equal working conditions, in general, the official definition of financial integration has its advantages - it exhausts the legal aspects of creating a financial union. Assuming that a European living in Spain could apply for a mortgage from a Greek bank in the same way as a resident of Athens, or buy Finnish government bonds and then sell Al Italia shares, while remaining in his native Madrid , and his working conditions will be exactly the same as they were in Germany, Portugal or any other EU member state, and throughout the EU there is only one set of rules governing these business operations, then in fact it can be argued that a single market with its unique legal infrastructure was created.

In other words, if the conditions specified in the given characteristics of the financial market are met, the EU receives a legally homogeneous financial market where any participant has access to any stock market (NYSE Euronext, Deutsche Börse, etc.), bonds (MTS-Group, Luxembourg SE, etc.), derivatives (NYSE Euronext. liffe, Eurex, etc.), only while you are at your computer, at home or in the office, in the same way as the potential possibility of receiving any loan from any bank throughout the EU.

Changes in the European monetary order began to manifest themselves after the global financial crisis of 2008, when the so-called QE policy was launched, which lasted until 2022. As a result, the Euro system's balance sheet quadrupled in the Low for Long period (Davoine et al., 2024). One of the basic objectives of the Eurozone during this period was to prevent fragmentation, as a result of the various challenges that must be addressed by the EU states (Candelon et al, 2024).

We must note, in this context, that in the financial sector, according to Benoît CŒURÉ, the Basel Committee on Banking Supervision and the Financial Stability Board supported cross-border cooperation (CŒURÉ, 2024).

Low for Long period led to a reduction of the leverage effect and the simplification of the balance sheet structure as a result of the new regulations.

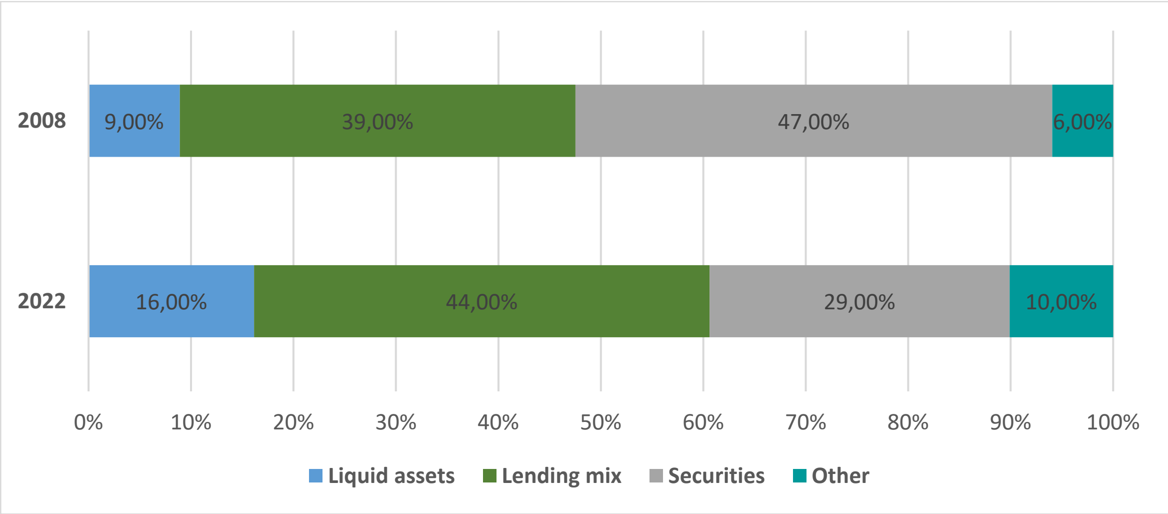

Figure 1. The dynamics of the balance sheet structure of European banks
Source: (Davoine et al, 2024)

And in the Republic of Moldova, the balance sheets registered changes, as a result of the Basel 3 regulations. Thus, the lending mix decreased from 63.91% to 54.29%, but there was also an increase in securities from 7.41% in 2016, to 18.42% in the year 2022. We must mention that almost 18.4% is represented by Debt.

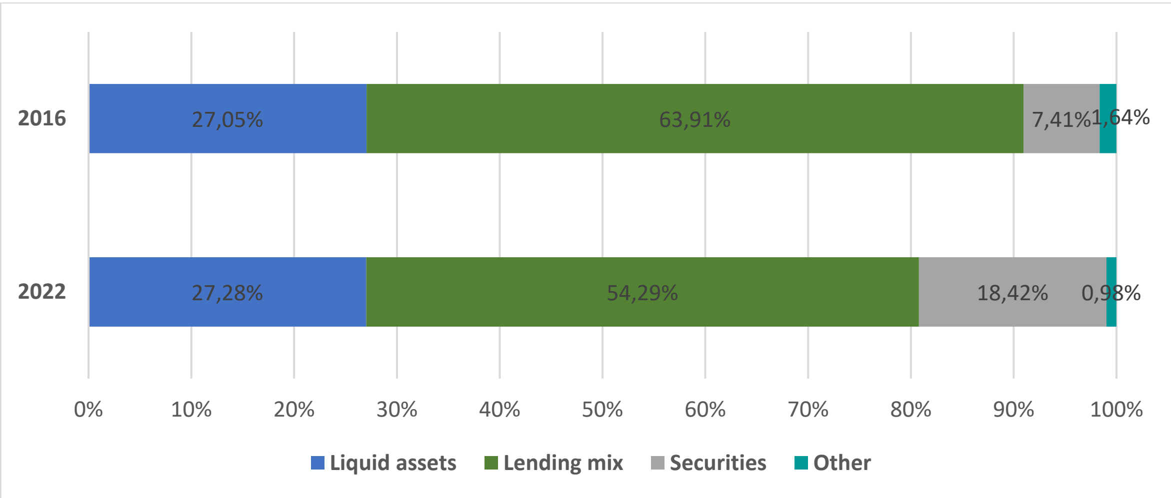

Figure 2. The dynamics of the balance sheet structure of Moldovan banks
Source: (NBM, 2022)

Changes in financial systems following the international financial crisis have had substantial effects on business models for institutions in the European financial system. Thus, the trend of decreasing the share of banks and increasing that of other financial institutions in the European financial system is taking shape.

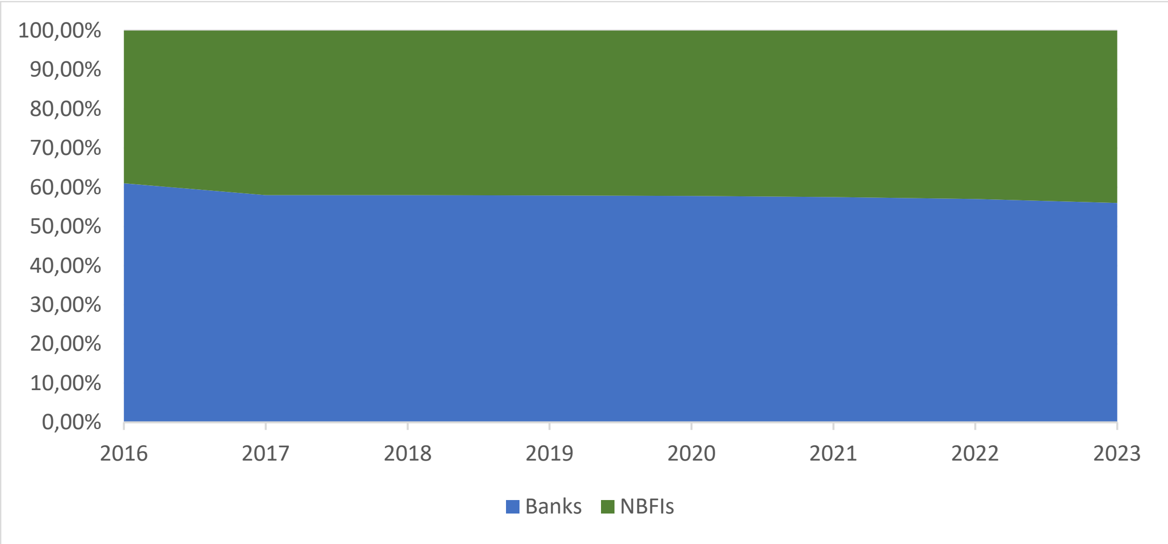

Figure 3. The structure of the European financial system
Source: (Davoine et al, 2024)

And in the financial system of the Republic of Moldova, there is a slow tendency to decrease the share of the assets of the banking system, in total assets of the financial system. However, we must mention that the share of the banking system in the Republic of Moldova remains extremely high, approximately 85%.

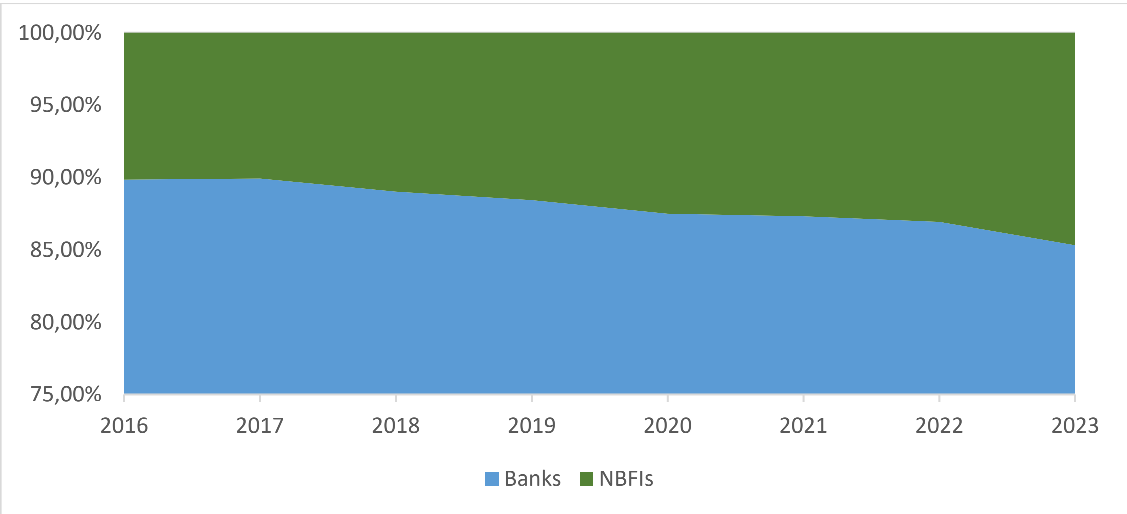

Figure 4. The structure of the Moldovan financial system
Source: (NBM, 2023)

The profound changes made in the world economy require the institutions of the financial system to review their business models. In this context, the need to elucidate the risks of the institutions of the financial system is imposed in order to be able to foresee the challenges and therefore achieve efficiency results.
The table below shows the directions for the transition to the New Monetary Order and proposals for different segments of the financial system, developed by the consulting company Oliver Wyman. At the same time, in the last column I introduced the analysis of the segments of the financial system in the Republic of Moldova, to see how they fit into the New Monetary Order of the EU.

Table 1. Industry-specific issues and calls for action (summary)

	Transition to New Monetary Order	Calls for action UE	The state of the Moldovan financial system
Banks	- Best return on equity (RoE) in years, boosted by NIM increase, with loans repriced faster than deposits and deposits volatility historically low. - NIM expected to quickly return to premise levels, due to competitive pressure and regulatory factors. - Unrealized losses on assets (notably fixed-income assets) held to maturity constraining balance sheet rotation and causing liquidity risk.	- Monitor carefully cost-of-risk, especially for players exposed to more vulnerable business areas (such as leveraged finance). - Reactivate asset-liability management (ALM) capabilities, notably leveraging advanced pricing techniques for deposit steering. - Ensure approaches to the management of interest rate risk in the banking book (IRRBB) allow banks to deliver balance sheet and earnings stability, examine liquidity reserves, and revamp crisis preparedness. - As devalued assets mature, use additional balance sheet capacity for productive lending to the economy, also aiming to regain market share (such as from NBFIs).	In the Republic of Moldova, a very high ROE was also recorded, which was stimulated both by the increase in NIM and by interest rates at debts. In this context, mostly call for action for the EU can also be used in the case of the Republic of Moldova.
Insurers	- Higher liquidity risk, with surge in net inflows in some cases forcing insurers to realize losses. - In the longer term, expected improvement in solvency and profitability. - Business-model sustainability ultimately depends on invested assets to generate positive real returns, which requires real economic growth.	- Work on retention, focusing sales efforts and using reserves to improve competitiveness - Focus on collection to rebalance portfolio, such as with alternative guaranteed policies (short-term, temporary) and with unit-linked policies exposed to higher-yielding assets classes.	For the insurance sector in the Republic of Moldova, it is important to revise the business model from the perspective of sustainability. At the same time, during the last period, a tendency to increase profitability is observed. Thus, the ROE of the insurance sector in 2023 was 19.5%, 11.5 percentage points more than in 2022. ROA was 6.3%, 3.88 percentage points more than in 2022 (NBM, 2023 a). These results were recorded against the background of a modest GDP growth of only 0.7%.

Private equity	- Significant inflows of investor funds in search of yield during the Low for Long period, further boosted by significant return prospects - During the hiking period, uncertain prospects of target and portfolio companies due to uncertain economic outlook, limited deal volume - Due to higher cost of debt, limited availability of leverage negatively impacting valuation of exit transactions - Significant volumes of dry powder available	- As market-driven excess returns have come to an end given the challenging environment, need to refocus target selection and portfolio management processes on value creation - Hone capabilities to invest into companies in need of restructuring due to the current higher interest rate and high uncertainty environment, as these might come with significant upside potential - Establish continuation funds to allow for extending the holding period of well-performing assets or those in need of further patience, while providing liquidity to PE investors	Private equity is almost unnoticed in the financial system of the Republic of Moldova, its assets constituting less than 1%. This is a big problem of the national economy, considering the role of the capital market in financing the economy.

Source: (Davoine et al, 2024)

CONCLUSIONS

As a rule, the periods in which, predominantly, researchers reflect on the monetary order are those related to catastrophic phenomena. Thus, in the last two decades we witnessed a discordant financial crisis whose aftereffects were felt for a long time, but also an unprecedented pandemic crisis.

Discussions regarding a new shaping of the international and respective EU monetary order, in order to return to a "new normal", after the measures taken in response to the outbreak of the subprime financial crisis gained momentum in 2019, both among decision-makers, as well as in academic research circles. Leading central banks have begun strategic reviews, which should have reached a conclusion before the end of 2020. These developments have reflected, on the one hand, advances in theory, empirical evidence and experience in economic policy. The relatively good evolution of financial systems during the pandemic crisis is due, not least, to the international monetary order rebuilt following the subprime financial crisis. On the other hand, new concerns have arisen regarding the development of FinTech and monetary digitization, which likewise require a new supervisory and regulatory framework. However, the Covid-19 pandemic has created a new situation in the international financial monetary system, which has delayed the path to a "new normal" in the international financial architecture. The Italian Presidency of the G20 and the non-profit organization Reinventing Bretton Woods Committee reopened, on 10 May 2021, the debates on the international financial architecture through a virtual platform entitled: "Towards a more resilient international financial architecture".

Under these conditions, the economy of the Republic of Moldova, being a small and open one, is subject to all the processes carried out within the international financial monetary system. The complex phenomena registered in the architecture of the international financial monetary system have repercussions in the functioning of the financial system of the Republic of Moldova. Moreover, good practices from the financial systems of the EU countries are extremely important for the Republic of Moldova in the context of the EU accession process.

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CONCEPTUAL AND METHODOLOGICAL SUBSTANTIATION OF THE RELATIONSHIP BETWEEN THE QUALITY OF PUBLIC EXPENDITURE MANAGEMENT AND THE LEVEL OF RESPECT FOR HUMAN RIGHTS

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Iulian SECRIERU
Academy of Economic Studies of Moldova, Moldova
ORCID: 0009-0007-7429-0417
Email: iu_secrieru@yahoo.com

Angela SECRIERU
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-5782-8840
Email: secrieru.angela@ase.md

Abstract: *The quality of public spending is one of the important factors determining the level of respect for human rights. At the same time, public spending should aim to achieve the following two objectives: on the one hand, public expenditure management should maximize the efficiency of public spending; on the other hand, public expenditure management should ensure equity and inclusion of disadvantaged groups of the population. Therefore, the definition and development of the methodological framework associated with the concept of the quality of the public expenditure system is a current research direction of utmost importance for the field of human rights and public finance.*
The objectives of this article are: - to develop the conceptual framework of the public expenditure system and the quality of the public expenditure system; - to argue the interdependence between the quality of the public expenditure system and the level of respect for human rights; - to develop the methodological framework for assessing the quality of the public expenditure system from the human rights perspective. The following research methods were used to successfully achieve the set objectives: monographic method, statistical-economic method, experimental method, balance method, economic-mathematical method and scientific abstraction method. Overall, the level of respect for human rights can be associated with progress towards the Sustainable Development Goals. An aggregate variable that strongly reflects certain human rights issues used as a dependent parameter is the Human Development Index.

Keywords: *efficiency, human development index, human rights, public spending, sustainable development goals.*

JEL Classification: *H5, H83, K38, O15.*

INTRODUCTION

The relationship between the quality of public expenditure management and the level of respect for human rights will be argued within the following three thematic blocks:
a) theoretical and methodological approach to the concept of public expenditure management in order to identify the determinants of the quality of this process;
b) theoretical and methodological approach regarding the definition, assessment and identification of the determinants of the level of respect for human rights.
c) identification of the intersection points between a) and b).

The analysis of bibliographic sources that can be associated with the subject of the quality of public expenditure management allowed the authors to identify important factors that influence the performance of this process.

A group of authors from the Fiscal Affairs Department of the International Monetary Fund (Ke-young Chu, et al., 1995), researched the importance of increasing the productivity of public expenditure. The productivity of public expenditure is a subject of fundamental importance for ensuring the sustainability of fiscal policies. In particular, this statement is valid in a situation where public financial resources are insufficient to meet the constant demands for the expansion and diversification of public services. Moreover, increasing the productivity of public expenditure is an imperative determined by the increase in the budget deficit in several countries.

Thus, Figure 1 represents the level of budget deficit relative to GDP recorded in 2023 by a group of countries selected by the authors for analytical purposes. The maximum limit of budget deficit relative to GDP (3%) recommended by the convergence criteria set out in the Maastricht Treaty is taken as a reference level to help formulate conclusions.

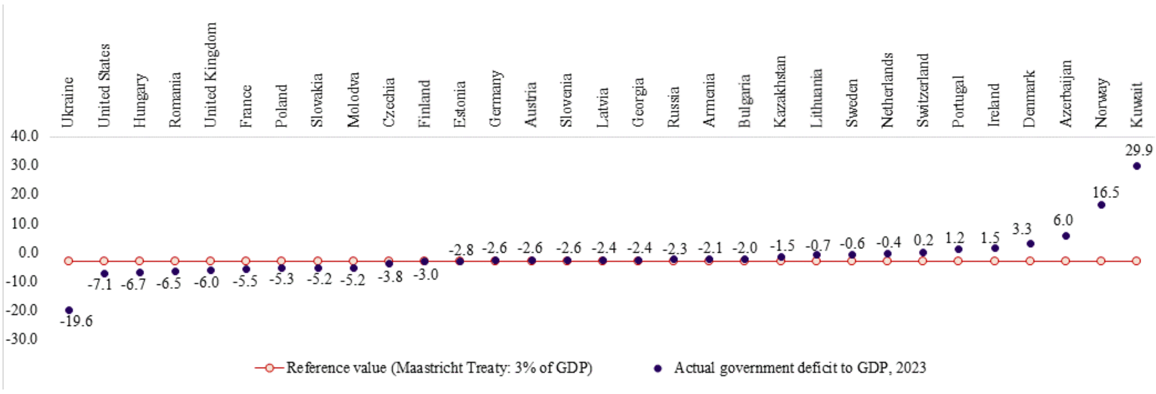

Figure 1. Budget deficit to GDP, in %, 2023
Source: prepared by the authors based on statistical information provided by https://countryeconomy.com/deficit.

Thus, as follows from Figure 1, a budget deficit level higher than 3% was recorded by Hungary, Romania, France, Poland, Slovakia, Czech Republic. The Republic of Moldova, a country with the status of a candidate country for accession to the EU, had a budget deficit of over 5%. Of the countries presented in the figure, the largest budget deficit is recorded by Ukraine, a country at war with Russia.

Figure 2 shows the evolution of the budget deficit in the Republic of Moldova. As follows from Figure 2, the Republic of Moldova faced budget deficits of over 3% of GDP in the period 1995-2023 in the following time segments: 1996-1997: the budget deficit was between 7.4% and 7.5%; 1999-2000: the budget deficit was 3.6%; 2008-2009: the budget deficit was 6.4%; 2019-2020: the budget deficit was 5.3%; 2022-2023: the budget deficit was 5.2%.

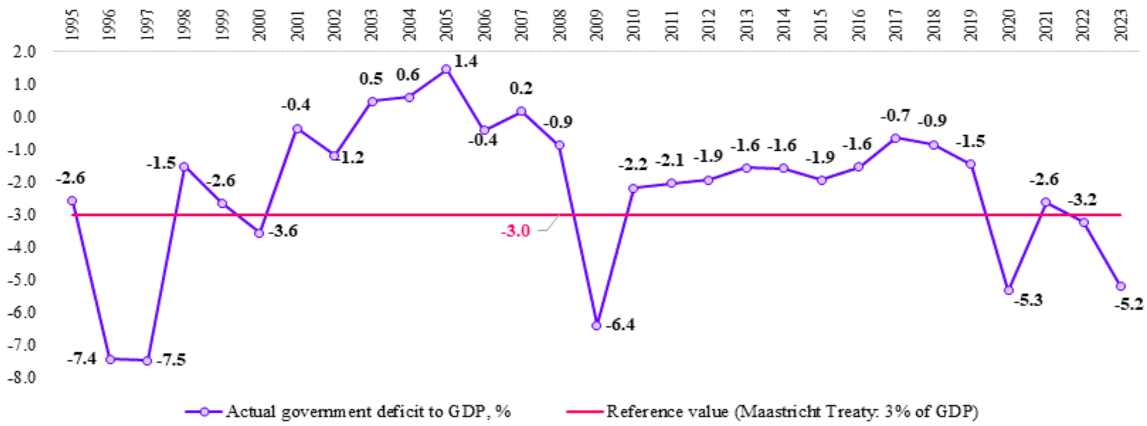

Figure 2. Evolution of the budget deficit relative to GDP in the Republic of Moldova, in %
Source: developed by the authors based on statistical information provided by https://countryeconomy.com/deficit.

In these conditions, reducing the budget deficit requires the promotion of a sustainable combination of policies regarding public expenditure and revenue. At the same time, increasing public revenue in the short term being difficult to achieve, the solution of improving the productivity of public expenditure represents a pressing necessity for the management of public finances in the Republic of Moldova.

THE CONCEPT OF PUBLIC EXPENDITURE PRODUCTIVITY AND PUBLIC EXPENDITURE MANAGEMENT EFFICIENCY

The concept of public expenditure productivity involves comparing the results obtained, on the one hand, with the volume and structure of public expenditure that generated these results, on the other hand. In this sense, the productivity of public expenditure can be associated with their efficiency.

The following two conditions are important for achieving productivity or efficiency from spending public money:

a) public spending programs must be cost-effective. This condition means that resources consumed within the public sector must be used in a way that avoids any waste: results must be achieved at minimal cost;

b) at a generalized level, the productivity of public spending is associated with the optimal level of the mix of public goods and services.

For a better understanding of the concept of productivity of public spending, it is necessary to explain the concept of unproductive spending. In this sense, researchers Ke-young Chu and al. explain unproductive spending related to a certain program, by the difference between the actual public spending recorded at the level of the program considered and the reduced spending that could have generated the same level of social benefit under conditions of maximum cost-efficiency. Unproductive spending, as a rule, is difficult to evaluate. At the same time, even if all public spending programs would generate maximum efficiency through cost premium and would be appropriately structured and combined, the total level of public spending may not be sustainable. This situation requires careful evaluation of the adverse developments of macroeconomic parameters, such as the increase in the burden of public debt, budget deficit, inflation, etc.

International public finance practice indicates that unproductive public spending is associated with high levels of corruption, low levels of training of civil servants, lack of functional instruments and mechanisms of control and balance in political and budgetary processes, uncertainty.

FACTORS INFLUENCING THE EFFICIENCY OF PUBLIC FINANCE MANAGEMENT

Specialized literature suggests that several factors, provided they are successfully managed, can contribute to increasing the efficiency of public spending. Among them, the following can be mentioned:

- the quality of institutions and budgetary processes. The link between public institutions and their quality and public spending can be identified and studied based on public choice theory. Moreover, public choice theory developed from research on public spending and taxation through the basic contribution of James Buchanan and Gordon Tullock (1962), receiving extensive public attention in 1986. The theory is notable for applying the principles used by economists and researchers to analyze human behavior in the market to examine the specifics of the collective decision-making process. The conclusion that is formulated by researchers who analyze public choice is that self-interest is the reason that explains both people's behavior in the private market and in the political market. Public choice theory develops and explains the concept of "government failure", identifying, in this sense, the reasons that explain why government intervention does not achieve its desired results. Anthony Downs, a renowned researcher in the field of public choice, points to the ignorance of voters, who lack incentives to effectively monitor the behavior of legislators and civil servants. Public choice theory also investigates bureaucracy in governments, suggesting and explaining the phenomenon of the capture of various regulatory agencies by certain interest groups. Researchers who support the ideas of public choice theory conclude that public goods and services, if possible, should be produced and provided at the local level. The link between the quality of public institutions and public spending is also mentioned in a number of recent works, among which we mention the research of Dincă et al. (2021), Kpegba et al. (2024), Kumasey et al. (2017), Reid et al. (2008).

- the functionality of monitoring and evaluation systems. An efficient internal public financial management must contain, as one of the indispensable components, an efficient system for monitoring and evaluating public spending policies and programs. Growing budget deficits; the ever-increasing expectations of consumers of public products and services regarding their cost, diversity and quality; competition on the political market; the need to hold political decision-makers accountable; the imposition, in this regard, of explicit requirements from donors; determine sustained efforts by governments to design, implement and improve the most efficient monitoring and evaluation systems. Monitoring and evaluation systems must be established and strengthened at all stages of the budget process, the techniques, methods and analytical tools that can be applied being numerous and diverse. At the same time, the level of solidity and functionality of a monitoring and evaluation system depends on the institutional arrangements on the basis of which it is established.
- the functionality and coherence of transparency and accountability mechanisms. Budget transparency implies the full, timely and systematic disclosure of important fiscal information. Consequently, the basic characteristics of budget transparency are the exhaustiveness, accessibility, promptness, clarity, reliability of information relating to public finances. Budget transparency can be considered as a prerequisite for ensuring public participation in the budget process. Budget transparency determines the increase of public confidence in the correct use of public money. As a result, the quality of fiscal policies increases. In order for central and local public authorities to be held accountable for the efficiency and effectiveness of their activity, society must be clearly informed about how the public budget is used. The most appropriate policy in the effective fight against corruption and the imposition of compliance with integrity standards relating to public money consists in ensuring budget transparency, public spending being vulnerable to fraud and waste. The entire society is strongly influenced by budgetary decisions, budgetary transparency ensuring the possibility of informed and reasoned debates regarding the consequences of fiscal policies. We mention in this context, the contribution of several researches to the development of the concept of budgetary transparency, including those carried out at the level of important international institutions and organizations: OECD (2017), Transparency International (Morgner et al., 2014), etc.
- the quality of human resources management. Human resources management has a critical impact on the performance of public institutions, including those related to public finance management. The specifics of the public sector, embodied, among other things, in public interest results, amplifies the complexity of the components of human resources management within public entities compared to organizations in the private and associative sectors, namely: hiring and training of employees; remuneration and incentive systems; performance evaluation; promotion criteria and career development, etc. According to research conducted by the World Bank (2016), a small number of developing countries have managed to develop and maintain public sector employees specializing in finance, competencies in the field of public finance management. Countries in this group are concerned with recruiting, training and retaining personnel with training and skills in the field of accounting and auditing. Regarding public financial management, this field is becoming increasingly sophisticated. Performance-based budgeting, outsourcing public service delivery and the development of public-private partnerships require innovation in public financial management, including public investments and public procurement. Increased transparency and accountability, the expansion and complexity of information technologies impose multifaceted challenges and requirements on financial specialists in public entities.

- the level of information technology applied within public financial management systems. Evolving over time, information systems serving public financial management currently manage to integrate the public budget, budget accounting, budget and financial reporting and other fundamental functions of public financial management with other information systems at the public administration level. Currently, a modern state fails to be efficient if it does not have a functional information system that manages monetary flows. Information technologies, provided that they are efficient and successfully managed, generate numerous and important benefits for governments, including: (i) optimize the use of public funds by automating processes at the public entity level; (ii) support the implementation of all stages of the budget process; (iii) improve the analytical and monitoring processes characteristic of public financial management by providing accurate data in real time; (iv) improve the management of vulnerabilities and financial risks at the institutional level.
- the quality of public procurement practices. With reference to public financial management, efficient procurement systems: (i) allow public entities to procure goods and services in a timely manner, following the principle of cost-effectiveness; (ii) contribute to reducing or even avoiding the inappropriate allocation of budgetary resources; (iii) promote the expansion of transparency and, thereby, can ensure equal and fair treatment of potential suppliers of goods and services; (iv) promptly provide public authorities, for analytical purposes, with reliable information on public expenditure. The following categories of information regarding public procurement are required to be published: primary and secondary legislation regulating the public procurement process; the powers and responsibilities of contracting entities; tenders and selection and evaluation rules. At the same time, among the imperfections, shortcomings and obstacles that some countries may face in the case of public procurement systems, the following can be mentioned: the lack or insufficiency of the legal and regulatory framework regulating public procurement and/or of clear and well-defined mechanisms for its implementation; the inefficiency of monitoring the public procurement process and of internal and external audit; the reduced transparency of information regarding public procurement; the insufficiency or absence of an efficient appeals system. Due to the complexity of the public procurement process; the considerable financial flows that this process generates, the strong, numerous and diverse interactions with the private sector, public procurement represents one of the areas that involve the most pronounced vulnerabilities and risks of corruption.
- quality, coherence and consistency of anti-corruption policies. The public finance management process is a complex process, thereby limiting public control and amplifying corruption risks. Although corruption risks are much higher in the case of the budget execution stage, other stages can also generate corruption opportunities. Thus, at the budget preparation stage, political corruption determines the application of preferential treatment derived from political affiliation towards certain areas, groups and projects. At the budget approval stage, corrupt parliamentarians may intervene, who will try to modify the budget draft in order to operate a favorable treatment in the interest of a certain party, certain groups and businessmen. The budget execution stage involves the greatest corruption risks, a very large number of beneficiaries being involved in various monetary transactions at the level of a very large number of budgetary organizations and institutions. The public control stage may be ineffective and/or contain corruption risks and/or manage these risks ineffectively to the extent that legislative control is limited, resources are insufficient, the supreme external audit authority and the internal audit service in public institutions are not independent, etc. Extra-budgetary funds are not always subject to the same control standards as budgetary funds. In some cases, extra-budgetary funds are intentionally established to avoid public controls characteristic of budgetary parameters, the lack of sufficient control creating numerous opportunities for corruption.
- the quality, coherence and consistency of reforms in the field of public financial management. In accordance with researchers Verena et al. (2012), reforms aimed at making public financial management more efficient can be affected by several factors, the most important of which are the following: (i) applying reform approaches from other countries without adapting them to the specifics

of the implementing country; (ii) developing and adopting laws and regulations without implementing them on time or properly; (iii) reforms that involve fewer stakeholders are more successfully implemented compared to those that involve more stakeholders; (iv) it is not mandatory that reforms be implemented in the most exemplary way. What is important is that, compared to the situation before the implementation of the reform, the situation is better. Improvements can also be made during the implementation of reforms; (v) even with low capacity, in conditions of underdevelopment and continued lack of security, in the absence of experience in promoting reforms, post-conflict countries can register great successes in reforming public financial management.

- the level of local autonomy and the quality of decentralization processes. The decentralization process, including the financial decentralization process, aiming at increasing local autonomy, including financial autonomy, at least at a theoretical level generates positive effects on public finance management. At the same time, practical experience demonstrates that many countries, initiating and carrying out the decentralization reform, have registered, in this regard, contradictory results. The coordination process and inadequate implementation of the decentralization reform, without respecting the succession of the decentralization stages, are, in the case of some countries, the main causes of the failure of these transformations. Provided that it is successfully implemented, decentralization, leading to a higher level of local autonomy, can generate more public revenues at the local level, and, at the same time, can improve the allocation of financial resources and the management of public expenditures. These improvements can be achieved due to the fact that local public administrations are better aware of the needs of citizens in the communities they manage, respectively, public expenditures will be spent in a prioritized manner.
- political and geopolitical stability and the quality of governance. Numerous studies (Andrews, 2010; de Renzio, et al., 2011; Fritz, et al., 2014; Fritz, et al., 2017) demonstrate the existence of a significant negative correlation between political instability and state fragility (the independent variable) and public finance management (the dependent variable). Political stability is a basic prerequisite for efficient public management and for the consolidation of institutions. The positive impact of political stability on public finance management can be better understood if the negative consequences of political instability are highlighted. In the latter case, public institutions become weak and fragile, informal relations prevail in a context of lack of political will. Regarding the quality of local public finances, if a state fails to manage public revenues and public expenditures efficiently, this state is not able to produce and provide public goods and services satisfactorily. A solid public finance management system means the solidity of its elements, namely: judicious prioritization of public expenditure programs, transparency of public finances and accountability of government decision-makers and legislators for inadequate economic, social and financial performance, efficient management of public finances, effective public control. Fragile and politically unstable states are subject to the adverse effects of complex factors: informal networks that are difficult to overcome, insufficient physical infrastructure, inadequate quality of professional training of public sector employees.

CONCLUSION

The efficiency of public expenditure management must aim to achieve the following two conditions:

a) public expenditure programs must be cost-effective;

b) maximizing the productivity of public expenditure is associated with the optimal level of the mix of public products and services.

The following factors determine the increase in the efficiency of public expenditure management, provided that they are successfully managed: the quality of institutions and budgetary processes; the functionality of monitoring and evaluation systems; the functionality and coherence of transparency and accountability mechanisms; the quality of human resources management; the level of information technology applied within public financial management systems; the quality of public procurement practices; the quality, coherence and consistency of anti-corruption policies; the quality, coherence and consistency of reforms in the field of public financial management; the level of local autonomy and the quality of decentralization processes; political and geopolitical stability and the quality of governance.

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THE LEGISLATIVE-NORMATIVE FRAMEWORK AIMED AT CITIZEN-ENTREPRENEURS: CHALLENGES AND TRENDS

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Mariana MÎRZAC
State University of Moldova, Moldova
ORCID: https://orcid.org/0000-0003-0217-7398
Email: mariana.mirzac@usm.md

Andrei MULIC
State University of Moldova, Moldova
ORCID: https://orcid.org/0000-0001-6207-1216
Email: andrei.mulic@usm.md

Summary: *The legislative-normative framework represents the primary key in the formation of a favorable (friendly) economic-financial environment for the initiation, encouragement and development of entrepreneurs. At the same time, the minimization of financial risks and the creation of economic conditions offer entrepreneurs the chance to implement the idea in their own business. The regulations in this compartment are intended to ensure transparency, the protection of the economic rights and financial rights persons who are members of the entrepreneurial environment and the stimulation of trust and offer the chance to be a component part of the national economic system.*
The research and systematization of the legal documents will allow the revision and highlighting of the main documents that are aimed at supporting and protecting security including financial of citizens-entrepreneurs from the Republic of Moldova that influence their social-economic activity. Identifying the gaps in the legislative system which present some impediments, and in some places create challenges in the legal activity of citizen-entrepreneurs allow us to focus more deeply on working with the business environment and state institutions / local authorities.
The consolidation, improvement and communication of state institutions with the business environment allow the application of various instruments, including financial assistance and social solidarity. These can be found in ensuring integration into the European Union, being based on the National Plan "Building European Moldova".

Keywords: *citizen-entrepreneurs, legislative acts, business environment, economic security, financial security.*

JEL Classification: *K19 H59 H89.*

INTRODUCTION

The security of citizen-entrepreneurs is found and established within the legislative-normative documents (acts) that establish clear rules in the initiation and activity of all persons who are interested in being part of the business environment. In this context, it is necessary to highlight the concepts of *economic insurance* and *financial insurance* of citizen-entrepreneurs, being structural elements in the security of the activity of the entrepreneurial environment.

Economic security is aimed at subjects that carry out activity at various stages of the economic-financial relations between entrepreneurs and state institutions. At the same time, they offer the opportunity to be encouraged, protected from factors and policies that stop and devalues these processes.

In turn, financial security viewed from the point of view of the functional approach to resources, is the protection of the financial interests of economic entities at all levels of financial relations by providing enterprises, organizations and institutions, regions, sectors of the state economy with sufficient financial resources to satisfy their needs and obligations. (Doga-Mirzac, 2024).

State institutions have the possibility to considerable influence on some obstacles or impediments that may appear or are present in the national legislative or strategic documents.

These are meant to be directed in the European way by encouraging and granting support to citizen-entrepreneurs who want to create the business environment and influence the development of economic processes at the national level.

The results that we propose to be obtained in this research and presented in the article directed the authors to analyze the legislative-normative acts regarding ensuring the activity and financial security of citizen-entrepreneurs structured in the formation of the business environment. We also aim to highlight the legislative documents that are aimed at supporting native entrepreneurship.

The methodology within the carried out research allowed to use: the analysis method, the synthesis method, the comparative method, the logical method.

The structural components within the research allowed us to select information from the Law on Small and Medium Enterprises and various legislative acts, the Ministry of Economic Development and Digitization, the Ministry of Finance, the State Fiscal Service, the Entrepreneurship Development Organization, the 2030 Sustainable Development Agenda, scientific publications and analytical materials.

LEGISLATIVE DOCUMENTS

The development of legislation and the structure of approved normative and legislative acts offer citizens-entrepreneurs the opportunity to be active in the business environment. This allows them to be safe in their activity and provide them with a framework of centralized rules that would ensure transparent and free processes of all procedures, stages in compliance with the objectives highlighted by businesses, consumers and state institutions.

A first step in establishing an emphasis on the small and medium-sized enterprises sector is provided by Law no. 179 of 21.07.2016 on small and medium enterprises (LP181 of 07.07.23, MO272-273/27.07.23 art.470; of 01.03.24) which divides economic entities into three categories using the following criteria: average number of employees, annual turnover and balance sheet value of assets.

We emphasize the fact that in terms of European integration and citizen-entrepreneurs, it is necessary to re-evaluate the criteria mentioned above, including what defines access to support from the state.

The fact that only local entrepreneurs with a sales income of up to 95,824 mil. MDL (5 mill. EUR) have the opportunity to apply for support programs that actually undermine their advantage including their competences compared to actors in the European business environment. We emphasize that entrepreneurs in the European Union have support benefits provided that they will not exceed the income from sales of 958,240 mil. MDL (50 mill. EUR). (Cenusha and other, 2023)

Initial efforts were directed towards supporting and highlighting the transparency of operations and activities to support and promote the possibilities of the business environment to develop in a healthy competitive environment. At the same time, the promotion and protection of micro enterprises and small enterprises that were based on non-state property, were the drafting of legislation, which is currently not applicable, such as: the fund for supporting entrepreneurship and small business development approved by Decision no. 659 of 21.10.1993 and Law no. 112-XIII the support and protection of small business from approved on 20.05.1994.

Innovative entrepreneurship based on the legislation in this field, in turn collaborates with the university environment which is directed towards research which will centrally formulate unique rules in the activity. They would allow and at the same time ensure the good activity of all members and processes being transparent and free. At the same time with the involvement of teachers, young entrepreneurs and the population interested in entrepreneurship. (Doga-Mirzac, 2015)

The offer that comes from the university environment is focused on young entrepreneurs through the lens of innovative incubators. Innovation incubators that positively influence the activity of entrepreneurs, with a focus on the research sector come with a number of conditions: legal, economic, financial, scientific-technological and political.

With the results obtained in scientific research and having an influence through technique, technology, scientific-practical investigations, social innovations on the production and the economy all in all, they also determine the prospects to develop the future entrepreneurs. (Doga-Mîrzac, 2021)

Law on small and medium enterprises no. 179 of 21.07.2016, in which it is found explanation of the concept - Business Incubator which represents the place where newly registered businesses are concentrated, in a limited space, start-up registered enterprises.

This law establishes your priority to increase and extend the period of activity of these enterprises and to have "immunity" from external challenges with the support of business incubators.

The legislative documents that were developed can be found in the information base, highlights alternative sources and indirect financial sources to ensure citizens-entrepreneurs such as:

- The law no. 182 on industrial parks, approved at 15.07.2010 with amendments of 13.06.2024, MO278-281/ of 02.07.24;
- The law no. 226 on science and technology parks and innovation incubators approved at 01.11.2018;
- The decision no. 614 on the approval of the concept of cluster development of the industrial sector approved at 20.08.2013.

Improved regulatory framework for the business environment can be found in in decision no. 561 with reference to the period 2025-2027 which was approved on 07.08.2024. The main objectives that are highlighted would be:

- simplified accessibility of financial resources for citizenship-entrepreneurs,
- accessibility and promotion of financial programs (including through the leasing offer for citizen-entrepreneurs who want to make investments in maintaining the agricultural sector),
- job creation through the subsidy process,
- investment of remittances in business highlighting family businesses,
- supporting and promoting the green economy and rural tourism with a focus on family businesses,
- supporting and promoting the internationalization processes of entrepreneurs, simplified accessibility of financial resources for citizenship-entrepreneurs.

In the research paper "Financing the innovative activity from the macroeconomic perspective" the author points out that: "In turn, the entrepreneurship that has the innovative element is determined by the scientific, technological, organizational, financial and commercial activity it carries out that is associated with the formation, introduction and implementation of innovations. Actors of the innovative activity can be considered the state, the academic sector and the private sector of the economy." (Ganea, 2014)

FISCAL LEGISLATION

In this context, the tax legislation is constantly monitored and, if necessary, some corrections or changes are made. This fact is related to economic and financial instability that is influenced by factors, especially external factors at certain stages of its development. The taxation system aims to create a business environment that is friendly and favorable to investments and economic activity (even in difficult situations), in general, taking into account the interests of society.

Therefore, changes in the tax system in various states are carried out under the impact of the following factors:

- The fiscal system must contribute to increasing the economic efficiency and competitiveness of the business environment.
- The distribution of budget revenues following the accumulation of taxes must be subject to the principles of equity and fairness for society.

- The need for stability of fiscal obligations and the combating fiscal fraud.

We mention that the tax burden is an indicator within the tax system and is one of the main tools that the government can use to reduce and support some specific/vulnerable activities. When assessing taxation, both the absolute level and the structure of incentives deriving from the use of taxes must be taken into account.

According to tax legislation. profit and salary are the most taxed items. In these conditions, the more profitable an enterprise is, the fiscal pressure on economic entities is greater.

When the fiscal pressure becomes unbearable, including the factors that negatively influence the activity of entrepreneurs, its possibility to avoid paying taxes increases. It is necessary to mention that an important role in the degree of fiscal compliance of the business environment is its profitability to allow it to activate in real conditions and continue to develop its activity.

In the article "Interpreting the correlation between fiscal policy and economic growth in the Republic of Moldova" the fiscal pressure is a problem faced by the vast majority of countries and represent the tax systems tend to modernize, to improve. The economic crisis and the difficult times of the world economy have raised the issue of "relaunch", governments have turned to reforms aimed at easing fiscal pressure." (Bulgac, 2022)

The evolution of the fiscal pressure in the Republic of Moldova is reflected in the following table:

Table 2. The evolution of the fiscal pressure in the Republic of Moldova

Indicators / Years	GDP, mill. lei	Tax revenues, mill. lei	Pressure tax, %
2005	37652	11758,3	31,2
2006	44754	14719,2	32,9
2007	53430	17939,0	33,6
2008	62922	20867,4	33,2
2009	60430	19175,1	31,7
2010	71885	22082,3	30,7
2011	82349	25130,2	30,5
2012	88228	28863,2	32,7
2013	100510	32173,2	32,0
2019	206256	40677,6	19,72
2020	199734	44634,4	22,34
2021	242079	42322,4	17,48
2022	274488	51810,3	18,87
2023	300421	63026,0	20,98
2024/ 01-09	*233129*	*67955,1*	*29,15*

Source: Calculated by the authors based on the data http://www. statistica.md, http://www.mf.gov.md

We mention that the main purpose of the fiscal policy is to maintain the balance between the level of revenue increase, being the main source of financing budget expenditures. Also being the need to ensure and protect citizen-entrepreneurs, which is the main factor of stability in the economy.

According to the present legislation, the Fiscal Code, for the year 2024, if we emphasize the income tax for legal entities from 2012 to the present, it is 12%. In accordance with the chronological legislative acts, the income tax rate of legal entities during the years 2008 - 2011 was 0%.

"The purpose stated by the authorities at the time of the presentation of the initiative regarding the introduction of the "zero" rate to the income tax of legal entities was to stimulate economic entities to invest in the development of their own enterprises and businesses. The purpose stated by the authorities at the time of the presentation of the initiative regarding the introduction of the "zero" rate to the income tax of legal entities was to stimulate economic entities to invest in the development of their own enterprises and businesses." (Petroia, 2011)

We will also highlight the fact that citizens who practice entrepreneurial activity are also taxed from the income obtained according to the quotas stipulated in the Fiscal Code as mentioned in:

(I) *Chapter 1, Art. 15*

- to individual entrepreneurs and people who carry out professional activity in the justice sector and in the field of health - 12% of the annual taxable income;
- for people who carry out unqualified activities of an occasional nature - 12% of the taxable income, without the application of exemptions;
- for legal entities the share of 12% of the taxable income;
- for farmers the share of 7% of the taxable income;
- economic entities whose income has been estimated in accordance with art. 225 and 225^1 will be 15% of the excess of the estimated income compared to the registered gross income.

(II) *Chapter 10^2*

- resident persons carrying out independent activities, according to the specifics of the trade activity, the income tax rate is 1% of the subject of taxation, but not less than 3000 lei.

(III) *Chapter 103*

- persons who have activity in the field of purchasing plant products, and/or horticulture and/or objects of the vegetable products – 6% of sales revenue.

The elaboration and development of strategic documents and policy framework regarding ensuring the financial and economic security well-being of citizen-entrepreneurs are currently very important in the formation and structuring of the business environment.

The National Development Strategy "EUROPEAN MOLDOVA 2030" highlights some priorities in ensuring economic activity for citizen-entrepreneurs who train and operate in the business environment, such as:

- Supporting partnerships between the economic environment, the financial environment and the academic environment, companies and educational institutions.
- The visible promotion and support of young people and women with initiative and entrepreneurial spirit to become an integral part of the business environment.

At the same time, we also highlight the actions of the National Plan specifically aimed at citizen-entrepreneurs from the business environment that are currently needed to support and ensure not only their financing, but also protection from certain internal or external factors on the business environment.

Among the multiple actions we highlight:

- ✓ Reduction of bureaucracy for citizen-entrepreneurs that will facilitate business activity (start-up) and accumulation of income from the activity. Reduction of administrative bureaucracy in various fields of activity (stipulated) with the reduction of: reporting requirements for businesses, taxation, liberalization of foreign labor restrictions.
- ✓ Increasing and correct distribution of financial aid for agricultural sector oriented to the review of the conditions and criteria for accessing subsidies by small and medium-sized entrepreneurs with the application of the National Fund for the development of agriculture and the rural environment, financing in the form of loans at low financing costs for investments in technique and technologies. (Doga-Mirzac, 2024)

Also decision no. 653 of 06.09.2023 on the National Program for promoting entrepreneurship and increasing competitiveness in the years 2023-2027 highlights the development activities of citizen-entrepreneurs and highlights the impediments that do not allow economic and social development at the national level.

The program consists of nine objectives, from these we can also find the objectives that highlight the support of the financial security and economic well-being of citizen-entrepreneurs. We mention that the Government, through this decision, being the priority objective to promote and support access to simplified financing and promoting sustainable development.

The existing legislative framework, also oriented towards citizen-entrepreneurs who own the research-innovation activity, is complex. The analysis of legislative-normative acts in the framework of ensuring the financial security of citizen-entrepreneurs reveals the existence of a diversified legal framework, which regulates aspects such as the protection of financial rights, taxation, access to financing and the prevention of economic risks.

The need for a simplified normative- legislative framework, with the priority of the one directed towards the accessibility of financial sources currently being the main obstacle faced by citizens-entrepreneurs from the Republic of Moldova.

Some of normative-legislative documents that are used by the business environment currently ineffectively regulates alternative financial offerings such as crowdfunding or FinTech. These sources enable citizen-entrepreneurs to invest in family businesses. Currently they are extremely necessary to maintain the business environment. At the same time, they will contribute to the formation of partnership relations with state institutions and citizen-entrepreneurs.

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REFORM AND MODERNIZATION OF THE TAX SYSTEM OF THE REPUBLIC OF MOLDOVA IN THE CONTEXT OF THE CHALLENGES OF THE DIGITAL ECONOMY

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Corina BULGAC
PhD of Economic Sciences, Associate professor,
Academy of Economic Studies of Moldova, Moldova
ORCID: 0009-0001-4309-7469
E-mail: bulgac.corina@ase.md

Abstract: *The digital economy, with its rapid growth, poses significant challenges to the the traditional tax systems globally, including in Moldova. As e-commerce, online services, and digital platforms expand, traditional tax frameworks, designed for activities within national borders and based on physical presence, reveal vulnerabilities. Moldova faces an urgent need to reform its tax system to address these challenges effectively.*
This study analyzes essential measures to modernize Moldova's fiscal framework in line with the digital economy's realities. Using an integrated approach, it examines the impact of digitization on tax revenue collection, identifies gaps in current legislation, and assesses opportunities for fair and efficient taxation of digital activities. Methodology includes literature analysis, comparative case studies of reforms in emerging economies, and simulations predicting tax reform impacts in Moldova.
Findings reveal that targeted reforms can increase revenues and ensure a fair distribution of tax burdens between local and international companies, including tech giants. Modernizing tax administration through advanced technologies and establishing a robust legal framework can enhance compliance and mitigate tax evasion risks. Swift action is essential to prevent fiscal losses and sustain long-term budgetary health.
The study proposes concrete reforms: introducing a taxation regime for digital services, creating legal mechanisms for cross-border digital revenues, and leveraging technology to implement these measures. These recommendations, based on international best practices and tailored to Moldova's context, contribute to global debates on digital taxation and provide clear guidance for Moldova's fiscal future.

Keywords: *digital economy, tax reform, taxation, tax framework, compliance, tax administration.*

JEL Classification: *H20, H21, H25, H32, O33, K34.*

INTRODUCTION TO DIGITAL TAXATION

Digital taxation, in the context of international taxation, reflects a set of tax regulations and policies developed to address economic activities carried out through online technologies, digital platforms and electronic commerce. [2] The advance of the digital economy globally has enabled companies to generate substantial revenues in international markets without having a significant physical presence in those jurisdictions. This phenomenon has generated fundamental challenges for traditional tax frameworks, originally designed to tax entities with a clearly defined physical location. Thus, the need to adapt tax legislation to the new digital realities is becoming more and more obvious. [4]

In this context, digital taxation is emerging as an ever-evolving field, characterized by complex negotiations between states and international organizations that aim to balance stimulating innovation and at the same time ensuring fair and efficient taxation. Among the main aspects of digital taxation are the introduction of special taxes, applied to revenues generated by certain digital services, such as online advertising, trading of user data and digital intermediation. One problematic element lies in establishing the rules that dictate where and how the profits generated by digital companies should be taxed. Cross-border economic activities, facilitated by complex corporate structures, make the application of traditional tax legislation more complicated and raise considerable difficulties in ensuring tax compliance. [14]

The role of international tax cooperation is essential for the development of a common regulatory framework for the taxation of the digital economy. [10] In this sense, the Organization for Economic Cooperation and Development (OECD) and the G20 have initiated major projects, among which the most significant is the proposal of a framework on two main directions: Pillar One (Pillar One), which aims to redistribute tax rights, and Pillar Two, which provides for the introduction of a global tax minimum. These initiatives have the potential to redefine international taxation rules, striking a balance between tax obligations and supporting the global digital economy. [6]

THE EVOLUTION OF FISCAL REGULATIONS FOR DIGITAL COMPANIES GLOBALLY AND THE NEED TO IMPLEMENT DIGITAL ECONOMY TAXATION REGULATIONS IN THE REPUBLIC OF MOLDOVA (RM)

Tax regulations for digital companies have undergone substantial evolutions in recent decades, marked by major initiatives initiated under the auspices of the Organization for Economic Co-operation and Development (OECD) and the G20. These initiatives aimed at adapting international tax legislation to the realities of the digital economy, characterized by business models capable of generating significant income without a clear physical presence in various jurisdictions. [2]

A defining moment in this evolution was the year 2013, when the OECD and the G20 launched the Action Plan against Base Erosion and Profit Shifting (BEPS). The first action in this plan focused on the fiscal challenges generated by the digitization of the economy. [10] The business model specific to the digital economy allows companies to operate and obtain substantial profits without a physical presence, thus generating considerable loopholes in the application of traditional tax regulations. In 2015, the OECD published the final report for Action 1, underlining the need for new solutions in the taxation of the digital economy, but without proposing a single solution. Instead, the report recommended options such as taxes on digital services, changing profit allocation rules and revising the concept of "significant economic presence." [5]

In the period 2016-2020, the lack of a global agreement led several countries to unilaterally introduce taxes on digital services (Digital Services Tax - DST). States that have implemented DST include France, Italy, Spain, the UK and India. These measures target revenues generated by digital activities such as online advertising and digital intermediation, seeking to directly tax the earnings of companies in the absence of a physical presence. [4]

To facilitate the involvement of emerging economies, the OECD and the G20 launched the Inclusive Framework in 2016, which allows all countries to participate in discussions on the implementation of BEPS. This initiative has the goal to develop common solutions aimed at ensuring fair and efficient taxation of the digital economy globally. Within this expanded format, debates and collaborations were initiated on digital company taxation measures, paving the way for a global framework. [2;5]

In October 2021, more than 130 states, including all G20 countries, reached a consensus on a global framework for taxing the digital economy. This agreement includes two major components: Pillar One, which proposes to allocate the taxing rights of approximately $100 billion of multinationals' profits to the jurisdictions in which their markets are located, and Pillar Two, which provides for a global tax minimum of 15% for large multinational companies. [10]

The signatory countries have begun the process of adapting their national legislation to implement this global framework, with the aim that the new rules will become operational in the coming years. However, some issues remain, such as the exact definition of the profits to be redistributed and the mechanisms to avoid double taxation. Full implementation of the agreement will require complex coordination between jurisdictions and is expected to take several years, during which continued international dialogue will play a crucial role. [2;5]

In the RM, the implementation of digital economy taxation regulations is vital to capture the revenues generated by online economic activities and to ensure a fair competitive environment between domestic and international companies. As the global economy becomes increasingly digitized, companies generate substantial profits through activities conducted exclusively online, without a physical presence in the countries where they operate. The traditional fiscal system of the RM, which requires a physical presence for taxation, faces difficulties in capturing these revenues. That is why an adapted tax framework is required, which reflects the profound changes in the digital economy and allows a fair and equitable taxation of digital economic activities. [2;4]

In the absence of adequate regulations, international digital companies could benefit from an unfair competitive advantage over Moldovan companies, which are taxed according to conventional tax rules. By applying a fair taxation framework for all economic entities, the Government of the RM can not only protect and support the development of national companies, but also reduce the risk of erosion of the tax base, a phenomenon by which revenues generated in large markets are reported and taxed in jurisdictions with lower tax rates, to the detriment of the countries where the actual economic activity takes place. [14]

The adoption of a set of tax regulations for the digital economy would allow the Government to adequately tax those economic activities that have so far been either under-taxed or untaxed. This would significantly contribute to increasing tax revenues, essential for financing public services, including in areas such as education, health and infrastructure. At the same time, the regulations will reduce opportunities for tax avoidance, promote tax compliance and ensure that all companies meet their tax obligations in every jurisdiction where they do business. [4; 14]

In addition to the benefits for budget revenues, a clear and predictable regulatory framework for the taxation of revenues from digital activities will provide a climate of certainty for companies interested in investing in the digital economy of the RM. This aspect is essential for attracting foreign direct investment and for developing a stable and innovation-friendly business environment. At the same time, the implementation of these regulations will strengthen the country's fiscal capacity and allow it to actively participate in international initiatives regarding digital taxation, thus contributing to maintaining the economic competitiveness of the RM in a digitalized global economy. [2;5]

DIFFICULTIES ENCOUNTERED BY EMERGING ECONOMIES IN ADAPTING TO NEW FISCAL REGULATIONS IN THE FIELD OF DIGITAL TAXATION

Emerging economies face a series of difficulties in adapting to the new fiscal regulations in the field of digital taxation, challenges that can be analyzed from several perspectives. A first category refers to limited institutional capacity, which includes poor fiscal and administrative infrastructure; many emerging economies lack the technology and administrative resources to effectively implement and monitor complex fiscal regulations such as those related to digital taxation. This limitation, combined with the lack of specialized personnel and advanced IT systems, creates difficulties in the correct collection and reporting of taxes. [2;4]

Second, emerging economies face challenges from the complexity of international regulations. The global norms proposed by the OECD, such as Pillar One and Pillar Two, are complex and require substantial adaptations of national legislation. These economies may experience difficulties in understanding and applying these rules, which may lead to inconsistencies or delays in implementation. Another major challenge is asymmetric relations with multinational companies, as emerging economies often have little bargaining power vis-à-vis these large companies, which may threaten to withdraw operations or shift profits to jurisdictions with more favorable tax regimes, thus weakening the effectiveness of regulations and reducing national tax revenues. [5;14]

Also, tax avoidance and profit shifting represent a significant risk in the absence of well-defined legislation. Companies can exploit tax loopholes and use tax avoidance techniques such as shifting profits to lower tax jurisdictions. Emerging economies, faced with a lack of resources and expertise, are having difficulty combating these practices. At the international and regional level, lack of coordination can lead to discrepancies in the application of digital tax regulations, resulting in double taxation or tax avoidance. This phenomenon can reduce the effectiveness of measures and generate tensions in international relations. [4;5]

The economic and social impact of the new regulations is also significant. The implementation of digital tax regulations can generate considerable costs for local companies, who may have to invest more to comply with the new rules. These costs are more difficult for small and medium-sized enterprises to bear, thus affecting local economic development. In addition, taxes on digital services can be passed on to consumers, which can lead to higher prices for online services, affecting the affordability and adoption of digital technologies in emerging economies. [14;2]

Last but not least, the lack of expertise and specialized knowledge limits the ability of emerging economies to develop and implement effective tax policies and negotiate favorable international agreements, given the small number of tax experts and lawyers specialized in digital taxation. These difficulties reflect the complexity of adapting to new fiscal regulations in the field of digital taxation and underline the urgent need for international support and regional cooperation to help emerging economies overcome these challenges. [4;2]

Emerging economies also face the risk of limited institutional failure and an underdeveloped digital infrastructure, factors that significantly affect the ability to implement effective tax regulations for the digital economy. Limited institutional capacity reflects weaknesses in government and administrative institutions responsible for managing tax regulations, manifested by limited resources, insufficiently qualified staff, complex bureaucratic processes and outdated technologies. In these economies, the lack of specialized human resources is a major problem, as the implementation of a digital tax regime requires experts in international taxation, digital economy and tax law. However, attracting and retaining these specialists is often difficult for governments in emerging economies, thus limiting the ability to develop and enforce appropriate regulations. [10;13]

In addition, inefficient bureaucratic processes and administrative complexity can significantly delay the adoption and implementation of new tax regulations. Also, coordination between the various government agencies involved in tax, trade and technology is often lacking, which can create additional hurdles in regulating the digital economy. Moreover, the capacity to monitor and ensure tax compliance remains limited in many institutions in emerging economies, which facilitates tax evasion and reduces the efficiency of tax collection. The lack of a robust monitoring infrastructure makes it difficult to track and verify revenues generated by digital companies, especially when they operate in multiple jurisdictions. These challenges emphasize the need for modernization of tax institutions and international support to be able to adapt the tax systems of emerging economies to the demands of the digital economy. [4;2]

If we talk about insufficiently developed digital infrastructure, it significantly limits the ability to manage and monitor digital economic transactions. Digital infrastructure includes telecommunications networks, data centers, cyber security systems and other technologies essential to the conduct of digital activities. In emerging economies, the lack of a robust digital infrastructure can hinder the effective implementation of the tax regulations needed to tax digital activities. [10]

One of the main impediments is the absence of advanced technologies, which are essential for collecting and analyzing tax data in real time. This deficiency limits the ability of tax authorities to identify taxable income generated by digital activities and ensure tax compliance. Additionally, poor cyber security is another major vulnerability. Without effective security measures, tax systems are exposed to the risks of cyber-attacks, fraud and data leakage, thereby undermining taxpayers' confidence in the tax system and affecting voluntary compliance. [4;14]

At the same time, limited access to digital services restricts opportunities for the population and businesses to fully participate in the digital economy. In emerging economies with an underdeveloped digital infrastructure, restricted access reduces the scale of the digital economy and, by implication, the tax base. This affects the efficiency and impact of digital tax regulations, limiting the revenue that could be collected by the state. [10;2]

In the long term, the lack of adequate institutional capacity and a strong digital infrastructure in emerging economies can generate a number of significant consequences. First, tax collection will remain ineffective if these economies fail to modernize their institutional structures and invest in digital infrastructure. Inefficiencies in the collection of taxes from digital economic activities can lead to substantial losses of tax revenues, funds that could be allocated for critical public investments, such as infrastructure development and funding of essential social services. [4]

Another negative impact is related to tax evasion and erosion. In the absence of effective monitoring and enforcement mechanisms, multinational companies can take advantage of legislative loopholes and minimize the taxes they pay, which undermines public confidence in the tax system and exacerbates economic inequality. At the same time, a weak digital infrastructure can delay the adoption of new technologies in both the private and public sectors, affecting the country's economic competitiveness and reducing the chances of long-term growth. [2;14]

In the absence of solid fiscal revenues, emerging economies risk becoming increasingly dependent on external financial aid or loans to cover budget deficits, thus limiting political and economic autonomy and exposing themselves to risks associated with the instability of international markets. Also, the inability to implement digital tax regulations can create tensions with other countries, especially if they perceive the tax policies of emerging economies as unfair or if double taxation issues arise.

As other states continue to move forward in implementing digital tax regulations, emerging economies risk falling behind, causing a desynchronization with global trends and making it difficult for them to integrate into international value chains. This gap can limit these economies' access to new markets and negatively affect their economic development. [2;4]

These consequences underline the urgent need to invest in institutional capacity and digital infrastructure to facilitate an efficient and equitable adaptation to the realities of the digital economy. [10]

DIGITAL TAXATION IN EMERGING ECONOMIES: CHALLENGES AND PROSPECTS FOR THE RM

Digital taxation has the potential to significantly influence national tax revenues, generating both an increase in them and a restructuring of budgetary sources. By implementing effective regulations, governments can capture the revenues generated by digital companies that, until now, contributed insufficiently to the national budget. These revenues come from activities such as online advertising, sales of digital goods and services, and other economic activities carried out within a country. Thus, digital taxation expands the tax base by including new sources of tax revenue, thereby reducing budgetary dependence on traditional sources of income, such as income or profit taxes, which may decrease in the context of economic digitalization. [2]

Moreover, digital tax regulations help reduce tax base erosion, one of the main challenges of the digital economy. By combating the practice of shifting profits to low-tax jurisdictions, these regulations ensure that profits generated in the domestic market are properly taxed. In addition, proper taxation of digital income reduces the risk of tax evasion, contributing to more efficient tax collection and, implicitly, to increased tax revenues. [4]

As the digital economy expands, the share of revenues from taxation of digital services and activities will increase, changing the structure of tax revenues and reducing the importance of traditional taxes on goods, physical services or classic economic activities. Digital taxation can also redistribute tax revenues between different jurisdictions under new profit allocation rules. This redistribution can benefit economies that quickly adopt these regulations, but can pose challenges for countries that delay their implementation. [4]

Additional revenues generated from digital taxation also provide opportunities to finance public investment in digital infrastructure and support technological innovation. The investments thus made contribute to stimulating the long-term development of the national economy, favoring the growth and development of the digital sector. However, this approach also comes with challenges, as digital companies, both national and international, may incur additional compliance costs, which can influence investment decisions and affect economic growth. [2]

Depending on how it is implemented, digital taxation may cause companies to pass on additional costs to consumers or reduce investment in certain markets, which could negatively impact both the accessibility of digital services and economic growth. Participation in international initiatives, such as those proposed by the OECD and the G20, can provide an advantage by helping countries maximize their digital taxation revenues, avoiding double taxation and ensuring a fair distribution of taxing rights. [11]

More and more emerging economies have begun to implement or explore digital taxation to capture revenues generated by digital economic activities conducted within their territory. For example, in India, the "Equalization Levy" was introduced in 2016 as a 6% tax on online advertising services provided by foreign companies without a physical presence in the country. In 2020, this tax was expanded to include other digital services such as e-commerce at a rate of 2%. In Turkey, the Digital Services Tax (DST) was implemented in 2020 at a rate of 7.5% on revenues generated by various digital activities, including online advertising and online intermediation services, applying to both local and international companies serving the Turkish market. [2;10]

Nigeria in the same year introduced the concept of "significant economic presence" (SEP), whereby international digital companies become taxable in Nigeria if they reach a certain threshold of revenue from digital activities in the country. Kenya, for its part, implemented in 2021 a digital services tax of 1.5% applied to the gross revenues of digital service providers, both local and international, for services offered in the Kenyan market. In Indonesia, 10% VAT on digital services provided by international companies, such as streaming and software, was introduced in 2020, reflecting the country's effort to collect tax revenue from the digital economy.

These examples illustrate how emerging economies are adapting tax regulations to respond to the rapid growth of the digital economy and to ensure an equitable contribution of these activities to national tax revenues. [4;2]

The RM, like other emerging economies, is starting to explore ways to tax the digital economy, even if it has not yet implemented specific digital taxation measures at the level of those adopted by India, Turkey or Kenya. However, there are some relevant directions and initiatives that indicate an orientation towards the regulation of this sector. [4]

An important first step was the adoption of VAT legislation for electronic services, starting on April 1, 2020. This measure requires foreign companies that provide electronic services to Moldovan consumers, such as streaming services, software or online advertising, to register for pay VAT in the RM and pay VAT for the services provided. This measure aims to ensure a fair tax contribution from global digital companies and is similar to other states' approaches to taxing digital services. [13]

Although the RM has not introduced a specific tax on digital services (DST), the active participation in international discussions within the OECD and other relevant organizations reflects the country's interest in a globally coordinated approach to the taxation of the digital economy. These discussions aim to avoid double taxation and ensure a fair distribution of tax revenues obtained from digital activities. [11]

In parallel, the RM is investing in the modernization of the tax administration, a process that includes the digitization of tax procedures and the implementation of e-government technologies. These efforts are essential to support the effective collection of taxes from digital activities and represent a solid foundation for possible future digital taxation regulations. [4]

The government, together with various organizations from the RM, also started a series of analyzes and impact studies on the taxation of the digital economy. These studies have the role of evaluating the potential effects of the regulation of this sector and providing essential data for the elaboration of future legislative proposals. [4]

Although the RM does not yet have an extensive digital taxation regime, efforts to align with international standards and adapt tax legislation to the requirements of the digital economy indicate a direction of development. As the share of digital activities in the economy increases, these initiatives could accelerate, facilitating fair and sustainable taxation of the digital economy in the future. [11]

ANALYSIS OF THE COSTS AND BENEFITS OF IMPLEMENTING DIGITAL TAX REGULATIONS FOR EMERGING ECONOMIES

Implementing digital tax regulations in emerging economies presents both opportunities for economic growth and significant challenges. On the benefits side, broadening the tax base allows for the capture of revenues generated by international digital companies, thus contributing to increasing tax revenues that can be allocated to public investment and essential services. Well-designed regulations reduce opportunities for tax evasion, ensuring better compliance and increasing tax collection. These additional funds can support investments in digital infrastructure and digital literacy programs, strengthening economic competitiveness and encouraging the development of local startups. [4;2]

By adopting regulations in line with international standards, such as those proposed by the OECD, emerging economies can improve their trade and tax relations with other countries, reducing the risk of double taxation and loss of revenue by shifting profits to more favorable jurisdictions. Moreover, the taxation of digital activities contributes to fiscal equity, ensuring fair competition between local and international companies and thus supporting the development of local enterprises. [11;9]

However, the implementation of these regulations also involves significant costs. Emerging economies must allocate considerable resources to modernize administrative and technological infrastructure, an essential effort to manage new tax regulations and train specialized personnel. [4;2] For companies, compliance may involve additional costs related to updating accounting systems and tax reporting, costs that may particularly affect SMEs. In addition, multinationals may reconsider investments if they perceive the new regulations as too burdensome or unpredictable, which could reduce foreign direct investment and affect economic growth. [9]

In addition to the required administrative resources, limited institutional capacity in emerging economies can lead to inconsistent enforcement of the new rules and lost tax revenues. Weak institutions and lack of transparency can increase the risk of corruption, undermining regulatory effectiveness and public confidence in the tax system. Digital companies could also pass on the additional tax costs to consumers, which would increase the prices of digital services and limit the population's access to them. If regulations become too restrictive, companies may reduce the launch of new technologies and services in emerging economies, thus slowing digital transformation. [11;4]

The implementation of digital taxation regulations in emerging economies, including the RM, involves a detailed econometric analysis of the relationship between the costs and benefits of this initiative. We set out to develop an econometric model to evaluate the dependence between costs and benefits of the implementation of digital economy taxation in the RM. This is a multiple linear regression model that estimates the impact of implementation costs and other factors on the potential benefits of digital taxation.

In this econometric model, total benefits (***B***) are the dependent variable and represent the estimated benefits of digital taxation. These benefits include increasing tax revenues, improving digital infrastructure and boosting economic competitiveness. The independent variables, which influence these benefits, are defined as:

C1- implementation costs;
C2 - compliance costs for companies;
C3 - institutional capacity;
C4 - the impact on foreign direct investment (IISD).

Thus, the implementation costs (***C1***) refer to the resources needed to develop the administrative and technological infrastructure essential for the management of digital taxation, and the compliance costs (***C2***) include the expenses that companies, especially SMEs, have to bear in order to align with the new digital tax requirements. Institutional capacity (***C3***) reflects the administrative efficiency of the tax system, including investments in staff training and systems modernization. Finally, the impact on IISD (***C4***) indicates how digital regulations influence foreign investment flows, expressed as a percentage change in direct investment.

The proposed model is a multiple linear regression equation:

$$B=\beta 0+\beta 1C1+\beta 2C2+\beta 3C3+\beta 4C4+\epsilon \quad (1)$$

where:

• *B* - estimated total benefits

• *C1, C2, C3, C4* - the independent variables defined above,

• *β0* - the intercept of the model, which represents the benefit when all costs are zero,

• *β1, β2, β3, β4* - the coefficients indicating the impact of each independent factor on the benefits:

β1 - reflects the change in benefits when implementation costs (*C1*) increase by one unit,

β2 - measures the influence of compliance costs on benefits,

β3 - indicates how the institutional capacity (*C3*) contributes to the benefit,

β4 - assesses the impact of changes in IISD on benefits.

• ϵ - the error term, capturing the variations not explained by the model.

To obtain accurate results, the coefficients of the model can be estimated using the least squares method, applied based on the economic data available for the RM. The validation of the model can be done by testing the statistical significance, using the coefficient of determination ***R2***, the ***F***-test for the overall significance of the model and the ***t***-tests for the individual significance of the coefficients.

However, the model also has some important limitations. First, its accuracy depends on the quality and availability of the data. Without sufficient and accurate data, estimations can be affected by errors. In addition, the linear model may not capture all the nuances of the complex relationships between costs and benefits, and external factors such as international legislative changes and technological developments may influence the relationship between variables in a way that is not captured by the simple linear model.

Thus, this multiple linear regression model provides an analytical framework to understand how costs and other independent factors influence the benefits of digital economy taxation in the RM. It can serve as a starting point for further research and the development of appropriate fiscal strategies in the context of the digital economy, provided that the available data allow a reliable econometric assessment.

In order to apply the proposed econometric model to the budget of the RM for 2024, a detailed estimate of the benefits and costs of implementing digital taxation is necessary, even if, in the absence of precise data, we can build a hypothetical scenario based on reasonable estimates.

The total benefits of digital taxation, marked ***B***, represent the estimated revenues that could be obtained from this initiative and include increased tax revenues, improved digital infrastructure and boosted economic competitiveness. We estimate that for 2024, digital taxation could bring the RM an increase of approximately 500 million MDL in tax revenues.

On the cost side, we identified several key independent variables: implementation costs (***C1***), compliance costs for companies (***C2***), institutional capacity (***C3***), and impact on foreign direct investment (***C4***). We estimated implementation costs at MDL 50 million, additional compliance costs for companies at MDL 20 million, and assessed Moldova's institutional capacity at an index of 0.7, indicating an intermediate stage of institutional readiness. We also assumed a 10% reduction in foreign direct investment flows due to the perception that the new tax regulations could be a burden.

The econometric model proposed to evaluate these variables uses a multiple linear regression equation, defined as follows:

$$B=\beta 0+\beta 1C1+\beta 2C2+\beta 3C3+\beta 4C4+\epsilon, \quad (2)$$

where, the estimated benefits ***B*** are influenced by cost values and institutional capacity. Assigning hypothetical values to the regression coefficients – for example, ***β0***=200, to express a base benefit of 200 million MDL, ***β1***=2, indicating an increase of 2 million MDL for each million MDL invested in implementation, and ***β2***= −1.5, showing a decrease of MDL 1.5 million for every MDL million spent by companies on compliance. In this scenario, ***β3*** is 300, which means that an additional unit of institutional capacity would bring additional benefits of MDL 300 million, and ***β4*** =−100, indicating a decrease of MDL 100 million for a 10% reduction in foreign investment.

Thus, the model looks like this:

$$B=200+2(C1)-1.5(C2)+300(C3)-100(C4) \quad (3)$$

Substituting these hypothetical values into the equation, the estimated result for total benefits is:

$$B=200+2(50)-1.5(20)+300(0.7)-100(-10)=1480 \text{ million MDL} \quad (4)$$

Thus, in this hypothetical scenario, the total benefits for the RM from the implementation of digital taxation would be approximately 1480 million MDL in 2024. These benefits would include both direct revenues from digital taxation and the positive effects of strengthening institutional capacity and adjustments due to compliance and the impact on foreign investment.

However, it is important to emphasize that these estimates are based on assumptions and should be validated with real data to ensure the accuracy of the model. Moreover, there are other external factors, such as international legislative changes and economic fluctuations, which could influence the relationship between costs and benefits. For an accurate analysis and well-founded decisions, concrete economic data are needed, reflecting tax revenues, administrative costs and the impact of investments.

This econometric model can be used as a starting point to assess the potential impact of digital economy taxation and to support the formulation of informed fiscal and economic policies in the RM.

The implementation of a digital economy taxation regime in the RM is a strategic necessity, considering the rapid evolution of the digital economy at the global level and its impact on the local market. Moldova needs to adapt its fiscal framework to capture the revenues generated by the digital economic activities carried out on its territory, thus reducing the risk of losing a significant part of the budget revenues to foreign jurisdictions. The adoption of a digital taxation regime will help align the country to modern economic realities, avoiding falling behind other economies that have already implemented such measures. [1;9]

A digital taxation regime could bring significant tax revenues to the RM, which would support the national budget and allow the financing of essential investments for sustainable development, including infrastructure, education and public services. Furthermore, clear regulation of digital taxation will prevent revenue losses by reducing tax evasion and profit shifting to other jurisdictions with more favorable tax regimes. Thus, Moldova can protect its tax base and ensure a fairer tax system, strengthening its financial stability. [5;3]

The implementation of such a regime will boost the development of institutional capacities and digital infrastructure, essential aspects for the modernization of tax administration. By developing the capacity to manage digital economy activities, Moldova can improve the efficiency of tax collection and bring more transparency to the management of public funds. This will have a positive impact not only on revenues, but also on taxpayers' confidence in the country's tax system. [2;4]

In addition to the fiscal impact, a clear and fair digital taxation regime will increase the competitiveness of the RM as a destination for foreign investments. Such a measure can attract investment in the digital sector and support the development of local businesses, thus creating employment opportunities and contributing to economic growth. At the same time, the clarity and fairness of taxation can prevent the negative effects of unclear or excessive taxation on the investment decisions of international companies, thus maintaining an attractive and stable business environment. [5]

The adoption of a digital taxation regime will align the RM with the international standards promoted by the OECD and the G20, facilitating international fiscal cooperation and reducing the risk of fiscal conflicts with other states. Thus, Moldova will strengthen its international economic relations and will be better integrated in the global economy, benefiting from the advantages of a harmonized fiscal regulation. [11;1]

Therefore, the introduction of taxation of the digital economy in the RM is not only a necessary step, but also an opportunity to consolidate budget revenues, reduce tax evasion and stimulate economic development in a sustainable way. Adapting to the new requirements of the digital economy can transform Moldova into a more stable and competitive fiscal state, able to face the challenges and capitalize on the benefits brought by the digitization of the economy. [14;7]

Analyzing examples of digital taxation implementation in emerging economies, each country has adopted specific strategies adapted to its economic context, institutional capacity and fiscal objectives. The models from ***India, Turkey, Nigeria, Kenya and Indonesia*** present elements that could also be relevant for the RM, providing a basis for a comparative analysis and for recommendations adapted to local needs. [1;13]

India has implemented an "Equalization Levy" applied to revenues from digital advertising and other services provided by international companies with no physical presence in India. This model is attractive for Moldova, being simple to implement and directly targeting the revenues generated by foreign digital companies, without significantly affecting local companies. Moldova could adopt a similar tax, thus capturing the revenues generated by global platforms operating on the Moldovan market. [5;14]

Turkey introduced a digital services tax (DST) applied to a wide range of services, including online advertising, the sale of data and digital intermediation. This model, more comprehensive than the Indian one, could inspire Moldova, if a wider taxation of digital economic activities is desired. However, such an approach would require strong institutional capacity for implementation and monitoring. [1;13]

Nigeria introduced the concept of "significant economic presence" (SEP), taxing international digital companies that reach a certain revenue threshold in the country. Moldova could adopt this model to establish clear criteria for international digital companies to be taxed on the local market, even if they do not have a physical presence. This would allow specific taxation of companies with a significant economic influence in Moldova. [14;5]

Kenya has implemented a DST applied to the gross receipts of digital service providers, both local and international, at a relatively low rate. Moldova could consider a similar approach, as this model is simple to administer and applies a low tax on gross receipts, facilitating compliance and implementation in a limited tax structure. [2;5]

Indonesia has expanded VAT to include digital services provided by international companies, applying VAT to services such as streaming, software and other online services. Moldova already has a VAT regime, and expanding it to include digital services would be a natural and efficient solution for capturing additional tax revenues, quickly integrated into the existing tax framework. [14]

Among the analyzed models, the Indian model (Equalization Levy) and the Indonesian model (VAT on digital services) are the most suitable for Moldova, considering the country's economic structure and institutional capacity:

• ***Equalization Levy (Indian model)***- this model is simple to implement and directly targets revenue from online advertising and other digital services provided by foreign companies, without introducing additional complexity into the tax system. Moldova could adopt this model to tax revenues generated by international platforms on the local market, especially those from digital advertising, a growing sector.

• ***VAT on Digital Services (Indonesian model)*** -the extension of VAT to include digital services is an efficient and relatively easy to integrate measure in the current fiscal framework. This would allow revenue to be captured from a wide range of digital services such as streaming and software, maximizing revenue without complicating the existing tax system. [2;5]

The RM would benefit significantly from the adoption of an ***Equalization Levy*** model similar to the Indian one, in combination with the expansion of VAT to include digital services, following the model of Indonesia. This approach would be relatively simple to implement, would bring substantial additional revenues and align Moldova with international fiscal trends. By implementing these measures, Moldova could capitalize on the growth of the digital economy, without introducing additional fiscal complexities and at the same time ensuring a stable and fair fiscal framework. [5]

However, digital taxation can significantly influence the decisions of multinational companies, having the potential to both discourage investment and stimulate long-term development, depending on how tax policy is designed. A well-balanced tax strategy that ensures the right balance between tax burden and legislative predictability, together with investments in digital infrastructure, can turn digital taxation into a tool to attract investment. [2]

In order to determine the optimal size of the digital tax in the RM, so as to generate additional tax revenues to the budget, it is necessary to take into account the structure of the digital market and the estimated revenues from digital economic activities. A suggested initial rate for the RM would be approximately **3%**, applied to revenues obtained from online advertising, brokerage services and other digital activities carried out on the local market by international companies. [5]

This rate would be moderate enough to ensure tax compliance and would be easily accepted by international companies, while also reducing the risk of rising costs for consumers. For example, if we estimate the total digital revenues in Moldova at 100 million MDL annually, a 3% tax could generate around **3 million MDL** for the national budget, without significantly burdening economic agents and without creating a major economic barrier. [3;13]

Thus, a rate of **3%** is recommended as a starting point, giving the tax authorities the opportunity to assess the impact of the tax and adjust its size based on the economic performance and feedback of the companies involved. [5;13]

For the RM, the adoption of a digital taxation regime must be approached with caution and a strategic vision. It is essential that tax measures are designed to maximize economic benefits, such as increasing tax revenues and stimulating innovation, while reducing risks that could affect the attraction of foreign investment. Through a balance between fiscal compliance and support for the business environment, Moldova can capitalize on the potential of the digital economy without compromising competitiveness on the international market. [8;3]

And in this context, we proposed to see, if we were to assume the application of the 3% rate on the revenues from the activity of national and multinational companies in the field of the digital economy active in the territory of the RM, how many of 100 companies would give up the given activity?

These decisions would be influenced by and involve multiple factors and variables. Among these factors we can highlight: the size of the company; profit rate; elasticity of demand for their services; operational costs and market competitiveness.

Large companies, especially multinationals, could more easily absorb an additional tax of around 3% due to greater financial resources. They are less likely to go out of business just because of such a tax. Whereas for small and medium-sized companies, with lower profit rates and in a competitive market, an additional tax can make the difference between profitability and losses, which would be a significant factor in making the decision to abandon the idea of continuing activity in the RM, opting for other countries where this field still remains unregulated.

In a hypothetical scenario and based on the above factors we can have two scenarios:

Optimistic Scenario: If the tax is perceived as reasonable and companies can absorb the costs, the likelihood of withdrawal is low. Under these conditions, maybe only **5-10%** of companies would give up their activity.

Worst case scenario: If the tax is perceived as a significant burden and there are no other offsetting benefits, the pullback could be more pronounced, affecting perhaps **20-30%** of companies.

And yet it is difficult to give an exact number without a detailed analysis of the market and the specifics of each company, but a 3% tax could lead to the abandonment of activity for a small part of companies, especially those with low rates and high sensitivity to additional costs. However, we believe that most companies, especially large multinationals, would continue to operate in the RM.

THE ROLE OF INTERNATIONAL AND REGIONAL ORGANIZATIONS IN SUPPORTING EMERGING ECONOMIES IN THE PROCESS OF ADAPTING TO DIGITAL TAXATION

International and regional organizations play a key role in supporting emerging economies in the process of adapting to digital taxation. These organizations provide both technical and financial resources as well as a framework for cooperation and harmonization of fiscal policies.[6]

If we are to refer to the development of global standards and recommendations, the basic role belongs to the OECD, which was the leader in the development of the BEPS initiative, a project that includes specific measures to address the fiscal challenges generated by the digital economy. Through its initiatives, the OECD helps emerging economies adopt tax regulations that ensure a fair distribution of revenues from digital taxation at the global level, as well as provides guidelines and tools for the implementation of these measures, thus supporting countries in adapting national legislation. The OECD plays an important role in supporting the RM in the fiscal field, despite the fact that Moldova is not a member of the organization. The country participates in certain OECD initiatives and forums dedicated to tax transparency and combating tax evasion, including in the context of the digital economy. The OECD provides useful guides and resources to help Moldova align with international standards and modernize its tax practices. [1;15]

Moldovan tax officials also benefited from assistance and training programs organized by the OECD, having the opportunity to familiarize themselves with global trends and challenges related to digital taxation. These initiatives contribute to strengthening the institutional capacity of Moldova, supporting the adaptation of tax legislation to the new digital economic realities. [7]

In addition to the OECD and the G20 group, they are opting to promote the global adoption of digital tax regulations and to ensure the participation of emerging countries in the process of developing these regulations. The G20 also facilitates international discussions and negotiations on the harmonization of tax regulations, which helps emerging economies adapt more easily to new global standards. [5]

It is the IMF that provides technical assistance and advice to governments in emerging economies, as well as helping countries develop the administrative capacity needed to implement new regulations and improve tax collection. The IMF also provides support in modeling the fiscal impact of new regulations and assessing long-term fiscal sustainability. The IMF supports the RM through its economic surveillance programs, offering consultancy and technical assistance for the development of fiscal policies, including in the field of digital taxation. Among the main initiatives is the modernization of the tax administration through the digitization of processes, an essential step for increasing the efficiency and transparency of the tax system. The IMF also supported the assessment of Moldova's institutional capacity, contributing to the development of strategies for strengthening fiscal administration, which is an important premise for the effective implementation of digital fiscal regulations. [4;9]

Likewise, the World Bank supports emerging economies by financing projects to modernize tax administration and digitize the economy. These projects may include the development of IT infrastructure for the collection and monitoring of digital taxes, as well as the training of administrative staff. The World Bank played an essential role in supporting the fiscal modernization of the RM, financing and providing technical assistance for various tax administration reform projects. These include developing the necessary IT systems for digital tax monitoring and collection, as well as training staff to use these systems effectively. In addition, the World Bank has conducted analyzes and impact studies that assess the potential effects of tax reforms, including digital taxation, on the Moldovan economy. These studies provide the government with clear insights into the implications of the reforms, supporting it in adopting well-grounded fiscal measures adapted to the local context. [4;14;9]

The European Union plays a key role in supporting emerging economies in Eastern Europe and other regions by promoting regional cooperation and harmonization of tax regulations. Through dedicated programs, the EU provides funds, technical assistance and knowledge exchange platforms, facilitating the adoption of modern tax practices. At the same time, coordination between member states and partner countries ensures a unified approach to digital taxation, contributing to reducing the risks of double taxation and preventing unfair tax competition. The RM has benefited from support from the EU through the TAIEX (Technical Assistance and Information Exchange) program, which provides technical expertise and consultancy to help partner countries adopt modern tax regulations, including in the field of digital taxation. Also, Moldova participated in Twinning projects with EU member states, which involve direct cooperation between the tax administrations of Moldova and other EU countries. These projects are intended to improve Moldova's institutional capacity in tax collection and enforcement of the new tax regulations. [1;3;16;11]

Regional organizations such as ASEAN (Association of Southeast Asian Nations) and AU (African Union) also contribute to regional cooperation and knowledge sharing, which facilitate dialogue between member states on digital taxation and provide a framework for cooperation in the implementation of the new fiscal regulations. These organizations can also support member countries through joint training and institutional capacity building initiatives. [5;4]

Another important aspect for strengthening tax systems in emerging economies concerns the promotion of tax transparency and the exchange of information between jurisdictions, especially in the context of digital taxation. The Global Forum on Transparency and Exchange of Information, supported by the OECD, facilitates this process by supporting the adoption of international standards on the automatic exchange of information. This mechanism enables the monitoring of revenues generated by digital companies, thereby reducing tax evasion and ensuring more efficient tax collection. By collaborating in this forum, emerging economies can benefit from resources and knowledge to support them in implementing modern and sustainable tax practices. [9;3;5;4]

Reducing inequalities and supporting development policies are essential objectives in the context of the growth of the digital economy, and UNCTAD (United Nations Conference on Trade and Development) plays a crucial role in this process. Through in-depth analysis and policy recommendations, UNCTAD helps emerging economies take full advantage of the opportunities offered by the digital economy, promoting fair taxation that reduces inequalities and maximizes economic benefits. This approach contributes to strengthening national capacities and ensuring a fiscal framework that supports the sustainable development of developing countries. [14;17]

For emerging economies, these reforms present both opportunities and challenges. On the one hand, the implementation of international tax rules can lead to increased tax revenues and a more equitable distribution of profits generated by digital companies. On the other hand, these countries need to develop their institutional capacities to apply the new regulations and to participate effectively in international negotiations. [5;3]

CONCLUSIONS

In conclusion, international cooperation is essential for supporting emerging countries, as well as the RM, in adapting to the challenges of digital taxation and capitalizing on the opportunities of the global digital economy. The assistance provided by organizations such as the EU, the IMF, the World Bank and the OECD plays a crucial role in developing institutional capacities, modernizing tax administration and adopting tax regulations aligned with international standards. Through this collaboration, Moldova can create a fair, efficient and sustainable fiscal framework, integrating into the modern global fiscal system and benefiting from the advantages of a growing digital economy. [3;10]

Current trends indicate an increase in international cooperation in the field of digital taxation, with a focus on transparency and information sharing. Emerging economies are encouraged to align with global standards to benefit from fairer taxation and attract foreign investment. However, the success of these efforts depends on adapting national legislation and strengthening tax administrations to deal with the complexities of the digital economy. [5;17]

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THE EFFICIENCY OF THE TAX ADMINISTRATION OF LARGE TAXPAYERS FROM THE REPUBLIC OF MOLDOVA THROUGH THE PRISM OF THE ACTIVITY OF THE STATE TAX SERVICE

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Nadejda BERGHE
PhD, Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-8263-1548
E-mail: berghe.nadejda@ase.md

Abstract: *Large taxpayers represent a notorious segment of economic agents who, emerging from the activities carried out, the turnover and respectively the taxes and duties paid, contribute essentially to the formation of budget revenues. Large taxpayers are the economic agents who are also socially important by creating jobs and supporting the national economy by honoring tax obligations in full and on time.[11] In this sense, the voluntary compliance of large taxpayers is a priority for the tax authority, a fact that leads to the registration of a low percentage of taxpayers in arrears, regarding which the application of the tools and procedures for collecting arrears is ensured. [8]*

The State Tax Service (STS) approves every year the List of large taxpayers from the Republic of Moldova. For the year 2023-2024, this list includes 550 economic agents, entities and individuals, who practice entrepreneurial activity in the Republic of Moldova and this list is public, being approved by order of the STS, and later published in the Official Gazette. It includes the largest companies in the country, all banks and insurance companies, but also taxpayers who hold a dominant position and/or significant importance in a field of the national economy. [1]

The criteria for selecting large taxpayers are approved according to the annex to the Order regarding the establishment of the criteria for determining and selecting large taxpayers. Establishing the criteria for selecting large taxpayers and approving their list is the responsibility of the State Tax Service according to article 133, paragraph 35 of the Tax Code.

The objective of the paper *consists in reflecting the eligible criteria for selecting and including large taxpayers in the List of large taxpayers and examining the evolution of the number of large taxpayers in the Republic of Moldova. The author also aims to examine the compliance treatments applied to large taxpayers according to the risks identified in their activity.*

The conclusions *express the contribution of the State Tax Service in the fiscal administration of economic agents - large taxpayers and respectively the efficiency of this administration by reflecting the contribution of large taxpayers to the National Public Budget by honoring tax obligations.*

Keywords: *large taxpayers, State Tax Service, compliance treatments, tax obligations, tax administration.*

JEL Classification: *H24, H25, H27.*

INTRODUCTION

Tax administrations in various countries have initiated specialized programs to address the complex problem of managing high-income individuals. As in the case of large taxpayers - economic agents, wealthy individuals may present an increased risk of tax non-compliance for tax administrations, due to the complexity of these taxpayers, the considerable size of the tax revenues involved, as well as the possibility of using these actions. aggressive tax planning. Tax non-compliance of these citizens affects the overall integrity of the tax system.

Thus, the State Tax Service (STS) initiated its own program for managing large taxpayer individuals, to assist and raise the level of compliance among this segment of taxpayers.

Starting with 2017, the STS implemented a special approach for this category of taxpayers, allocating the necessary resources, aware that the mentioned taxpayers could contribute large revenues to the budget. The SFS also established the criteria for selecting large individual taxpayers and the maximum number of individuals to be administered by the General Directorate for the Administration of Large Taxpayers (GDALP).

During 2018-2019, with the development of tax administration processes, new opportunities were identified in the area of understanding the tax behavior of this category of taxpayers. Thus, the architecture of the profile of a large taxpayer individual, which was previously based only on examining income, was complemented with indicators that would demonstrate/identify lifestyle, assets held and the dynamics of wealth in general.

Thus, the criteria for identifying large taxpayers, individuals, have been modified, in order to optimize the process of understanding the profile of an individual with high wealth. In this regard, it was proposed *to increase the maximum number of large taxpayers up to 600 individuals* and to include in the list individuals who meet at least two of the following criteria:

- are tax residents of the Republic of Moldova;
- the income obtained for the last three fiscal periods preceding the fiscal period of management, cumulatively exceeds the amount of 3 million MDL;
- the cumulative value of assets held during the last fiscal year exceeds 50 million MDL". [12]

In accordance with art. 5 of the Tax Code, ***a Large Taxpayer*** is considered a taxpayer identified according to the criteria for selecting large taxpayers, developed by the State Tax Service, and included in the List of economic agents - large taxpayers.

Currently, Large Taxpayers are managed by the Large Taxpayer Service Department of the State Tax Service (LTSD), and the lists of large taxpayers are approved by order of the State Tax Service. The criteria for selecting large taxpayers are approved by the *Order on establishing the criteria for determining and selecting large taxpayers no. 471 of 20.12.2022*. According to the above-mentioned Order, they may have the status of large taxpayer:

- 550 economic agents, legal entities and individuals, practicing entrepreneurial activity in the Republic of Moldova (for at least 3 years), selected according to the criteria for determining large taxpayers, provided for in the annex to the order, with the exception of taxpayers provided for in articles 52, 531, 532, 533 and 541 of the Tax Code, insurance companies and banking institutions;

- up to 500 resident individuals, selected according to the criteria provided in the annex to the order. **The List of Large Individual Taxpayers** includes resident individuals whose income obtained for the last three fiscal periods preceding the fiscal period of management, cumulatively exceeds the amount of 3 million lei, selected in descending order.

The selection of ***large taxpayers, legal entities and individuals carrying out entrepreneurial activity, is carried out from eligible taxpayers***, based on the following criteria:

- the basic criteria;
- the specific criteria;
- the continuity criteria.

The basic criteria represents the value criterion, being the result of the aggregation of 3 indicators selected from an economic and budgetary point of view in the following proportions:

- The volume of tax obligations declared and paid by taxpayers for the fiscal year preceding the year in which the criteria are applied and for 10 months of the current fiscal year (40% of the number of taxpayers will be selected according to this criterion on a descending basis);
- The turnover declared in the tax returns for the fiscal year preceding the year in which the criteria are applied and that declared in the tax returns for 10 months of the current year (40% of the number of taxpayers will be selected according to this criterion on a descending basis);
- The payroll fund declared and paid by taxpayers for the fiscal year preceding the year in which the criteria apply and for 10 months of the current year (20% of the number of taxpayers will be selected according to this criterion on a descending basis).

The specific criteria, by way of exception from points 3 and 6, represents the criterion of activity carried out. The criterion of activity carried out includes:

a) banking institutions;

b) insurance companies;

c) taxpayers who hold a dominant position and/or significant importance in a field of the national economy.

Continuity criterion:

a) Taxpayers resulting from the division of a large taxpayer, as the case may be, will continue to be administered by the LTSD.

b) The newly formed taxpayer resulting from the merger of a large taxpayer with another taxpayer will be administered by the LTSD.

The following will not be included in the list of large taxpayers:

• taxpayers in insolvency and liquidation process, including as a result of reorganization;
• public institutions;
• municipal enterprises;
• public and private educational institutions;
• taxpayers who in the last 2 fiscal years have registered high risks of tax non-compliance;
• taxpayers who have less than 30 employees in the month of selection. [3]

The list of large taxpayer economic agents is published in the Official Gazette of the Republic of Moldova and on the website of the State Tax Service. (https://sfs.md/ro/catalogul-datelor-deschise/xi-contribuabili-mari).

The individuals as large taxpayers will be notified of their inclusion in the list of large taxpayers by notification, sent by e-mail or through postal service providers. The list of the individuals as large taxpayers is not public, pursuant to the provisions of Law no. 133/2011 on the protection of personal data. The transmission of personal files of taxpayers included in/or excluded from the List of Large Taxpayers is carried out in accordance with the Instruction on taxpayer records, approved by Order of the State Tax Service no. 352/2017.

The status of large taxpayer shall be held for a period of at least 2 years. In the event of the court issuing a decision on the initiation of insolvency proceedings, by way of derogation from point 8, the economic agent, with the exception of financial institutions, shall be excluded from the List of Large Taxpayers. In the event of the exclusion of economic agents from the List of Large Taxpayers pursuant to point 9, the State Tax Service shall be entitled to supplement the List of Large Taxpayers by selecting them in accordance with the criteria provided for in the annex to Order 471 of 20.12.2022.

It is important to note that large taxpayers represent a notorious segment of economic agents who, based on their activities, turnover and tax obligations paid, have a significant contribution to the formation of budget revenues. At the same time, large taxpayers also have an essential role from a social point of view by creating jobs and supporting the national economy by fully and on time paying mandatory tax payments to the budget. [11]

The largest taxpayers (18 in number) paid almost 3.5 billion lei to the National Public Budget in 2023. According to data presented by the State Tax Service (SFS), four financial institutions paid over 100 million lei each in income tax from entrepreneurial activity. At the same time, three taxpayers from the energy sector paid over 200 million lei each in value added tax. At the same time, almost one billion lei for the same tax was transferred by seven taxpayers from the production, trade and mobile operators sectors. Also, four taxpayers from the alcohol and tobacco production sectors paid excise duties of over one billion lei. [2]

In order to combat tax evasion and reduce the tax gap, one of the objectives of the STS, a proposed measure is the development of a compliance policy for large taxpayers and high-income individuals, and in this regard, the development of the Compliance Program and the Large Taxpayers Strategy for 2025, which would include all voluntary and forced compliance activities carried out by the STS. [6]

Currently, according to the Taxpayer Compliance Program for 2024, the compliance treatments applied to large taxpayers are selected in an individual manner, taking into account the specifics of large taxpayers and the risks assumed in their activity. To support correct compliance and timely payment of taxes and fees, large taxpayers are divided into 4 samples.

Table 1. Distribution of economic agents by samples

Sample	Conditions for enrolling taxpayers in samples	Conformation treatments	
		voluntary	forced
Sample I. High-risk taxpayers	1. Turnover ≥ 500 mln. lei; 2. Total risk score is maximum; 3. Impact assessment is between high and extreme;		Priority treatments manifested by: • carrying out tax control; • establishing the fiscal post.
Sample II. Key taxpayers	1. Turnover ≥ 500 million lei; 2. The total risk score is below average. 3. The impact assessment is between high and extreme;	Carrying out the tax visit	
Sample III. Medium-risk taxpayers	1. Turnover < 500 mln. lei; 2. The total risk score is high with a lower consequence; 3.The impact assessment is between medium and high;	• "Contacting the taxpayer, sending/handing compliance letters, applying the questionnaire"; • Organizing and conducting compliance meetings.	
Sample IV. Low-risk taxpayers	1. Turnover < 500 million lei; 2. The total risk score is low; 3. The impact assessment is between low and medium;	Office monitoring of activity indicators.	

Source: Taxpayer Compliance Program, 2024. Available: https://sfs.md/uploads/files/Docs/planuri-programe/programeconformare/Programul%20de%20conformare%20a%20contribuabililor%202024.pdf

The use of samples will define actions towards taxpayers at risk by applying appropriate treatments depending on the sample they are part of. The taxpayer's risk assessment should be reviewed every 6 months and, depending on trends, the review period may change over time. Following the review of risk scores, the taxpayer may move or be reassigned from one sample to another, so that the applicable treatments change.

Taxpayers are assigned to one of the 4 samples, depending on the impact they have on tax collection, the risks encountered, and the probability of a risk occurring.

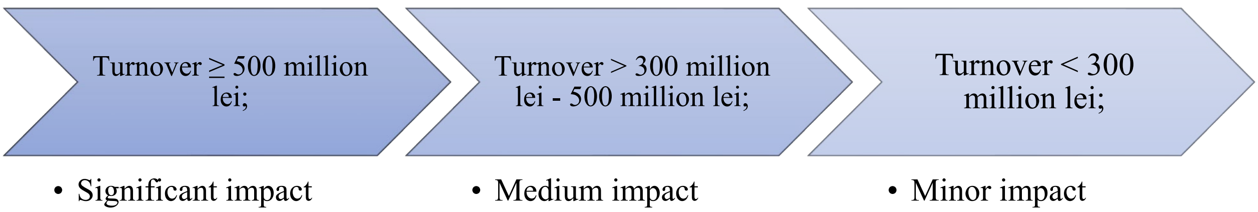

Figure 1. Samples based on taxpayer turnover
Source: taken by the author from the source [4]

Depending on the impact, the risk can be:

➢ **minor** - the risk will have an insignificant effect, up to 0.5% of turnover, and the treatment of that risk being possible to be exercised by applying simple forms of voluntary compliance (**quantified by 0-0.1**);

➢ **medium** – the risk was confirmed as a result of the control, being materialized in additional calculations to the budget in the proportion of 0.5 - 1% of the turnover in the period subject to verification (quantified by 0.2- 0.5);

➢ **significant** – the risk materialized through significant additional calculations, in a proportion greater than 1% of the turnover in the period subject to verification (**quantified by 0.6-1**).

Based on the risk criteria, the tax audit is planned and is oriented towards the areas of activity with a major risk of tax non-compliance. As a result of the application of the risk criteria, depending on the potential consequences on the taxpayer's activity, risk levels are established.

For the assessment of non-compliance risks, taxpayers are assessed in the following risk groups:

I. Group of general risks related to entrepreneurial activity;
II. Group of risks related to income tax;
III. Group of risks related to salary in envelope;
IV. Group of risks related to value added tax;
V. Other risks.

The most frequent risks identified and confirmed during tax audits carried out during 2024, by type of taxpayer, are:

− for large taxpayers: risks from Group II (related to income tax), Group IV (risks related to VAT), Group V (other risks);

− for the rest of taxpayers: risks from Group II (related to income tax), Group III (related to the salary in envelope), Group IV (related to VAT).

In this regard, the development of the list of taxpayers to be subject to fiscal control during 2025 will be carried out in light of the following basic principles:

− focusing control activity on taxpayers at risk of tax non-compliance correlated with declared turnover;

− applying forced compliance measures as a priority to taxpayers who have been engaged in entrepreneurial activity for a period of more than 3 years.

In order to focus the efforts of the State Tax Service on possible violations with impact, taxpayers will be selected based on the assessed risks. [4]

Table 2. Number of large taxpayers included in the control plan

Large taxpayers	
Turnover	Number of taxpayers subject to inclusion in the control plan
≤ 300 million lei	55% - 65%
> 300 million lei ≤ 500 million lei	15% - 20%
> 500 million lei	20% - 30%

Source: taken by the author from the source [7]

In order to establish an efficient dialogue between the State Tax Service and economic agents – large taxpayers, to identify all risks of tax non-compliance and to determine the compliance treatment to be applied depending on the impact of the risk registered by economic agents – large taxpayers, in the interaction with large taxpayers it is recommended to use the "Economic Agent – Large Taxpayer Questionnaire". The application of the questionnaire will allow the efficient collection of additional information related to the activity of economic agents – large taxpayers, which will subsequently streamline their distribution in one of the 4 samples and the determination of the compliance treatment applied to each sample.

Taxpayers will be informed about the importance of completing the questionnaire, as well as about the actions that arise as a result of the questionnaire:

• Assigning taxpayers to one of the 4 samples;

• Compliance treatments to be applied depending on the sample;
• Reducing the risks of tax non-compliance;
• Advisory support in the field of tax legislation;
• Improving the history of the economic agent;
• Increasing the degree of trust in the activity of the economic agent;
• Increasing the degree of satisfaction of the taxpayer;
• Transparency in the interaction between the economic agent and the State Tax Service.

The questionnaire is to be applied to economic agents - large taxpayers included in the list of taxpayers monitored through the Compliance Program, during tax visits or individual meetings.

For the rest of the economic agents – large taxpayers, the questionnaire will be applied within the framework of tax administration actions.

Subsequently, the questionnaires provided will be analyzed, the information collected will be compared with the information available in the automated information system of the State Tax Service, and depending on the risks identified, compliance treatments specific to each sample will be applied.

It is recommended to send the questionnaire to the taxpayers' electronic address, with a request to complete it. If the economic agents do not wish to complete the questionnaire, the information will be collected during the tax visit and based on discussions with the taxpayers. [7]

Voluntary compliance of large taxpayers is a priority for the State Tax Service, which determines the registration of a smaller number of taxpayers in arrears, for whom the application of forced compliance treatments is ensured.

In 2023, the STS identified 550 large taxpayers, as well as 500 individuals with high incomes.

Compared to the previous year, in 2023, STS receipts to the National Public Budget (NPB) from large taxpayers increased by 3.81 billion lei, constituting 36% of the total revenues accumulated at the NPB. Revenues to the State Budget from large taxpayers increased by 2.38 billion lei, constituting 45% of the total revenues accumulated at the State Budget.

The largest payers, by type of taxes, are presented in the table below: [8]

Table 3. Large taxpayers by tax type

Name of taxes and fees	Collected 2023 (mil lei)	Large taxpayers
Income tax from entrepreneurial activity	563	4 financial institutions (over 100 million each)
Value added tax	809	3 taxpayers from the energy sector (over 200 million each)
	992	7 taxpayers from the production, trade and mobile operators sectors
Excise duties	1081	4 taxpayers from the alcohol and tobacco production sectors
Total	**3 445**	**18 taxpayers**
Share of total PNB payments paid by large taxpayers	**15,2%**	**3,27%**

Source: taken by the author from the source [8]

At the same time, for the fiscal period 2023, 6,416 individuals were identified with incomes of over 1 million lei each (during 2022 there were 4,810 individuals), who declared total income in the amount of 19.7 billion lei, of which tax was calculated in the amount of 1.46 billion lei (in 2022 17.6 billion lei were declared, of which tax was calculated - 1.45 billion lei).

In 2021: 4007 people → In 2022: 4810 people → In 2023: 6416 people

Figure 2. Number of millionaires in the Republic of Moldova in 2021-2023 years
Source: taken by the author from the source [9] and [10]

The number of millionaires increased by 1,606 compared to 2022, the amount of declared income by 2.1 billion lei, and the amount of calculated income tax by 15 million lei.

The highest income declared by an individual in 2023 was 28.8 million lei. At the same time, the highest amount of income declared by an individual in 2022 based on the Declaration was 43.8 million lei. Of the total number of people who earned income of more than 1 million lei, there are 4,542 male taxpayers and 1,874 female taxpayers.

The highest amount of income declared by an individual in 2023 based on the Declaration (Form CET18) was 28.8 million lei.

Table 4. Income level of millionaires in the Republic of Moldova in 2023

Level of income obtained (lei)	Number of taxpayers
1 000 000 – 1 999 999	3 910
2 000 000 – 3 999 999	1 474
4 000 000 – 5 999 999	441
6 000 000 – 10 000 000	296
More than 10 000 000	295

Source:taken by the author from the source [9] and [10]

The fields of activity of people with the highest incomes are: trade, public catering, medicine and internet activity.

The youngest person in the millionaire category is 19 years old, the oldest – 83 years old. [10]

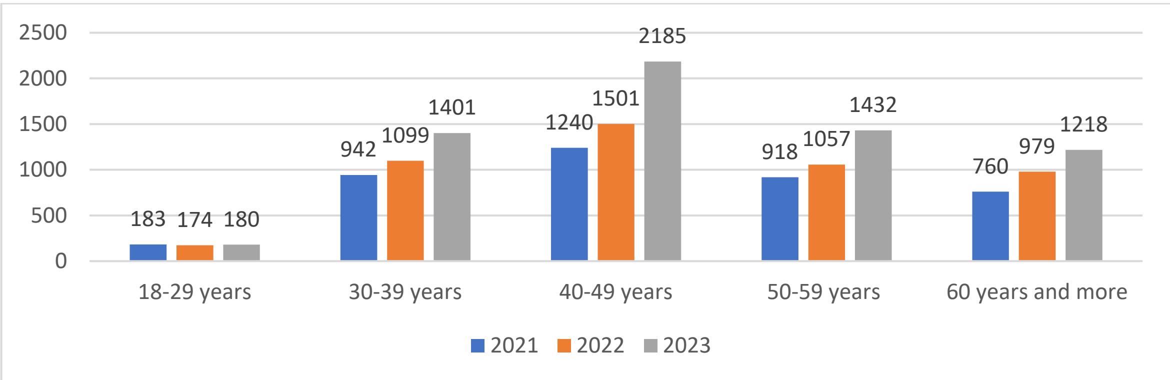

Figure 3. Number of individuals who declared/obtained incomes exceeding 1 million lei, by age
Source: developed by the author based on [9] and [10].

Based on the data in the figure, an increasing trend of millionaires in lei can be observed even by age category. This trend has been maintained for the last 8 years. If in 2016 there were 1549 people, in 2020 there were 2962 people and they contributed 12.2% of the total state taxes from their income. In 2023, they reached 6416 people, who already paid 16.8% of the total state taxes from their salary income. Their contribution to the payment of income tax is 60 times more than other employees. Today we have one million and 500 thousand people who declare their income. This number has increased sharply. And the number of millionaires in this number is extremely small and they pay about 17% of all income taxes accumulated by the state. [5]

CONCLUSIONS

Given that large taxpayers make a significant contribution to the formation of the country's budget and the risks associated with them are much greater and more complex than the tax risks of other categories of taxpayers, the development of balanced strategies that will be adapted to specific cases is important for the effective management of each risk, taking into account the characteristics of large taxpayers and their behavior in terms of compliance with the law. By providing personalized services for large taxpayers and using systemic risk management mechanisms, a favorable environment is created for increasing voluntary compliance with the law and timely fulfillment of tax obligations.

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IMPACT OF TAX OBLIGATIONS ON THE ECONOMIC AND FINANCIAL SITUATION OF ECONOMIC AGENTS OF THE REPUBLIC OF MOLDOVA

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Nadejda CHICU
PhD, Associate Professor,
Academy of Economic Studies of Moldova, Moldova
ORCID: 0009-0009-3573-4809
E-mail: chicu.nadejda@ase.md

Iulia SUVOROVA
PhD, Associate Professor,
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-0323-4668
E-mail: suvorova.iulia@ase.md

Abstract: *Taxes have a significant impact on the financial position of a business entity. In this case, not only the value of tax rates is important, but also such conditions as the timing of tax payment, the tax payment procedure, the availability of tax benefits, and others.*
Current economic conditions are characterized by the desire of any company to achieve high financial results. Profit, as the main financial indicator, is the priority goal of the company. At the same time, the economic result can be maximized both by increasing income and reducing expenses, which include the payment of mandatory payments to the budget and special funds. Therefore, the financial condition of the enterprise depends on the size of the tax burden.
In addition to the direct impact of individual taxes on the financial position of enterprises, the tax system as a whole also affects the activities of business entities. One of the main disadvantages of the tax system of the Republic of Moldova is the frequent changes made to tax legislation, which impedes the process of planning business activities, and also creates the problem of lack of confidence in the duration of tax benefits.
Despite the fact that in general the tax system of the Republic of Moldova is quite liberal in comparison with other countries, the tax collection system often has a negative impact on the financial position of enterprises, which, along with fairly open borders and strong competition from imported goods, leads to growth inhibition production and economic activity. Therefore, in our opinion, the state needs to ease the tax burden and simplify tax legislation for enterprises and support domestic producers in every possible way, including through the tax mechanism.

Keywords: *taxation, financial condition, tax burden, tax administration.*

JEL Classification: *H25.*

INTRODUCTION

The current economic conditions are characterized by the desire of any company to achieve high financial results. Profit, as the main financial indicator, is the priority goal of the company's activities. At the same time, it is possible to improve the financial situation by both increasing income and reducing expenses, which include the payment of mandatory payments to the budget and special funds. Therefore, the financial condition of the enterprise depends on the size of the tax burden.

Taxes have a significant impact on both the financial position of an economic entity and the overall economic situation in the country. At the same time, not only the amount of tax rates is important, but also conditions such as the timing of tax payments, the procedure for paying taxes, the availability of tax benefits, and others.

HEADINGS

Modern economic conditions are characterized by the desire of any company to achieve a high level of profitability. Obtaining high financial results is the main goal of each business entity. All aspects of the company's activities are directly reflected in the financial results: the effectiveness of the organization of production and management system, control of the level of costs and the level of sales prices, features of the economic mechanism and state regulation of the development of certain industries important for the development of the country's economy. The study of the problem of financial results during the economic crisis becomes even more relevant, since the level of wages, the dynamics of funds flow to budgets of different levels, the saturation of the market with products, etc. depend on the profit received by the enterprise.

Profit is the final financial result. Based on this indicator, an assessment of the financial and economic activities of the enterprise is given. Profit is calculated by reducing the amount of income by the amount of expenses incurred in all categories. In order to expand production, meet the material and other needs of the enterprise, it is necessary to find opportunities to increase the financial result. Profit indicators allow you to determine the revenue structure, evaluate the processes of production and sales. When conducting a comprehensive assessment of financial results, it is taken into account that the profit of the enterprise is formed due to the activities of the enterprise for the sale of finished products, due to other transactions, due to the execution of transactions with securities.

The positive value of the financial result is an important indicator of the growth of equity capital, ensuring solvency, financial independence, business reputation and the growth of the company's value in the market. So, we can conclude that the financial result is the determining criterion for the efficiency of management, and the positive value of the financial result determines the possibility of further development of the enterprise and creates a reserve of financial stability, which gives the enterprise the opportunity to respond promptly to changes in market conditions. Taking into account the main goal of the company's activities to maximize profits, we can talk about the importance of planning financial results and profits. Therefore, in order to increase the competitiveness of the enterprise, it is advisable to analyze changes in the profit indicator very carefully.

At the same time, it is possible to maximize the economic result by both increasing income and reducing expenses, which include the payment of mandatory payments to the budget and special funds. Therefore, the financial condition of the enterprise depends on the size of the tax burden. The company, as a taxpayer, is interested in ensuring that the difference between the calculated tax burden and the real one is minimal. The main purpose of any financial performance management methodology is to calculate financial opportunities and compare them with the amount of financing to meet needs.

A direct impact on the financial results of an enterprise is provided by the corporate income tax (in the Republic of Moldova – income tax on legal entities). In our country, for many years, the rate of this tax has remained unchanged at a fairly low level - 12%. At the same time, the share of profitable enterprises in the Republic of Moldova is approximately 50% of the total number of enterprises (the authors' calculations are based on data from the National Bureau of Statistics). At the same time, the share of this tax in the revenues of the national public budget of the country is insignificant – 9.2% in 2023 (the authors' calculations are based on data from the Ministry of Finance on the execution of the national public budget in 2023).A significant incentive for entrepreneurs would be the complete abolition of this tax, but in this case the state loses significant financial resources to carry out its activities, therefore we believe that the rate of 12% on income tax from legal entities is optimal and its further reduction is not rational.

In our opinion, VAT has a more significant impact on the financial condition of enterprises, as due to the value of the tax rate on most goods – 20%, which leads to an increase in the cost of local products and loss of their competitiveness (in the Republic of Moldova there is also a reduced VAT rate – 8%, but for a limited list of goods and services), and by virtue of the established rules for the collection of this tax.

A significant negative impact on the financial situation of enterprises is the need to pay VAT on imported raw materials and supplies before they are imported into the country. This diverts a significant part of the working capital of enterprises from turnover for a fairly long period of time. Enterprises are forced to compensate for the shortage of working capital with bank loans, the rates for which are quite high, especially at present due to the high level of inflation. Therefore, in our opinion, deferring VAT on imported raw materials and supplies would significantly improve the financial situation of business entities.

Another important aspect of the impact of VAT on the financial condition of an enterprise is compliance with the procedure for VAT reimbursement from the budget. According to the Tax Code of the Republic of Moldova, business entities carrying out exempt supplies with the right to deduct and supply at a reduced rate are entitled to refund VAT amounts previously paid to suppliers for inventory purchased for the production of goods and services. But there are also problems in this matter, which are associated with delays in transferring funds from the budget or a complete refusal to reimburse many taxpayers. This is the result of both problems with finding funds in the budget and the fact that cases of abuse of this benefit by taxpayers are being identified, which makes the tax service suspicious of all taxpayers.

Moldovan legislation provides for a list of necessary conditions for obtaining the right to VAT refund. There are many of them and they are very difficult for those who may try to get compensation illegally, but they can be overcome. The inconsistency of the current procedure is that it is as complicated as possible for a law-abiding taxpayer. A Moldovan entrepreneur who has applied for reimbursement of previously paid VAT and submitted the entire list of documents confirming the authenticity of the delivery, first undergoes verification, then waits a long time for a final decision on reimbursement. The positive decision provides for VAT refund first to repay the debts of the business entity to the state budget and other budgets. The taxpayer must receive the remaining amount directly to the bank account, but, unfortunately, the reimbursement procedure stretches for many months, instead of the 45 days provided for by the Tax Code.

For small businesses, a very negative factor is the need to pay VAT on a monthly basis. Taking into account the rather difficult economic situation in the country, the legislative obligation to pay four main tax payments monthly (regardless of the financial situation of the enterprise) – VAT, personal income tax, as well as contributions to the state social insurance budget and mandatory medical insurance funds, have an extremely negative impact both on the liquidity of the enterprise and on the overall the economic situation.

In addition to the direct impact of individual taxes on the financial situation of enterprises, the tax system as a whole also affects the activities of business entities. One of the main disadvantages of the tax system of the Republic of Moldova is the frequent changes made to the tax legislation, which hinders the process of planning and forecasting business activities, as well as creates the problem of lack of confidence in the duration of the benefits provided.

CONCLUSIONS

Summarizing the above, we consider it necessary to make some proposals for making changes to the tax system, which, in our opinion, can lead to an improvement in the financial situation of enterprises and, therefore, will contribute to the development of the economy as a whole. We consider it rational to provide in the tax legislation provisions that:

- it is not allowed to make changes to the tax system during the reporting tax year;
- planned changes should become known to the public for discussion and familiarization long before their adoption (we consider the optimal period to be at least six months);
- the adopted amendments must enter into force no earlier than 3 months after their official publication;

- for small enterprises, provide for the possibility of paying basic taxes and mandatory payments once a quarter.

In conclusion, I would like to emphasize that, despite the fact that, in general, the tax system of the Republic of Moldova is quite liberal in comparison with other countries (low direct tax rates, a large number of benefits), but the tax collection system often has a negative impact on the financial situation of enterprises, which, along with fairly open borders and strong competition on the part of imported goods, it leads to a restraint in the growth of production of Moldovan goods and services, and in some industries even to a reduction in production. Therefore, in our opinion, the state needs to ease the tax burden and simplify tax production for Moldovan enterprises and support domestic producers in every possible way, including through the tax mechanism.

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POSSIBILITIES OF IMPROVING THE BANK RESULTS BY USING MODERN MARKETING STRATEGIES IN THE REPUBLIC OF MOLDOVA

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Stela CIOBU
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-2542-0955
E-mail: ciobu.stela@ase.md

Victoria IORDACHI
PhD, Associate Professor
National Institute of Economic Research of ASEM, Moldova
ORCID: 0000-0002-9176-3729
E-mail: timush_v@yahoo.co.uk

Ana GUMOVSCHI
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0003-1076-0305
E-mail: gumovschi.ana@ase.md

Abstract: *The development and restructuring of the banking sector is heavily influenced by marketing opportunities. The research topic is relevant due to the banks' requirement to continually improve their performance indicators. Achieving this requires a profound understanding of marketing tools and extensive experience in the field. The challenges related to banking marketing include studying and segmenting the financial market, assessing the demand for banking services, optimizing the bank's price and product policy, positioning banking products, identifying market niches and target segments, and utilizing communication and sales methods. Resolving these issues depends on each bank's combination of resources, capabilities, and possibilities. By researching and adopting global banking marketing practices, it is possible to streamline the process of improving the efficiency of the domestic banking business while avoiding potential errors and challenges. The purpose of the paper is to explore international banking marketing practices to define its essence and contemporary strategies. The aim is to showcase how these practices can be implemented by banks in the Republic of Moldova and to identify effective solutions for organizing a successful banking marketing system, which will lead to better bank's performance. To achieve this purpose, the following tasks were undertaken: to research the banking market in the field of modern marketing strategies: analysis of social media and risks; to analyze the international innovation in the modern bank marketing practices; to define the role of marketing in making the banking business more efficient - the foundation of the methodological basis for evaluating the current state of the banking sector in the Republic of Moldova according to marketing requirements etc. The article was developed within the framework of Subprogram 030101 „Strengthening the resilience, competitiveness, and sustainability of the economy of the Republic of Moldova in the context of the accession process to the European Union", institutional funding.*

Keywords: *banking sector, banking marketing strategies, bank market, risks of marketing strategies, market requirements, bank services, etc.*

JEL Classification: *G21, M14, M31, M37, O31.*

INTRODUCTION

Bank marketing is considered a decisive factor in the success of a financial-banking organization, indispensable in its economic and social progress, an important solution to problems, a crucial tool for achieving high performance and a major tool for avoiding risks. At the same time, the banking industry is undergoing a major evolution due to new legislative provisions, regulations, internal processes and procedures applied in the banking sector, advanced technology and a wider scope.

Effective bank marketing can lead to a range of benefits, including increased customer loyalty, greater market share, improved profitability, and stronger brand recognition. By continually striving to achieve their objectives more efficiently than their competitors, banks can stay ahead of the curve and succeed in the ever-changing financial services landscape.

Bank marketing can also involve implementing effective customer service strategies to ensure that customers are satisfied with their banking experience, as well as building strong relationships with customers through targeted marketing communications, promotions, and other initiatives.

Banks in the Republic of Moldova are recommended to adopt modern marketing strategies, such as the use of social networks and personalized services, in order to remain competitive in the increasingly crowded banking market. This will require investment in technology and staff training to ensure effective implementation of these strategies. Moreover, the banks that adopt modern marketing strategies are better equipped to meet the changing needs and expectations of customers and respond to competitive industry pressures.

The purpose of the paper is to explore international banking marketing practices to define its essence and contemporary strategies. The aim is to showcase how these practices can be implemented by banks in the Republic of Moldova and to identify effective solutions for organizing a successful banking marketing system, which will lead to better bank' s performance.

To achieve this purpose, the following tasks were undertaken: to research the banking market in the field of modern marketing strategies: analysis of social media and risks; to analyze the international innovation in the modern bank marketing practices; to define the role of marketing in making the banking business more efficient - the foundation of the methodological basis for evaluating the current state of the banking sector in the Republic of Moldova according to marketing requirements etc.

The research methodology applied in this study relies on previous research and fundamental works in the fields of goods marketing, service marketing, and banking marketing. Various statistical and mathematical methods such as analysis, observation, synthesis, comparison, deduction, and induction were utilized to achieve the scientific approach. These methods were essential for a thorough investigation and analysis of the problem under study.

BEST INTERNATIONAL INNOVATIONS PRACTICES OF BANKING MARKETING STRATEGIES

Marketing innovation strategies can indeed have a significant impact on customer satisfaction in the banking industry. By improving service and product quality, introducing new products, and entering new markets, banks can better meet the evolving needs and preferences of their customers, and differentiate themselves from their competitors.

The consolidation of marketing inputs over time in the international banking industry is an area that requires continuously investigation. It is worth emphasizing that currently leading banks organize product innovation by product, but in the future, it is expected that they will increasingly focus on target market segments. This shift in focus will demonstrate progress in the adoption of marketing knowledge and skills in banking operations[1].

One potential area of focus for strengthening marketing inputs in the banking industry is through the use of data analytics and artificial intelligence. By leveraging customer data, banks can gain valuable insights into customer behavior and preferences, and use this information to develop more targeted marketing campaigns and personalized product offerings.

Another potential approach is to adopt a customer-centric approach to marketing, focusing on understanding and meeting the needs of specific target market segments rather than organizing innovation efforts solely on a product basis. This can involve investing in customer research and developing a deep understanding of the unique needs and preferences of different customer groups.

Ultimately, the adoption of marketing knowledge and skills in banking operations is an ongoing process, and banks must be willing to continuously innovate and adapt in order to stay competitive and meet the evolving needs of their customers, because the adoption of marketing knowledge and skills requires a long-term commitment to learning, implementation, and measurement of results.

Banks must to invest in new technologies and marketing techniques, which is critical for banks to keep a high competitiveness in today's market. They have to be continuously innovate and adapt to changing customer needs, otherwise they risk falling behind and losing market share to more customer-oriented competitors.

Taking into account the international banking market, we can underline several soundness examples of implementation of successful marketing strategies:

American Express: they created a strong brand image through its advertising campaigns and has developed targeted marketing initiatives to attract high-value customers. The competitive advantage of American Express is that they also invested in creating a seamless customer experience, which has helped it to maintain customer loyalty and improve customer satisfaction.

TD Bank: TD Bank, a Canadian bank, is well knowing for its customer-centric marketing approach. The philosophy of this bank is based on the understanding its customers' needs and preferences. They have developed targeted marketing initiatives to address these needs. TD Bank has created a strong brand image through its advertising campaigns and has focused on providing a seamless customer experience across its digital and physical channels.

Standard Chartered: Standard Chartered, a UK-based bank, has been recognized for its social media marketing strategies. It has focused on creating engaging content for social media platforms and has used social media to build brand awareness and attract younger customers. Standard Chartered has also invested in data analytics to better understand customer behavior and tailor its marketing efforts accordingly.

Deutsche Bank: Deutsche Bank, a German bank, has been successful in implementing marketing campaigns that promote its corporate social responsibility (CSR) initiatives. It has focused on highlighting its commitment to sustainability and has developed marketing initiatives that promote its efforts to promote sustainable finance and support social causes. Deutsche Bank has also invested in digital marketing to reach younger customers and has focused on providing a seamless customer experience across its digital and physical channels.

Banco Santander: Banco Santander, a Spanish bank, has been successful in implementing marketing campaigns that target the millennial demographic. It has developed marketing initiatives that promote its mobile banking capabilities and has used social media and influencer marketing to engage with younger customers. Santander has also focused on improving its digital marketing capabilities, which has helped it to attract and retain younger customers.

[1]JOHNE, Axel și PAVLIDIS, Panos. Product innovation in banking: How marketing works. *Journal of Marketing Management* [on-line]. Noiembrie 1995, Vol. 11, nr. 8, p. 9. DOI 10.1080/0267257X.1995.9964391.

These are just a few examples of banks that have successfully implemented banking marketing. Each strategy has its benefits and risks, and the success of each strategy depend on the specific context in which it is implemented. It is important for banks to carefully consider these factors when developing and implementing their marketing strategies.

The case studies provided highlight the successful implementation of marketing strategies by banks, it is important to note that there is no one-size-fits-all approach when it comes to marketing strategies. The success of a marketing strategy will depend on a number of factors such as the bank's target market, competition, regulatory environment and available resources.

A well-designed and executed marketing strategy can help banks differentiate themselves from competitors, acquire and retain customers, and drive revenue growth. Based on this banks can design products and services that meet the needs of customers and distribution through various marketing channels.

There are also some risks associated with the development of the innovative marketing strategies (see Figure 1):

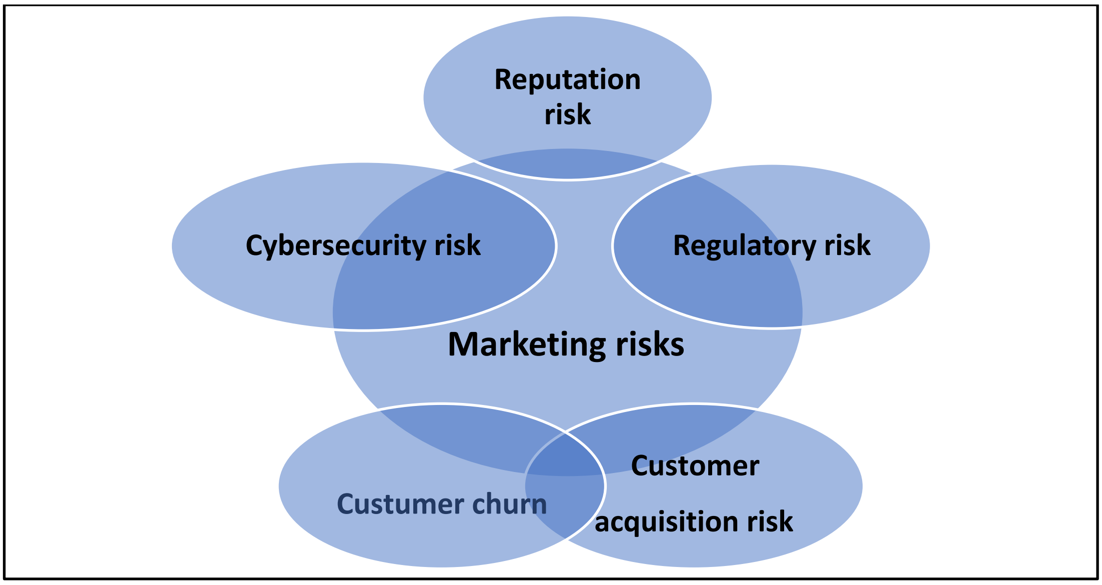

Figure 1. The risks associated with Marketing Strategies in Banks.
Source: Elaborated by the author based on Web Research of Marketing Risks [online]. Available on: https://www.indeed.com/career-advice/career-development/marketing-risks.

In order to achieve the marketing objectives, it is very important for the bank to analysis the benefits and risks associated with different applied strategies. Through the implementation of various marketing initiatives, such as digital marketing, personalized marketing, and social media marketing, banks take the opportunity to approach the customers more effectively, enhance customer experience, and gain a competitive edge in the market.

The best international innovation practices in banking marketing strategies are those that are tailored to the unique needs and characteristics of each bank's customer base. Successful implementation of these strategies requires a deep understanding of customer preferences, market trends, and regulatory requirements. Banks need to be mindful of the risks associated with these strategies, such as reputation risk and regulatory risk, and develop appropriate risk management strategies.

Furthermore, banks need to be innovative in their marketing approach, continuously monitoring market trends and customer behavior to identify emerging opportunities and adapt their strategies accordingly. Innovation in marketing practices also requires a willingness to invest in new technologies, tools, and talent.

In summary, the best international innovation practices in banking marketing strategies are those that are customer-centric, risk-aware, and innovative. By embracing these practices, banks can build stronger relationships with their customers, improve their reputation, and stay ahead of their competitors in an ever-changing market.

BANKING MARKETING TRENDS AND DIRECTIONS AT THE INTERNATIONAL LEVEL

International banking marketing focuses on promoting banking products and services globally in an efficient and effective manner to attract new customers and maintain the loyalty of existing customers. A variety of marketing channels such as advertising, public relations, digital marketing and direct marketing are used to reach specific audiences depending on the marketing objectives.

Personalization has also become increasingly important in banking marketing, with the use of customer data to create marketing campaigns that are more relevant and attractive to each individual customer.

In addition, emerging technologies such as artificial intelligence and data analytics have transformed the way banks approach their marketing strategies, allowing them to offer more personalized solutions tailored to each customer's needs.

International banking marketing is also influenced by regulatory developments and government policy, as well as economic factors such as interest rates and currency fluctuations.

Overall, the success of international banking marketing depends on banks' ability to understand market trends, be innovative and adapt marketing strategies to the needs and preferences of customers in different regions of the world.

Digital marketing has become an essential component of any bank's marketing strategy, as more and more consumers are using digital channels to interact with their banks. According to a survey conducted by the American Bankers Association, digital marketing now accounts for nearly half of all bank marketing budgets.

However, small banks often struggle to keep up with digital marketing trends in banking due to limited resources and smaller budgets. National banks with larger marketing budgets have the advantage of being able to invest in the latest digital marketing technologies and platforms, giving them a competitive edge.

To overcome this challenge, small banks can focus on developing a strong digital marketing strategy that is tailored to their specific target audience and business objectives. They can leverage the power of social media and content marketing to build their brand, engage with customers, and drive traffic to their website. They can also invest in user-friendly websites and mobile apps that offer seamless experiences for customers.

Another strategy for small banks is to partner with third-party vendors that specialize in digital marketing services. These vendors can provide valuable expertise and resources, such as email marketing campaigns, search engine optimization, and social media advertising, to help small banks stay competitive in the digital marketing landscape[2].

There are several important digital marketing trends in banking that banks should consider when developing their digital marketing campaigns (Figure 2).

[2]WEB, EVERFI. 7 Digital Marketing Trends for Banks in 2022 | EVERFI Bank Marketing. În: *EVERFI*. 3ianuarie 2019.

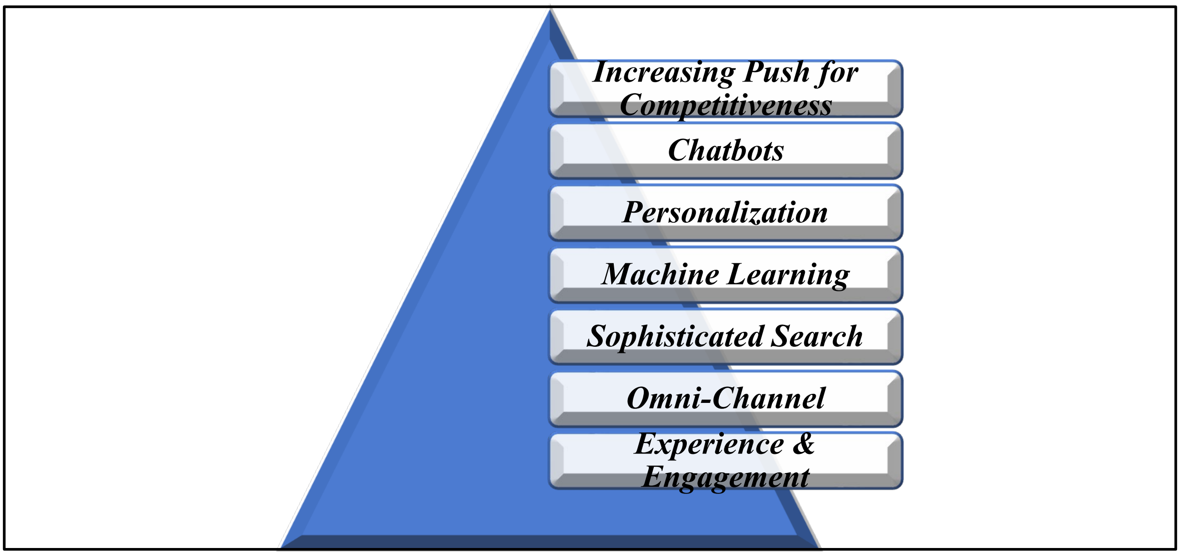

Figure 2. Top 7 Digital Marketing Trends for Banks

Source: Elaborated by the author based on Web Site Research based on digital marketing trends for banks [online]. Available on < https://everfi.com/blog/financial-education/digital-marketing-trends-for-banks/>.

Nowadays, having a digital presence is crucial for any bank. This can include social media, video content, and advertising across various platforms such as Google and Facebook. Banks are recognizing the importance of increasing their digital marketing spend and expanding their efforts across different platforms to improve their advertising efficiency. A lot of banks investing in digital marketing, it has become increasingly challenging to stand out in the highly competitive banking sector. Therefore, banks must adopt unique approaches that showcase their customers and success stories, offer value through their marketing campaigns.

Chatbots are becoming an increasingly popular primary customer service contact point in banks. Chatbots use artificial intelligence (AI) to understand and respond to customer queries and requests in real-time, providing an immediate response to customer inquiries. Chatbots are available 24/7 and can handle a wide range of customer inquiries, from basic account information to more complex requests like loan applications and investment advice. It can improve customer service in banks by providing quick and accurate responses to customer inquiries, reducing the need for customers to wait on hold or visit a bank branch. This can lead to higher customer satisfaction and loyalty, as customers feel that their needs are being met promptly and efficiently.

Segmenting, targeting, and personalization are essential strategies in digital marketing for banks to engage with their customers effectively. These strategies involve dividing a bank's customer base into distinct segments based on shared characteristics, such as demographics, behavior, or needs. The bank can then tailor its marketing messages and offers to these segments, providing more relevant and personalized experiences to each customer. By implementing these strategies, banks can improve the effectiveness of their digital marketing campaigns, increase customer engagement, and build stronger relationships with their customers. Segmenting, targeting, and personalization can also help banks to stand out in a crowded marketplace, creating a competitive advantage and driving long-term growth.

Machine learning and artificial intelligence (AI) are transforming digital marketing in banks by providing insights into customer behavior, predicting customer needs, and automating routine tasks. One of the most significant ways that machine learning and AI are used in digital marketing is through data analysis. Banks collect vast amounts of data on their customers, from their transaction histories to their online behavior. Machine learning and AI can analyze this data to identify patterns and trends, providing insights into customer needs and preferences. This information can then be used to create more effective marketing campaigns and personalized offers. Overall, machine learning and

AI are revolutionizing digital marketing in banks, providing new ways to analyze data, automate tasks, and improve customer service. Banks that embrace these technologies are better equipped to compete in the digital age and meet the evolving needs of their customers.

Integrating search engine optimization (SEO) into digital marketing is critical for banks to ensure that their websites and online content appear at the top of search engine results pages (SERPs) when potential customers search for relevant keywords. By integrating SEO into their digital marketing efforts, banks can increase their online visibility, attract more qualified leads to their website, and improve their overall online presence.

Expanding to an omnichannel approach in digital marketing means creating a seamless customer experience across multiple channels, including online and offline channels. This approach aims to deliver a consistent and personalized experience to customers, regardless of which channel they use to interact with the bank. By expanding to an omnichannel approach, banks can create a seamless and personalized customer experience, improve customer satisfaction and loyalty, and increase revenue through more effective digital marketing campaigns.

In today's digital age, banks must focus on delivering an exceptional customer experience and engagement to remain competitive. Banks that prioritize the customer experience and engagement can differentiate themselves from their competitors and build long-lasting relationships with their customers. By focusing on delivering an exceptional customer experience and engagement, banks can improve customer satisfaction and loyalty, increase retention and referrals, and ultimately drive revenue growth.

The trends in digital marketing for banks outlined above reflect the changing landscape of the banking industry in the digital age. As more and more customers shift towards digital channels, banks must adapt their marketing strategies to remain relevant and competitive.

In summary, banks must prioritize the customer experience and engagement, implement personalization and segmentation strategies, leverage machine learning and AI, integrate search optimization, expand to omnichannel marketing, and adopt new technologies such as chatbots and interactive tools. By doing so, banks can effectively reach their target audience, increase customer loyalty, and drive revenue growth.

It is important to note that these trends are not static and will continue to evolve as technology and consumer behavior change. Therefore, banks must remain agile and adaptable in their marketing strategies to keep up with the changing landscape and stay ahead of the competition.

International banks are likely to follow these trends and directions in their marketing strategies, as they aim to remain competitive and appeal to their customers. However, the implementation of these trends may vary depending on the specific needs and challenges of each bank and the markets in which they operate.

For example, AI and machine learning technologies may be more readily adopted by banks in developed countries where there is greater access to advanced technology and infrastructure, whereas banks in emerging markets may prioritize expanding their digital presence and improving their customer experience through more basic means such as mobile banking.

Additionally, banks in different regions may also prioritize different social and environmental causes based on local cultural and societal values. For example, a bank operating in a region with a high awareness of climate change may focus on reducing their carbon footprint and supporting renewable energy projects, while a bank operating in a region with high social inequality may prioritize initiatives that address income inequality and social justice.

Overall, while international banks are likely to adopt these trends and directions in their marketing strategies, the implementation and focus may vary depending on the unique needs and challenges of each bank and the markets they serve.

Each bank may have its own unique set of challenges and priorities that need to be taken into consideration when developing and executing a marketing strategy. Therefore, it is important for banks to conduct thorough research and analysis before implementing any new marketing initiatives to ensure they are effective and appropriate for their specific context.

There are several directions that banks can take in their marketing strategies to stay competitive in the digital age in Table 1:

Table 1. Directions of banking marketing strategies

Build trust and transparency	Trust and transparency are essential in the banking industry, this can be achieved through clear and concise communication, providing excellent customer service, and being transparent about fees and policies.
Focus on customer education	By providing educational content such as videos, tutorials, and blog posts, banks can help customers understand the benefits of their products and services, and increase engagement and loyalty.
Embrace social responsibility	Banks can differentiate themselves by showing a commitment to social responsibility and environmental sustainability. This can include initiatives such as promoting environmentally-friendly practices, and investing in local communities.
Offer personalized financial advice	Banks can use customer data to offer personalized financial advice and recommendations, such as suggesting ways to save money or recommending investment opportunities. This can help build trust with customers and position the bank as a trusted advisor.
Use influencer marketing	Influencer marketing is becoming increasingly popular in the banking industry. This can help banks reach younger, tech-savvy customers who may be more likely to trust and follow the recommendations of influencers.

Source: Elaborated by the author based on Website Research of Directions of bank marketing strategies [online]. Available on: https://everfi.com/financial-education/bank-marketing/.

Following what is shown in Table 1, it is visible that banks that focus on building trust and transparency, educating customers, embracing social responsibility, offering personalized financial advice, and using influencer marketing are likely to succeed in attracting and retaining customers in today's digital age. Overall, by embracing these strategies and trends, banks can stay ahead of the competition and provide customers with the personalized, transparent, and socially responsible services they expect.

In conclusion, the international trends and directions of marketing strategies in the banking industry are continually evolving, driven by advancements in technology, changing customer expectations, and a competitive marketplace. Banks that are proactive in adapting to these trends and implementing innovative marketing strategies are more likely to succeed in attracting and retaining customers. By implementing these strategies and staying up-to-date with the latest trends, international banks can enhance their brand reputation, increase customer satisfaction, and remain competitive in an ever-changing marketplace.

POSSIBILITIES TO IMPROVE THE BANKING ACTIVITY AS A RESULT OF USING BANKING MARKETING STRATEGIES IN THE REPUBLIC OF MOLDOVA

Banking marketing activity in the Republic of Moldova includes a range of strategies and tactics aimed at promoting banking services, building brand awareness, attracting new customers, and retaining existing ones.

Banking marketing activity in the Republic of Moldova plays an important role in helping banks to stay competitive and meet the needs of their customers. By implementing effective marketing strategies, banks can promote their services, build brand awareness, and attract and retain customers. This is particularly important in a market like Moldova, where there are a growing number of banks operating, making it a highly competitive environment.

Some of the key banking marketing strategies, such as social media marketing, content marketing, and personalized marketing, are becoming increasingly important in Moldova, as they enable banks to reach and engage with customers through various digital channels. At the same time, traditional marketing strategies, such as advertising campaigns, events, and sponsorships, are still relevant, as they help to create brand recognition and increase customer loyalty.

Overall, banking marketing activity in Moldova is an important aspect of the banking sector, and its success depends on effective planning, execution, and compliance with relevant regulations and guidelines. By implementing a well-designed marketing plan, banks in Moldova can differentiate themselves from their competitors, enhance their reputation, and build a strong customer base, contributing to the growth and development of the banking industry in the country.

Indeed, having a solid marketing plan can be a key factor in the success of banks in Moldova, where the competition in the industry is constantly increasing. By effectively communicating their value proposition, promoting their products and services, and building strong relationships with customers, banks can establish a strong presence in the market and attract more clients. Moreover, a strong marketing plan can also contribute to the overall growth and development of the banking sector in the country, which can have positive effects on the economy as a whole.

Some of the common strategies and tactics used in banking marketing in Moldova which can be seen in Figure 3 include advertising campaigns, promotional activities, social media marketing, content marketing, events and sponsorships, and personalized marketing. By implementing effective marketing strategies, banks in Moldova can enhance their customer experience, increase their customer base, and improve their profitability.

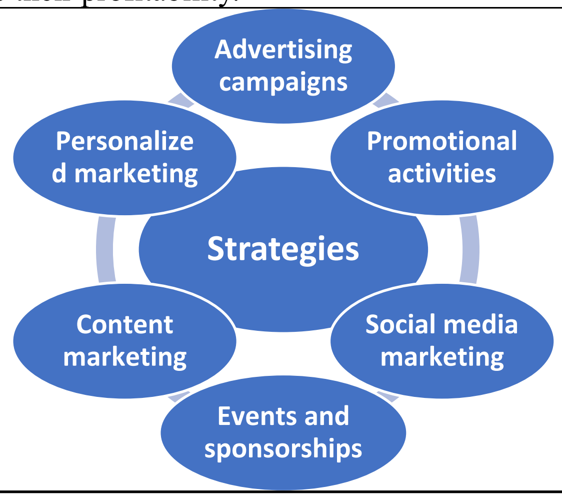

Figure 3. Strategies and tactics used in banking marketing in Moldova

Source: Elaborated by the author based on Web Site Research based on marketing strategies in Moldova's banks [online]. Available on <https://economy-sociology.ince.md/?edmc=526>.

According to Figure 3 the following clarifications can be formulated regarding strategies and tactics used in banking marketing in Moldova. Banks in Moldova use various advertising channels, such as television, radio, print and online media, to promote their products and services to potential customers. They also organize various promotional activities such as discounts, giveaways and other incentives to attract new customers and retain existing ones.

The use of social media platforms, sponsorship of various events, content marketing reflects the growing importance of digital marketing in the banking industry of Moldova and is a good platform for promoting the brand and increase reputation. Another opportunity is using of customer data to personalize marketing efforts, in order to to create a more personalized customer experience and build customer loyalty.

The marketing activity in the banks of Moldova is focused on attracting new customers, maintaining the existing ones, and build brand awareness through various marketing channels and tactics. The implementation of effective marketing strategies, banks can enhance their customer experience, increase their customer base, and improve their profitability.

The banking industry is a highly competitive sector, and it is essential for banks in Moldova to stay ahead of the curve by continually innovating and improving their marketing strategies. By doing so, they can better meet the evolving needs of their customers, keep up with the latest trends and technologies in the industry, and ultimately remain competitive in the marketplace.

Moreover, customer needs and preferences are constantly changing, and banks in Moldova must stay up to date with these changes to ensure that they are providing the best possible services to their customers. By continuously adapting and innovating their marketing strategies, banks can identify new opportunities for growth and offer more personalized and relevant products and services to their customers.

In summary, the banking industry is a dynamic and rapidly changing field, and banks in Moldova need to continuously adapt and innovate their marketing strategies to stay competitive and meet the evolving needs of their customers.

In today's fast-paced and ever-changing business environment, banks in Moldova need to be proactive in implementing new marketing strategies to stay ahead of the competition and attract and retain customers. With new technologies and changing consumer preferences, banks must continually evaluate their marketing plans and make necessary adjustments to stay relevant and successful. By doing so, they can maintain their position in the market and continue to grow and expand their business.

The banking industry is constantly evolving, and banks need to be flexible and adaptive in their marketing strategies to keep up with the changes. The use of new technologies and shifting consumer preferences requires banks to be innovative and creative in their marketing approaches.

Although banks in the Republic of Moldova are using various effective marketing strategies, there is always room for improvement. The banking industry is constantly evolving, and customer needs and preferences are changing rapidly. Therefore, banks in Moldova need to continuously adapt and innovate their marketing strategies to meet the evolving needs of their customers and stay ahead of the competition.

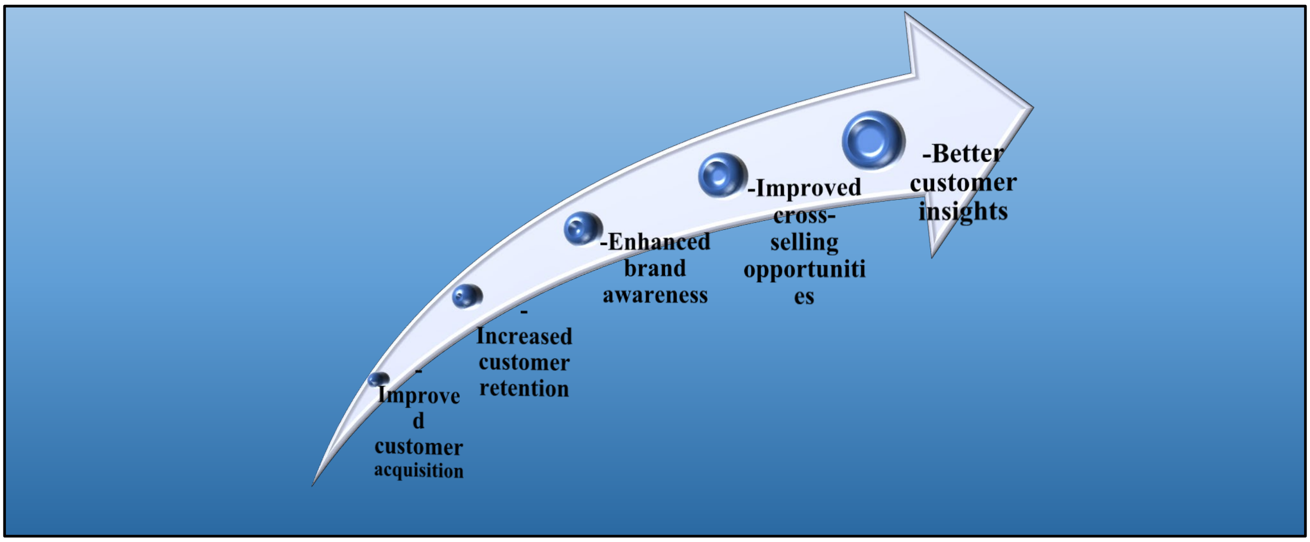

Figure 4. Possibilities to improve the banking activity through marketing strategies
Source: Elaborated by the author based on Web Research based on possibilities to improve banking activity through marketing strategies [online].
Available on: https://www.spectrio.com/marketing/9-bank-marketing-ideas/.

Overall, by implementing effective marketing strategies, banks in the Republic of Moldova can improve their customer acquisition, retention, and cross-selling opportunities, while also building a strong brand image and gaining valuable customer insights.

Effective marketing strategies are crucial for banks in the Republic of Moldova to achieve a competitive advantage in the marketplace. By implementing such strategies, banks can enhance their customer acquisition efforts, retain existing customers, and create cross-selling opportunities that can lead to increased revenue.

In addition, an effective marketing strategy can help banks in Moldova build a strong brand image, which is essential for establishing trust and credibility with customers. A strong brand can also differentiate a bank from its competitors and make it more memorable to customers.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis of international practices of modern strategies of banking marketing there were developed the following recommendations for the banking industry of the Republic of Moldova.

Embrace digitalization: Adopting digital channels such as mobile banking applications, online banking and social media marketing can help banks in the Republic of Moldova reach and engage customers more effectively. Banks should invest in developing user-friendly digital platforms and provide customers with a seamless online experience.

Personalize customer experience: Personalized marketing strategies can help banks differentiate themselves and build lasting relationships with customers. Banks should use customer data and analytics to gain insights into customer preferences and behavior and design marketing campaigns and experiences that are tailored to individual customer needs.

Focus on customer engagement: The success of modern banking marketing strategies depends on banks' ability to engage customers across all touchpoints, including digital and physical channels. Banks should invest in developing a customer-centric culture that places customer engagement at the forefront of their marketing strategies.

Collaborate with FinTech's: Fintech companies are disrupting the banking industry by providing customers with innovative and easy-to-use solutions. Banks in the Republic of Moldova should collaborate with fintech to leverage their expertise and technology to improve their marketing strategies.

Invest in workforce development: Adopting modern marketing strategies requires a skilled workforce equipped with the knowledge and expertise to implement these strategies effectively. Banks should invest in the development of their employees and provide training and development programs that enable them to work with modern marketing tools and technologies.

Leverage Social Media: Social media platforms can be powerful tools for banks to reach new audiences and engage with customers. Banks in the Republic of Moldova should develop a strong social media presence and use these platforms to promote their products and services, answer customer questions, and share relevant industry news.

Prioritize data security and privacy: Customers are increasingly concerned about the security and privacy of their data, and banks in the Republic of Moldova should take steps to ensure that their data security measures are robust and up-to-date. Banks should also be transparent about their data collection and use practices and obtain customer consent before using their data for marketing purposes.

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THEORETICAL-PRACTICAL ARGUMENTS REGARDING THE SELECTION OF THE OPTIMAL METHOD OF DETERMINING THE EXCHANGE RATE

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Ana CÎRLAN
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-9223-7755
Email: ana.cîrlan@ase.md

Abstract: *The exchange rate is one of the indicators of the state of the national economy. It reflects not only confidence in the national currency, but also the development of the country's economy. A state with a strong economy is usually characterized by a stable currency, and strong fluctuations in the exchange rate and its constant weakening usually indicate the instability of the economy or its poor development.*
The relevance of the study is determined by the fact that today there are many theories and methods of determining the exchange rate. In this study we will analyze these theories and methods in detail and consider whether their application in practice is possible.

Keywords: *exchange rate, nominal exchange rate (NEER), real exchange rate (REER).*

JEL Classification: *F31, F37, E52.*

INTRODUCTION

The determination of the exchange rate is an important topic in the economic and financial policy of each country. The exchange rate plays a crucial role in balance of payments balance, external competitiveness of the economy, inflation management and macroeconomic stability.

The selection of the optimal method of determining the real exchange rate (REER) is essential for analyzing the external competitiveness of an economy, for managing economic risks and for establishing effective economic policies. The real exchange rate is important for assessing purchasing power and economic competitiveness in an international context, as it considers not only the nominal exchange rate (NEER), but also inflation differences between the country in question and its trading partners.

The use of deflators to calculate the REER is a standardized method in modern economies to adjust the nominal exchange rate for differences in inflation between a country and its trading partners. Thus, deflators are essential to obtain a more accurate indicator of economic competitiveness, which reflects not only changes in the nominal exchange rate (NEER), but also differences in purchasing power between countries.

Deflators are indices that measure changes in prices to adjust the value of an economic indicator (eg GDP, exports, imports) to constant prices to remove the effects of inflation. Deflators are used to calculate realized economic indicators (eg real GDP, real exports) by adjusting nominal values to price conditions.

BASIC RESEARCH

So, as mentioned, several deflators are used to determine the real exchange rate. International experience offers as methods of determination several indices for the price P0 and P1 - the consumer price index (CPI), the gross domestic product deflator (DGDP), the unit labor cost (ULC) or others such as the index of industrial production prices (IPP), world industrial product price index (WPI), price of exported products (PX), price of imported products (PM).

DGDP is a deflator that signifies the country's economic growth and provides strengths such as:
- includes the prices of all products sold;
- includes the prices of non-marketed products.

But, with all its advantages, in this case differences between prices can be observed, as well as differences in productivity. Thus, DGDP represents a big deviation from the real situation, as revenues from commercial activity are very low. So, the disadvantages in using the deflator are as follows:
- large differences between values from one country to another;
- the high value does not mean a high standard of living for each citizen;
- prices for goods differ, depending on the country.

For many developing countries, including the Republic of Moldova, this indicator has no relevance, because the GDP value is very small. But for highly developed countries like USA, China, Japan this deflator would be welcome.

CPI is more advantageous than DGDP because almost all countries use the same method of calculating this deflator. Thus, the advantages of using the consumer price index are:
- similar determination method;
- includes the prices of a wide range of products;
- international practices provide credible results.

At the same time, there are weak points of this method that prevent the analysis of the real situation on the market, such as:
- the equilibrium price of the traded products cannot be accurately estimated;
- inflation fluctuations may often not reflect the real market situation, such as improving competitiveness and reducing marginal profit, respectively;
- excessive price control;
- the impact of import and export prices on competitiveness.

In many countries, a different sample of products in the minimum consumption basket – 45 - 700 products – is used to calculate inflation. These differences greatly influence the result obtained.

Using unit labor cost (ULC) to determine REER is an important method for assessing an economy's external competitiveness because unit labor cost reflects production costs in an economy, and these costs are critical to export competitiveness. Combined with the nominal exchange rate (NEER) and inflation differentials, unit labor cost is a key factor in the REER calculation.

Another deflator used to calculate the real exchange rate is the ULC which is the ratio of unit labor cost to unit output. Thus, using labor cost as a deflator has its advantages, such as:
- attention returns to a basic element of competitiveness for traded goods and the direction is directed towards cost;
- there is no risk of internalization of the CPI of prices for import and export products;
- ULC is less affected than CPI by the exchange rate.

At the same time, the labor cost also provides certain disadvantages, such as the following:
- unavailability of statistical data on the salaries of the population;
- the data do not include the costs of services, but these are an important element in trade;
- the existence of business cycles that affect the reality of the data;
- not considering costs such as intermediate goods or the cost of capital;
- the dynamics of the cost of labor can represent the substitution factor of the ratio between capital and labor.

An increase in the wage index or an increase in the nominal exchange rate favors the appreciation of the national currency. Unit labor cost is a measure of competitiveness. However, the ULC deflator is influenced by the cyclicality of productivity changes. The IMF proposes to eliminate these influences by using normalized indices. Statistical data are limited, and the ratio of capital to labor predicts time differences and different results depending on the country. In this case, the cost of labor is questionable as a measure of a country's external competitiveness.

ULC however is a more advantageous method for highly developed countries. For the Republic of Moldova, the use of the ULC deflator would represent a great deviation from reality. It is known, for example, in the Republic of Moldova, that imports far outweigh exports, thus, the REER dynamics reflect the incorrect situation because the cost of labor has a much lower weight than the cost of labor of commercial partners in total costs. Moldova is a country that relies on remittances from abroad.

The relative unit value of export or import prices has the advantage of excluding non-tradable goods, but it has other shortcomings, such as:

- are strongly influenced by short-term market fluctuations and are not exogenous to the exchange rate;
- they can be strongly affected by the share of prices of primary products;
- they may fail to present the effects of international competitiveness on the structure of goods
- marketable imported or exported;
- they are average values and not observed prices.

The advantage of each deflator manifests itself from one country to another. Thus, if the gross domestic product deflator is an optimal method for Japan, it does not mean that the situation is the same for the rest of the countries. In general, each country, following various researches carried out, chooses its own method of calculation, as well as the monetary authority of the Republic of Moldova has selected, taking as a basis for determining the real effective exchange rate CPI.

Table 1 shows the deflators used by various countries, depending on the degree of development and the most successful method obtained.

Table 1. Deflators used by various countries

Country	The deflator used
SUA	(IPPI) industrial production price indices
China	(PPI) production price indices
EU	(PPI) production price indices
South Korea	(PPI) production price indices
Taiwan	(PPI) production price indices
Hong Kong	(PPI) production price indices
Thailand	(PPI) production price indices
Singapore	(CPI) consumer price index
Great Britain	(PPI) production price indices
Malaysia	(CPI) consumer price index
Australia	(IPP) industrial production price indices
Indonesia	(IPR) import, export price indices
Philippines	(IPR) import, export price indices
Mexico City	(IPR) import, export price indices
Canada	(PPI) production price indices

Source: developed by the author based on, World Statistical Review[online].[accessed September 10,2024] Available:http://www.tradingeconomics.com/

According to table 1, we observe that countries that enjoy a rich industry with high productivity choose the producer price index as a deflator that provides control of the national currency and manipulation of the effective nominal exchange rate in the necessary direction.

The producer price index is offered as one of the best deflators for determining the effective real exchange rate. Thus, using it as a basis for calculation, we aim for the following advantages:

– includes the prices of the goods produced on the markets;
– includes all spheres of production;
– optimal for presenting competitiveness.

However, IPP also includes disadvantages that differ depending on the country, so some of them are:

– large differences in productivity;
– differences between the number and type of industrial activities;
– price difference in different markets.

CONCLUSIONS

In general, the PPI deflator is used as a calculation index by OECD countries because only industrially developed countries are able to determine the REER according to this method. In the Republic of Moldova with a less developed economy, it is not advantageous to use the PPI when determining the REER. The GDP deflator is advantageous for countries that are not part of the EU, but also have a high level of economic growth. The IMF recommends using the consumer price index to determine the REER.

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IMPLICATIONS OF FINANCIAL LITERACY ON THE FINANCIAL RESILIENCE OF HOUSEHOLDS AND ECONOMIC GROWTH

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Maria COJOCARU
Department of Accounting and Economic Informatics
Moldova State University, Moldova
ORCID: 0000-0003-0357-5689
Email: maria.cojocaru@usm.md

Ecaterina ULIAN
Department of Accounting and Economic Informatics
Moldova State University, Moldova
ORCID: 0000-0001-6105-1221
Email: ecaterina.ulian@usm.md

Abstract: *A population with a high level of financial education is more resilient, capable of making efficient and balanced financial decisions, thereby contributing to the sustainability of financial markets and the country's economic growth. Based on this premise, the aim of this study is to analyze the interdependence between the level of financial literacy, resilience, and the financial well-being of households.*

The applied methodology combines qualitative and quantitative methods. The method of logical abstraction facilitated the systematization of key concepts. Analytical tools such as correlation analysis were used to evaluate the strength of the relationships between the analyzed variables, identifying the most relevant factors influencing economic growth and the financial resilience of households.

The results obtained include the systematization and generalization of the determinants of financial behavior and financial literacy levels. The analysis of the main patterns of household financial behavior confirmed the hypothesis that choosing financial strategies requires a certain level of financial competence. Undoubtedly, financial education is one of the most important factors for both national economic growth and the increase of household incomes. Moreover, financial education is an essential tool in combating poverty and ensuring sustainable well-being.

Keywords*: financial literacy, financial resilience, financial well-being, households*

JEL Classification: *O12; D14; O16; D31*

INTRODUCTION

Financial literacy is one of the fundamental determinants of the financial stability of households. The international community, represented by the Organisation for Economic Co-operation and Development (OECD, 2021), the Leaders of the G20 countries, the World Bank, the European Union, BRICS, and other international organizations, recognizes financial education as a necessary condition for ensuring household well-being and resilience, as well as for encouraging inclusive and sustainable economic growth. The current socio-economic conditions highlight the importance of increasing the level of financial literacy among the population, as the quality of financial decisions directly depends on individuals' knowledge and skills in this field.

Today's reality raises justified concerns, particularly among those who lack the necessary knowledge and competencies to manage their personal or family finances effectively. Increasing financial literacy is not only a matter of personal security but also a key factor for the stability of the entire economy. Irrational decisions in saving and investment are not always immediately apparent but can severely impact the long-term financial security of a significant portion of the population. The lack of financial literacy is particularly prevalent among large segments of society. Individuals with a low level of financial knowledge are more prone to making unconscious mistakes and are less likely to adopt recommended financial strategies. Moreover, they face difficulties in adapting to unexpected economic shocks, making them even more vulnerable to financial instability.

Research in behavioral finance indicates that many households fail to make optimal financial decisions, thereby increasing the risk of a lower standard of living in the future. The responsibility for financial decisions increasingly falls on individuals themselves, while the complexity of choices grows along with their significance. Observations regarding major financial decision-making without adequate knowledge and tools reveal that: a) financial mismanagement is a widespread phenomenon, b) such errors often accumulate subtly and become evident only during major crises, and c) the consequences of these mistakes can have systemic effects, leading to significant costs for household stability and citizens' well-being.

Numerous studies emphasize the importance of financial knowledge and the use of analytical tools in making informed investment decisions and minimizing individual financial risks. The decision-making process requires in-depth knowledge and a broad set of analytical tools to prevent errors in managing personal finances (Maillet et al., 2020; Kamath & Vishwanath, 2022; Sharpe, 2018; Jurczenko & Teiletche, 2022; Lewis & Riley, 2020).

Research conducted in various countries indicates that different population groups exhibit varying levels of financial literacy, highlighting disparities in financial competence among demographic categories. Demographic patterns of financial literacy have been analyzed by B. Parag, who identified significant differences between various population groups, noting that financial literacy levels are considerably lower among certain groups, such as young adults, individuals with lower levels of formal education, and low-income households (Parag, 2023). Researchers Xu and Zia examined differences in adult financial literacy across countries by considering individual characteristics and institutional factors, revealing substantial variations in financial literacy levels between nations (Xu & Zia, 2021). In a comparative study, J. Smith and R. Johnson analyzed how demographic and socio-economic factors influence financial literacy and the impact of financial literacy disparities on various demographic subgroups, providing recommendations for tailored strategies to improve financial literacy (Smith & Johnson, 2022).

Significant differences in financial literacy levels may disadvantage economically vulnerable groups (such as low-income individuals, those with insufficient education, and certain ethnic minorities). These disparities are associated with suboptimal financial behaviors. "Individuals with higher financial knowledge are more likely to adopt a wide range of recommended financial practices" (Hilgert, Hogarth & Beverly, 2003). At the same time, A. Lusardi and O. Mitchell found that "older individuals who demonstrated better financial knowledge were more likely to plan, succeed in planning, and invest in complex assets" (Lusardi & Mitchell, 2007). However, other researchers argue that "financial literacy is a secondary issue in decision-making, partly because data on financial education programs are ambiguous" (Rothwell & Wu, 2019).

A review of the specialized literature has identified key disagreements and divergent perspectives, primarily linked to several factors: the lack of understanding regarding the interdependencies between financial literacy, general education levels, and behavioral patterns; gaps mainly caused by insufficient qualitative and representative data needed for rigorous research; and a deficit of scholarly work wherein authors have successfully developed sufficiently detailed indicators to establish causal links between financial education, financial literacy levels, and actual changes in financial behavior within society, as well as economic growth.

Thus, the necessity of deepening research in this field is evident and remains a priority, particularly concerning how financial education influences the well-being, resilience, and financial security of households.

The scientific hypothesis derived from this literature review posits that financial literacy is a determinant of citizens' standard of living, thus their well-being, as reflected in the GDP per capita adjusted for purchasing power parity (GDP (PPP) per capita), expressed in conventional currency units that eliminate the effects of price level differences between countries. In turn, financial literacy depends on financial education and facilitates the financial resilience of households to various shocks, while financial resilience is a prerequisite for financial well-being, and when maintained and strengthened, financial well-being supports the financial security of citizens.

METHODOLOGY FOR ASSESSING THE LEVEL OF FINANCIAL LITERACY

The documentation process for defining the conceptual and methodological framework of financial literacy and resilience among citizens involves analyzing scientific literature, relevant reports and studies, the methodological tools of the OECD/INFE (International Network on Financial Education, 2022), reports on financial well-being and financial literacy in Romania (Nițoi, 2022), the United States (Board of Governors of the Federal Reserve System, 2023), as well as other reference works and databases.

The European Union's common framework of financial competencies for children and youth, as well as the common framework of financial competencies for adults, aims to enhance financial literacy among EU citizens, equipping them with the necessary knowledge to make informed financial decisions, are based on the OECD/INFE core competencies framework for financial literacy.

The EU/OECD-INFE common framework of financial competencies categorizes competencies into four content areas:1) money and transactions; 2) financial planning and management; 3) risks and rewards; 4) the financial landscape. Each competency is assessed across three dimensions: (i) awareness/knowledge/understanding, (ii) skills/behavior, and (iii) confidence/motivation/attitudes. The total financial literacy score, calculated using the 2022 OECD/INFE tool, is a composite measure ranging from 1 to 21. This score is derived from the sum of three key components: the financial knowledge score, the financial behavior score, and the financial attitude score. A maximum score indicates that an individual has an adequate understanding of financial concepts and applies rational principles in managing financial operations. Each of the three components is calculated based on responses to a set of questions designed to comprehensively assess financial literacy, which results from the three dimensions: knowledge, behavior, and attitudes toward personal finance management.

Financial knowledge is an essential component of financial literacy, aiding individuals to compare financial products and services and make well-informed financial decisions. Understanding fundamental financial concepts and applying arithmetic skills in financial contexts provide consumers with greater confidence in managing financial matters and a better comprehension of economic and financial events that may impact their financial well-being. Financial knowledge is assessed based on responses to seven questions that evaluate understanding of common financial products and services, simple and compound interest, inflation, risk, and return.

According to the OECD/INFE 2022 methodology, financial behavior is evaluated through three thematic blocks (nine questions) that reflect possible patterns of rational financial behavior (OECD, 2022):

I. *Saving and long-term planning.* This block includes three questions aimed at identifying whether respondents: a) actively save money, b) borrow money in times of financial difficulty or avoid loans, c) set long-term financial goals.
II. *Discerning purchasing decisions.* The questions in this block assess whether respondents: a) seek independent sources of information or advice before purchasing financial products or services, b) consider multiple available options before making decisions, c) research the market to make well-founded decisions before purchasing a financial product or service.
III. *Financial management.* This block evaluates the extent to which respondents: a) manage their finances effectively, b) pay their bills on time, c) adhere to payment deadlines.

The questions designed to assess financial behavior provide insights into the actions of financial service consumers across different countries. Additionally, these behavioral components are integrated into financial stability indicators. By aggregating the results from the nine questions/items, a score is obtained that characterizes an individual's financial behavior in relation to their finances. There are studies that indicate that even individuals with sufficient knowledge and the ability to act rationally may have their financial decisions influenced by their attitudes toward various financial matters.

To assess attitudes toward money and personal financial planning, the OECD/INFE 2022 methodology includes three key blocks of statements. Respondents who exhibit a positive attitude toward saving and long-term financial planning receive a higher attitude score. Financial attitude evaluation is based on respondents' agreement or disagreement with statements related to saving and future planning, using a rating scale from 1 to 5, where 1 represents total agreement with the statement and 5 represents total disagreement.

According to the OECD (2022) methodology, financial well-being is presumed for respondents who disagree with statements that indicate financial instability, meaning those who scored 1 or 2 points. Assessing citizens' financial attitudes allows for the identification of financial preferences and motivations, measurement of their inclination toward saving and setting long-term financial goals, and the correlation of their attitude toward money with other aspects of financial literacy, such as knowledge and financial behavior.

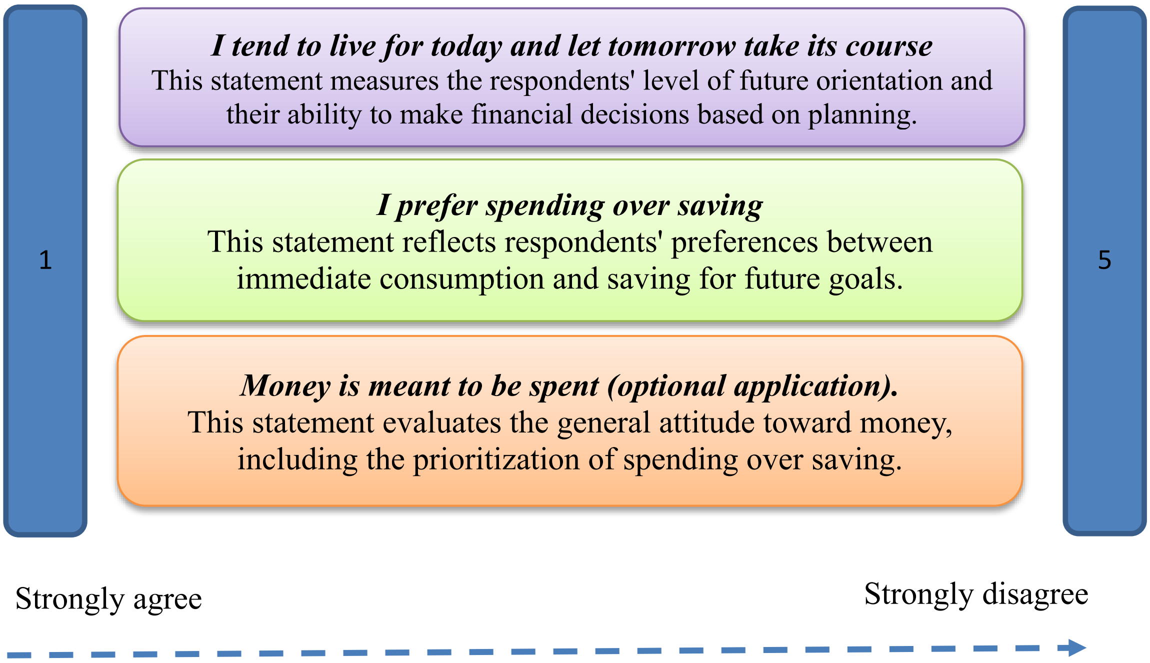

Figure 1. Statements for Assessing Financial Attitudes (Block 1)
Source: Developed by the authors based on the OECD/INFE Methodology (2022)

These statements (Figure 1) have objective of evaluation of objective or measurable financial well-being. At the same time, the subjective aspect of financial attitudes is considered equally important in analyzing perceptions of financial well-being, reflecting respondents' attitudes toward how their financial situation controls their lives. The statements used to evaluate the subjective dimension of financial attitudes are categorized into two blocks (Figure 2). The first block includes three statements, in relation to which respondents express their agreement or disagreement by assigning a score between 1 and 5. According to the OECD methodology, individuals who assign 1-2 points for each of the three statements in the first block—thus agreeing with the respective statements—are considered to have a certain level of financial well-being. The second block of statements includes statements 4 and 5. By expressing their agreement or disagreement with these statements, a comprehensive assessment of financial well-being and the emotional impact of the economic situation on citizens and their households can be conducted. Disagreement with statements 4-5 from Figure 2 indicates a state of financial well-being.

It should be noted that researchers in their studies utilize both the assessment tools developed by the OECD/INFE, which are continuously refined, as well as other research methods that allow for a deeper analysis of influencing factors and the development of necessary strategies and actions. The OECD methodology itself is continuously improved and expanded. Among the digital financial competencies added in 2023 are skills related to digital currencies, digital payment instruments and methods, crypto-assets, personal data and its protection, digital financial products and services, automated financial advising, online scams and fraud, as well as cybersecurity risks.

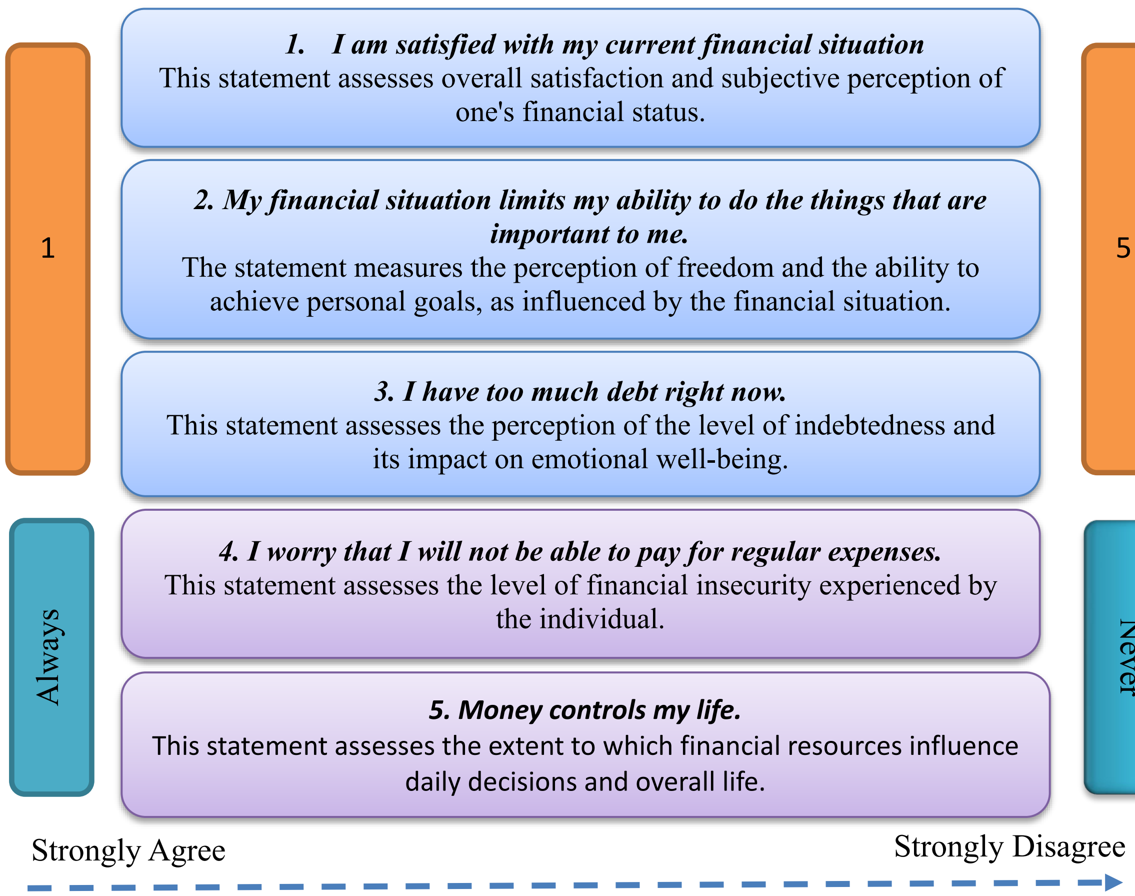

Figure 2. List of Statements for Assessing Financial Well-Being

Source: developed by the authors based on the OECD/INFE Methodology (2022)

The presented analysis suggests that a deeper examination can be conducted by considering the correlation between different concepts and approaches related to financial literacy and the financial well-being of citizens and households. In this study, the authors utilized the financial literacy scores for 2023 published by the OECD for a sample of 37 countries. To test the proposed hypothesis, data from the World Bank database on GDP (PPP) per capita for the year 2023 (EuroStat, 2024) was systematized for the same sample of countries (World Bank, 2024). The statistical correlation method was selected to highlight the existing dependency between these variables.

RESULTS AND DISCUSSION

Financial crises that have had impact on the economies over time highlight the fragility of economic systems. At the same time, their effects underscore the importance of adopting responsible and sustainable economic behavior at both the household and business levels, as reckless financial behavior contributed to the creation of the mortgage bubble and the onset of the 2008 crisis.

The importance of financial education is globally recognized, including at the EU level, as reflected in the Common financial competence framework for children and youth and the Common financial competence framework for adults, which aim to improve financial literacy among young people, ensuring that they are prepared to make informed personal financial decisions.

The results of the Eurobarometer 2023 survey (European Union, 2023) on financial literacy confirmed that overall financial literacy levels in the EU remain alarmingly low. It is well established that strong financial education contributes to sound financial decision-making. The saving process for households can be considered an important mechanism for smoothing income volatility and mitigating economic shocks. Furthermore, in the context of an underdeveloped capital market, deposits remain one of the few financial instruments used for asset accumulation. In many countries, consumption growth has been financed through borrowing, and for numerous households, these loans became non-performing during economic crises. To prevent such situations and promote economic well-being, financial culture and literacy should be widely encouraged at the household level. Household financial decisions regarding saving and spending are also of interest to financial institutions, which should provide households with appropriate financial services. According to data from the National Bank of Moldova (BNM), in 2023, only 8% of Moldovans saved in the form of investments, while 6% did not hold any bank account.

The issue of increasing the financial literacy level among citizens of the Republic of Moldova remains highly relevant.

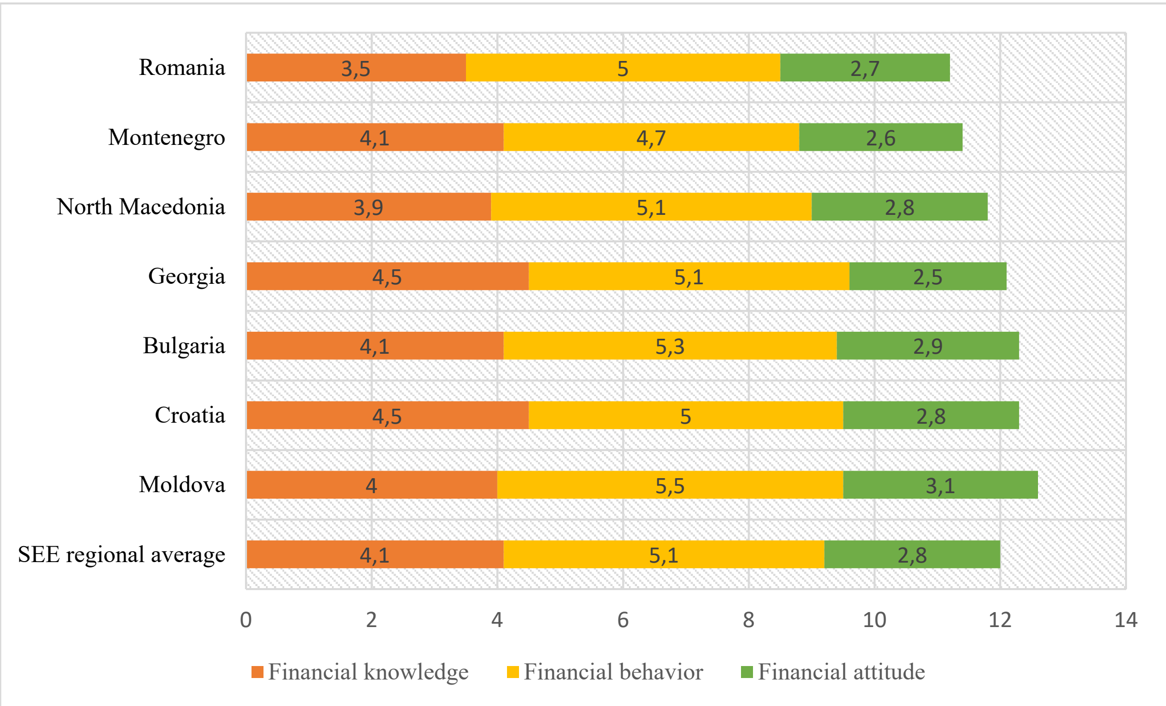

Figure 3. Financial Literacy Scores for 2023 in Southeast European Countries
Source: OECD (2020), pag. 13

According to the OECD research conducted in 2020 on Southeast European countries (OECD, 2020, p. 14), citizens of the Republic of Moldova demonstrated high performance compared to other countries in the region in terms of financial behavior (61%) and financial attitude (61%), while scoring lower in financial knowledge (57%). However, Moldova recorded the highest overall financial literacy score in the region—12.6 points, which is 0.6 points higher than the regional average and 1.4 points higher than the lowest score, recorded in Romania. Despite this, Moldovan citizens do not actively invest in insurance products, savings products, investment funds, or pension funds. Only 9.8% of respondents in the OECD study reported holding savings accounts, investment financial products, while 7.2% reported having placements in life insurance products (OECD, 2020, p. 48).

In the context of enhancing financial literacy and development of rational financial behavior among households and citizens of Republic of Moldova, it is recommended to promote positive financial behavior models and encourage responsible financial attitudes. Specifically, two action directions are proposed: a) Encouraging saving habits and wealth accumulation; b) Promoting the development of long-term financial plans.

Understanding the factors underlying saving and borrowing decisions is essential for designing new financial products and renegotiating lending terms for clients affected by crises. Individual decisions regarding saving or spending money impact the entire economy, as household savings serve as the primary source of investment financing. A country's economy may stagnate if the population has low confidence in the economy, leading to delayed or reduced spending. Conversely, long-term prosperity can only be achieved under conditions of economic confidence and responsible consumption.

The connection between financial education, financial literacy, financial resilience, financial well-being, and financial security of individuals and households is complex, forming an interdependent chain that contributes to the development of a sustainable personal financial system. These concepts can be integrated into a logical framework (Figure 4).

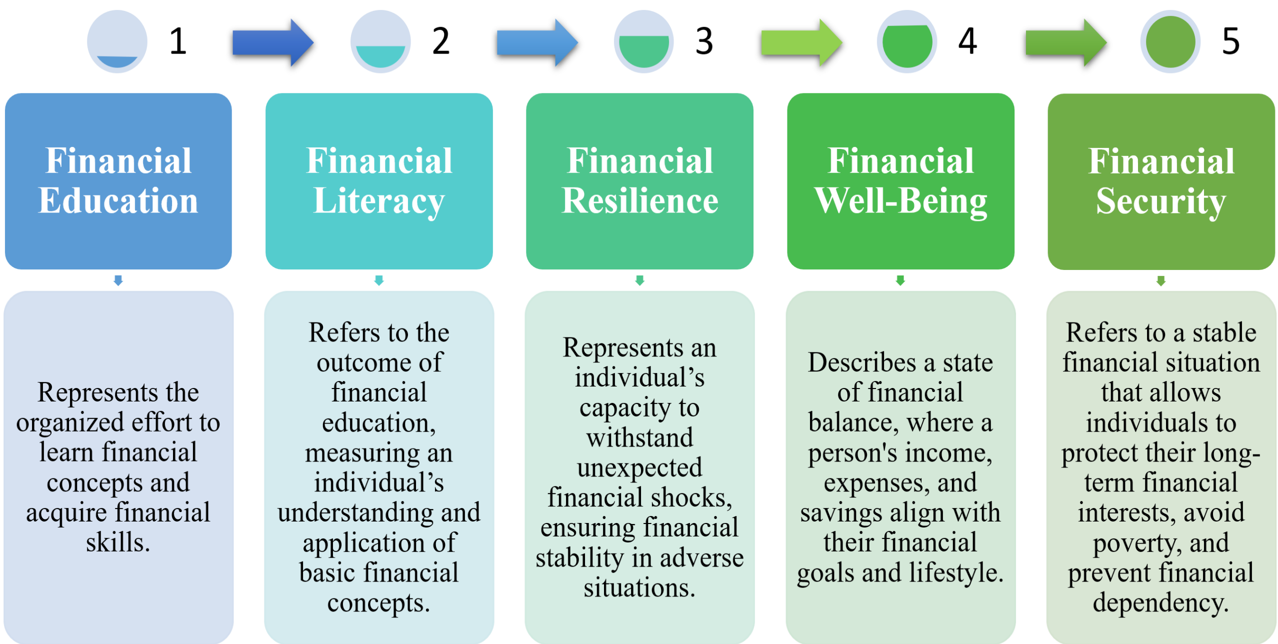

Figure 4. The connection between financial education, financial literacy, financial resilience, financial well-being, and financial security
Source: developed by the authors

This connection illustrates a gradual development process, in which each element plays a vital role in shaping an individual's financial behavior. Investments in financial education, both at the individual and societal levels, are essential for creating a more resilient, prosperous, and financially secure population.

The data presented in Figure 4 suggest that *financial education* serves as the foundation for all other components. Through financial education, individuals acquire knowledge about saving, investing, budgeting, debt management, and other critical aspects of personal finance. With proper financial education, individuals develop competencies that manifest as a certain level of *financial literacy*. A financially literate person is capable of making informed decisions about resource allocation, which serves as the basis for developing other financial aspects. Adequate financial literacy enhances *resilience* to unexpected financial shocks (such as job loss or a medical emergency), as informed individuals are more likely to save and protect themselves against risks through insurance and financial planning. Strong financial literacy and resilience contribute directly to achieving a level of *financial well-being* that aligns with an individual's goals and lifestyle, reducing financial stress and improving quality of life. *Financial security* is the outcome of stable financial well-being and well-developed resilience.

In support of the hypothesis formulated in the introduction, the following conclusions have been established:

- **Financial education** → develops financial literacy.
- **Financial literacy** → improves financial resilience.
- **Financial resilience** → supports the achievement of financial well-being.
- **Financial well-being** → ensures financial security.

To highlight the relationship between financial literacy (FL) – represented by the overall financial literacy score for a sample of 37 countries, the population's perception of financial well-being (FW) – measured by the financial well-being score, preferences and attitudes towards saving and investing (INV) – represented by the proportion of the population that prefers to invest or save, and the indicator reflecting the real well-being of households – GDP (PPP) per capita in 2023, a correlation method was applied to emphasize the dependencies among these independent variables. The reference period for the analysis is the year 2023 (OECD/INFE 2023, pp. 14, 34).

Table 1. Correlation matrix of financial literacy and financial well-being indicators

	INV	*FL*	*FW*	**GDP (PPP)**
INV	1	0,685057	0,600231	0,50771
FL	0,685057	1	0,838921	0,691304
FW	0,600231	0,838921	1	0,696382
GDP (PPP)	0,50771	0,691304	0,696382	1

Source: authors' calculations based on systematized data from the OECD and World Bank databases for the year 2023

The data presented in the correlation matrix suggest that there is a moderate positive relationship among these factors, and, a very strong correlation (approximately 84%) has been identified between financial well-being and financial literacy. Furthermore, the hypothesis that household well-being - expressed as GDP (PPP) per capita - is strongly correlated with the level of financial literacy has been confirmed, with a positive correlation of approximately 70%.

CONCLUSIONS

Current studies indicate that various segments of the population face deficits in financial skills of different types. For some individuals, the primary challenges are related to basic competencies, such as calculating compound interest or managing a personal budget. Conversely, others lack more advanced skills, such as investment planning, risk management, and understanding the principles of asset diversification. This disparity in financial literacy levels underscores the necessity of developing personalized educational approaches that address the specific needs and characteristics of different population groups.

An important aspect that requires further research and development is shaping household financial behavior through appropriate financial education. In the Republic of Moldova, influencing the financial behavior of the population is a complex task, deeply rooted in structural challenges that demand a systematic and integrated approach. Over the past three decades, amid the shift of financial responsibility from the state to individuals, the financial systems of countries that were formerly part of the USSR have experienced rapid growth and development.

This transition occurred significantly faster than in countries with established market economies. Consequently, the population had to adapt swiftly to new economic conditions, learning the principles of financial management, income allocation, and savings strategies. The emerging financial and economic environment has placed significant pressure on the citizens of the Republic of Moldova, compelling them to make complex financial decisions under conditions of limited financial competencies, risk, and uncertainty.

In this context, a responsible public policy focused on improving the financial literacy of the population plays a critical role. Such a policy must be consistent, long-term, and sustainable, aiding citizens to navigate current economic realities with confidence.

The effective implementation of such measures will contribute to raising the level of financial literacy among the population. This, in turn, will increase citizen engagement in various segments of the financial market, positively influencing their economic activities. Ultimately, this process will become a key factor in strengthening and ensuring the efficient functioning of the economy in the Republic of Moldova.

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DEVELOPMENT TRENDS OF CORPORATE INSURANCE IN THE MOLDOVAN INSURANCE MARKET

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Tatiana DZIUBETCAIA
Ph.D. in Economics, Associate Professor,
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-9592-3240
Email: dziubetcaia.tatiana@ase.md

Abstract: *In a market economy, each enterprise is responsible for its financial stability. To ensure comprehensive protection of an organization's interests, corporate insurance is used as one of the key tools for risk management. It addresses various issues, ranging from property protection to employee motivation and information security. Currently, this segment of the insurance market in Moldova is not as developed as it is abroad. However, demand for these services has been growing in recent years. Man-made disasters, fires, floods, and other risks make businesses seriously consider protecting their interests.*

Corporate insurance is not a separate type of insurance but rather a combination of various insurance products designed to safeguard the interests and financial stability of companies (legal entities) and their employees. It provides legal entities with the ability to insure against a variety of risks associated with their activities. While similar to individual insurance, corporate insurance offers a broader range of products and customized tariffs. The stability of business operations depends significantly on the effectiveness of insurance coverage, which compensates for actual losses resulting from business activities, man-made accidents, and unforeseen social circumstances.

The corporate insurance market in Moldova today represents a positive factor contributing to the economy by ensuring the continuity and financial stability of enterprises' production and economic activities.

Overall, corporate insurance is an effective financial risk management tool that provides reliable protection for companies in various unforeseen situations.

Keywords: *corporate insurance, risk, insurance market, business.*

JEL Classification*: G2, G22, G52.*

INTRODUCTION

Corporate insurance in Moldova is an important risk management tool, but its development faces a number of challenges that require careful analysis. In this article, we will consider scientifically based arguments and issues related to corporate insurance in the country.

In a market economy, any enterprise takes care of its financial stability on its own. In order to ensure maximum comprehensive protection of the organization's interests, corporate insurance is used as one of the risk management tools. It solves a number of problems from property protection to employee motivation and information protection. Currently, this segment of the insurance market in Moldova is not as well developed as abroad. But recently, the demand for this service has been growing. Man-made disasters, fires, floods, etc. make businesses seriously think about protecting their interests.

Corporate insurance is not a separate type of insurance, but a set of types of insurance aimed to protect the interests and ensure the financial security of companies (legal entities) and their employees. It provides legal entities with the opportunity to insure various risks associated with their activities. Corporate insurance is similar to insurance for individuals, but has a wider range of insurance products and rates for them.

The stability of the activities of business entities is largely closely related to the productivity of insurance coverage, which helps to compensate for real damage as a result of various types of activities, man-made accidents, and unforeseen social circumstances.

The current corporate insurance market of Moldova is a powerful positive actor influencing the economy due to the continuity and financial stability of the production and economic functioning of enterprises.

In general, corporate insurance is an effective tool in managing financial risks, providing reliable protection for the company in various unforeseen situations.

Corporate insurance is an important segment of the insurance market, providing protection for businesses from various risks. Globalization, technological progress and changes in the economic environment contribute to transformations in this area. This analysis covers current trends, challenges and forecasts for the global corporate insurance market based on scientific research and statistical data.

According to the Global Insurance Market Report (2023), the total global insurance market is approximately US$6 trillion, of which about 20% is corporate insurance. There has been moderate growth in recent years, and corporate insurance is expected to exceed US$1.5 trillion by 2025.

The corporate insurance market is dominated by a few large international companies such as Allianz, AIG, Zurich, and Chubb. These companies offer a wide range of products, including property, liability, cyber insurance, and specialized solutions for various industries.

With the increasing digitalization of business, the threat of cyber attacks is significantly increasing. Research shows that 60% of companies have experienced a cyber attack in 2022 [3]. This leads to an increase in demand for cyber insurance, which can cover losses from data breaches and other cyber threats.

In recent years, there has been an integration of sustainability principles (Environmental, Social, Governance - ESG) into the insurance industry. According to the UN Environment Programme (2022) report [9], 75% of large insurance companies already take ESG factors into account when assessing risks. This leads to an increase in interest in environmental risk insurance and liability for environmental damage.

Given the COVID-19 pandemic, many companies are rethinking their risk management strategies. Statistics show that 30% of organizations began to include business interruption insurance in their policies in 2023 [5]. This highlights the importance of adapting insurance products to changing conditions.

The introduction of technologies such as artificial intelligence and blockchain is transforming the corporate insurance market. AI is used to analyze data and identify risks, allowing insurance companies to offer more personalized and effective products. The use of AI in insurance is expected to grow by 40% by 2025 [10].

The globalization of business leads to an increase in transnational operations, which requires more comprehensive insurance solutions. Companies face a variety of risks, including political, economic and environmental ones. This creates demand for global insurance programs that can cover risks in multiple jurisdictions.

Despite the positive trends, the corporate insurance market faces a number of challenges:

- Lack of trust: Research shows that 55% of companies do not trust insurance policies, considering them to be insufficiently transparent [7].
- Regulatory changes: Constant changes in legislation can complicate the insurance process, especially in the field of cyber insurance and liability.
- Need for educational initiatives: Many businesses, especially small and medium-sized ones, do not have sufficient information about available insurance products, which limits the growth of the sector.

The global corporate insurance market is on the path to significant changes driven by cyber threats, the integration of ESG principles and technological innovations. The market size is expected to continue to grow by 2025, but efforts to increase trust, adapt products and improve insurance awareness are needed to achieve this potential. Corporate insurance will play a key role in ensuring business resilience in a rapidly changing world.

Corporate insurance is based on the concept of risk management, which involves identifying, analyzing and minimizing risks. According to risk management theory, companies should develop strategies that include insurance as one of the key components. Scientific research shows that effective risk management can significantly reduce the likelihood of financial losses and increase business sustainability [1].

Corporate insurance in Moldova is a dynamically developing sector that plays an important role in ensuring the financial sustainability of businesses. In the context of economic and legal changes, understanding the characteristics and current trends in this market is key to analyzing its potential and identifying problems.

Corporate insurance in Moldova plays an important role in ensuring the stability and protection of businesses. Given the specifics of the country's economic and legal environment, this type of insurance has its own unique characteristics. Let's consider the key aspects of corporate insurance in Moldova.

Corporate risk insurance in Moldova is regulated by a number of legislative acts, including the Civil Code and the Law on Insurance. The main players in this market are both local and international insurance companies, which creates competition and a variety of offers. The leading players include: General Asigurări SA; Asterra Grup SA; Moldasig SA. These companies offer a wide range of insurance products, including property, liability, and business insurance.

However, weak enforcement and non-compliance with international standards sometimes become obstacles to further development.

In Moldova, businesses can benefit from various types of corporate insurance, including:

- Property insurance: covers risks associated with damage to or loss of assets such as buildings, equipment, and inventory.
- Liability insurance: protects companies from losses associated with damage to third parties or their property.
- Business interruption insurance: helps compensate for losses arising from the temporary suspension of business.
- Professional liability insurance: relevant for companies providing services, protects against losses associated with errors or omissions in the course of work.

According to the National Agency for Financial Markets of Moldova, the volume of insurance premiums collected from corporate clients shows positive dynamics, but remains lower than in other countries in the region. In 2023, the total volume of insurance premiums amounted to about 660 million euros, of which approximately 30% was corporate insurance. This figure shows the growing interest of businesses in protecting their assets, but also indicates significant potential for further development.

An analysis of statistical data on the corporate insurance market in Moldova allows us to identify key trends, problems and development prospects.

The structure of insurance premiums by types of insurance shows that the following categories account for the largest share:

- Property insurance: 50%
- Liability insurance: 25%
- Other types (including cyber insurance and business interruption insurance): 25%.

The data confirms that most corporate clients prefer traditional forms of insurance, such as property and liability insurance.

According to a 2023 study, only 25% of small and medium-sized businesses have business insurance policies. This low uptake reflects a lack of awareness of the benefits of insurance and the fact that many companies do not perceive insurance as a necessary tool to protect their assets.

Research shows that the main reasons for low insurance uptake include:
- Low trust: 60% of respondents said they do not trust insurance companies.
- Lack of awareness: 70% of business owners are unaware of available insurance products.
- Economic instability: 50% of respondents view insurance as an additional expense.

Since 2021, there has been an increase in interest in specialized types of insurance, such as cyber insurance and business interruption insurance. This is due to the increase in cyberattacks and unexpected events, such as the COVID-19 pandemic. About 15% of companies have begun to view these types of insurance as necessary.

According to the data, 40% of insurers are implementing digital solutions to simplify the process of issuing and managing policies. This can increase trust and convenience for customers, which in turn can help drive premiums up.

TYPES OF INSURANCE AND THEIR POPULARITY

1. Property Insurance

Property insurance is central to corporate insurance. It includes protection for buildings, equipment, and inventory. However, uptake remains low, with an estimated 20-30% of companies having property insurance policies.

2. Liability Insurance

Public liability insurance is also gaining popularity, especially among businesses in high-risk industries such as construction and manufacturing. However, many companies still do not realize the need to protect against potential losses due to third-party damage.

3. Specialty Insurance

There are also specialized types of corporate insurance, such as business interruption insurance, professional liability insurance, and cyber risk insurance. However, their use is limited, indicating a lack of awareness among businesses about such products.

Key Trends in the Development of the Corporate Insurance Market in Moldova:

- More strict Regulation: The National Commission for the Financial Market (NCFM) is introducing increasingly stringent requirements for insurance companies, aimed at increasing transparency and protecting the interests of clients.
- Rise of Online Insurance: More and more companies are switching to online platforms for purchasing insurance policies, which simplifies the process and reduces costs.
- Expanding Product Range: Insurance companies are offering a wider range of products to meet the growing needs of businesses. Particular attention is paid to cyber risk, professional liability, and property insurance.
- personalized Solutions: Companies are looking for tailored insurance solutions that take into account their unique risks and needs.
- Increasing Sum insured: Due to the rising cost of assets and increased competition, companies are inclined to increase the sum insured.

Factors Affecting the Market:

- Economic Situation: Economic growth and stability have a significant impact on the demand for corporate insurance.
- Legislative Changes: New laws and regulations can significantly change the insurance market.
- Competition: Competition between insurance companies stimulates the development of new products and services.
- Technological Innovations: New technologies such as artificial intelligence and blockchain are transforming the insurance sector.

As the Moldovan economy develops, there is a growing interest in corporate insurance. Businesses are beginning to realize the importance of protecting their assets and risks. However, the level of insurance penetration remains lower than in more developed countries, which is due to the lack of awareness of businesses about the possibilities of insurance and its benefits.

Despite the positive trends, corporate insurance in Moldova faces a number of problems.

PROBLEMS OF LEGAL REGULATION

Despite the existence of legislative acts regulating insurance activities, the legal framework in Moldova needs to be improved. Research shows that uncertainty in law enforcement and insufficient protection of policyholders' rights lead to a lack of trust on the part of businesses (Popescu, 2022). Corporate clients may fear that their claims will not be properly satisfied in the event of an insured event, which reduces the overall interest in insurance.

Economic and social factors

Economic instability in Moldova, including high inflation and low income levels, also negatively affects the corporate insurance market. Analysis shows that companies, especially small and medium-sized ones, often consider insurance as an additional expense, which leads to its ignorance (Rusu, 2023). Social factors, such as low financial literacy and lack of information about insurance products, further aggravate the situation.

Awareness and education problem

Low awareness of corporate insurance among entrepreneurs is also a significant problem. Research shows that 60% of small businesses do not have sufficient information about insurance products and their benefits [2]. This points to the need for educational initiatives that could raise awareness and change the perception of insurance as a necessity rather than an unnecessary burden.

The following specific aspects of corporate insurance in Moldova can be highlighted:

- Impact of the COVID-19 pandemic: The pandemic has highlighted the importance of business interruption insurance and other pandemic-related risks.
- Compliance with international standards: Many Moldovan companies strive to comply with international corporate governance standards and, therefore, require a wider range of insurance coverages.
- The role of small and medium enterprises: SMEs in Moldova often face limited access to financial services, including insurance.
- Impact of climate change: Given the geographical location of Moldova, insurance against natural disasters is becoming increasingly relevant.
- We can observe the following development trends in corporate insurance in Moldova:
- Individualization of insurance products: Insurance companies are increasingly offering customized insurance solutions that take into account the specifics of each business.
- The growth of online insurance: The convenience and accessibility of online platforms make online insurance increasingly popular.
- The rise of data: Data is playing an increasingly important role in determining risks and rates.
- Sustainable insurance: Insurance companies are increasingly focusing on sustainability and offering products that help companies reduce their environmental footprint.

Given the current trends, there are several areas for the development of corporate insurance in Moldova:

- Educational programs: Organizing seminars and trainings for businessmen on the importance and benefits of corporate insurance. Given the growth of information technology and the digitalization of business, educational initiatives and programs to raise awareness about insurance can significantly change the situation. Insurance companies offering seminars and consultations for entrepreneurs will be able to take a stronger position in the market.
- Improving the legal framework: Developing and implementing clearer rules protecting the rights of policyholders, which will increase the level of trust in insurance companies.

- Adaptation of insurance products: Insurance companies should develop specialized products that take into account the specifics of local businesses, which can contribute to the growth of interest in insurance.
- Innovation and digitalization: The introduction of new technologies, such as artificial intelligence and blockchain, can significantly simplify the process of issuing policies, risk management and claims settlement. Insurance companies using digital solutions will be able to offer more transparent and accessible products.

Thus, it can be concluded that corporate insurance in Moldova holds significant growth potential but requires a systematic approach to address existing challenges. Scientifically grounded analysis indicates that, given the current economic and social conditions, active efforts to raise awareness, improve legal regulation, and adapt products could significantly transform the corporate insurance market in the country.

A detailed analysis of statistical data reveals that Moldova's corporate insurance market is still in its development phase, which can be advanced through increased awareness, product adaptation, and the integration of technology.

While the corporate insurance market in Moldova demonstrates substantial potential for growth, it faces several challenges, such as low trust, economic instability, and a lack of awareness. Overcoming these obstacles requires a comprehensive approach, including enhanced legal regulation, educational initiatives, and the introduction of innovative solutions. Given the market's dynamics and trends, corporate insurance has the potential to become a crucial tool for ensuring the financial stability of businesses in Moldova.

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THE CONCEPT OF CORPORATE GOVERNANCE AND ITS ROLE IN FINANCIAL REPORTING

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Lica ERHAN
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0001-5204-6367
E-mail: lica.erhan@ase.md

Valentina PALADI
PhD, Associate Professor
Moldova State University, Moldova
ORCID: 0000-0003-0371-4183
E-mail: valentina.paladi@usm.md

Eduard VIERU
Academy of Economic Studies of Moldova, Moldova
ORCID: 0009-0007-8729-1953
E-mail: edwardvieru@mail.ru

Abstract: *Corporate governance represents a complex set of relationships, regulated at the legislative level and built among all persons interested in the corporation. The concept of corporate governance is the overall management of the entity by implementing an effective control system, thereby ensuring that the business is run in the interest of investors and stakeholders.*
The aim of this paper is to examine different models of corporate governance applied in local practice and how this governance is reflected in financial reporting. The requirements regarding the presentation of information related to corporate governance in the management report, as a component of the annual financial reporting, are stipulated in the Law of Accounting and Financial Reporting. In particular, in the management report drawn up and presented annually by all public interest entities, should be included information about the corporate governance code applied by the entity, with reference to the source of the publication; the degree of compliance of the entity with the provisions of the corporate governance code, and if it deviates - the explanation regarding the parts of the code that it does not apply and the reasons for not applying; the entity's internal control and risk management systems, in relation to the financial reporting process, etc.
The results of this paper highlight the way the information related to corporate governance is disclosed in the management report drawn up and presented by the public interest entities. The information presented in the chapter dedicated to corporate governance, as well as in the other sections of the management report, facilitates the users of the financial statements with additional information helping them to assess correctly the activity of the public interest entity and to adopt optimal decisions.

Keywords: *corporate governance, internal control, management report.*

JEL Classification*: G00; G30.*

INTRODUCTION

Corporate governance is a key tool in the management of the entity with the help of which it is possible to ensure the sustainable growth of the entity, to protect the interests of all interested parties, in order to ensure a transparent business environment. The main purpose of corporate governance is to maintain a balance between the interests of shareholders, the entity's management and other stakeholders.

In the Republic of Moldova, the concept of Corporate Governance has been widely used since 2007, with the entry into force of the first Corporate Governance Code, approved by Decision no.

28/6 from 01.06.2007 of the National Securities Commission (currently, the National Financial Market Commission), the provisions of which were intended only for joint-stock companies. Later, by Decision no. 67/10 from 24.12.2015 of the National Commission of the Financial Market, a new Corporate Governance Code was approved, and by Decision no. 820 from 27.10.2023 of the Government of the Republic of Moldova was also approved the Model Code of Corporate Governance of State Enterprises/Municipal Enterprises and Joint Stock Companies/Limited Companies with Full Capital/Majority Public Capital. In accordance with the provisions of these legal documents, each domestic public interest entity, at the end of the management year, is obliged to report the results of corporate governance.

Examining the concept of corporate governance and the way of presenting information related to corporate governance in financial reporting is the purpose of this research.

The methodological basis used in the research is the legal and regulatory framework related to corporate governance and the results of the investigations of domestic and international specialists in the field of corporate governance. In order to carry out the given research, the following methods were used: the analysis of the legal framework and the specialized literature in the field of corporate governance, the synthesis of the information presented in the financial reporting, the deductive and inductive method for the presentation of financial and non-financial information in the financial reporting, as well as the authors' own reflections.

RESULTS AND DISSCUSIONS

In international practice, two models of corporate governance are used: Anglo-American and European. In the opinion of the economist Pilova F.I. „the Anglo-American model is based on the adoption of a strict division between ownership and management. The intervention of the state in the affairs of the entities is very limited. Investment activities for financial institutions are prohibited. The European model, on the contrary, limits the protection of the rights of the owners, placing the interests of the state above the interests of the owners. In such models, banks, lenders, community employees, and unions are involved in corporate affairs".

Given the fact that the development of the Corporate Governance Code was based on international practice in the field of corporate governance, the principles of corporate governance developed by the Organization for Economic Cooperation and Development (OECD), we can deduce that the European model is applied in domestic practice.

One of the provisions stipulated in the Corporate Governance Code relates to the need to disclose information related to the way corporate governance is organized and its transparency by public interest entities. Section 104 of this Code lists the information related to corporate governance that must be disclosed and placed on the web page of public interest entities. In particular, paragraph 2 of point 104 of this Code stipulates that information related to corporate governance should also be disclosed in the "management report on compliance with corporate governance recommendations and the provisions of the law".

The management report, according to art. 23, paragraph 1 of the Accounting and Financial Reporting Law no. 287/2017, is a document that is prepared and presented annually by all medium-sized entities, large entities and entities of public interest, together with the financial statements. The paragraf (8), art. 23 of this law stipulates that „in the management report of the entity of public interest, a separate chapter dedicated to corporate governance should be included", containing information on:

1. The corporate governance code applied by the entity, with reference to the publication source - in this section the information regarding the development, updating and application within the entity of a corporate governance code, as well as its publication source, must be disclosed.

2. The degree of compliance of the entity with the provisions of the corporate governance code, and in case it deviates - the explanation of the parts of the code that it does not apply and the reasons for non-application - the development, updating and approval of the Corporate Governance Code still does not guarantee an efficient management of the entity. It is essential that the provisions stipulated in the Code are applied and respected in the daily activity of the entity. Taking into account the aforementioned, in this section of the management report, the degree of compliance of entities with all the provisions stipulated in the Code and/or existing deviations must be described. When disclosing this section, the entity could use the Declaration "Compliance or justification", which is an annex to the Corporate Governance Code approved by CNPF Decision no. 67/10/2015. If any approved action or decision deviates from the provisions set forth in the Code, the entity must provide a detailed justification in written form.

3. The entity's internal control and risk management systems, in relation to the financial reporting process - in this section of the management report, information should be disclosed regarding the existence within the entity of internal control and risk management systems that the entity may face in its economic-financial activity. We would like to mention that the internal control system, through its objectives and procedures, aims to ensure a good use of resources (financial, material, human) and their correlation with the entity's objectives. The purpose of the internal control system is to eliminate/reduce the risks that may affect the achievement of the entity's objectives and to improve the management of the controlled activities.

At the same time, a primary element directly related to the internal control system is related to effective risk management. Risk management continuously assesses the risks to which the entity's activity is or may be exposed. Running risk management processes ensures the identification, analysis and assessment of risks, in order to maintain them at acceptable levels, depending on the entity's risk tolerance and its ability to manage these risks.

4. Significant shares of participation in the social capital, direct or indirect - in this section of the management report, it is necessary to disclose the information on the way the social capital was constituted, specifying the significant shares held directly or indirectly in the social capital of the company. It should be mentioned, that currently, there is no normative act, which would accurately explain the notion of „significant share of direct or indirect participation in the share capital of the joint-stock company" and which would establish some level of this share. However, such rules exist, for example, in the case of insurance companies. The entity of public interest, such as a joint-stock company, could use the provisions stipulated in art. 26 and art. 85 of Law no. 1134 from 04.02.1997 on joint-stock companies, namely that of at least 25% of the company's share capital, as the level of the significant share of participation in the social capital.

5. Holders and beneficial owners of any securities that confer special control rights and the description of those rights - the rights of holders of securities are stipulated in the normative acts in force and in the internal documents of the company: Law no. 1134 from 02.04.1997 on joint-stock companies, Law no. 171 from 11.07.2012 on the capital market, the Corporate Governance Code, the Statute society. But in addition to the basic rights (to be informed, to participate and vote in the General Shareholders' Meeting, to receive dividends, to transfer or dispose of the shares in accordance with the law, to be elected to the management bodies of the company, etc.), the holders of securities may also have special rights.

In accordance with art. 3 of Law no. 308 from 22.12.2017 on the prevention and combating of money laundering and the financing of terrorism, (the same definition is also found in art. 3 of Law no. 202 from 06.10.2017 on the activity of banks) beneficial owner - represents a natural person who ultimately owns or controls a natural or legal person or a beneficiary of an investment company or administrator of the investment company, or person in whose name an activity is carried out or a transaction is carried out and/or who holds, directly or indirectly, the ownership or control over at least 25% of the shares or voting rights of the legal entity or over the assets under fiduciary administration. As a result, in the given section of the management report, it is necessary to disclose the information regarding the existence within the company of the beneficial owners of the securities.

When identifying the beneficial owners of securities, the information presented in Decision No. 147 of the Board of Directors of the National Bank of Moldova from 31.07.2014 "Recommendations regarding the identification of the beneficial owner" can be used. In particular, according to point 20 of Decision no. 147, in order to identify who the actual beneficiaries are, it is necessary to establish:

- based on the data from the registration certificate or the extract from the body authorized to carry out the state registration, all persons who own more than 25% of the company's shares or voting rights;
- the persons with the right to appoint or fire the members of the management bodies of the company;
- persons who have the right to exercise a significant influence on the activity of the company and/or its management bodies.

Also, when identifying the effective beneficiaries of the securities, the manner of their participation in the company's share capital or holding the right to vote must also be taken into account: directly or indirectly. For example, if an entity has four founders, three of whom own 20% of the share capital and one 40%, then the beneficial owner will be the shareholder who owns 40%. But it is possible for the shareholders with a 20% share to enter into an agreement by which they transfer their voting rights to one of them, in this case the effective beneficiary will be both the shareholder who owns 40% and the shareholder who benefited from the transmission of voting rights from the other two shareholders.

6. All restrictions regarding the right to vote, such as limiting the right to vote to holders of a certain share of the share capital or a certain number of votes; the deadlines imposed for the exercise of the right to vote or the systems where, with the cooperation of the entity, the financial rights attached to the securities are separated from their ownership - effective corporate governance must protect and contribute to the exercise of the voting rights of the holders of shares in the company's share capital. Resulting from this, in the given section of the management report, it is necessary to disclose the information regarding the existence within the entity of some restrictions or limitations on the voting rights of the holders of a certain share of the share capital or some deadlines imposed on them for the execution of the right to vote. When drafting this section, it is necessary to take into account the provisions stipulated in Law no. 1134 from 02.04.1997 on joint-stock companies, as well as the company's Statute.

7. The provisions of the legislation regarding the appointment and replacement of the members of the council, of the executive body, as well as regarding the amendment of the entity's statute - in the given section of the management report, the information regarding the election of the members of the company's Council and the termination of his powers, the appointment of the members of the executive body, as well as the way of amending the entity's Statute must be presented. When drafting this section, it is necessary to take into account the provisions stipulated in art. 66-70 of Law no. 1134 from 02.04.1997 on joint-stock companies, Decision no. 67/10 from 24.12.2015 regarding the approval of the Corporate Governance Code and the Company Statute.

8. Competences of the board and the executive body regarding the issuance and redemption of securities - in this section of the management report, the competence of the entity's governing bodies regarding the issuance and redemption of securities must be briefly presented. When preparing this section, it is necessary to take into account the provisions of art. 11-15 and art. 79 of Law no. 1134 from 02.04.1997 on joint-stock companies (the version in force from 29.12.2017 based on the amendments by LP274 of 15.12.17), chapter 2 of Law no. 171 from 11.07.2012 on the capital market and by the Statute of the company.

9. The powers and rights of the management bodies, of the shareholders, of other holders of the entity's securities and the ways of exercising them - in this section of the management report, the powers, rights and basic obligations of the management bodies and the owners of the entity are briefly presented. When preparing this section of the management report, it is necessary to take into account the provisions stipulated in Law no. 1134/1997, Law no. 171/2012, Law no. 845/1992 and the Corporate Governance Code.

10. The structure, mode of operation and composition of the management bodies and of the entity's committees - when preparing this section of the management report, it is necessary to take into account the provisions stipulated in the company's Statute, in which the structure, mode of operation and composition of the management bodies, established in accordance with the normative acts in force (Law no. 1134/1997, Law no. 171/2012, Law no. 845 of 03.01.1992 on entrepreneurship and enterprises).

CONCLUSION

Corporate governance is a valuable tool in the management of any entity. Through it, it is possible to ensure the sustainable development of the entity and the transparency of its activity, attract financial resources and win the trust of partners, protect the interests of all parties participating in its economic activity and build a positive reputation. Investors and other interested parties cannot make reasoned decisions about investments, loans and other business without knowing the actual situation within the entity. That is why a mandatory requirement stipulated in both the Corporate Governance Code and Law no. 287/2017 consists in the disclosure of financial and non-financial information related to the way corporate governance is implemented and achieved. We believe that the information presented in the chapter dedicated to corporate governance in the management report is intended to facilitate the users of the financial statements in the correct evaluation of the public interest activity in the decision-making process.

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INSURANCE IN THE MODERN ECONOMY

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Svetlana GHERJAVCA
PhD, Associate Professor
State University of Moldova, Moldova
ORCID: 0009-0002-2994-8412
E-mail: svetlana.gherjavca@usm.md

Abstract: *Traditionally, insurance is seen as a means of protection against financial losses caused by certain unforeseeable situations. At the same time, insurance is an important component of a country's financial system and an active participant in the financial market. The insurance market has developed intensively in recent years and has become an important financial instrument. The specific feature of insurance is that it not only offers protection and psychological comfort to policyholders, but also saves financial resources and increases investment opportunities overall. Insurance therefore offers real opportunities for capital growth not only for insurance companies but also for policyholders, especially in the case of life insurance. This approach served as a premise for the research. Thus, the aim of the paper is to analyze and present the role of insurance in the modern economy. In the process of research, such methods as analysis, induction and synthesis were used.*

Keywords*: insurance, modern economy, investment, savings, stability, efficiency.*

JEL Classification: *A13, B41, C40, D01, D70, E20, G22.*

INTRODUCTION

Insurance plays an important role in the economy of each country, in the activity of economic entities, as well as in the life of any citizen. In other words, insurance comes with important funds on the financial market, allows the continuation of the activity of economic entities without great obstacles, and in the case of citizens, provides them with protection and security for the future. These are the main functions of insurance. Essentially, insurance was designed to provide protection. However, with the development of economic relations, insurance is diversifying, emphasizing their role in the economy. The importance of insurance is also confirmed by the existence of mandatory insurance, which continues to be completed and adapted to the realities of each state. At the same time, throughout their evolution, insurance has shown that they can offer much more benefits, besides the protection itself. Thus, they have a considerable impact on the cyclicality of business, the stability of financial markets, the encouragement of innovations and, last but not least, they create the psychological comfort necessary to carry out effective activities.

MATERIALS AND METHODS

In this paper, the focus is on the study and analysis of the role of insurance in the conditions of modern economy, which has expanded considerably lately. In the research process, various research methods were used: analytical, induction, comparative, observation, description. As informative and statistical materials, the data provided by the official websites of the National Bureau of Statistics of the Republic of Moldova, the National Bank of Moldova, the Financial Supervisory Authority of Romania, were used, the European Union's.

THE IMPORTANCE OF INSURANCE IN THE MODERN ECONOMY

According to the law of the Republic of Moldova on insurance and reinsurance, insurance represents a transfer of a possible risk, including the risk to which the life, health or property of a person is exposed, from the insured to the insurance and/or reinsurance undertaking in accordance with the insurance contract [5].

According to the Romanian Law on the authorization and supervision of insurance and reinsurance activity, the insurance activity represents the activity exercised in or from Romania, which mainly designates the offering, distribution, negotiation, etc, the conclusion of insurance and reinsurance contracts, the collection of premiums, the liquidation of damages, the regression and recovery activity, as well as the investment or the fructification of own funds and attracted by the activity carried out [6].

In the US, with the largest insurance market in the world (by the amount of premiums collected), insurance is a contract whereby the insurer agrees to compensate another party (the insured, the insured, the policy holder or a beneficiary) for a particular loss or damage to a particular thing (for example, an object, property, health or even life) following the occurrence of certain risks, or, for a fee (insurance premium) [1].

Therefore, the above definitions characterise insurance as a risk transmission to a third person (bassurance undertaking) in return for a fee (insurance premium). Thus, the basic purpose of insurance as an activity is to provide protection to insured persons in exchange for an insurance premium. However, in addition to the general functions: distribution and control, insurance also performs specific functions: protection, prevention, compensation, saving and last but not least the social function (Figure 1).

General functions	Specific functions
• function of distribution • control function	• protective function • function of prevention • the clearing function • saving function • social function

Figure 1. Insurance functions
Source: Elaborated by author

The main function of insurance as a specific activity is protection. This function provides security, confidence and the desire to carry out new projects.
Preventing potential damage is one of the main concerns of the insurer. In this context, the insurer will ask the insured to take all necessary measures to prevent possible unpleasant situations or in case of occurrence of certain unfavorable events, to participate in minimizing the losses that may occur. This function is particularly important in the case of human insurance and refers to the fact that people have to carry out regular medical investigations in order to prevent serious diseases. To this end, insurance companies often finance expenses related to medical investigations. The prevention function also has an impact on the liability of insured persons. Therefore, insured persons are liable for their goods, actions and lives so that the contractual conditions are complied with.

The insurance saving function manifests itself in several aspects. Most often this function is related to saving funds on life insurance. The latter are long-term contracts and allow to save own resources to be used at will after a certain period. On the other hand, this function also applies to other types of insurance. For example, in the case of property insurance, if the insured risk occurs, the compensation received from insurance companies contributes to saving a significant amount of financial resources from the insured.

The existence and development of insurance is a major support for the state budget. In other words, insurance covers social risks, thus taking over part of the financial burden of the state (social function).

By generalizing the functions of insurance and the impact they have on each individual and on the entire economy, we can deduce their importance and role in the modern economy (Figure 2).

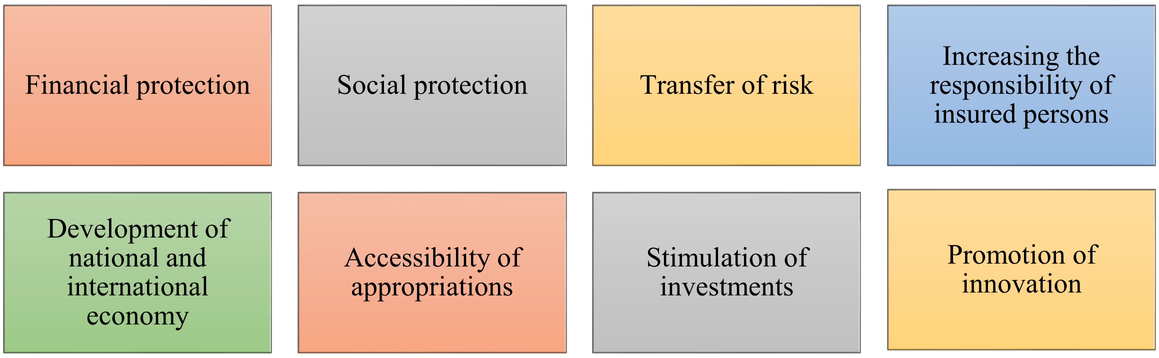

Figure 2. The role of insurance in the modern economy
Source: Elaborated by author

1. In the foreground is the role of financial protection. Insurance provides financial protection in the event of unforeseen events, such as accidents, illnesses, material damage or financial loss. Thus, insurance contributes to reducing the negative financial impact on the budgets of insured persons.
2. No less important is the role of social protection, which refers to ensuring a stable income for the insured person or beneficiary in case of disability, retirement or even death of the insured person. As mentioned above, the development of the insurance market reduces the financial burden of the state.
3. The transfer of risks involves the transfer of risks from natural or legal persons to companies specialized in risk management (insurance companies) in exchange for an insurance premium.
4. To be functional, any insurance contract is based on certain specific conditions. Thus, in the case of insurance of goods, companies may put forward certain conditions on the preservation of goods in order to reduce the likelihood of producing risks or, in the case of production, of diminishing losses. In the case of civil or life liability insurance, there are certain provisions regarding the actions of the insured person that can cancel the insurance contractually. As a result, insurance helps to increase the responsibility of insured persons so that they can fully enjoy the benefits of insurance.
5. Development of national and international economy. Insurance plays an important role not only at the level of individual, economic entity, but also at the level of national and international economy. Insurance offers the possibility for economic entities to continue their activity, without large interruptions, in case of unfavorable events. At the same time, insurance intermediates import-export relations, thus contributing to the development of foreign trade. And last but not least, insurance companies come with important funds on financial markets.
6. Insurance plays an important role also under the conditions of credit application. In particular, insurance becomes mandatory for mortgages (real estate insurance), and in some countries banks may require borrowers to purchase a life insurance policy as well.
7. Increasing credit accessibility will boost investment. At the same time, the insured person is protected from possible losses and, respectively, more willingly accepts the risks.
8. Promoting innovations. Insurance stimulates the use of new technologies, new production methods, often very risky. At the same time, the changing nature of risks requires the introduction and modernization of insurance products.

The insurance market is in close dependence on the economic situation in each state, but also around the world. Thus, ensuring the payment capacity, but also guaranteeing stable revenues to customers are not possible without an efficient investment activity. An effective investment policy must be based on the following criteria: diversification, minimum risk, efficiency and prudence [5]. The selection of types of investments will be made depending on the types of insurance activities, so as not to violate the rules of profitability and risk. The investments that best meet these requirements are: investments in securities, including state securities and bank deposits. Greater opportunities are offered to companies that practice life insurance. Given that in the Republic of Moldova, the share of life insurance is very small compared to developed countries, the investment activity of insurance companies is reduced. It is obvious that in developed countries, the structure of the insurance market is different from that of the Republic of Moldova. This is due to several factors, including: financial factors, the degree of information of citizens and businessmen about the advantages of insurance, risk aversion, historical factors, and, including the reputation of insurance companies. In the Republic of Moldova, the insurance market is predominantly occupied by motor liability insurance, which are mandatory. The low interest in other types of insurance is caused by poor information of citizens, but also by the lack of citizens' trust in the financial system as a whole. Moreover, even when purchasing a life insurance policy, the insured do not fully realize the additional benefits of these insurances. In the figures below we can follow the structure of the insurance market in the EU by the two major classes of insurance: general insurance and life insurance.

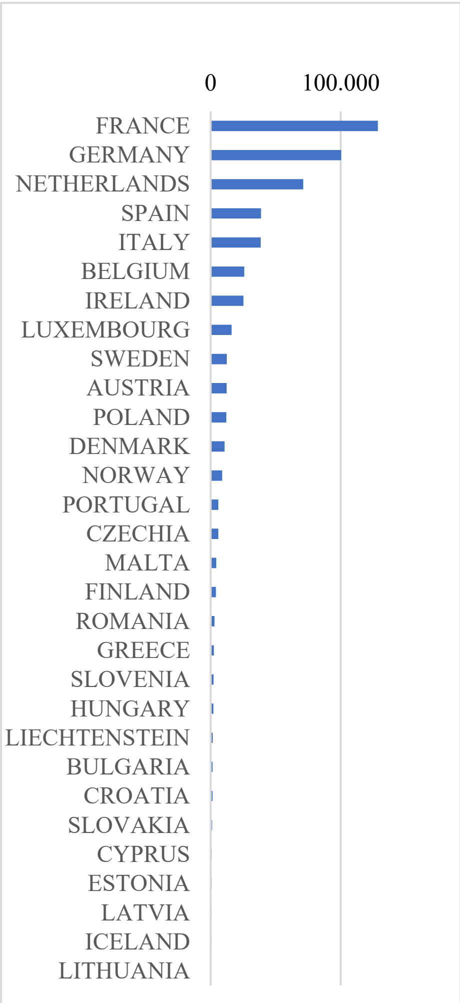

Figure 3. General insurance, gross written premiums, 2023, mil. Euro

Figure 4. Life insurance, gross written premiums, 2023, mil. euro

Source: www.eiopa.europa.eu [4]

Referring to the volume of gross written premiums for this general insurance class, in the Republic of Moldova, in 2023 they amounted to 146.17 million. Euro [2], [3], which is well below the lowest level recorded in EU countries (the lowest level was recorded in Lithuania 446.81 million euros). If on the general insurance segment the domestic insurance companies manage to collect a significant volume of premiums, then in the Life insurance segment, the market is poorly developed. In 2023, gross premiums of 5.56 million euro were collected [2], [3], compared to the lowest level recorded in the EU countries of 60.57 million million. Euro to Iceland. In the same vein, Romania receives a volume of gross premiums 10 times higher than the Republic of Moldova. This rather large discrepancy indicates a high investment capacity of insurance companies in developed countries compared to the low possibilities of domestic companies. Therefore, the small amount of investment resources available to insurance companies will also have an impact on the development and stability of the financial market. In order to recover the situation, the insurance market in the Republic of Moldova should reorient itself towards the Life Insurance segment, by informing and advising the population on the benefits of this type of insurance.

CONCLUSIONS

Recent events have contributed to the development of insurance as an important sector of the national economy. Insurance dynamically expands its scope and its role in the economy. Even if the main function is protection and safety, insurance has a considerable influence on the development of the real sector of the economy, the financial stability of the financial market, and, but also of economic entities by reducing the considerable losses caused by sinister, the psychological comfort of citizens, but also of the initiators of innovative ideas.

Awareness of the considerable role of insurance as a promoter of stability, continuity and development both at national and global level, requires the application of various instruments, policies on boosting the insurance market. Regarding the insurance market in the Republic of Moldova, besides all the classic measures that have been taken over time, as a recommendation is the application of artificial intelligence to identify specific products and tailored to the needs of members of society. In this context, insurance companies will be able to increase insurance premiums and therefore to diversify their investment portfolios.

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BANKS AND THEIR IMPACT ON FINANCIAL EDUCATION AT THE CURRENT STAGE

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Ilinca GOROBEȚ
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-8429-9585
Email: gorobet.ilinca@ase.md

Larisa MISTREAN
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-4867-937X
Email: mistrean_larisa@ase.md

Abstract: *Financial education helps to ensure financial wellbeing and maintain it throughout life. Although the role of financial education is very important, very few people know about it. Planning your income and expenditure over a longer period of time and thinking about your own financial well-being is a constant and ongoing process that is passed down through generations. Getting started in financial education starts with changing attitudes towards money, by changing behavior from consumer to manager, from the notion of personal money to personal finance. It is almost impossible to be successful in managing your finances without cooperation with banks and other financial market institutions. It is important to learn how to use all that banks have to offer in order to increase your capital. Over time, the number of people who understand the importance of banks and financial institutions is growing. Banks are investing more and more in financial education, i.e. how to build beneficial bilateral relationships with them. The most significant aspects of financial education that banks are engaging in relate to limiting over-lending, stimulating savings, limiting cash transactions, how important it is to manage personal finances. The purpose of this research is to investigate how banks contribute to financial education. The subject of the research is banks and their contribution to financial education. The research methods will be description, comparison, analysis and synthesis. At the end of the research, we will present the research findings materialized in conclusions and recommendations.*

Keywords: *banking, education, finance, behavior.*

JEL Classification: *G21, G41, G51, I22.*

INTRODUCTION

Banking products and services are becoming increasingly numerous, varied and complex, making it necessary to study, assimilate and adapt them to everyday needs and realities. In addition to the convenience and convenience they offer, users of these services need to withstand challenges such as data protection, information security and protection against fraud and scams. In order to meet these challenges, users need to be financially educated. A decisive role in providing financial education lies with the Central Bank, and thus with banks. The Central Bank develops and updates educational materials, organizes workshops, webinars, interactive games and videos. Financial education is about planning personal finances, to avoid any crisis, not to fall into panic or depression, not to carry out chaotic actions, to avoid reckless loans. Financial education is about how we set our goals in managing our personal finances, the risks we take and how we realize these goals. The incentives to educate oneself derive from the amount of knowledge a person has acquired. Having this knowledge there is an understanding of the options in which one can earn money. With financial education a person not only has knowledge and skills, but also psychological stability. Financial education also has tangents with knowledge in other areas. If a person learns to apply the rules of financial education in their life, their life will gradually change for the better. The relationship with money is built over a lifetime. Already having knowledge and experience with money and some proven solutions throughout life, it follows that we will not learn from scratch and it will not be very difficult.

CONTENT

There is no strictly defined concept of what constitutes financial education. This concept seems to be more philosophical and subjective.

„Financial education is the ability to manage financial flows (income and expenses), to manage money intelligently, that is, to live within one's means and to increase the available capital" (Levin, A., 2019).

„Financial education is a clear understanding of how money works, how to earn and manage it. There are two main characteristics of a financially literate person. First: his or her spending never exceeds his or her income. The second: any positive difference between monthly income and expenses is used for investment in any form".

„Financial education - a set of skills, knowledge, abilities that help to create and multiply capital. This concept underpins material wealth. It can also be interpreted as information that helps to have a correct financial behavior, contributing to wealth for a short or long period of time. The concept combines the ability to manage financial flows, to be disciplined in accounting for income and expenditure, bringing them to an optimal balance" (2020, Финансовая грамотность).

„Financial education is relevant when:

- planning the family budget;
- when it is necessary to take out a mortgage loan for the purchase of the home;
- buying an insurance policy;
- buying a car (leasing or crediting);
- develop a personal financial plan".

„Through financial education we create a financial safety cushion. That is, a reserve of money in case of a difficult financial situation, which can arise in the event of a loss of basic income and would be of great help in the first few months to 6 months. These financial resources, if well managed, can be used as a means of enrichment, ensuring a better standard of living throughout life and later in retirement" (Sidorin, A, 2019).

A financially educated person will exhibit the following competencies:

- *planning and accounting for financial flows* - this is an important skill as we prepare to create our own savings and budget, which we will rely on as we have to survive in force-major situations over the next 6 months. For this there are computer or smartphone programs to keep track and plan;
- *use of additional sources of income* - people must have both active and passive income, i.e. in addition to salary, savings can also be directed to deposits, foreign exchange, securities, etc., but working on the financial market requires specialized studies or working with a brokerage company;

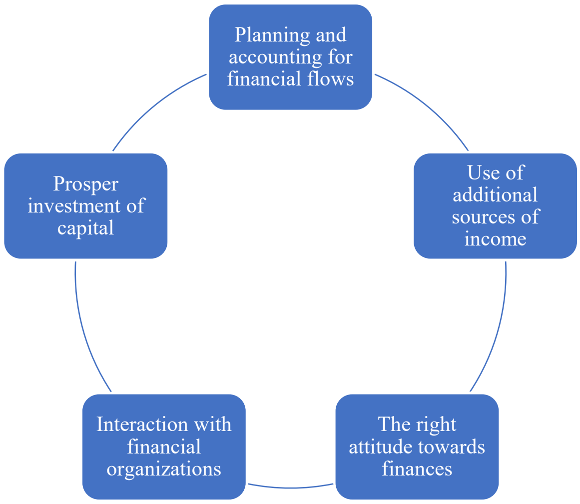

Figure 1. The skills of a financially educated person
Source: based on Levin, A. (2019)

- *the right attitude towards finances* - any financially educated person will have to change their behavior from consumer to manager, this means that they will not have to spend everything they earn, i.e. they will move from the notion of personal money to personal finance;
- *interaction with financial organizations* - in the modern world you cannot have relationships with money without establishing partnerships with financial institutions, whether it is be banks (deposits, loans, cards, etc.), insurance companies, microfinance organizations, pension funds, investment companies, leasing companies, brokerage firms, etc. It is important for the individual to know the advantages and disadvantages of the products and services they offer, to know the fees, AEIs, in order to be able to manage their expenses and income in order to obtain a capital increase. There is a preconceived idea that in order to partner with financial institutions you need to have a lot of money, but these institutions are quite flexible and you can start investing from smaller amounts;
- *proper investment of capital* - when we talk about financial education, everyone needs to understand that money can bring income if it is properly invested, that is, with minimal knowledge, we can make passive income.

The most vulnerable in relation to financial education are older people, because students and young people benefiting from schooling programs, are trained in different wokshops, are more able and flexible to learn.

Next, we will analyze how savings are managed through examples from international practice.

To begin with, we will look at the experience of the USA and Russia. „In Russia, about 50% of capital is in cash (not actively participating in investments), and the rest in deposits and investment funds, 4% in investment funds, and 96% are bank deposits. In the US, 36% of people keep their money in deposits and 64% in investments" (Levin, A., 2019). Because of US financial traditions and culture, most people in the US are shareholders, and this results in active or passive participants in the stock market. This confirms that even people with lower incomes, can become leger investors. This contradicts the stereotypical thinking that only very rich people with lots of excess money can afford to invest.

In the following we will analyze what types of investments the EU members have. The information includes the average size of the statistical data submitted by the EU member countries in 2023, aiming at systematized data for year 2021.

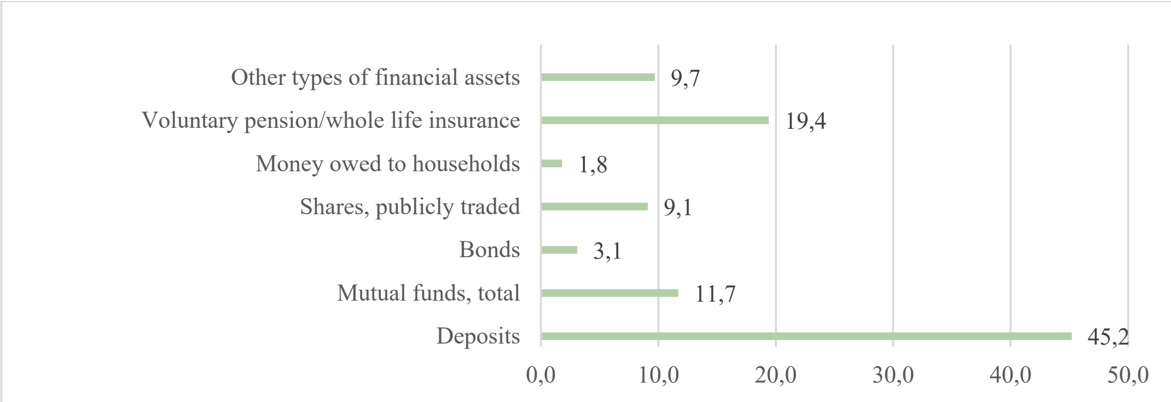

Figure 2. Shares of financial assets types on total financial assets, % of total financial assets
Source: based on European Central Bank (2023)

We observe that in the EU countries, deposits account for the largest share, 45.2% of the total, followed by voluntary pension funds and life insurance with 19.4%, mutual funds with 11.7% of total financial assets, other types of financial assets - 9.7%, shares, publicly traded - 9.1%, bonds - 3.1% and other equity investments - 1.8%.

In this context, we can conclude that European citizens also invest prudently and do not want to take many risks, since deposits are investments that correspond to a passive investor profile, i.e. designed to obtain modest returns at well-managed risks, as are investments in private pension funds and life annuities, which, in addition to providing an income, also contribute to a peaceful old age.

We also note that investments in the form of securities continue to have rather limited shares, which shows that the European stock market is still a more modest share of the private investor's preferences and is not as financially literate as it seems.

Next we will analyze consumption in EU countries.

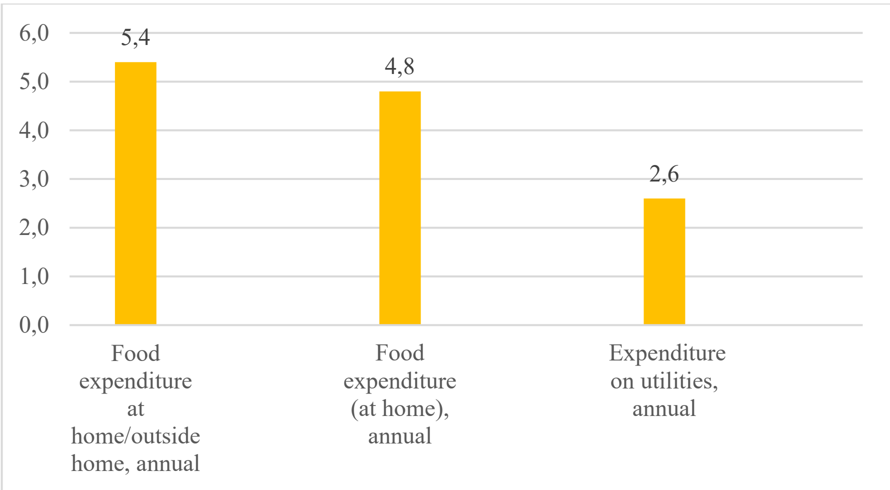

Figure 3. Consumption - food, utilities – medians, EUR thousands per year
Source: based on European Central Bank (2023)

Figure 3 shows us how many thousands of euros an EU citizen uses in 2021, we are talking about an annual average. By analyzing the figure we can conclude that the most expenditure a European citizen spends on food is more than 5400 euros per year, if we analyze both household and out-of-home consumption (at work, cafes, restaurants, etc.), another destination of expenditure is utilities, which account for half of the food expenditure.

From the point of view of financial education we will analyze the next figure.

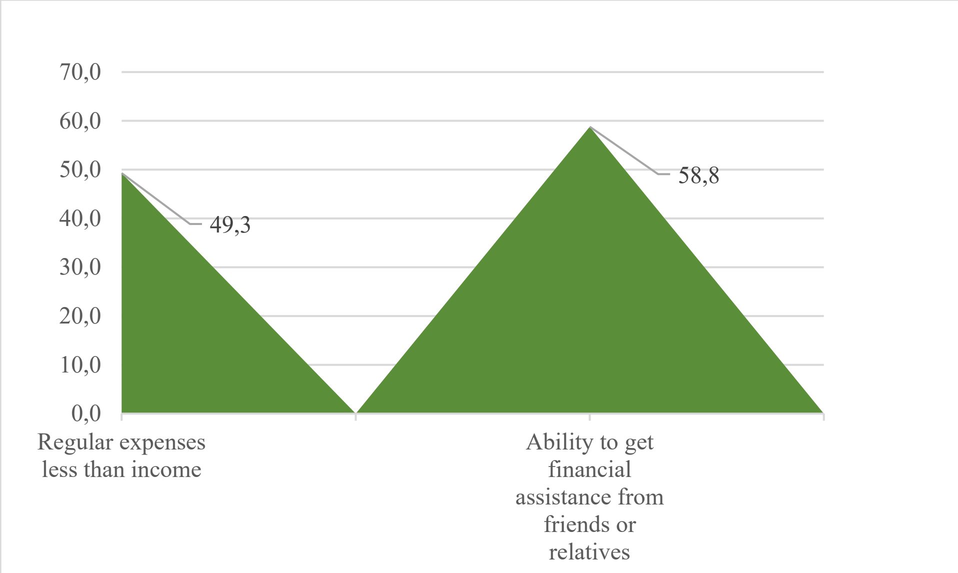

Figure 4. Consumption and saving, % of households
Source: based on European Central Bank (2023)

This figure shows two indicators that represent the modest financial education of the population in EU countries. We observe that the first indicator shows that expenditure is lower than income in 49% of cases, i.e. in 51% of cases expenditure exceeds income. In other words, it shows that expenditure is not always planned correctly. The second indicator in the figure shows in how many cases people whose expenditure exceeds their income can call on the support of friends or other close people.

Table 1. Credit constraints, *% of households*

	euroare	BE	CZ	DE	EE	IE	GR	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PT	SI	SK	FI
Applied for credit within last 3 years	22	23	1,6	20	28	44,5	2,8	34	30,3	14	11	8,6	21	15	35,2	100	11	17,4	6,0	24	12,3	16	29,1
Refused or only reduced credit (among those applying in last 3 years)	11	7,2	M	10	11	5,9	70	15	8,1	16	12	7,9	19	39	11,9	M	18	4,9	15	6,0	18,0	9,7	6,3
Not applying for credit due to perceived credit constraint	M	3,5	M	4,6	5,1	4,6	4,0	8,7	7,3	7,5	M	5,1	8,7	7,6	12,6	3,0	2,7	2,1	2,5	6,4	3,5	3,9	5,4
Credit constrained household	M	4,9	M	6,1	7,2	6,4	5,4	12	8,7	8,9	M	5,7	11	12	14,2	3,0	4,7	2,7	3,3	7,1	5,3	4,7	6,4

Source: based on European Central Bank (2023)

Table 1 shows that 22% of people in EU countries have taken out credit in the last 3 years and 11% (50%) have been turned down because they are in enough debt and have had their credit debt reduced. Indebtedness is also an indicator of financial literacy. If we look at the situation by country, Hungary is the country where 100% of the population is in debt, and at the opposite pole is 1.6% - the Czech Republic. Greece is the country where 70% of the population cannot apply for credit because they are over-indebted. In Lithuania - 39% and in Slovenia - 18%, the indebtedness is also quite high. Belgium, Luxembourg, Finland, Netherlands, France and Germany are countries where the appetite for credit and indebtedness is moderate - which denotes a more advanced financial education.

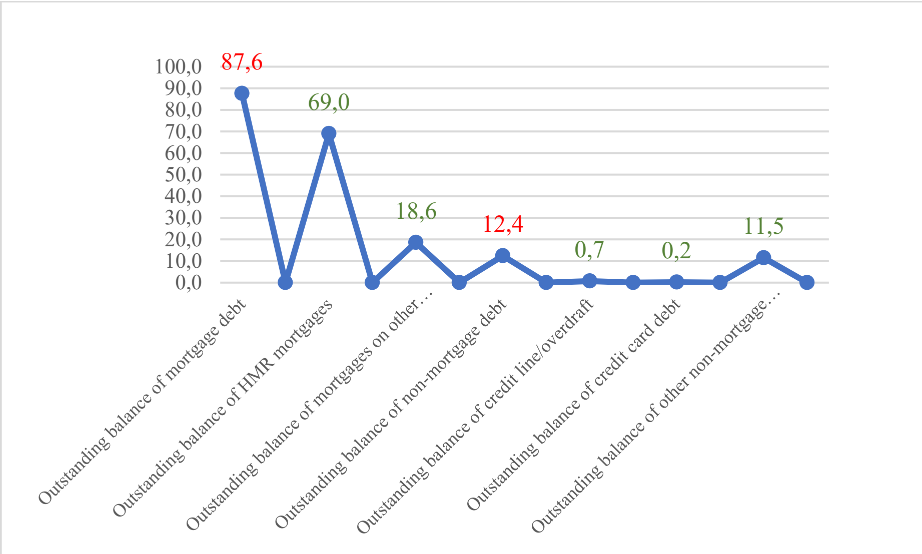

Figure 5. Shares of debt types on total liabilities, ***% of total liabilities***
Source: based on European Central Bank (2023)

Figure 5 shows the share of debts in total liabilities. From the figure we can see that out of the total of 100%, 87.6% is related to mortgage related liabilities and 12.4% is related to other non-mortgage related liabilities. Most of the mortgages (69%) are related to own homes/apartments, 0.7% are related to lines of credit/overdraft and 0.2% are related to credit card debt. Analyzing these data allows us to conclude about the quality of these debts, i.e. we can speak of advanced financial education of the people who have contracted these loans people who have contracted these loans. The small share of credit-related debts indicates that the share of consumer debts is quite small and effective communication with banks.

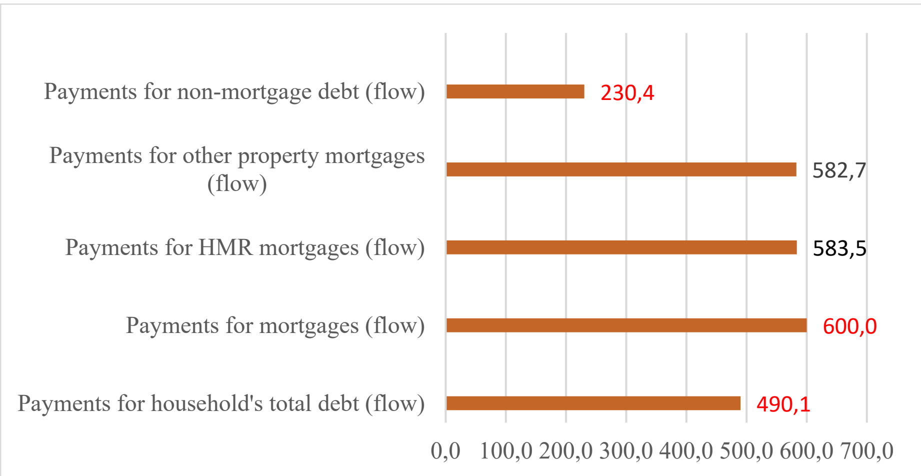

Figure 6. Payments for debt - conditional medians, ***EUR, per month***
Source: based on European Central Bank (2023)

Figure 6 reflects that European citizens pay the most for mortgages, on average €600/month, for house/apartment €583.5/month, other property €582.7/month, non-mortgage related - overdraft cards, credit cards - €230.4/month, which confirms the trend in Figure 5.

We analyze in Table 2 the ratio between income and expenditure per capital per month in the Republic of Moldova.

Table 2. Per capita income-consumption ratio in the Republic of Moldova

Years	Indicators	Chisinau		North		Centre		South	
		MDL, average monthly per capita	Share of consumption in total income, %	MDL, average monthly per capita	Share of consumption in total income, %	MDL, average monthly per capita	Share of consumption in total income, %	MDl, average monthly per capita	Share of consumption in total income, %
2019	Disposable income - total	4184,5	96,518103	2507,9	96,961601	2530,4	99,6957	2356,4	91,818027
	Consumption expenditures	4038,8		2431,7		2522,7		2163,6	
2020	Disposable income - total	4355,0	90,615385	2729,7	90,753563	2811,2	92,995874	2524,5	83,061992
	Consumption expenditures	3946,3		2477,3		2614,3		2096,9	
2021	Disposable income - total	5062,3	83,93418	3045,8	90,43601	3059,1	92,484718	2985,5	76,831352
	Consumption expenditures	4249,0		2754,5		2829,2		2293,8	
2022	Disposable income - total	6400,7	87,010796	3639,9	91,892634	3670,0	87,125341	3420,8	80,864125
	Consumption expenditures	5569,3		3344,8		3197,5		2766,2	
2023	Disposable income - total	7376,8	85,313415	4010,5	91,868844	4137,7	86,214564	3831,8	81,426484
	Consumption expenditures	6293,4		3684,4		3567,3		3120,1	

Source: based on Statistical databank (2023)

Analyzing Table 2 we observe that in the Republic of Moldova, both monthly per capita incomes below very modest and correspondingly all that is practically obtained and consumed. The lowest monthly income-consumption ratio was recorded in 2022 in the southern part of the Republic of Moldova, and the highest is 99.69% in 2019 recorded in the center of the country. Although, we observe in the dynamics a decreasing trend, however, the share of consumption in total income remains quite considerable. Here, we can mention that financial education also remains precarious.

It is obvious that the level of financial education in the Republic of Moldova is much lower than in the USA, EU countries and even in Russia, where the financial education index has been calculated for many years. „This index is based on the assessment of several indicators related to knowledge, skills and attitudes on a scale from 1 to 21. Levels of education has a gradation from 0 to 3, level 0 are people who do not have the most elementary knowledge, 1 point is given to people who have elementary knowledge, 2 is given to people who know the main investment instruments; 3 - people who have complete knowledge of both investment concepts and instruments" (Levin, A., 2019).

In developed countries, the foundations of financial education begin in childhood. Nowadays there are numerous educational programs in the field of money, which is also showing changes in the Republic of Moldova, and the number of financially education people is starting to increase. The most important task falls to the National Bank of Moldova. Through the project "Give meaning to money", the NBM, in cooperation with the National Bank of Romania and ASE Bucharest, is effectively contributing to the financial education of students studying economics in the Republic of Moldova.

CONCLUSIONS

Financial education offers solutions to every money management problem. Banks have a key role to play in financial literacy. We will have to learn to cooperate and enter into beneficial partnerships with banks to obtain the full spectrum of financial operations and services.

In addition to understanding and grasping the basic concepts, we will need to be able to identify the advantages of alternative forms of investment, to distinguish between 'good' and 'bad' loans. Bad' loans gradually slide the borrower into the pit of poverty, which is why we will have to learn to identify them.

At the same time, how to learn to save, how to open term deposits, sight deposits, how to compare them with other investment alternatives, between simple and capitalized interest, between fixed and variable interest rates.

The same skills and knowledge will also be needed when dealing with cards: how to distinguish the difference between a debit card, overdraft, credit card, line of credit and the difference between a debit card and a classic credit.

To consider ourselves financially literate, we will need to:

– constantly learn to analyze our personal budget,
– set financial goals;
– develop our own budgets;
– take financial education courses;
– get information about money only from credible sources;
– we understand that the process of financial education is never-ending, permanent and continuous.

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CAPITALIZING EMERGING OPPORTUNITIES THROUGH ACCESS TO ADEQUATE FINANCING AND INNOVATIVE APPROACHES

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Maria HĂMURARU
Associate professor, PhD in economics, State University of Moldova,
ORCID: 0000-0002-8197-2973
Email: hamurarumaria@gmail.com

Lilia ȘARGU
Associate professor, PhD, National Institute of Economic Research of ASEM,
ORCID: 0000-0001-7495-0656
Email: lsargu@mail.ru

Abstract: *In the contemporary conditions of global competitive development, financing of innovations by organizations is a norm on the path to successful performance and survival of businesses, which is the result of the ability to adapt. Due to the dynamic economic environment, investments related to research development have developed new opportunities and increased competitiveness for organizations. Government policies ensure the sustainability of global trends by encouraging investments and financing in the field of innovations, thus stimulating economic progress. The purpose of the study is an analysis of the capitalization of the opportunities developed by the Republic of Moldova as a result of financing with the involvement of external partners. The study is an analysis of the strategic directions of the authorities to stimulate innovation by small and medium-sized enterprises. The methods used to achieve the objectives are diversified to encompass a larger area of beneficiaries. Thus, platforms that facilitate access to financing, the creation of technology parks, innovative hubs near research and higher education institutions, mentoring from government organizations, access to investor networks are used. Opportunities for innovative business development must be developed from the early stage before creating the added value of educated human capital in the context of preferential directions for the implementation of innovative projects.*

Keywords: *innovation, financing projects, capitalization, entrepreneurship, sustainability.*

JEL Classification: *O31, G32.*

INTRODUCTION

The current external environment circumstances, which contribute to the formation of emerging opportunities for capitalizing on the capitalization of financial resources intended to confront climate change, the evolution of technologies and innovations in various fields. Governments create opportunities for organizations in the economic circuit by creating possibilities for them to have access to additional financial resources for the implementation of innovative solutions to confront these changes. The authors discuss the role of financing through innovative projects for the development of organizations in the Republic of Moldova by external organizations concerned with global issues and which will contribute to stimulating the sustainable development of the economy and society. In recent years, the world has seen a growth in the IT sector, which offers opportunities for the digitalization of all processes, including socialization, through various platforms to search for new opportunities and partnerships. Financial technologies facilitate access to external financing platforms for small and medium-sized enterprises and for the development of start-ups.

Climate change creates opportunities for the transition to renewable energy sources, such as solar and wind power, reducing dependence on energy imports and contributing to environmental sustainability.

Geoffrey Moore, in his work Crossing the Chasm (1991)[3], analyzes how emerging technologies can become market opportunities through effective strategic approaches. This theory is highly relevant for the Republic of Moldova, given the potential of the IT and digital sector. Moore emphasizes the importance of bridging the gap between early adopters of technologies and the mass market, which can be applied to Moldovan initiatives to scale fintech solutions, automation and digital platforms.

In this sense, we believe that the Republic of Moldova's chances for capitalizing on the opportunities for digitalization and innovation of organizational processes lie in creating a fair framework for entrepreneurial education at any level of education, including continuing education. The fact that the favorable geographical position of the Republic of Moldova is a priority can create favorable premises for becoming a model in the application of new technologies in the region. Current policies aimed at redirecting organizations and households towards the use of renewable resources and switching to alternative ways of obtaining energy resources will ensure environmental sustainability not only at the local but also global level. Several authors and researchers are concerned with these ideas, so we mention the contribution in this field of the author Amory Lovins through his effort and ideas to support the integration of green energy solutions to promote an economy based on renewable resources. The author explains the advantages of implementing green theories in reducing costs and increasing resilience in the country's energy and economic systems. In his studies Amory Lovins (2011)[4], demonstrates other macroeconomic effects such as job creation and attracting investment in the transition to renewable energy due to the support of technological innovation. The author offers concrete achievements in the context of the efficient use of energy resources through the use of modern technologies, such as energy-efficient buildings, which can also be applicable in the Republic of Moldova to stimulate sustainable development. Agriculture, a key sector in the Republic of Moldova, can benefit from modern technologies such as the Internet of Things (IoT) and drones to increase productivity and reduce losses.

Social transformations highlight the need for more flexible education systems, geared towards digital and entrepreneurial skills. The creation of innovation hubs and business incubators that offer coworking spaces, mentoring and access to global investor networks can support the development of a new generation of entrepreneurs.

This article explores how these emerging opportunities can be harnessed through a combination of appropriate financing and the use of innovative approaches, to stimulate the economic growth, sustainability and competitiveness of the Republic of Moldova in a dynamic global context.

EMERGING OPPORTUNITIES IN A GLOBAL CONTEXT

Emerging opportunities are economic, technological or social opportunities that arise from global changes. These include the development of green markets, digitalization, artificial intelligence and sustainability-based solutions, Michael E. Porter – „The Competitive Advantage of Nations"[5] analyzes the factors that generate emerging competitive opportunities. Michael E. Smith Porter's examination of competitive advantage highlights various factors that contribute to the emergence of competitive opportunities. His framework integrates both industry-specific dynamics and broader national contexts, highlighting the interaction between firm capabilities and external market forces. Porter's value chain concept disaggregates business activities, allowing firms to identify cost advantages and value creation opportunities.[6]

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[3] Moore, G. A. (1999). Crossing the chasm : marketing and selling high-tech products to mainstream customers. Нью-Йорк: HarperBusiness.223 p. ISBN:9780887307171

[4] Amory Lovins Reinventing Fire Chelsea Green Publishing, 2011, ISBN 9781603583725, 352 pp.

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[6] Jovo, Ateljevic., Dzenan, Kulovic., Filip, Đoković., Mirza, Bavčić. (2023). 1. Business Strategy and Competitive Advantage. Available from: 10.4324/9781003359173

Joseph A. Schumpeter – In his work on innovation, he explores the role of economic change in generating emerging opportunities. By optimizing each segment of the value chain, companies can improve their competitive position in the market.

Clayton Christensen[7] – în „The Innovator's Dilemma," discusses how disruptive technologies create emerging opportunities that have the potential to completely change existing industries by creating new markets or transforming existing ones. He argues that disruptive technologies are often underestimated by large companies because they initially appear to be less efficient than established solutions. However, over time, they become good enough to meet market demands and even outperform traditional solutions. In the process, Christensen emphasizes that new technologies create emerging opportunities, providing competitive advantages to companies that adopt them early. This theory is particularly relevant to areas such as information technology, fintech, and renewable energy, where innovations fundamentally transform business models.

Peter F. Drucker presents the vision of his definition of entrepreneurship that emphasizes the identification and exploitation of change as a source of opportunities. In his book "Innovation and Entrepreneurship" (1985), Drucker emphasizes that entrepreneurship is a systematic act that involves the transformation of ideas into practical results. Technological, economic and social changes are identified as primary sources of opportunities, and successful entrepreneurs are those who understand these transformations and develop innovative strategies to capitalize on them. This vision remains relevant in the current context, providing a solid theoretical framework for the analysis and application of emerging opportunities.

John Elkington, known for his concept of the "triple bottom line" (TBL), argues that sustainability must be considered a central pillar of economic and social success. In his work, Elkington emphasizes that social and ecological changes, such as the transition to a green economy or the increasing demand for ethical products, create new emerging opportunities for businesses and communities. For example, companies that integrate sustainable practices into their supply chain can gain a competitive advantage by reducing costs and attracting environmentally conscious consumers. Moreover, collaboration between the public, private and academic sectors contributes to identifying innovative solutions that respond to global challenges such as climate change. Thus, emerging opportunities in this context not only stimulate economic growth, but also contribute to the creation of a more equitable and sustainable society.

Financing resilience opportunities does not only refer to economic factors, social factors are also a key in solving the global changes we face. We mention the study of author Richard Florida, who in his study The Rise of the Creative Class (2002), talks about the impact of a creative economy on urban development and the generation of opportunities.[8]. The author argues that the urban environment attracts creative talents and encourages cultural diversity, through which they can become engines of innovative ideas and economic growth. Current urban transformations, such as the reorganization of industrial areas and the development of centers focused on technology and culture, create a favorable climate in support of entrepreneurship and investment. Florida states that the creative economy stimulates collaboration between various sectors, contributing to the emergence of new markets and innovative solutions. These practices can also be applied in the Republic of Moldova, to stimulate the creative economy by developing cities in the northern and southern areas of the country for a better integration of minorities in these areas through interaction.

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[7] Clayton m. Christensen. The Inovator's dilemma. Harvard Business review Press Bostob, Massachusetts, 1997, 658p. ISBN 978-1-4221-9602-1, disponobil on-line https://www.google.ro/books/edition/The_Innovator_s_Dilemma/3JnBAgAAQBAJ?hl=ro&gbpv=1&dq=Clayton+Christensen,+The+Innovator%27s+Dilemma%E2%80%9D+(1997)&printsec=frontcover

[8] Florida, R. (2014). The Rise of the Creative Class--Revisited: Revised and Expanded. Statele Unite ale Americii: Basic Books. 512 pp. ISBN 9780465038985

A relevant and current study on the approach in circumstances of interests is shown in the research of Edward Freeman, summarized by the stakeholder theory.[9] The research analyzes how the interests of various parts of a society or from different worlds can generate new opportunities in business. The stakeholder theory and the contribution of Edward Freeman show that a society based on globalization will tend to infect others with ideas and practices implemented either successfully or not in the context of having control over economic and social development. Thus, we find that the Republic of Moldova can capitalize on the involvement of stakeholders to stimulate economic development and innovation in the context in which we know the orientation towards economic and social systems.

A study by the International Renewable Energy Agency (IREA) (2021) highlights that the transition to renewable energy sources can generate up to 42 million global jobs in the energy sector by 2050, contributing to the decarbonization of the economy. Recent research published in the Journal of Digital Innovation (2022) showed that the implementation of artificial intelligence-based solutions in the manufacturing sector can increase production efficiency by up to 30%, reducing waste. According to a McKinsey report (2020), the demand for sustainable products has increased by 20% annually in European markets, reflecting consumer preferences for environmentally friendly solutions.

The transition to renewable energy; this has evolved significantly in the last 10 years, driven by global initiatives such as the Paris Agreement and the European Renewable Energy Strategy. Research in the field of solar and wind energy has led to a reduction in costs by over 70%, according to a report by the International Renewable Energy Agency (IREA). Moreover, many countries have doubled their green energy production capacity, which has led to an increase in investment in this sector. Also, innovative technologies such as energy storage solutions and microgrids have facilitated the integration of renewable sources into electricity networks, contributing to a more sustainable and resilient energy infrastructure.

Development of digital technologies; The Republic of Moldova has capitalized on these opportunities by creating free economic zones for IT companies, such as Moldova IT Park. This has allowed attracting foreign direct investment, increasing the number of local start-ups and developing digital services such as fintech, e-government solutions and blockchain technologies. Also, educational projects such as Tekwill have contributed to the training of IT specialists, strengthening competitiveness in the regional and global market. At the same time, we identify certain advantages and disadvantages.

The advantages and disadvantages of the development of digital technologies are important to understand their impact on different areas:

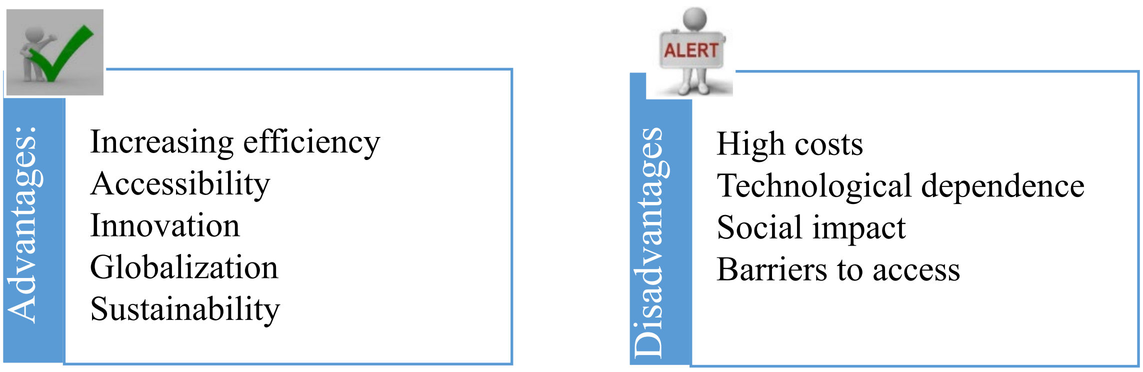

Figure 1. Advantages and disadvantages of digital application
Source: developed by the authors

[9] Бернейс, Э. (2024). Кристаллизация общественного мнения. Россия: Питер. 208 p. https://www.google.ro/books/edition/%D0%9A%D1%80%D0%B8%D1%81%D1%82%D0%B0%D0%BB%D0%BB%D0%B8%D0%B7%D0%B0%D1%86%D0%B8%D1%8F_%D0%BE%D0%B1%D1%89%D0%B5%D1%81/0mYXEQAAQBAJ?hl=ru&gbpv=0

For the business environment of the Republic of Moldova, the advantages and disadvantages of emerging opportunities can be analyzed in the context of European integration and the benefits related to external financing. Thus, the advantages contribute to the automation of processes and the use of digital solutions reduce the time and resources required for operations. The adoption of emerging technologies such as fintech and blockchain allows SMEs to operate in global markets. Investments in renewable energy solutions reduce operational costs and increase long-term sustainability. At the same time, digital technologies facilitate access to information, education and services for a wide range of users. European funds and fintech platforms offer fast and flexible solutions for start-ups. Alternative financial models, such as crowdfunding, support innovative initiatives. They allow the development of new products and services, adapted to market needs, as well as stimulating innovation and creating jobs. The development of technology hubs and business incubators creates a favorable ecosystem for entrepreneurs. Emerging technologies, such as AI and IoT, open up new areas of activity. Initiatives such as Moldova IT Park and IT training programs provide a solid platform for the development of the business environment. They connect businesses and people from all over the world, promoting collaboration and knowledge exchange. They help reduce the ecological footprint by optimizing resources and reducing waste.

Disadvantages include high costs, technological dependency and social impact. Implementing and maintaining digital technologies can be expensive, especially for SMEs. Increasing dependence on technology can lead to vulnerabilities to cyberattacks and technical failures. Automation can lead to job losses in traditional sectors. Sustainable projects, such as solar energy installations, may require additional financial support. Some companies have difficulty recruiting qualified personnel for new technologies. Education and training do not keep pace with market demands. Not everyone has equal access to technology, which can amplify social inequalities. SMEs in rural or less developed areas may have difficulty accessing modern sources of financing. The bureaucracy associated with financing programs can be an obstacle. Many local businesses are sensitive to global market fluctuations, which can affect expansion plans. The increasing volume of data collected raises issues related to the protection and security of personal information.

Currently, in the world, the increasing demand for sustainable products and services has become not only an innovation but also a necessity. This trend is supported by recent studies. For example, the McKinsey report (2020)[10] highlighted a 20% annual increase in demand for sustainable products in European markets, suggesting that consumer preferences are rapidly migrating towards eco-friendly solutions. Another study published in the Journal of Sustainable Business (2022) demonstrates that companies that adopt sustainable practices have recorded an average 15% increase in net profit over five years, due to increased customer loyalty. These data clearly show the positive economic impact of sustainability and justify the transition to responsible business models.

Smith, J., & Jones, A. (2023)[11], in their book Innovation and Financial Strategies for Emerging Opportunities, argue that access to adequate finance is a key catalyst for capitalizing on emerging opportunities. The authors emphasize the importance of integrating innovative financial strategies, such as fintech and crowdfunding models, to support the development of SMEs and start-ups. According to their research, regions implementing such strategies have experienced significant economic growth, with a positive impact on job creation and innovation. The paper also provides relevant case studies illustrating the success of these strategies in emerging markets, including their applicability in Eastern Europe.

[10] McKinsey (2020), Global survey: The state of AI in 2020, https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Analytics/Our%20Insights/Global%20survey%20The%20state%20of%20AI%20in%202020/Global-survey-The-state-of-AI-in-2020.pdf
[11] Smith, J., & Jones, A. (2023). Innovation and Financial Strategies for Emerging Opportunities. Oxford University Press

THE ROLE OF ADEQUATE FINANCING IN CAPITALIZING ON OPPORTUNITIES

Access to adequate financing allows businesses to grow rapidly and increase their competitiveness through strategic investments in innovative technologies. Studies show that government and European programs provide grants and subsidies that support the development of small and medium-sized businesses. However, access to these sources is not always equal, with SMEs in rural areas experiencing difficulties in attracting capital. Modern financial models, such as fintech and crowdfunding, have opened new opportunities for entrepreneurs, but require advanced skills and rapid adaptation to new technologies. Finally, although financing stimulates innovation and job creation, lack of financial literacy and bureaucratic barriers may limit the impact of these sources in the Republic of Moldova.

SOURCES OF FUNDING

Adequate funding can come from various sources, such as:

European funds. According to the European Commission, the Republic of Moldova has benefited from over 746 million euros through various funding programs over the past 10 years, including through the Eastern Partnership Initiative. Approximately 60% of these funds were allocated for infrastructure and regional development projects, while the rest aimed at supporting entrepreneurship, education and environmental initiatives. For example, in the period 2014-2020, funds under the European Neighbourhood Instrument (ENI) supported the modernization of agriculture and increased the competitiveness of Moldovan SMEs, generating an average economic growth of 3.8% annually in the supported sectors. The European Commission's report analyses sustainable financing strategies that support green economic growth in the European Union and partner countries. It highlights the role of integrated sustainability policies in mobilising private capital for green projects. Through programmes such as the EU Green Deal and InvestEU, the report underlines the importance of supporting the transition to a low-carbon economy. These initiatives provide a solid basis for countries such as the Republic of Moldova to adopt similar strategies, thereby attracting investment in renewable energy, sustainable agriculture and environmentally friendly infrastructure.[12]

National. At the national level, the Republic of Moldova has implemented several financial support programs for SMEs and regional projects. For example, the Program for Attracting Remittances to the Economy (PARE 1+1) provided financial support of over 400 million lei to 1,500 small and medium-sized businesses during the period 2010-2020, stimulating entrepreneurship in rural areas. Funds provided through programs such as ODIMM (Organization for the Development of Small and Medium-sized Enterprises) supported the modernization of production processes and job creation. In addition, state-funded local development projects aimed at improving infrastructure and increasing the quality of life in communities, thus contributing to reducing regional disparities.

INNOVATIVE APPROACHES TO EXPLOIT OPPORTUNITIES

Cross-sector collaboration

Henry Chesbrough, in his theory of open innovation, highlights how cross-sector collaboration can generate new emerging opportunities. In his book "Open Innovation" (2003), Chesbrough argues that organizations that share knowledge and resources with other entities, such as universities, start-ups and companies in other industries, can accelerate the innovation process. This model allows for reducing research and development costs, improving access to cutting-edge technologies and expanding markets through innovative products and services. For example, collaborations between the public and private sectors have led to the development of revolutionary

[12] European Commission. (2022). Sustainable Finance and Green Growth. Retrieved from europa.eu

technologies in the fields of renewable energy and health. Thus, open innovation becomes an engine of economic and social value creation, demonstrating the importance of strategic partnerships.

Partnerships between the public, private and academic sectors facilitate:

KNOWLEDGE TRANSFER

Exploiting opportunities through knowledge transfer is a key element for capitalizing on innovations in the Republic of Moldova. By creating efficient transfer mechanisms between academia, the private sector and public authorities, the adoption of emerging technologies can be accelerated. Initiatives such as innovation hubs and business incubators allow entrepreneurs to access specialized know-how, reducing the time needed to develop and scale innovative solutions. For example, partnerships between universities and IT companies can facilitate the training of a skilled workforce and the rapid testing of new technologies on the market. Thus, knowledge transfer becomes a catalyst for economic growth and attracting strategic investments in key sectors of the economy.

Developing customized solutions. Exploiting opportunities by developing customized solutions involves adapting technologies, products, and services to the specific needs of the local market or a particular community. In the Republic of Moldova, this may include creating tailored digital platforms for SMEs, using IoT technologies to optimize agriculture, or developing fintech solutions to address the financial challenges of entrepreneurs. Customized solutions not only increase the efficiency and relevance of products, but also create a competitive advantage for local companies, thereby strengthening the country's position in regional and international markets.

SUSTAINABILITY-ORIENTED STRATEGIES

Implementing sustainable strategies ensures the Conservation of natural resources; Creating a long-term competitive advantage; Compliance with international environmental regulations. In 2011, the Republic of Moldova began to implement sustainability-oriented strategies, following international models and adapting them to the local context. These include:

Renewable energy strategies: Projects such as solar and wind parks are under development, supported by international initiatives and European funds, such as the European Neighborhood Instrument.

Promoting organic agriculture: The National Program for Sustainable Agriculture supports farmers who adopt organic practices, which contributes to increasing competitiveness in international markets.

Circular economy: Initiatives that reduce waste and promote resource reuse are encouraged, in line with global sustainability trends.

Energy efficiency projects: Public and private buildings are modernized to reduce energy consumption, an example being the "Green House" initiative.

Public-private collaboration: Partnerships between the government, the private sector and international organizations facilitate the implementation of sustainable projects at the national and local levels.

These strategies are an integral part of Moldova's commitment to contribute to global sustainability goals, such as those set out in the United Nations 2030 Agenda.

CONCLUSIONS

Capitalizing on emerging opportunities requires an integrated approach that combines access to adequate financing with the use of innovative solutions. Key actors, including governments, investors and entrepreneurs, must collaborate to create an enabling environment for development. In this context, we recommend the following actions that, in our opinion, will contribute to capitalizing on emerging opportunities through access to adequate financing and innovative approaches: diversifying funding sources; promoting education and digital skills; stimulating innovation through enabling policies.

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ANNUITY AS AN INSTRUMENT GUARANTEEING STABLE RETIREMENT INCOME

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Olga KUZMINA
Associate professor, PhD, Senior Financial Analyst,
Toronto, Canada
ORCID: 0000-0001-8538-7512
Email: oliga.kuzmina@gmail.com

Abstract: *Most retirement income strategies force retirees to accept the intrinsic longevity risk, as they manage a volatile investment portfolio, with no knowledge of the time horizon, inflation or spending needs. Annuities are voluntary pension insurance products typically provided by life insurance companies, investment funds, or other financial institutions that can provide retirees income for the remainder of their life. We examine annuities as a way to guarantee income during retirement through a comparison with other retirement strategies in OECD countries.*

Keywords: *Risks, annuity, stable income, pension.*

JEL Classification: *E22, E61, E12, E23.*

BACKGROUND AND MOTIVATION

For many countries, public pension reforms have resulted in more choice and risk to individuals. As such, the primary responsibility for providing retirement income has shifted from governments to individuals themselves. In this article, we give an overview of the risks individual face in choosing a retirement income strategy, highlighting the appeal of life annuities as a viable solution. We also examine the challenges faced by life annuity providers in offering these products and discuss several established approaches to managing them.

RISKS

The growing interest in retirement income strategies is primarily driven by the increasing longevity risk. Life expectancy trends have exceeded their pre-pandemic levels and are likely to increase. Currently, the average retirement age for an individual in an OECD country is approximately 65 years for both men and women in most EU countries, while life expectancy in the EU reached over 81 years in 2023 (OECD/European Commission, 2024). In other words, an individual in the EU needs retirement income for at least 16 years, and this trend is continuing to rise. Hence, the need for sophisticated retirement income strategies is driven largely by *longevity risk*—the risk of outliving one's savings.

For public finance or other retirement income providers, this challenge is magnified by the substantial disparities in life expectancy between socio-economic groups. In a study of 15 European countries, life expectancy with lower education was 8 years shorter compared to those with higher education, with the gap being largest in Estonia, Hungary, and Lithuania. The main factor contributing to the gap was low income (OECD/European Commission, 2024). For retirement income providers, this means that lower earners tend to have a shorter life expectancy and thus would receive the benefits of retirement income over a shorter period of time, while higher earners, with longer life expectancies, face the risk of outliving their savings. Addressing the need for personalized income strategies to meet these differing needs is a challenge retirement income providers. While one solution is to differentiate retirement ages based on socio-economic groups' differing life expectancies, OECD (2023) argues that defining such groups and implement the corresponding rules is not feasible in practice. Consequently, choosing a retirement income strategy is becoming an increasingly personal decision—one that the government cannot make on behalf of an individual.

Furthermore, inflation often leads to higher expenses for retired individuals, as energy and food make up a larger portion of their consumption baskets. Therefore, protecting against inflation is a key function of a retirement income strategy, particularly in light of recent inflation surges. Addressing this through automatic pension indexation may be a challenge for public finance. In particular, indexing pensions, along with public and private wages, may lead to second-round effects, making inflationary shock more persistent (Checherita-Westphal et al., 2022).

As such, modern retirement income strategies rely on assets held in tax-sheltered accounts and rely on investment growth to provide inflation protection. This approach not only requires active management, along with time and knowledge of investment management, but also carries the inherent risk of market volatility.

LIFE ANNUITIES

Life annuity is a pension product usually offered by life insurance companies. Its purpose is to mitigate these risks for an individual and can provide them with guaranteed income for the remainder of their life. In simplest terms, life annuity offers payments for the lifetime of an individual in exchange for an upfront premium.

The defining features of an OECD life annuity product are that the product is fully financed by the contributions or premiums towards its purchase, that payments are calculated on an actuarially fair basis, i.e. the promised payments are computed based on a discount rate and mortality assumptions reasonable at the time that the annuity is purchased, and that there is a longevity insurance component in the promised payments (OECD, 2016).

Life annuities often offer a *guaranteed period*, which protects an individual against losing their principal in the case of early death. In such a case, the death benefit owing to the named beneficiary is equal to the present value of any payments remaining in the guaranteed period.

Inflation protection is another key feature of life annuities. The guaranteed payments are indexed to the inflation rate, ensuring a stable retirement income in real terms rather than nominal terms. To achieve this, life annuity products rely on investment growth. Importantly, the individual does not make any investment decisions. The insurer assumes all investment risks, which eliminates the need for active management or investment knowledge on the part of the individual.

With traditional life annuities, the individual fully relinquishes their premium assets to the insurer (OECD, 2016). This means that withdrawals, such as for cover emergencies, are not allowed, which is a significant drawback of the product. However, it is important to note that withdrawing some or all of one's savings is a strategy with very limited benefits. Not only is the withdrawn amount subject to inflation, but it is also taxed, putting the individual at depleting their capital much too quickly. Nevertheless, while traditional fixed-payment life annuities lack flexibility, more modern products address this by offering numerous variations. These products provide access to underlying capital, greater flexibility in the timing of the payout phase, and even risk diversification within the investment portfolio (OECD, 2016). On the other hand, these products are designed to be sustainable for the insurer, adding complexity to the decision-making process for individuals. As a result, the business model of life annuities is *advisory*, with an advisor, acting on behalf of the insurer, helping the individual choose the right life annuity product based on their retirement income needs, concerns, and financial goals. In this way, life annuities meet the growing demand for personalized retirement income strategies.

For these reasons, life annuities address nearly all concerns that individuals may have regarding their retirement income strategy, including the protection against erosion of their capital base through inflation or taxation, achieved through investment growth. The insurer assumes all risks associated with investment management and guarantees lifetime payments for the individual, all while offering a spectrum of highly personalized strategies delivered through the advisory model.

RISKS FACED BY INSURERS AND THEIR MANAGEMENT

Given the guarantees offered by a life annuity product, the insurer faces risks to those described earlier—longevity, investment, and inflation; however, the insurer faces several other risks as well. In this section we summarize these main risks faced by the insurer as the life annuity provider and discuss a modern approach to their management.

The insurer faces risks similar to those an individual faces when making their retirement income strategy decision. For the insurer, longevity risk is the long-term risk of underestimating the improvements in mortality and the resulting increase in life expectancy, which in turn results in the need to make payments for longer than provisioned for. Moreover, because the duration of liabilities is long in general, the insurer faces reinvestment risk (that interest rates will have fallen), the risk of a fall in equity markets, and inflation risk. All of these risks are compounded by the existence of longevity risk as the time horizon increases (OECD, 2016).

The risk exposure for the insurer is driven by assumptions used to price the life annuity. The price of this product should be the present value of expected future payments, as well as any expenses incurred for offering the product, given the expected survival of the individual and the discount rate. The discount rate assumed is typically risk-free. In this case, the insurer could invest the premium received in government bonds and be certain that the bond payments would match the payments owed to the annuitant, which is a risk-free investment strategy. If the discount rate is higher than the risk-free rate, the insurer must invest in higher risk assets offering a higher return in order to meet the future payments. To mitigate the possibility of investments falling below the guaranteed rate, the insurer could offer a lower price to the consumer (assuming a higher discounted rate), thereby potentially increasing sales and market share (OECD, 2016).

As previously mentioned, investment risk is greater for annuities with longer expected duration. We hence explain a way that the insurer may address the longevity risk. The first critical factor is anti-selection, which refers to the tendency for individuals who can expect to live longer lives, e.g. those in good health, to also be the once most likely to purchase a life annuity. As a result, the average survival for these individuals is higher than that of the population average. Hence, to manage the risk of not having sufficient funds to pay future payments, the insurer must price the life annuity assuming a higher survival rate. The other critical factor is heterogeneity of socio-economic characteristics in the population. To address this, the insurer may base mortality assumptions on the premiums paid by the individuals. Because higher earners generally have longer life expectancies, this approach typically provides more accurate survival estimates (OECD, 2016).

CONCLUSIONS

Life annuities provide individuals with guaranteed income for the remainder of their life, while protecting them from the longevity and reinvestment risks that they are exposed to. Life annuities are highly personalized, which is becoming an increasingly relevant property of retirement income strategies, all while not requiring individuals to have specialized knowledge or time investment. The insurer, as the life annuity provider, assumes all risks, which they can then manage through established strategies. For these reasons, life annuities offer a compelling solution to the growing demand for retirement income strategies, from the perspective of both individuals and providers.

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ESG FACTORS AND THEIR IMPACT ON FINANCIAL METRICS: A STUDY OF STOCK PRICES AND REVENUE CORRELATIONS IN BANKS

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MVS MAHENDRA
Dr. Associate Professor, Department of Management Studies
Bhavan's Vivekananda College of Science, Humanities and Commerce
Sainikpuri, Secunderabad, India
ORCID: 0000-0003-2419-5933
Email: swarmahi1@gmail.com

Seema GHOSH
Dr. Head, Department of Economics
Bhavan's Vivekananda College of Science, Humanities and Commerce
Sainikpuri, Secunderabad, India
ORCID: 0000-0002-7401-112X
Email: seemaghosh7@gmail.com

Abstract: *This study explores the relationship between Environmental, Social, and Governance (ESG) scores and financial performance metrics, including Closing Price, Earnings per Share (EPS), Return on Equity (ROE), and Net Profit, for three major Indian banks: HDFC, ICICI, and SBI. With the increasing focus on sustainable business practices, the banking sector has witnessed heightened scrutiny over its ESG performance, especially in emerging markets like India. By analyzing ESG scores against key financial indicators, this study assesses whether a trade-off exists between ESG adherence and traditional performance metrics. Correlation and regression analyses reveal consistent negative associations between ESG scores and financial outcomes across the banks, suggesting that higher ESG scores may slightly reduce short-term profitability measures such as ROE and Closing Price. However, these findings also align with broader trends in ESG literature, indicating that while ESG practices may pose immediate cost implications, they enhance long-term stability and reputational value. The implications of this study extend to investors and bank managers, who are encouraged to consider ESG integration as a long-term resilience strategy rather than solely a profit-driven objective. This research contributes to the growing discourse on sustainable finance in emerging markets, emphasizing the importance of balancing ESG commitments with financial objectives. Future studies could benefit from analyzing more banks and expanding the scope to cover individual ESG dimensions for a granular understanding of their distinct impacts on financial performance.*

Key Words: *Environmental, Social and Governance (ESG), Financial Performance, Banking Sector, Emerging markets, Sustainable Investing, India.*

JEL Classification: *G21 – Banks; M14 – Social Responsibility, Q56 – Environment and Development, Sustainability.*

INTRODUCTION

The integration of ESG factors into financial analysis has gained momentum as stakeholders increasingly prioritize sustainability and ethical business practices. ESG scores offer a measure of a company's environmental responsibility, social impact, and governance practices, influencing investor decisions and market performance. This study focuses on examining the relationship between ESG scores and financial performance metrics of three major Indian banks—HDFC, ICICI, and SBI—over a defined period, to better understand how ESG impacts these institutions' market valuations and profitability.

REVIEW OF LITERATURE

The relationship between ESG performance and financial outcomes has gained substantial academic attention over recent years, especially within the banking sector. ESG scores serve as an indicator of an institution's commitment to environmental sustainability, social responsibility, and strong governance practices. Studies suggest that while these metrics contribute to long-term risk mitigation and reputation enhancement, their impact on short-term financial performance varies across sectors and regions.

ESG and Financial Performance in Banking According to Friede, Busch, and Bassen (2015), a meta-analysis of ESG studies across sectors indicated that ESG practices generally correlate with positive financial performance; however, the banking sector's unique risk exposure makes these relationships complex. For instance, Giese et al. (2019) found that while high ESG scores improve a bank's reputation and reduce systemic risk, they may temporarily impact profitability due to increased operational costs associated with ESG initiatives.

Regional Context and Emerging Markets Emerging market banks face different ESG pressures than those in developed economies, driven by regulatory differences and market expectations. Studies such as Kumar and Firoz (2018) highlight that Indian banks adopting ESG practices experience fluctuating returns, often because ESG investments require substantial initial costs. Furthermore, recent research by Gupta and Singh (2021) emphasizes that although ESG initiatives are still developing in India, they are increasingly being integrated into banks' risk management frameworks, often affecting financial metrics like Return on Equity (ROE) and Earnings per Share (EPS).

Correlation Between ESG Scores and Market Performance Chen, Chen, and Wei (2020) have demonstrated that ESG scores are positively linked to long-term financial stability but may have an inverse relationship with short-term performance metrics like stock price and ROE in specific sectors, including banking. Similarly, Rajesh and Sharma (2022) found that higher ESG scores correlated with stable stock performance during economic downturns, suggesting resilience in high-ESG institutions despite temporary profitability sacrifices.

Research Gap

Although previous studies have explored ESG impacts on corporate financial performance, limited research focuses on the banking sector in emerging markets, especially in India. This study addresses this gap by providing empirical evidence on the relationship between ESG scores and financial metrics within the Indian banking context, thereby expanding understanding of how ESG considerations impact financial outcomes in the financial services sector.

OBJECTIVES

1. To analyze the correlation between ESG scores and key financial performance indicators (Closing Price, EPS, ROE, and Net Profit) for HDFC Bank, ICICI Bank, and SBI.
2. To assess the impact of ESG scores on financial performance through regression modeling.
3. To identify trends and variations in the influence of ESG factors on each bank's financial metrics.
4. To provide recommendations based on ESG-financial performance linkages for investors and stakeholders.

HYPOTHESES

H1: There is a significant correlation between ESG scores and financial performance metrics (Closing Price, EPS, ROE, and Net Profit) for each bank.
H2: ESG scores significantly predict financial performance indicators in HDFC, ICICI, and SBI, with distinct relationships for each institution.

Research Methodology: This study employs a quantitative research approach to examine the relationship between ESG (Environmental, Social, and Governance) scores and financial performance indicators in three prominent Indian banks: HDFC, ICICI, and SBI. The analysis focuses on key financial metrics, including Closing Price, Earnings per Share (EPS), Return on Equity (ROE), and Net Profit, to evaluate how these banks' ESG scores correlate with their market performance.

Data Collection:

Data on ESG scores and financial performance indicators for the banks were obtained from reliable financial databases and official bank reports. This data spans a defined period, enabling consistent and comparable observations across the banks.

Analytical Tools and Techniques:

1. **Descriptive Statistics**: Used to summarize the mean and variability in ESG scores and financial metrics, which provides insights into the central tendencies and dispersion of the data.
2. **Correlation Analysis**: Pearson correlation coefficients were calculated to assess the direction and strength of the relationship between ESG scores and each financial indicator. This helps in identifying whether increases in ESG scores are associated with corresponding increases or decreases in financial metrics.
3. **Regression Analysis**: Multiple regression models were developed to explore the predictive impact of ESG scores on financial indicators. Separate regression equations were established for each bank, showing how ESG scores influence Closing Price, ROE, and Net Profit. The regression model assesses the explanatory power of ESG scores on financial performance, as indicated by R-squared values and coefficients for each variable.

INTERPRETATION OF RESULTS

HDFC Bank

Descriptive Statistics: ESG score averaged 2.2 with moderate variance. Closing Price and EPS showed relatively high means and deviations, reflecting performance fluctuations.
Correlations: ESG scores were negatively correlated with Closing Price (-0.764), EPS (-0.667), ROE (-0.661), and Net Profit (-0.672). This indicates that higher ESG scores were associated with a slight decrease in these financial performance indicators.
Regression Analysis: The regression model suggests that for HDFC, ESG = 8.580 - 0.009(Closing Price) + 0.157(ROE) + 0.0001(Net Profit). ESG scores negatively correlated with Closing Price, implying that as ESG focus increased, Closing Price tended to decrease.

ICICI Bank

Descriptive Statistics: ICICI's ESG score averaged 3.6 with a higher deviation compared to HDFC, indicating broader variability in ESG scores.
Correlations: ESG was strongly and negatively correlated with Closing Price (-0.822), EPS (-0.857), ROE (-0.939), and Net Profit (-0.849). This suggests a consistent negative relationship between ESG scores and financial metrics.
Regression Analysis: The equation ESG = 5.494 + 0.001(Closing Price) - 0.399(ROE) + 0.012(Net Profit) further suggests that while Closing Price has a positive but minimal impact, ROE and Net Profit show strong negative relationships with ESG scores, indicating that increased ESG focus might constrain profitability or operational focus in this case.

SBI

Descriptive Statistics: SBI recorded the highest mean ESG score (4.4) with substantial deviations in financial performance metrics, particularly Net Profit.
Correlations: ESG scores negatively correlated with Closing Price (-0.601), EPS (-0.604), ROE (-0.678), and Net Profit (-0.603). This aligns with the trend observed in HDFC and ICICI.
Regression Analysis: The model ESG = 7.303 - 0.004(Closing Price) - 0.710(ROE) + 0.0001(Net Profit) suggests that ESG focus slightly lowers the Closing Price and significantly impacts ROE negatively.

HYPOTHESES AND RESULTS

1. **Hypothesis 1 (H1):** *There is a significant correlation between ESG scores and financial performance metrics (Closing Price, EPS, ROE, and Net Profit) for each bank.*
   Result: Accepted. The correlation analysis revealed a significant negative correlation between ESG scores and financial performance indicators across the banks. For example, HDFC's ESG scores showed a negative correlation with Closing Price (-0.764), EPS (-0.667), ROE (-0.661), and Net Profit (-0.672). Similar patterns were observed for ICICI and SBI, where higher ESG scores correlated with decreases in financial metrics, supporting H1.
2. **Hypothesis 2 (H2):** *ESG scores significantly predict financial performance indicators in HDFC, ICICI, and SBI, with distinct relationships for each institution.*
   Result: Partially Accepted.
   Regression analysis provided insights into how ESG scores predict financial performance but with varying degrees of impact for each bank. For HDFC, ICICI, and SBI, regression models confirmed the influence of ESG scores on financial metrics, though the strength and direction varied by bank. For instance, ICICI's regression model showed a particularly strong negative impact on ROE, suggesting that ESG investments may have a greater cost implication for this bank. Therefore, while ESG scores are predictive, their effect size and impact on specific metrics differ across banks, supporting H2 in part
   Discussion:

The findings from this study support the view that ESG scores have a mixed impact on financial performance metrics, such as Closing Price, EPS, ROE, and Net Profit, for Indian banks. Notably, a consistent, negative correlation between ESG scores and these financial metrics was observed across HDFC, ICICI, and SBI. This section explores potential reasons for these results, implications for stakeholders, and comparisons with previous literature.

In the regression analysis, each bank's unique equation provided insights into the specific impact of ESG scores on financial metrics. For example, in the case of HDFC, the regression equation ESG=8.580−0.009(Closing Price)+0.157(ROE)+0.0001(Net Profit)\text{ESG} = 8.580 - 0.009(\text{Closing Price}) + 0.157(\text{ROE}) + 0.0001(\text{Net Profit})ESG=8.580−0.009(Closing Price)+0.157(ROE)+0.0001(Net Profit) indicates that a higher ESG score correlates with a slight decrease in Closing Price, suggesting an inverse relationship. This pattern aligns with findings from existing literature, highlighting that while ESG initiatives may yield long-term benefits, they may initially impact financial returns due to associated costs. Similarly, the equations for ICICI and SBI reveal varied strengths in these relationships, with ICICI showing a particularly strong negative association between ROE and ESG scores. These results underscore the complex dynamics between sustainable practices and profitability in the banking sector.

Negative Correlation Between ESG Scores and Financial Metrics The data revealed that as ESG scores increased, financial performance indicators such as Closing Price, EPS, and ROE generally showed a declining trend. This aligns with research by Chen et al. (2020) and Rajesh and Sharma (2022), suggesting that while ESG adoption enhances a bank's reputation and attracts ESG-focused investors, the associated costs may reduce immediate profitability. In the case of Indian banks, the resource allocation required for ESG implementation could reduce the availability of funds for revenue-generating activities, potentially explaining the inverse relationship between ESG and ROE and Net Profit.

Variation in ESG Impacts Among Banks Each bank showed slightly different trends in the extent of ESG's impact on financial performance. For instance, ICICI Bank exhibited the strongest negative correlation between ESG and ROE, potentially due to its comparatively high investment in ESG initiatives within a competitive environment. In contrast, SBI, with its state-backed orientation, may experience greater regulatory pressure, which could further influence its ESG outcomes relative to profitability.

Implications for Investors and Bank Management For investors, the findings imply that while ESG investments may not yield immediate financial benefits, they serve as a hedge against reputational and operational risks in the long run. Investors should thus consider ESG scores as a component of a bank's risk profile, particularly for long-term holdings. Bank management, on the other hand, may need to find strategies to balance ESG investments with profitability goals. This may involve phased ESG investments or targeting specific ESG initiatives that align closely with core business strategies.

Comparison with Existing Literature Consistent with Kumar and Firoz (2018) and Gupta and Singh (2021), the study suggests that ESG considerations can have a mixed impact on financial performance in Indian banks, where regulatory standards and market expectations around ESG are evolving. However, the present study goes further by using specific financial indicators to assess the correlation with ESG scores in each bank, revealing the nuanced ways that ESG impacts financial metrics.

CONCLUSIONS

The analysis demonstrates a consistent inverse relationship between ESG scores and financial performance indicators across HDFC, ICICI, and SBI. Higher ESG scores appear to coincide with reductions in Closing Price, ROE, and Net Profit, which may indicate a short-term trade-off between ESG adherence and certain profitability metrics. These findings are relevant for investors and bank management, suggesting that while ESG integration is essential for long-term sustainability, it may impact financial returns in the short term.

FUTURE RESEARCH

Future studies should consider:
1. A larger dataset covering more banks and extended periods for increased generalizability.
2. Industry-wide analysis to compare ESG impacts across different sectors.
3. Examination of specific ESG components (Environmental, Social, Governance) to understand their individual contributions to financial performance.
4. Exploration of mediating factors, such as government policies or investor sentiment, which may impact ESG-financial performance relationships in emerging markets.

Table 1. Descriptive Statistics – HDFC Bank

Descriptive Statistics – HDFC Bank			
	Mean	Std. Deviation	N
ESG Ratings	2.2000	.44721	5
Closing Price	1505.0600	170.67091	5
EPS	57.9940	15.64759	5
ROE	16.7960	.39387	5
Net_Profit	31904.4060	9003.28012	5

Source: Authors Compilation

Table 2. Descriptive Statistics – ICICI Bank

Descriptive Statistics – ICICI Bank			
	Mean	Std. Deviation	N
ESG Ratings	3.6000	.89443	5
Closing Price	740.2400	206.85797	5
EPS	24.1940	16.26040	5
ROE	10.9200	5.73559	5
Net Profit	165.4440	115.09796	5

Source: Authors Compilation

Table 3. Descriptive Statistics – SBI Bank

Descriptive Statistics – SBI Bank			
	Mean	Std. Deviation	N
ESG Ratings	4.4000	1.14018	5
Closing Price	464.8100	163.34765	5
EPS	26.3700	20.84832	5
ROE	10.3020	7.06358	5
Net Profit	23613.600	18557.85523	5

Source: Authors compilation

Table 4. Correlation Matrix – HDFC Bank data

Correlations						
		ESG	Closing Price	EPS	ROE	Net Profit
Pearson Correlation	ESG	1.000				
	Closing Price	-.764	1.000			
	EPS	-.667	.983	1.000		
	ROE	-.661	.931	.928	1.000	
	Net Profit	-.672	.984	1.000	.929	1.000

Source: Authors Compilation

Table 5. Model Summary – HDFC Bank

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.883[a]	.780	.122	.41905	2.433

Source: Authors Compilation

Regression Equation

ESG = 8.580 + (-0.009Closing Price) +0.157 ROE + 0.0001 NP

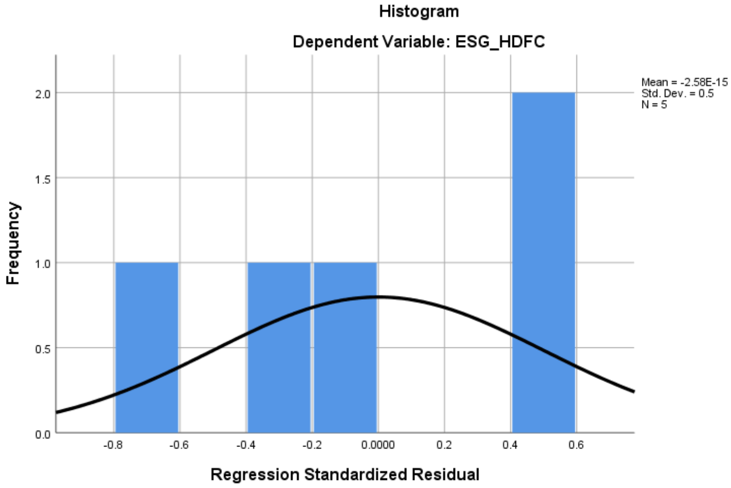

Figure 1. Regression Standardized Residual
Source: Authors Compilation

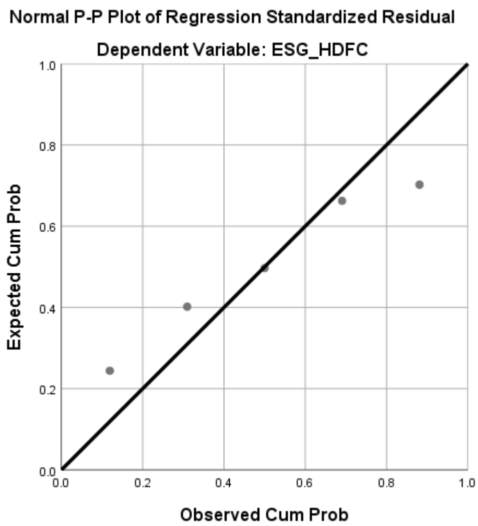

Figure 2. Normal P-P Plot of Regression Standardized Residual
Source: Authors Compilation

Table 6. Correlation Matrix – ICICI Bank

Correlations						
		ESG	Closing Price	EPS	ROE	Net Profit
Pearson Correlation	ESG	1.000				
	Closing Price	-.822	1.000			
	EPS	-.857	.983	1.000		
	ROE	-.939	.961	.982	1.000	.
	Net Profit	-.849	.985	1.000	.979	1.000

Source: Authors Compilation

Table 7. Model Summary – ICICI Bank

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.999[a]	.998	.993	.07705	3.537

Source: Authors Compilation

Regression equation

ESG = 5.494 + 0.001 Closing Price – 0.399 ROE + 0.012 Net Profit

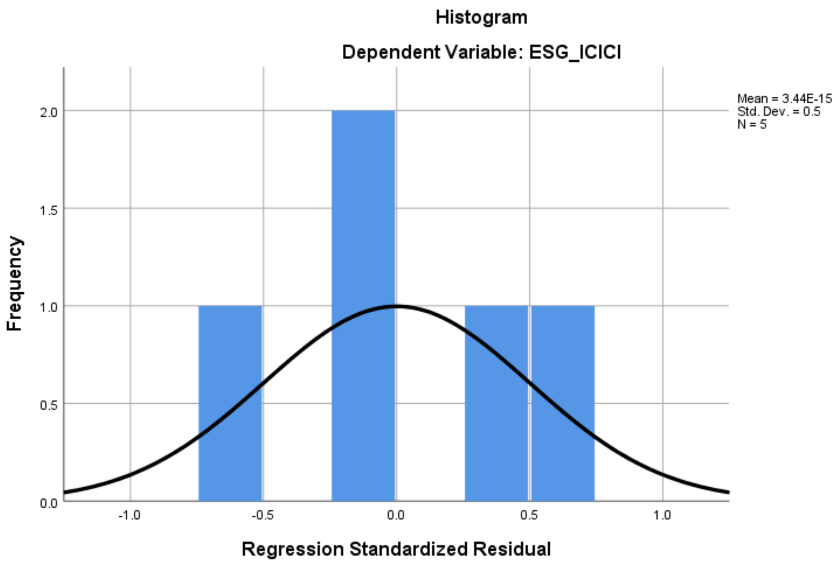

Figure 3. Regression Standardized Residual
Source: Authors Compilation

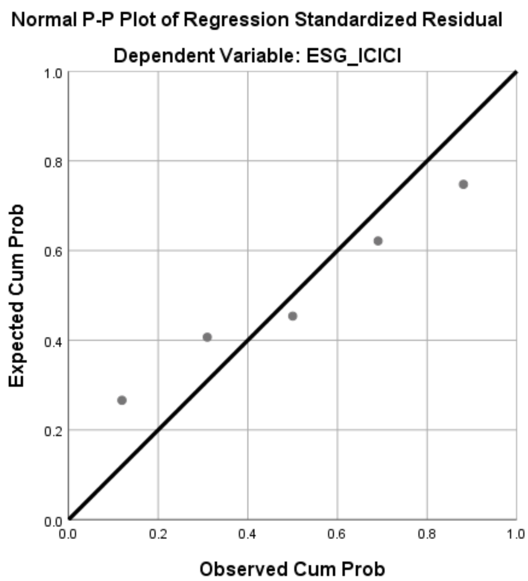

Figure 4. Normal P-P Plot of Regression Standardized Residual
Source: Authors Compilation

Table 8. Correlation Matrix – SBI

Correlations						
		ESG	Closing Prices	EPS	ROE	Net Profit
Pearson Correlation	ESG	1.000				
	Closing Prices	-.601	1.000			
	EPS	-.604	.875	1.000		
	ROE	-.678	.852	.989	1.000	
	Net Profit	-.603	.871	1.000	.990	1.000

Source: Authors Compilation

Table 9. Model Summary – SBI

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.872[a]	.760	.040	1.11706	3.431

Source: Authors Compilation

Equation

ESG = 7.303 – 0.004 Closing Price – 0.710 ROE + 0.0001 Net Profit

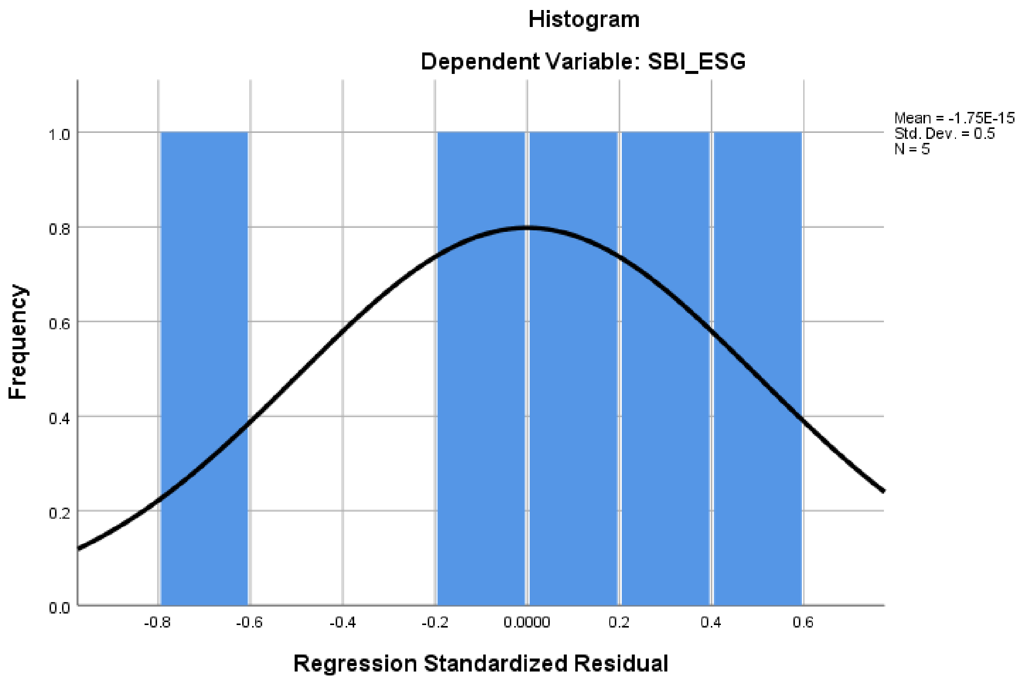

Figure 5. Dependent Variable: SBI_ESG
Source: Authors Compilation

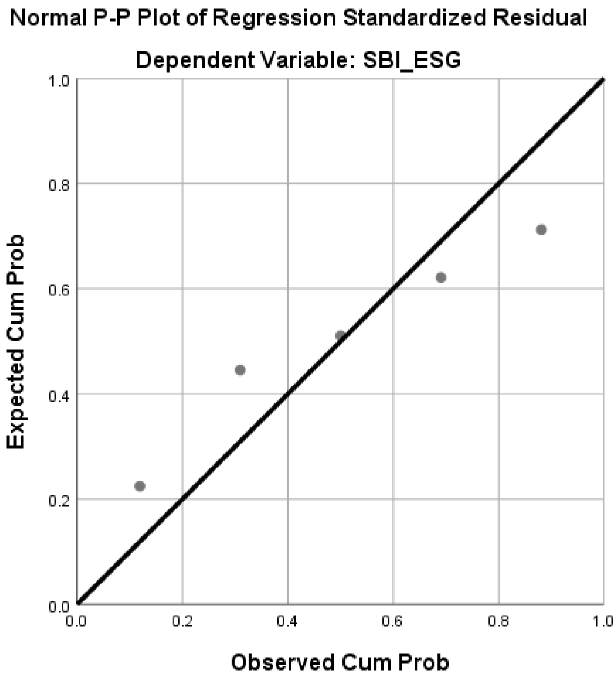

Figure 6. Dependent Variable: SBI_ESG
Source: Authors Compilation

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CONSUMER BEHAVIOUR IN THE CONTEXT OF SUSTAINABLE BANKING IN THE REPUBLIC OF MOLDOVA

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Larisa MISTREAN
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-4867-937X
Email: mistrean_larisa@ase.md

Ilinca GOROBEȚ
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-8429-9585
Email: gorobet.ilinca@ase.md

Abstract: *Banks are now facing pressure from all sides and have realized that unchecked climate change will have disastrous environmental impacts and serious macroeconomic consequences. Sustainable banking involves offering financial products and services that not only fulfill people's needs but also protect the environment, all while being profitable. It is primarily about social responsibility, which can change the way consumers choose and use financial services.*

Sustainable banking is the symbiosis between the banking system and society and is mainly based on two elements: green credits and sustainable finance. Green banking involves changing internal operations to reduce or eliminate environmental impact. These initiatives include the use of green technology and energy-efficient buildings. Sustainable finance refers to offering financial products that encourage or require environmentally friendly behavior. Sustainable finance instruments include green bonds, sustainable mortgages, and sustainability-related loans.

Consumers are becoming more interested in sustainable products, investing in financial products that support green initiatives, and are becoming more aware of their impact on the environment. These trends reflect a significant change in consumer behaviour, driven by a growing awareness of environmental and social issues.

These measures not only help protect the environment, but also enhance banks' reputation and attract customers who are increasingly concerned about sustainability.

The objective of this paper is to identify consumer behaviour in the context of sustainable banking services in the Republic of Moldova and ways to stimulate of consuming green credits, and sustainable finance.

Keywords: *Principle for Responsible Banking (PRB), sustainable financial products, sustainable investments, green credits, sustainable finance, ESG principles, green products.*

JEL Classification: *G21, G41.*

INTRODUCTION

To mitigate the impact of climate change on the economy and society, a significant change in global behaviour is needed. More and more consumers are becoming aware of the influence that investments and financial services have on the environment and society. Consumers of banking products want banks to adopt sustainable practices and be transparent about green finance and social responsibility (Mistrean, 2022, 2021e, 2021a, 2021b, 2021c, 2021d).

Globally, there is a growing concern for the inclusion of environmental, social, and governance (ESG) criteria in banks' economic decisions. Consumers appreciate banking initiatives with social impact, aimed at building a fairer and more inclusive society by financially supporting projects beneficial to the community. This trend reflects a profound shift in consumer behaviour, as consumers prefer to work with financial institutions that demonstrate a genuine commitment to sustainability and social responsibility (Mistrean, 2024a, 2024b, 2023a, 2023b).

The financial-banking sector has a crucial role to play in assessing and managing climate risks in a comprehensive way, and in financing or co-financing the transition to a climate-neutral economy. Thus, it supports initiatives that promote sustainability and environmental protection, becoming a pillar of change.

The new European Union regulations require banks to explicitly include the sustainability objectives of their customers, especially those they finance (European Commission, 2020). These regulations oblige banks to actively participate in sustainability initiatives clearly disclose the "sustainability factors" of financial instruments to current and potential clients, and understand in detail individual customer sustainability preferences.

Within this framework, it is essential to develop and implement effective strategies that motivate people to change their beliefs and adopt sustainable behaviours. These strategies should encourage actions aimed at reducing the impact of climate change, thus fostering a collective commitment to environmental and societal protection.

The global banking sector is adopting responsible practices to support a positive global transition, both for people and the planet, by adhering to the UN Principles for Responsible Banking. Sustainable banking involves practices that emphasize environmental sustainability, social responsibility, and trusted corporate governance, known as ESG (Environmental, Social, and Governance) factors. This means that banks not only pursue profit, but also consider the impact of their activities on the environment and society, ensuring that they operate in a responsible and ethical manner.

PRINCIPLES OF SUSTAINABLE BANKING

As responsible banking is at the intersection of science, regulations, standards, and sustainable innovation, it responds to the demands and needs of consumers. The bank has a crucial role both as a financial intermediary and as a promoter of change. The United Nations Environment Programme Finance Initiative (UNEP FI) highlights four key areas: climate, nature and biodiversity, healthy and inclusive economies, and human rights, as crucial to supporting a positive global transition (UN Environment Programme, 2024a). In this context, banks that want to operate in a responsible and sustainable way focus their efforts on climate protection, nature conservation, the promotion of healthy and inclusive economies, and respect for human rights.

Implementing a responsible business strategy within the bank involves aligning decision-making, lending, and investment activities with the goals of the Paris Agreement on climate change, the UN Sustainable Development Goals (SDGs), and other relevant international frameworks, including various global initiatives (UN Environment Programme, 2024b).

Table 3. UN Principles for Responsible Banking

Business strategy alignment	All the bank's plans and actions are tailored to meet the needs and expectations of individuals, as well as the company's development goals and standards, in line with the Sustainable Development Goals (SDGs) set by the United Nations. These goals address issues of poverty, inequality, the environment, and peace by 2030. The bank aligns with the Paris Agreement on climate change by reducing greenhouse gas emissions and complies with national and regional frameworks that support sustainable development and environmental protection.
Setting goals and ensuring positive impact	The bank sets clear and measurable targets in the areas where it can have the greatest positive impact and makes them public to ensure transparency and accountability. It is committed to amplifying beneficial effects on society and the environment, focusing on minimizing negative effects. It also identifies and manages the risks associated with its activities, products, and services in order to prevent or mitigate any negative impact.

Responsible collaboration with customers	The bank encourages and supports actions and behaviours that protect the environment and natural resources. It also facilitates and supports economic initiatives that bring both financial and social benefits, thus contributing to the overall well-being of the community.
Stakeholders	The bank encourages proactive consultation, initiating dialogues and actively soliciting feedback from stakeholders (customers, employees, local communities, authorities, non-governmental organizations, and other entities interested in the bank's activities). Through responsible involvement and collaboration, the bank develops solutions and implements actions that support sustainable development, environmental protection, social equity, and economic prosperity.
Governance and responsible culture	Responsible governance involves governance structures and processes that ensure decision-making in a transparent and accountable manner, guaranteeing compliance with the principles of responsible banking. A responsible culture involves promoting values and behaviours within the bank that support social responsibility and sustainability, educating and motivating employees to adopt ethical practices and contribute to achieving the Sustainable Development Goals.
Transparency and accountability	The bank regularly conducts a review of how it applies these principles, both individually (by each employee or department) and collectively (as an institution). Transparency means that the bank is open and clear in communicating its impacts, whether positive or negative, by publishing relevant reports and information to allow stakeholders to understand the institution's performance and progress. The bank takes responsibility for its actions and must take measures to correct any negative impacts of its activity on society and the environment.

Source: UN (2019) / own work / based on UN (2019)

The Principles for a Responsible Banking Sector define new roles and responsibilities for the banking industry, aligning it with the UN Sustainable Development Goals (2015) and the climate change targets set by the Paris Agreement (UN Climate Change, 2015). These principles allow banks to integrate sustainability into all aspects of their business and identify areas with the greatest potential for impact and contribution to sustainable development. In this context, banks can capitalize on new business opportunities, thus promoting sustainable economic development.

The Network for Greening the Financial System (NGFS) was established by eight central banks and supervisors in December 2017 at the One Planet Summit in Paris to strengthen the global response needed to meet the goals of the Paris Agreement. By 29 May 2024, the NGFS grew to 141 members and 21 observers (NGFS, 2024a). The network of central banks and financial supervisors has recognized that climate risks can have significant macroeconomic and financial implications. The NGFS aims to improve the analysis and management of climate and environmental risks, as well as to enhance the role of the financial system in financing the transition to a sustainable economy. To this end, the NGFS defines and promotes best practices for its members and external entities. The NGFS also develops analytical work on green finance, focusing on promoting financial sustainability and supporting the transition to a green economy. (NGFS, 2023, 2024b, 2024c, 2024d):

- help improve the supervision of climate risks in financial institutions;
- encourage central banks and supervisors to adopt responsible and sustainable investment practices, integrating environmental, social, and governance (ESG) considerations into the management of their portfolios;
- facilitate global discussions and collaboration between the public and private sectors to address climate risks and promote global financial sustainability;

- help mobilize the necessary capital for investments in green and low-carbon projects, supporting the transition to a sustainable economy.

The process by which banks redirect funds from activities that do not comply with the Paris Agreement and step up their decarbonization efforts according to the requirements of climate science includes high-level engagement, goal setting, scenario analysis, strategy development and implementation of actions, as well as performance reporting and disclosure of relevant information (PCAF, 2021). The Partnership for Carbon Accounting Financials (PCAF) is a financial sector initiative that promotes transparency and accountability in line with the Paris Agreement (PCAF, 2024).

Banks need to start by measuring the greenhouse gas emissions generated by their financial activities and identify and manage climate risks (Composto, 2022). This measurement allows them to develop strategies to reduce emissions and contribute to global decarbonization goals. It also helps banks find investment opportunities in sustainable projects and technologies, such as renewable energy and energy efficiency. The Global Standard for Accounting and Reporting for Greenhouse Gas (GHG) emissions was created by banks and investors to provide financial institutions with clear and uniform methodologies for measuring and reporting emissions from their credits and investments (Greenhouse Gas Protocol, 2022). This standard includes both direct and indirect emissions, is based on general accounting principles, and covers various asset classes, from government bonds to corporate and SME loan portfolios.

Table 2. Portfolio and financial flows of responsible banks

Climate changes	A responsible bank focuses on mobilizing capital to support the transition to a low-carbon economy and sustainable development. It invests in sustainable projects and promotes a positive impact on the environment and society. The bank finances low-carbon initiatives and clearly defines the financing needed to help high-carbon customers make the transition. It also focuses on the climate resilience of customers, projects, and products.
Nature and biodiversity	The bank supports biodiversity and sustainability by financing projects that promote ecological solutions, restoration and protection of terrestrial and marine ecosystems, circular solutions, and pollution reduction. Part of the funds earmarked for combating climate change is allocated to nature-based activities and solutions for the circular economy.
Healthy and inclusive economies	Banks contribute to economic and social development by mobilizing capital and providing credit and financial services to support SMEs in various sectors, depending on the needs of the economy. They also allocate funds to facilitate access to financial products for vulnerable groups, including women-owned businesses and those promoting decent work, gender equality, and the inclusion of vulnerable populations.
Human rights	The responsible bank is channelling more and more funds to customers who respect human rights and have implemented policies and processes according to the UN Guiding Principles on Business and Human Rights (UNGPs). Essentially, the bank financially supports companies that demonstrate a clear commitment to respect for human rights, thus promoting ethical and responsible business practices.

Source: UN (2024a) / own work / based on UN (2024a)

The integration of environmental, social, and governance (ESG) principles into all banking operations allows the impact and sustainability of activities to be assessed (EU, 2022, 2021b). This is reflected in the granting of credits for projects that reduce carbon emissions or promote fair labor practices, thus having a better chance of obtaining financing. Currently, banks evaluate projects and companies applying for loans not only on the basis of their financial capacity, but also on the basis of their impact on the environment and society. For example:

- the investment decisions of banks and other financial investors must be based on ESG criteria to determine which companies or projects to invest in. Companies that adopt sustainable business practices, such as reducing pollution, respecting employee rights, and transparent corporate governance, are considered safer and more attractive investments in the long term;
- banks are adapting their internal operations and practices to become more sustainable, reducing energy and paper consumption in offices, promoting diversity and inclusion among employees, and ensuring ethical and transparent corporate governance at the institutional level.

The adoption of ESG criteria in banking improves the reputation of institutions, reduces risks, and contributes to the development of a more sustainable and equitable economy. The banking sector-specific alliance within the Glasgow Financial Alliance for Net Zero (GFANZ), known as the Net-Zero Banking Alliance (NZBA), acts as a climate accelerator for the Principles for Responsible Banking (PRB) of the United Nations Environment Programme Finance Initiative (UNEP FI) and is a key catalyst for the transition to a global net-zero emissions economy. The NZBA supports banks in implementing carbon reduction strategies, aligning with international climate goals, and promoting responsible financial practices. By collaborating with PRB and UNEP FI, the NZBA contributes to creating a robust framework for sustainability in the banking sector, thus ensuring a long-term positive impact on the environment and society.

The key goals of the Net-Zero Banking Alliance (NZBA) in supporting the transition to a global economy with net-zero greenhouse gas emissions by 2050 are (UN, 2021):

- adjusting the bank's financial activities, particularly lending, investment, and capital markets, to achieve net-zero greenhouse gas emissions by 2050;
- defining interim decarbonisation targets for 2030 or a shorter period to ensure steady progress towards the ultimate goal;
- supporting the development of a stable and supportive policy framework aimed at accelerating the transition to net-zero emissions and supporting the implementation of banks' commitments;
- facilitating learning and collaboration opportunities among its members to develop and implement credible and science-based strategies to achieve net-zero goals;
- urging alliance members to report transparently on progress towards the set targets, to ensure accountability and credibility of their commitments.

ADAPTING BANK ACTIVITIES TO CONSUMER BEHAVIOUR

The current business environment has been significantly impacted by economic instability, political disruptions, and specific environmental and social issues, influencing both consumers and banks. PwC's Global Investor Survey 2022 examined investors' perspectives on sustainability, focusing on how the current environment influences their priorities, decisions, and strategies, and how they perceive companies' responses. Eighty-three percent of investors indicated that the highest priority for businesses should be the creation of innovative products, services, and operational methods. The second most important priority is sustaining profitable financial performance (69%). Environmental, social, and governance (ESG) factors are also significant to investors: data security and privacy rank third (51%), effective corporate governance ranks fourth (49%), and reducing greenhouse gas emissions ranks fifth (44%) (PwC, 2022).

It is clear that consumers are becoming increasingly aware of the importance of sustainability and are choosing financial products that support the green economy. As a result, banks are motivated to adjust their offerings to meet this growing demand (EU, 2024, EU, 2021a, IPCC, 2023).

In the current economic context, banks are exploring ways to adapt and capitalize on the opportunities offered by sustainable development, including the transition to greener energy sources.

The "green opportunity" refers to initiatives and projects that promote the use of renewable energy and reduce environmental impact.

Banks are implementing new and creative strategies to meet customers' needs and expectations in the context of climate change:

- creating and offering specialised investment products focused on precise value generation assumptions in the context of the climate transition. Instead of providing generic ESG or impact investment products, banks are developing solutions that directly address certain aspects of the transition to a greener economy. For example, investing in renewable energy technologies or companies innovating to reduce carbon emissions;
- assessing the level of risk specific to their customers, including climate risk. This means that the analysis of clients' personal properties and assets also takes into account the risks associated with climate change. For example, evaluating how real estate could be affected by extreme weather events or how the value of assets could fluctuate depending on future environmental regulations.

Sustainable development strategies reflect an increased focus on the impact of climate change on investments and personal property, providing clients with more personalized solutions tailored to the specific risks and opportunities of the climate transition. Here are measures that banks can implement to capitalize on the available opportunities:

- collecting and examining relevant data on climate, markets, and consumer behaviour to understand needs and market trends, thus developing effective products that guarantee financial viability and protection against specific associated risks;
- identifying the right product for the market or segment (product-market fit) involves discovering a genuine and meaningful customer need that can be met by a specific financial product (e.g., a savings product with more effective features or a more affordable lending service). The financial product must offer something different or superior to what already exists on the market, with uniqueness reflected in innovative features, a better consumer experience, or more advantageous conditions of use;
- explaining the key steps in the creation and implementation of ESG financial products aimed at supporting sustainability initiatives and combating climate change;
- developing and applying marketing strategies to promote ESG products and ensure their widespread adoption through effective sales tactics. An essential element is identifying the target audience, formulating marketing messages, and using the right distribution channels;
- providing consulting services to help clients understand and adopt sustainable practices, as well as organizing seminars and workshops to educate clients about the benefits of sustainability and how to integrate these practices into their businesses.

Sustainable development strategies reflect an increased focus on the impact of climate change on investments and personal property, providing clients with more personalized solutions tailored to the specific risks and opportunities of the climate transition. Here are measures that banks can implement to capitalize on the available opportunities.

Banks already support environmental protection and the promotion of a more sustainable future through green financing, which involves providing loans and investments for projects that have a positive impact on the environment, such as:

- financing projects that generate energy from renewable sources, such as solar, wind, hydropower, or biomass. These energy sources are more sustainable because they reduce greenhouse gas emissions and dependence on fossil fuels;
- investing in the construction or renovation of buildings to make them more energy efficient through the use of sustainable building materials, the installation of thermal insulation systems, energy-efficient windows, and heating and cooling systems that consume less energy and reduce energy losses.

At the same time, these investments can be cost-effective, as renewable energy projects and energy-efficient buildings will help lower costs in the long run, thus ensuring stable revenues for banks and investors.

An example of a financial product in this category is the mortgage loan offered by a bank for the purchase of a home, which also includes the option of financing the installation of solar panels on the roof. Thus, the borrower, at the time of purchasing the house through the mortgage loan, can opt for the installation of solar panels, financed by the same loan. These products encourage the use of solar energy and facilitate access to this technology for more people, integrating costs into the home loan.

IMPLEMENTING THE PRINCIPLES FOR RESPONSIBLE BANKING IN THE REPUBLIC OF MOLDOVA

An example of a financial product in this category is the mortgage loan offered by a bank for the purchase of a home, which also includes the option of financing the installation of solar panels on the roof. Thus, the borrower, at the time of purchasing the house through the mortgage loan, can opt for the installation of solar panels, financed by the same loan. These products encourage the use of solar energy and facilitate access to this technology for more people, integrating costs into the home loan.

Both the behaviour of consumers of financial-banking products and the strategic directions of banks are influenced by the provisions of the National Program for the Promotion of Entrepreneurship and Increased Competitiveness (PACC, 2023-2027) (PACC, 2023), the National Strategy for Economic Development 2030 (SNDE, 2024), and the Program for the Promotion of the Green and Circular Economy (PPGCE, 2024-2028) (PPEVC, 2024). These programs aim to create a favourable environment for innovation and economic growth in the country, benefiting both consumers and the entire financial sector. They support the active transition to a green and circular economy; the efficient use of resources; and the development of the circular economy in the Republic of Moldova. They also aim to improve competitiveness and sustainability, thus contributing to the sustainable economic development of the country.

At the same time, the National Bank of Moldova (NBM) aligns its regulations with the requirements of the European Union (EU) in the field of sustainability and integrates environmental, social, and governance (ESG) criteria to promote responsible and sustainable banking practices.

The implementation of best practices and global collaboration to promote financial sustainability is supported by strengthening the NBM's prudential supervision, ensuring that banks comply with sustainability standards and manage climate and environmental risks.

Banks in the Republic of Moldova have actively started to include ESG criteria in all aspects of their activities and are expanding their offerings to include sustainable financial products. Educating consumers about the importance of sustainability and the benefits of using responsible financial products will increase awareness of the positive impact of sustainable financial choices. Banks are also encouraged to assess their loan portfolios from an environmental impact perspective and support initiatives that promote resource efficiency and waste reduction.

Directive (EU) 2022/2464 of the European Parliament and of the Council regarding corporate sustainability reporting (CSRD, 2022) indicates that companies are no longer evaluated solely from an economic-financial perspective. Commitments to ESG (Environmental, Social, Governance) must be integrated into an institution's business strategy and mission to meet regulatory frameworks and the expectations of corporate information users. The Corporate Sustainability Reporting Directive (CSRD) sets out new sustainability reporting rules, ensuring that companies incorporate ESG criteria into their business strategies and corporate reporting. This supports the European Commission's objective of directing capital flows towards sustainable activities.

The CSRD sets out the new sustainability reporting rules, which will be phased in between 2024 and 2028, as follows:

- starting January 1, 2024, for public interest companies with more than 500 employees; reports will be presented in 2025;
- starting January 1, 2025, for large companies (which meet the following size criteria: over 250 employees and/or 40 million euros turnover and/or 20 million euros total assets); reports will be presented in 2026;
- starting January 1, 2026, for SMEs listed on the stock exchange; reports will be presented in 2027.

The bank's ESG reporting involves the assessment and publication of sustainability aspects under the same conditions as financial information. This will contribute to obtaining several benefits:

- ensuring the credibility of the ESG information included in the bank's annual report;
- creating a positive impact on the bank's brand and reputation;
- strengthening the bank's awareness of ESG risks;
- facilitating the process of improving the bank's systems, processes, and internal controls and performance with regard to ESG principles;
- ensuring a positive impact on the bank's positioning in ESG rating rankings and in the niche in which it operates.

Under these conditions, banks in the Republic of Moldova that meet these criteria will publish the sustainability aspects related to their activities. Maib is the only bank in the Republic of Moldova to have published the sustainability report for 2023 (its second), prepared in accordance with the GRI (Global Reporting Initiative) ESG reporting standards. This report provides details on Maib's non-financial impact, offering a broader perspective on the progress made according to the main sustainability parameters.

CB „ProCredit Bank" S.C. was the first bank in the Republic of Moldova to implement environmental standards, which are considered part of the institution's social responsibility. As a member of the ProCredit Group, CB „ProCredit Bank" S.C. has aligned itself with ProCredit Holding AG's commitment to sustainability and responsible banking practices. This includes adhering to the Principles for Responsible Banking of the United Nations Environment Programme Finance Initiative (UNEP FI) and participating in the United Nations Global Compact for Sustainable Corporate Governance, as well as joining the Net-Zero Banking Alliance, demonstrating its commitment to reducing emissions. Since 2017, CB „ProCredit Bank" S.C. has obtained the ISO 14001 standard Environmental Management System (EMS) through which it has made its commitment to environmental protection an essential component in the professional training of the bank's employees at local, regional, and international levels.

ProCredit Holding, as the main shareholder of CB "ProCredit Bank" S.C., publishes the sustainability report. This report includes the activities of the respective institution, some of which are also reflected in the bank's annual report to better illustrate the impact of its activities. Banca Transilvania Romania has included the activities of CB "Victoriabank" S.C. in its published sustainability report. This reflects an understanding of ProCredit's commitment to sustainability and risk management, as well as its ongoing efforts to assess and improve the impact of its activities. The bank strives to minimize the negative effects of its operations.

In the coming period, Moldovan banks will have to conduct compliance reviews according to the Global Reporting Initiative (GRI) and the European Sustainability Reporting Standard (ESRS), which provide a framework for reporting companies' sustainability performance. These standards help identify and manage economic, environmental, and social impacts. To help assess the financial impact on the environment, banks must analyze and manage the environmental and societal impact of their loan portfolios, following the principles for responsible banking as outlined in the Portfolio Impact Analysis Tool for Banks, developed by the United Nations Environment Programme Finance Initiative (UNEP FI) (2021).

CONCLUSIONS

Capital flows are changing direction, and in the coming years, we will see a massive withdrawal of funds from areas of activity that are not compatible with climate change, in favour of financing businesses that offer profitable solutions to social and environmental problems. Investors and banks are already required to evaluate their business and portfolios in terms of ESG (environmental, social, governance) criteria. By setting conditions for access to capital, banks will influence the entire business environment, starting with large companies and continuing with SMEs. The wave of change has the power to sink businesses or take them to new horizons, and investments with top returns can become locked assets if they do not comply with ESG requirements. The difference will be made by managers and leaders who know how to analyze their business, reassess risks, and capitalize on opportunities that arise continuously.

A bank's commitment to support the necessary economic transition is achieved by prioritising engagement with customers. This involves interacting and working with them to better understand their needs and challenges during this period, as well as developing and offering specific financial products and services aimed at helping customers cope with changes and adapt to new economic conditions.

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BENCHMARKING INVESTMENT IN MOLDOVA UTILIZING THE FORECASTS FROM A TIME-SERIES MODEL WITH SOME RECOMMENDATIONS FOR THE CONDUCT OF POLICY

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Apostolos PAPAPHILIPPOU
PhD, Four Assist Development Consulting, Grecce
ORCID: 0000-0002-2193-4035
Email: papaphilippou@4assist.eu

Eugenia BUȘMACHIU
PhD, Associate Professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0002-6640-8100
Email: eu_busmachiu@ase.md

Abstract: *Investment is critical for an economy's growth and development and investment attraction is a priority for the Moldovan authorities. Investment in Moldova is low especially when compared to other transition countries. The paper fits a time series model on the quarterly evolution of investment in constant prices and generates forecasts which may be interpreted as benchmarks defined solely on the historical evolution of investment. Following an analysis of the structural characteristics of public investment and the recent improvement in the regulatory framework for public investment management, the paper proceeds to provide policy recommendation for both private and public investment. With regard to private investment attraction policy should: a) simplify further the regulatory framework and digitise the economy; b) intensify the efforts to strengthen the Moldovan banking system and its intermediation; c) promote Moldova as an investment destination and provide information to potential investors; and d) promote Moldova's European integration, improve the transparency and predictability of Moldova's investment climate, and promote a rules-based level-playing field for investment. With regard to public sector investment policy should: a) enforce the use of Regulation 684 which improves public investment management; and b) develop a pipeline of well-designed public investment projects eligible for financing which will strengthen public investment management, address a number of existing challenges and contribute to effective macroeconomic management.*

Keywords: *Investment, Time Series Econometrics, Policy Recommendations.*

JEL Classification: *C22, E22.*

INTRODUCTION AND OVERVIEW

Investment is critical for an economy's growth and development. The aim of this paper is two-fold:

1. To fit a time series model on the quarterly evolution of investment in constant prices in Moldova and proceed to use the estimated model to generate forecasts which may be interpreted as benchmarks defined solely on the historical evolution of investment; and
2. To provide a brief discussion of the structural characteristics of investment in Moldova, analyse recent investment-related developments in the area of public investment and finally provide policy recommendations.

The present paper follows an earlier related article which analysed the evolution of investment and Moldova's Incremental Capital-Output Ratio [Papaphilippou (2021)].

Aspects of investment in the Moldovan economy have been analysed in a number of previous studies in the literature. The article by Timus and Perciun (2011) analysed briefly the role, impact and significance of investments for the economic development of Moldova. The study by Sula (2016) identified opportunities for increasing the investment potential of the credit system in Moldova. The paper by Perciun, Petrova and Gribincea (2017) analysed the dynamics of the saving-investment balance in the economy of Moldova and its impact on economic growth. The paper by Stratan (2018) analysed the indicators influencing the competitiveness of the country, the creation of a favourable business environment, the ability to attract investment and compete in foreign markets as well as increase the living standards of the population. The article by Iordachi, Luchian and Timus (2019) analysed thoroughly the determinants that motivate the diaspora to invest in their homeland and included recommendations to facilitate this process in Moldova. Cojocaru (2021) analysed the impact of investments including the benefit obtained for the society and the revenues obtained by the investor. Finally the paper by Perciun (2024) analysed investment in the renewable energy sector.

The rest of the current paper is organised as follows: Section 2 introduces the data for the empirical work comprising the evolution of Gross Fixed Capital Formation in constant prices. Section 3 presents the estimated time series model and the medium-term forecasts as benchmarks of the likely future evolution of investment based solely upon its historical record. Section 4 analyses the structural characteristics of public investment in Moldova and discusses briefly a number of recent investment-related developments stemming from the introduction of Regulation 684 in 2022. Section 5 provides the paper's policy recommendations for both private and public investment. Section 6 concludes by noting the difficulty of modelling investment in any economy and reiterating the importance of investment for the Moldovan economy's growth and development.

THE DATA

The data for our empirical analysis comprise the evolution of Gross Fixed Capital Formation in constant prices from the first quarter of 2015 to the fourth quarter of 2023. Earlier data are not comparable as they have been compiled using a different compilation methodology. Graph 1 contains the graph of the evolution of the data in average prices of 2015 and in thousands of Moldovan lei.

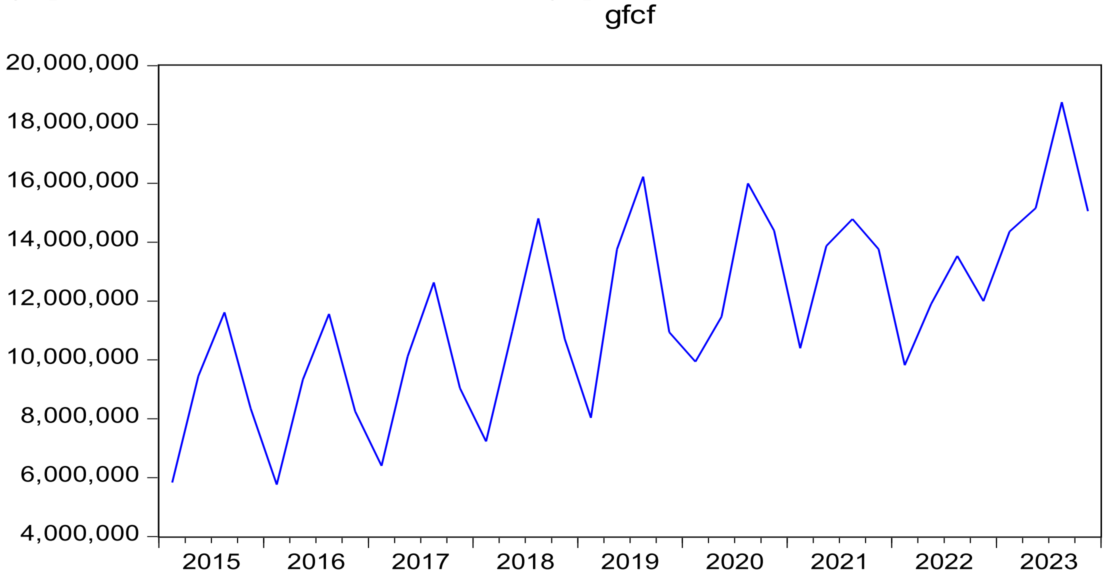

Figure 1. The evolution of Gross Fixed Capital Formation in average prices of 2015
Source: National Bureau of Statistics

It is well known that in the above mentioned period the Moldovan economy was subjected to a number of shocks including weather induced shocks to the critical agriculture and agro processing sector, the COVID 19 pandemic, the energy crisis, and the war in Ukraine.

A natural question which arises concerns the typical value of the investment ratio defined as the ratio of Gross Fixed Capital Formation over GDP. To help address this question comparable data for a number of peer countries will be useful as benchmarks. The data in table 1 has been downloaded from the global economy website (www.theglobaleconomy.com) which provides business and economic data for 200 countries.

Table 1 reports the level of Gross Fixed Capital Formation as a percent of GDP for a number of selected transition countries and also the Euro area as a whole as a comparator. There are three values in the table - for the last quarter, for the previous quarter, and for a year ago. The estimates in the table are updated as soon as new data are released by the national statistical authorities.

Table 1. Gross Fixed Capital Formation as a percent of GDP

Countries	Latest value	Reference	Three months ago	One year ago
Albania	30.00	Q4 / 2023	22.53	30.24
Armenia	28.51	Q4 / 2023	18.91	28.07
Azerbaijan	18.78	Q4 / 2023	17.42	15.37
Belarus	26.59	Q4 / 2023	20.70	22.62
Bosnia and Herzegovina	24.46	Q4 / 2023	24.77	23.56
Croatia	18.96	Q4 / 2023	15.98	19.29
Czechia	29.50	Q4 / 2023	27.23	28.54
Estonia	30.89	Q4 / 2023	29.54	30.25
Euro area	22.53	Q4 / 2023	21.59	22.84
Georgia	21.37	Q4 / 2023	23.65	19.37
Hungary	26.38	Q4 / 2023	28.62	27.17
Kazakhstan	29.71	Q3 / 2023	25.84	25.05
Kyrgyzstan	21.16	Q3 / 2023	20.22	21.42
Latvia	26.66	Q4 / 2023	25.82	23.70
Lithuania	25.15	Q4 / 2023	23.33	23.28
Moldova	19.50	Q4 / 2023	20.03	22.18
Mongolia	26.15	Q4 / 2023	31.26	32.77
Montenegro	20.09	Q4 / 2023	15.28	21.78
Romania	27.06	Q4 / 2023	32.65	23.23
Russia	28.75	Q4 / 2023	20.44	28.99
Serbia	24.40	Q4 / 2023	22.67	25.56
Slovakia	26.77	Q4 / 2023	21.40	24.72
Slovenia	21.59	Q4 / 2023	22.55	21.65
Uzbekistan	32.80	Q3 / 2023	32.09	31.64

Source: The global economy website (www.theglobaleconomy.com)

The global economy website notes that looking across countries, investment accounts for about 20-25 % of GDP, typically with greater values for less developed countries than for the advanced economies. The website comments that this is normal as those countries are in the process of industrialization that requires more investment. Focusing upon the latest estimates for the fourth quarter of 2023 it is remarkable that Moldova has the lowest investment ratio from all the countries reported in the table.

ECONOMETRIC ANALYSIS AND BENCHMARKS

The econometric analysis of the data set is hampered by its small sample size. The econometric results reported in this section have been generated by the EViews 13 econometrics programme.

The results of table 2 suggest that the time series of the Gross Fixed Capital Formation in constant prices has a unit root.

Table 2. Stationarity test

Null Hypothesis: GFCF has a unit root
Exogenous: Constant
Lag Length: 6 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.504255	0.8765
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Source: EViews 13 generated output

The results of table 3 suggest that the first difference of the series is stationary.

Table 3. Stationarity test

Null Hypothesis: D(GFCF) has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=6)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.362714	0.0210
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

*MacKinnon (1996) one-sided p-values.

Source: EViews 13 generated output

We now turn to the estimation of an Auto-Regressive Integrated Moving Average (ARIMA) time series model. This is a class of models stemming from the seminal work of Box and Jenkins (1970). Table 4 below reports the regression result of an ARIMA model comprising three autoregressive lags and one moving average lag.

Table 4. Regression results

Dependent Variable: D(GFCF,1)
Method: ARMA Maximum Likelihood (OPG - BHHH)
Date: 06/20/24 Time: 13:34
Sample: 2016Q4 2023Q4
Included observations: 29
Convergence achieved after 34 iterations
Coefficient covariance computed using outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	247254.3	139990.7	1.766219	0.0906
AR(1)	-0.627365	0.348215	-1.801658	0.0847
AR(2)	-0.848786	0.141257	-6.008826	0.0000
AR(3)	-0.584867	0.256507	-2.280123	0.0322
MA(1)	0.068499	0.351711	0.194760	0.8473
SIGMASQ	2.81E+12	1.16E+12	2.427003	0.0235

R-squared	0.713721	Mean dependent var	120420.1
Adjusted R-squared	0.651487	S.D. dependent var	3186579.
S.E. of regression	1881198.	Akaike info criterion	32.00890
Sum squared resid	8.14E+13	Schwarz criterion	32.29178
Log likelihood	-458.1290	Hannan-Quinn criter.	32.09749
F-statistic	11.46825	Durbin-Watson stat	1.912067
Prob(F-statistic)	0.000012		

Inverted AR Roots	.02-.94i	.02+.94i	-.67
Inverted MA Roots	-.07		

Source: EViews 13 generated output

Figure 2 depicts the actual fitted and residuals graph of the regression reported in table 4 above.

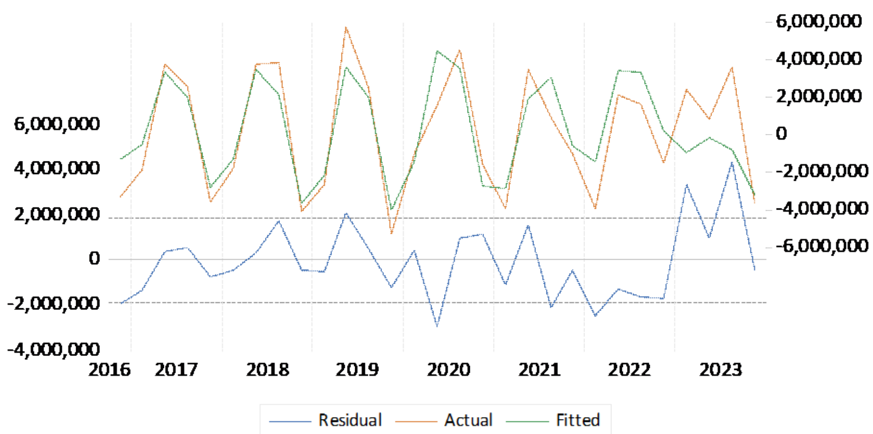

Figure 2. Actual fitted and residuals graph
Source: EViews 13 generated output

Graph 3 depicts the out-of-sample forecast to the fourth quarter of 2026

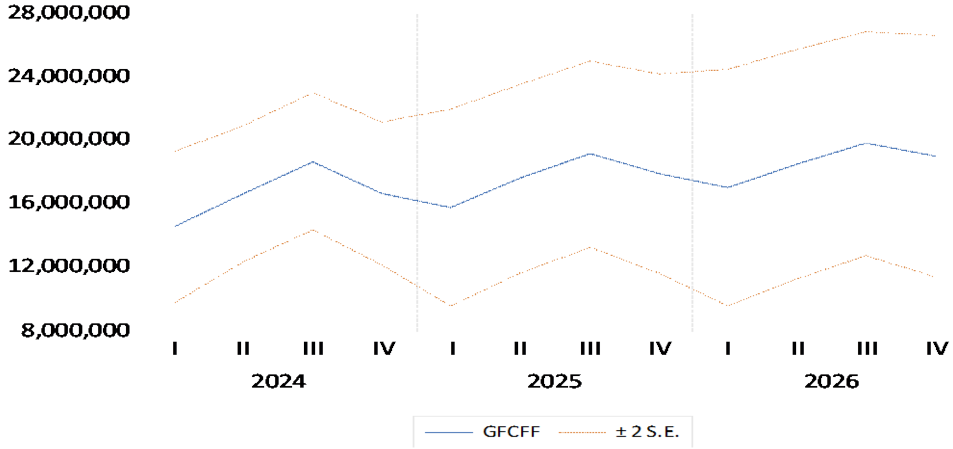

Figure 3. Out-of-sample forecast
Source: EViews 13 generated output

Finally, table 5 reports the out-of-sample forecast estimates. These may be thought of as benchmarks derived solely upon the historical evolution of the time series. They may be interpreted as indicative benchmarks of the likely evolution of investment in the absence of any new policies aiming at facilitating the attraction of investment.

Table 5. Indicative benchmarks

2024Q1	14583686
2024Q2	16675812
2024Q3	18688108
2024Q4	16682448
2025Q1	15765953
2025Q2	17623230
2025Q3	19165842
2025Q4	17914509

Source: EViews 13 generated output

Given the historical evolution of investment, the generated forecasts of the estimated time series model provide a yardstick which could be used in the future to compare the estimates in table 5 with the actual future investment performance and thus indicate the relative success of the policy effort to attract and retain domestic and foreign investment.

ON PUBLIC INVESTMENT IN MOLDOVA

An analysis of public investment in Moldova is contained in the IMF's Public Investment Management Assessment report published in December 2019 [International Monetary Fund (2019)]. The report noted that the public capital stock in Moldova had declined over the past two decades, stressed the significant under-execution of the public investment budget which is still a recurrent feature of budget execution in Moldova and emphasized that the existing regulatory framework for pubic investment management was limited by its narrow coverage and inconsistent application.

A positive development has been the passing of Regulation 684 in 2022 which improved significantly the regulatory framework concerning the national procedures for the management of all public capital investment project eligible for financing with a budget of over 5 million Moldovan lei. The Regulation extends the coverage of the regulatory framework and establishes a transparent and efficient mechanism for identifying, appraising, planning, approving, implementing, monitoring and evaluating public capital investment projects funded from the State Budget.

The provisions of Regulation 684 apply to all public capital investment projects financed from the funds of the State Budget, including those funded from external sources and development funds. According to the Regulation the central or local public authority initiating the project are responsible for the preparation of the documentation (including the feasibility study and the opinion of the Ministry of Environment on the climate implications and vulnerabilities of the project). The examination of the proposals of new public investment projects is the responsibility of a Working Group under the Ministry of Finance which establishes whether a project is eligible for financing according to certain criteria. The selection of the new public investment projects to be included in Moldova's Medium Term Budget Framework and its draft Annual Budget is undertaken by the Interministerial Strategic Planning Committee in accordance with the existing general budgetary planning procedures and the established legal provisions.

POLICY RECOMMENDATIONS

A well-written and informative recent survey of Moldova's investment climate is provided by the US 2023 Investment Climate Statement report [US Department of State (2023)].

In thinking about economic policy related to investment it is useful to distinguish between the impact of economic policy upon private investment and public investment. Private investment is indirectly influenced by public policy. However the public sector has a very important role in designing appropriate macroeconomic policies to maintain macroeconomic stability and also in creating an environment conducive to the attraction and retention of private investment. We should add here that we are generally sceptical of the introduction of special incentives to attract private sector investment as these may erode the creation of a "level playing field" in the economy and may also have significant adverse fiscal consequences. Public investment is directly under the control of the Government. It has an important role to play given Moldova's existing infrastructure gaps and developmental needs.

With regard to private investment, policy actions in Moldova should aim at the following:

- Continuation of the effort to simplify the regulatory framework for private sector activity and digitise the Moldovan economy. With regard to the latter the strategic document for Moldova's digital transformation is the Digital Transformation Strategy for 2023-2030 approved in September 2023. Work towards simplifying the regulatory framework and digitising the Moldovan economy is an ongoing process led institutionally by the Ministry of Economic Development and Digitalisation.
- Intensification of the efforts to strengthen the Moldovan banking system (which provides a significant amount of the financing for domestic investment in Moldova) in general and increase the intermediation of commercial banks in particular. Through the latter the existing domestic savings will be converted into productive investment.
- Promotion of Moldova as a destination for private investment and provision of information to potential investors and follow-up assistance to existing investors. A key role here may be played by the Invest Moldova Agency which is, however, currently understaffed. We would recommend an increase in the Invest Moldova Agency's budget and its capacity.
- Engaging in a sustained effort to promote Moldova's European integration. This is likely to improve the transparency and predictability of Moldova's investment climate, promote a rules-based level-playing field for investment and contribute to the attraction and retention of private investment. Of particular importance here is the emphasis currently placed on legislative approximation to the EU, the ongoing reform in the judiciary and the fight against corruption.

Turning to public investment there are two areas which merit attention and sustained effort from the part of the Moldovan authorities.

The first area of emphasis in the area of public investment concerns the need to enforce the use of Regulation 684. This will discipline the process of project design in Moldova and provide consistency across the proposed public investment projects regardless of the source of financing.

The second area requires a sustained effort to develop a project pipeline. The development of a pipeline of well-designed public investment projects eligible for financing will strengthen public investment management, address a number of existing challenges as well as contribute to effective macroeconomic management in Moldova. More specifically, in our view:

- The existence of a well-designed pipeline of eligible public investment projects is likely to address the chronic under-execution of the public investment budget, which is a recurrent feature of Moldova's budget.
- The existence of the project pipeline will help in providing a set of eligible projects which may address Moldova's existing development needs and, if financed, add to the economy's capital stock and its future growth and development.
- Closely related to the previous point is the fact that the project pipeline will, furthermore, enhance Moldova's absorption capacity. This is likely to be of importance for Moldova's economic development given that a number of external stakeholders including the EU have earmarked significant amounts of support for Moldova.
- Finally, the existence of a project pipeline will contribute to a more effective macroeconomic management by strengthening the effective counter-cyclical public investment expenditures over the business cycle, given the well-known potency of public investment during uncertain times and a recession [Gbohoui (2021)].

CONCLUSIONS

Investment is the most volatile component of aggregate demand. It is well-known that investment is very difficult to model adequately due to its inherent volatility and its likely dependence on a multitude of variables, including possibly the actual and expected values of output, business confidence, the return on investment and the availability and cost of credit.

The current paper fitted a simple ARIMA model on the quarterly evolution of investment in constant prices and proceeded to generate forecasts of investment as benchmarks of the likely medium-term evolution of investment relying exclusively upon its historical evolution. The paper provided also some analysis of certain structural characteristics of the Moldovan economy, discussed briefly some recent developments in the critical area of public investment and proceeded to provide concrete policy recommendations to facilitate investment attraction and retention.

To conclude the importance of investment for the successful development of Moldova cannot be over-emphasised. Investment as a percentage of GDP in Moldova is currently very low, especially when compared with peer transition countries. Investment has an important role to play in attempting to shift Moldova's growth model from the current growth model, which relies upon consumption fuelled by remittances, to a more sustainable model increasingly relying upon investments, exports and increases in productivity which has been the policy intent for some time. Last but not least, additional investment is urgently needed in order to address the existing development needs of Moldova and allow the country to attain its EU aspirations. Investment attraction is, rightly, a top priority of the current Moldovan authorities. Time will tell whether Moldova will succeed in increasing the future flow of investment significantly higher than the estimates generated by its historical record which the current paper has approximated with the ARIMA-based forecasts.

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STUDY OF THE CAUSES AND CHALLENGES OF GLOBAL CRISES

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Andrei PETROIA
Associate professor, Dr.,
Academy of Economic Studies of Moldova, Moldova
ORCID ID: 0000-0003-1674-0700
E-mail: apetroia@ase.md

Abstract: *The study investigates the causes and challenges of global crises, which have repeatedly disrupted nations, affecting economic stability and reshaping strategic priorities. It examines the intricate dynamics of these crises by identifying their root causes and assessing their impact on national decision-making.*
The research categorizes crises from two key perspectives: temporal and thematic. The temporal perspective considers crises as evolving through three distinct phases – pre-crisis, crisis, and post-crisis – each requiring specific approaches to preparedness, response, and recovery. The thematic perspective classifies crises into categories such as health, environmental, economic, political, and humanitarian, emphasizing their interconnected nature and global repercussions, which demand coordinated international action.
The study illustrates how major crises – including the 2008 financial downturn, the 2015 ISIS terrorist attacks, the Syrian refugee crisis, climate-related disasters, the COVID-19 pandemic, and Russia's invasion of Ukraine – have compelled governments to swiftly reassess and adjust their strategic priorities. The analysis explores how these crises have influenced national policies, particularly in economic planning, social protection measures, and geopolitical strategies.
The research further explores how governments' strategic decisions are influenced by external shocks, vulnerability levels, and anticipatory capacities. It identifies two main strategies for responding to crises: "bouncing back" strategies, which involve cost-cutting and downsizing, and "bouncing forward" strategies, which focus on transformation, innovation, and repositioning. The study applies these concepts to local government decision-making processes in Germany, Italy, and the UK, demonstrating how different governments respond to external shocks based on perceived vulnerability and available anticipatory capacities.
The findings suggest that the effectiveness of government responses to global crises depends on the interplay between the nature of the shock, perceived vulnerability, and anticipatory capacities, leading to varied strategic outcomes. These insights are critical for understanding how governments can better prepare for and respond to future global crises, emphasizing the need for proactive and adaptive strategies that address both the global and localized impacts of such crises.

Key words: *global crisis, causes of crises, external shocks, vulnerability.*

JEL classification: *F52, H12. O19.*

INTRODUCTION

In our rapidly changing world, the emergence of crises has proven to be a driving force, shaping the destinies of nations and reshaping the contours of governance. As we are going through the 21st century, there are various challenges that go beyond borders, from the microscopic threats posed by pandemics to the macroscopic specters of climate change and geopolitical tensions. These global crises have a significant impact on everything than could be considered vital, compelling governments to reassess and recalibrate their strategic priorities with a sense of urgency and purpose.

The relationship between global crises and government decision-making is a continuous process of adaptation, where each crisis tests the effectiveness of existing strategies and highlights the need for adjustments or improvements. Health crises, such as the COVID-19 pandemic, have forced governments to balance public health concerns with socio-economic stability. These emergencies require rapid resource reallocation, policy adjustments, and a reassessment of healthcare systems, bringing health-related issues to the forefront of national priorities.

At the same time, environmental crises, including climate change and natural disasters, have compelled governments to recognize their significance on a global scale. Economic growth must now be pursued alongside environmental sustainability, pushing nations to develop policies that ensure both long-term prosperity and the protection of natural resources.

Economic crises, such as financial downturns and global recessions, expose the vulnerabilities of interconnected economies. In response, governments must implement fiscal stimulus measures, adjust monetary policies, and strengthen social safety nets to protect vulnerable populations. During such periods, strategic priorities shift toward preserving livelihoods, restoring market confidence, and reinforcing economic resilience against future shocks.

Geopolitical tensions and humanitarian crises further challenge governments to navigate complex security considerations. Diplomatic relations, shifting alliances, and global stability concerns play a crucial role in shaping high-level strategic decisions, influencing national security policies and international cooperation efforts.

As we dive into the impact of global crises on government strategies, it's crucial to see these challenges as interconnected. They're not separate issues but threads woven together in the global fabric. Governments need to understand and respond to these influences, from the international stage to local health and social issues. This research aims to uncover the complexities of governance during crises, revealing how nations adapt and innovate in the face of uncertainty.

CONCEPTUAL BACKGROUND AND THE IMPACT OF THE CRISES WORLDWIDE

Global crises are defined as "crises whose origins and outcomes cannot for the most part be confined inside the borders of particular nation states; rather, they are endemic to, enmeshed within, and potentially encompassing of today's late-modern, capitalistic … world." (Simon, 2011)

Overall, a global crisis refers to a situation or event that significantly impacts multiple countries or regions on an international scale, often posing severe challenges to various aspects of human life, such as health, economy, environment, or security. Global crises are characterized by their widespread and interconnected nature, transcending national borders and affecting a large portion of the world's population.

These crises can take various forms, including but not limited to:

- *Health Crises*: Such as pandemics or widespread infectious diseases that have the potential to spread globally.
- *Environmental Crises*: Such as climate change, natural disasters, or ecological threats that affect the planet on a large scale.
- *Economic Crises*: Such as global recessions, financial meltdowns, or economic downturns that impact multiple countries simultaneously.
- *Political Crises*: Involving geopolitical tensions, conflicts, or political instability with implications for multiple nations.
- *Humanitarian Crises:* Involving large-scale displacements, refugee crises, and widespread poverty or famine.

The defining characteristic of a global crisis is its ability to transcend national boundaries and have far-reaching consequences that require coordinated international responses. The interconnectedness of our world, both in terms of communication and trade, often amplifies the impact of these crises, making them complex challenges that demand collaborative efforts on a global scale.

As it was mentioned before, the challenges that a global crisis brings to the table are often related to the missed spots in the governmental strategies and emphasize the problems that haven't been tackled in time or that haven't been foreseen. The most important in this situation is how quick can we adjust and reassess the direction and the priorities of a country or a region, in order to overcome those crises in the best way and as fast as possible.

SPECIFIC CHALLENGES CAUSED BY THE PAST GLOBAL CRISES

For the 21st century, overcoming crises has become a constant challenge. Within the last decade, the world has experienced several shocks that could be characterized as global crises, including the U.S. mortgage crisis in 2008, the ISIS terrorist attacks in 2015, the refugee crisis following the Syrian Civil War, environmental disasters caused by climate change (e.g., Australian wildfires, South Asia floods), the COVID-19 pandemic (Davvetas *et al.*, 2022), and the Russian invasion.

As Kristalina Georgieva, IMF Managing Director has mentioned in her speech: "To put it simply: we are facing a crisis on top of a crisis. First, the pandemic: it turned our lives and economies upside down – and it is not over. The continued spread of the virus could give rise to even more contagious or worse, more lethal variants, prompting further disruptions – and further divergence between rich and poor countries. Second, the war: Russia's invasion of Ukraine, devastating for the Ukrainian economy, is sending shockwaves throughout the globe. Above all is the human tragedy – the suffering of ordinary men, women, and children in Ukraine, among them over 11 million displaced people. The economic consequences from the war spread fast and far, to neighbors and beyond, hitting hardest the world's most vulnerable people. Hundreds of millions of families were already struggling with lower incomes and higher energy and food prices. The war has made this much worse, and threatens to further increase inequality. And for the first time in many years, inflation has become a clear and present danger for many countries around the world. This is a massive setback for the global recovery. These double crises – pandemic and war – and our ability to deal with them, are further complicated by another growing risk: fragmentation of the world economy into geopolitical blocs – with different trade and technology standards, payment systems, and reserve currencies. Such a tectonic shift would incur painful adjustment costs. Supply chains, R&D, and production networks would be broken and need to be rebuilt. The actions we take now, together, will determine our future in fundamental ways." (Georgieva, 2022)

The situation presented above reflects the need of constant adaptation to the circumstances created that influence directly the course of a country's relationships with the external partners, the change in the export and import trades, inflow and outflow of human resources, as well as the social wellbeing of the population.

These directions that are newly taken and dictated by the changes at a global level for sure differ each time from the forecasted situation that each country expects. For example, for sure none of the countries could foresee and include in their strategic plan for 2022 such issues as Russia's invasion of Ukraine. This means that each imbalance that appear at a global level needs to be tackled as it appears, and as quick as possible, as much as the flexibility of the decision-making process in a country allows.

A similar strong impact at a large scale had the financial crisis that erupted in 2008, which led to a reconsideration of the previous policy regarding the way the market works and its capacity to self-regulate. "In particular, the role of anti-cyclical macroeconomic policies in sustaining the economy and jobs was widely acknowledged. In addition, unlike in earlier crises, social protection was reinforced and, in particular, the level and duration of unemployment benefits were improved – thereby departing from the view that higher benefits automatically aggravate market distortions (Howell, 2010). The initial results of this new approach were positive. Indeed, another Great Depression has probably been avoided, due to the anti-cyclical monetary measures and socially inclusive fiscal stimulus packages adopted in 2008 and 2009." (ILO, 2011)

All these seemingly different crises share two key characteristics. Firstly, they possess a "decentralized impact," transcending national borders even when their origins are clearly identifiable. Secondly, they are facilitated by the same forces that drive the progress of globalization, such as the free movement of people, advancements in technology and travel, the emergence of global media, and the integration of national economies (Ritzer, 2007). Despite these commonalities, the influence of global crises across different geographical areas is not consistent either quantitatively or qualitatively.

For instance, the 2008 financial crisis had a more pronounced effect on the gross domestic product growth of advanced economies compared to emerging economies. The political impact of populist parties in Europe, stemming from the sovereign debt crisis, was notably stronger in European countries participating in the Eurozone than those that did not (Guiso, 2019). Conversely, climate change disproportionately affects poorer countries compared to wealthier ones. Even the global COVID-19 pandemic, while impacting the entire world, resulted in varying infection and mortality rates across countries.

Various factors may account for the variability in the impact of global crises across countries, including national social structures, macroeconomic policies, geo-environmental factors, and demographic composition. It's crucial to recognize that global crises manifest uniquely in the areas they affect, and the acceptance and effectiveness of institutional interventions aimed at addressing and mitigating these crises must consider the interplay between their global reach and their localized manifestation within specific spatial units of analysis, such as communities, regions, or countries.

VARIABLES THAT DETERMINE THE RESPONSE TO THE CRISIS

Each time a new thread in face of a global crisis arise, the government is responsible to take action in order to prevent the destructive nature of the negative outcomes of that specific crisis. Naturally, those actions can be proven to be efficient or not over the years, can be criticized and decomposed by each and every mean, in order to understand what was done right and what could be done better. These affect not only the short-term decisions, but also the medium- and long-term strategic directions, shifting the weight to the new problems that have occurred.

Each government had different capacities to respond to a specific external shock and also each country is impacted on a different level by them, which implies that there are a set of variables that influence the decision-making process on a local level individually for each country.

Similarly to a big company that has been affected by an external shock and has a specific strategy of coping with that, a government may have a strategy that works the best for different priorities (Barbera *et al.*, 2021). On a company's level, there are 2 main strategies that are followed in such situations:

- *bouncing back* (e.g. retrenchment, buffering, downsizing, cutback) strategies, including increasing taxes and fees, deferring investments, reducing the costs, scope or size of the organization, and selling assets (Barbera *et al.*, 2017).
- *bouncing forward* strategies (e.g. transformation, repositioning, reorientation). This one emphasizes self-sufficiency, entrepreneurship and innovation by redefining the modes of service delivery and core activities, as well as improving existing services or supplying new services either to current or to new clients (Steccolini *et al.*, 2017).

In this research we are about to apply this concept to the decision-making process in the local governments and see the way it impacts the final outcome. As it is portrayed in Figure 1 below, the nature of the external shock, the vulnerability and the anticipatory capacities are the ones that determine the strategic decisions of the government.

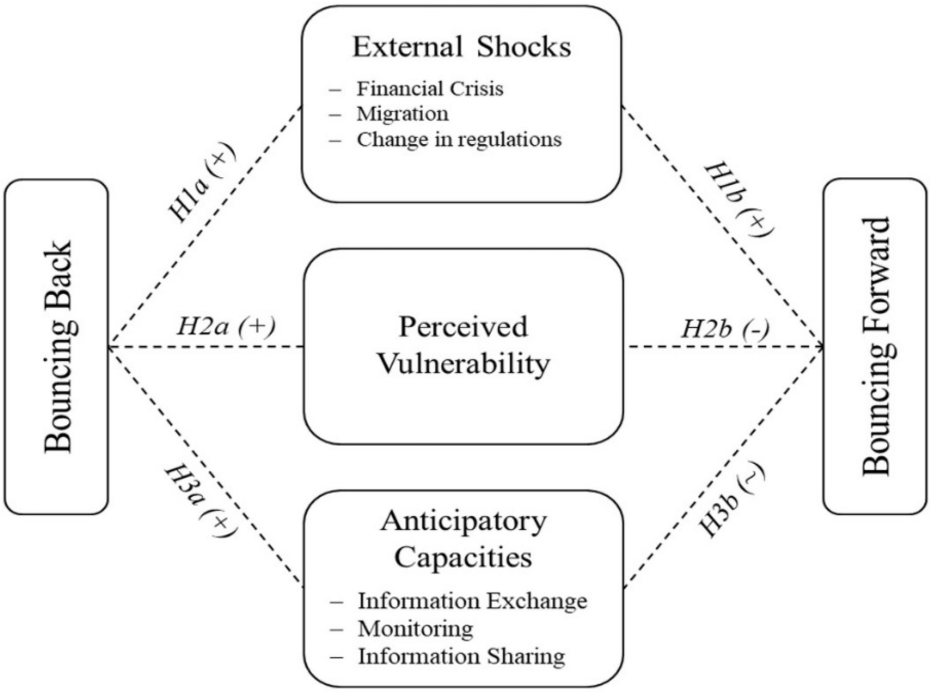

Figure 1. Bouncing Back and Bouncing Forward strategies

Source: Barbera, C., Jones, M., Korac, S., Saliterer, I., & Steccolini, I. (2021). Local government strategies in the face of shocks and crises: the role of anticipatory capacities and financial vulnerability. International Review of Administrative Sciences, 87(1), 154-170. Available: https://doi.org/10.1177/0020852319842661 [Accessed 27 October 2024].

H1: Higher perceptions of external shocks are associated with higher reliance on both bouncing back (H1a) and bouncing forward (H1b) strategies.
H2: A higher level of financial vulnerability is positively associated with bouncing back strategies (H2a), and negatively associated with bouncing forward strategies (H2b).
H3: A higher level of anticipatory capacities (i.e. monitoring, information exchange, information sharing) is positively associated with bouncing forward (H3b) but not bouncing back (H3a) strategies.

External shocks represent significant events that can profoundly affect organizations, posing a potential threat to their continued existence. The impact of these shocks can be direct, such as diminishing tax bases, or indirect, stemming from occurrences like natural disasters or shifts in government policies. Several scholars emphasize the crucial role that perceptions play in how crises and shocks are managed.

Particularly, they argue that both individual perceptions and managerial interpretations of events influence the attention given to an event or potential shock and guide the organization's response. Extensive literature exploring governmental responses to the global financial crisis indicates that governments worldwide experienced varying degrees of impact. Some responded with incremental measures, while others implemented more profound changes. Case studies of local governments (LGs) in Germany, Italy, and the UK underscore that alterations in regulations, such as taxation limits, task devolvement, or cuts to public, can have unforeseen and enduring effects (Papenfuß *et al.*, 2017). These changes also influence public managers' perceptions and the development of subsequent response strategies.

Building on these findings, it can be anticipated that when public managers perceive a heightened intensity of external shocks, this perception will manifest in more robust responses. These responses may encompass both incremental adaptations and buffering measures to bounce back from the shock, as well as more radical transformations and repositioning strategies to bounce forward and navigate the challenges posed by the external shocks.

Vulnerability denotes the extent to which an organization is exposed to potential shocks. Arising from a combination of external and internal factors, vulnerability exists at the intersection of the organizational environment. Qualitative examinations of the financial resilience of local governments (LGs) reveal that their ability to perceive and manage vulnerability influences the interpretation and response to shocks.

Previous qualitative investigations indicate that high vulnerability levels correlate with coping strategies primarily focused on buffering. This involves managing internal resources through cost reduction and downsizing. Conversely, LGs perceiving financial vulnerability as controllable and manageable tended to adopt proactive behaviors, demonstrating an increased capacity to anticipate and offset the impact of environmental conditions. Consequently, the perceived level of vulnerability is anticipated to have divergent effects on LGs' responses. Higher perceived vulnerability is likely to drive defensive and risk-averse approaches, aimed at bouncing back from shocks. In contrast, lower perceptions of vulnerability create room for transformative, innovative, and entrepreneurial approaches to navigate challenges.

Anticipatory capacities encompass the tools and capabilities that empower local governments (LGs) to effectively identify, manage vulnerabilities, and anticipate potential shocks before they materialize. This goes beyond traditional planning, monitoring, or risk assessment, extending to the cognitive aspects of situational awareness and sense-making. The presence or enhancement of anticipatory capacities, i.e., the tools and capabilities enabling LGs to foresee shocks and crises while effectively managing vulnerabilities, aids in proactively coping with these challenges.

Anticipatory capacities empower organizations to prepare for shocks in advance, exploring various avenues, including repositioning and reconsidering services and activities. This allows for the implementation of comprehensive strategies to respond to potential shocks. Consequently, a robust presence of anticipatory capacities is anticipated to facilitate the adoption of strategies aimed at bouncing forward, indicating a proactive response to challenges. However, it may not necessarily predict the adoption of strategies focused on bouncing back, which involves recovering from shocks through more traditional and reactive approaches.

There has been a study published in 2021 regarding the way the strategic decisions taken at a local level in United Kingdom, Italy and Germany are impacted by the external factors. All 3 countries have been chosen due to their similarities, especially regarding the services provided within the country, including social protection, education, public order, economic affairs, safety and health. That made possible to create an homogenous sample out of all 3 countries in one, making sure to equalize the circumstances in which the study was made. The survey was based on analyzing the public opinion on the action taken by the authorities in order to deal with the external influential factors. This showed an overall image for the characteristics of the strategy adapted in each case- more bouncing forward of bouncing back.

Table 1. Vulnerability and anticipatory capacities, descriptive and factor analysis

	Descriptives	
	Mean	Std.dev.
S Global financial crisis	3.26	1.126
S Migration	2.58	1.064
S Regulations (e.g. changes in tax base, task devolvement)	3.51	1.003
V Debt level	2.43	1.33
V Volatility of own revenue sources	3.00	0.99
V Level of reserves	3.04	1.15
V Autonomy	3.15	1.11
AC Information exchange with other local governments	3.66	0.86
AC Information exchange with upper levels of government	3.16	0.91

AC Information exchange with external service providers	2.93	0.91
AC Regularly approach professional service providers	2.91	1.00
AC Monitoring changing national policies and regulations	3.74	0.87
AC Monitoring changing citizens' needs	3.46	0.82
AC Monitoring economic developments	3.37	0.91
AC Monitoring socio-demographic developments	3.43	0.91
AC People have the information and knowledge they need	3.56	0.92
AC Information is shared freely	3.39	0.98
AC Relevant information is passed on quickly	3.56	0.98
AC People are encouraged to conduct a complete analysis of problems	3.14	1.00

Source: Barbera, C., Jones, M., Korac, S., Saliterer, I., & Steccolini, I. (2021). Local government strategies in the face of shocks and crises: the role of anticipatory capacities and financial vulnerability. International Review of Administrative Sciences, 87(1), 154-170. Available: https://doi.org/10.1177/0020852319842661 [Accessed 27 October 2024].

In Table 1, regarding the reference to *shocks,* the present study looks at three different shocks, which have been mentioned across LGs in 11 countries: the global financial crisis, migration and (change of) regulations (Barbera *et al.*, 2021). With regard to *financial vulnerabilities*, four key issues were assessed to analyse if LGs are in control of both external and internal financial vulnerability sources: financial autonomy, abundance of financial resources (fiscal slack), level of indebtedness and volatility of own revenue resources (Hendrick, 2011). Responses load onto the expected three subcategories for anticipatory capacities, consisting of: (1) exchange of information with external actors (e.g. upper government levels, service providers); (2) monitoring activities (e.g. national policies and regulations, citizen's needs, economic and socio-demographic developments); and (3) providing staff with sufficient information and fostering an organizational setting that encourages problem analysis and information sharing (see Table 2). The summative variables for each subcategory reported acceptable alphas, reaching Cronbach alphas higher than 0.7 in all cases.

As it can be seen in the Table 1, respondents generally gave different weights to different types of shocks: changing regulations they see as being the most important external shock, which is pretty close with the global crises by the level of influence. Migration, in contrast, seems to have affected LGs only to a relatively minor extent.

The most vulnerable point that the respondents saw was the level of autonomy, followed close by the level of reserves. This shows that the great interconnection of those countries and the rest of the Europe is seen as a vulnerability in some way by the locals. Volatility of own revenue sources seem to be a great concern too, while the level of debt doesn't seem to bother much the locals (which is very reasonable regarding the states as powerful as Italy, UK and Germany).

Anticipatory capacities were assessed by 12 different indicators, out of which the most important was considered "Monitoring changing national policies and regulations". That shows the feel of great responsibility from the locals and the need to be always aligned with the overall strategic vision of the country. By that it can already be said that the global crises and the external factors are not only seen as important shock factors, but also as a need to be anticipated and forecasted beforehand. Not less important, the exchange of information and its relevancy is also an impactful factor for the Europeans.

Table 2. Results of regression analysis for response strategies

	Response strategies	
	Bouncing back	Bouncing forward
External shocks		
Global financial crisis	.079*	.102**
Migration	.081**	.160***
Regulations (e.g. changes in tax base)	.146***	.112***
Anticipatory capacities		
Monitoring	–.025	.117**
Information exchange	–.004	.173***
Information sharing	–.017	.080*
Financial vulnerability		
High level of (perceived) financial vulnerability	.372***	–.129***
Controls		
Size	.001	–.014
Debt ratio	–.007	–.022
Investing ratio	–.056	–.007
Current ratio	–.132***	–.077*
Dummy UK	.051	–.076
Dummy Italy	–.106**	–.165***
R^2	.285	.201
Adjusted R^2	.270	0.184
F	18.400	11.557

Note: *p < 0.1, **p < 0.05 and ***p < 0.01 levels, respectively.
Source: Barbera, C., Jones, M., Korac, S., Saliterer, I., & Steccolini, I. (2021). Local government strategies in the face of shocks and crises: the role of anticipatory capacities and financial vulnerability. International Review of Administrative Sciences, 87(1), 154-170. Available: https://doi.org/10.1177/0020852319842661 [Accessed 27 October 2024].

The data presented in Table 2 investigates the factors influencing governmental responses, specifically considering various shocks, crises, financial vulnerabilities, and internal capacities that aid in recognizing potential financial shocks. Table 2 displays the results of multiple regression models examining the antecedents of two strategies: bouncing back and bouncing forward. All models exhibited favorable rates for multicollinearity.

Table 2 reveals that the adoption of bouncing back and bouncing forward strategies is driven by distinct antecedents. Although all types of external shocks exhibit a positive correlation with both strategies, supporting the hypothesis (H1) that higher perceived shock levels are linked to a greater reliance on response strategies, their significance varies. Migration plays a crucial role in driving recovery through a forward-looking approach, whereas regulation has the most significant impact on returning to pre-crisis conditions. Although the global financial crisis is statistically significant, its overall effect remains relatively modest, becoming most evident in the bouncing-back model.

Financial vulnerability emerges as a key factor in recovery, supporting the idea (H2a) that individuals who perceive greater financial risk are more likely to adopt strategies focused on returning to stability. At the same time, as expected (H2b), financial vulnerability is negatively associated with forward-looking recovery strategies, though its influence is less pronounced.

Different aspects of anticipatory capacity show a positive correlation with proactive recovery strategies among local governments (H3b). However, the extent of their impact varies – information exchange has the strongest effect, while information sharing remains significant but to a lesser degree. This correlation disappears when examining their relationship with traditional recovery approaches (H3a). Control variables suggest that both recovery strategies are negatively associated with a strong financial position over a 10-year period, while other factors show no significant influence.

It is important to note that this analysis does not provide a comprehensive global perspective on governmental decision-making, nor does it fully capture the long-term effects of strategic shifts on economic, environmental, educational, and social priorities. However, it does reflect how government measures are perceived at local and individual levels. Public opinion on strategic priorities influences responses from individuals, businesses, and broader economic and social structures, ultimately shaping the effectiveness of policies in addressing crises and disruptions.

CONCLUSIONS

In the 21st century, global challenges, spanning from pandemics to climate change and geopolitical tensions, compel governments to swiftly reassess strategic priorities. The intricate dance between crises and government strategies, exemplified by health crises like COVID-19, necessitates adaptability. Environmental crises require a harmonized approach to economic growth and sustainability. Economic downturns unveil vulnerabilities, shifting priorities to safeguard livelihoods. Geopolitical tensions prompt delicate balancing acts in national security. These interconnected challenges demand comprehensive responses at international and local levels. This exploration delves into how governments navigate and innovate amid uncertainty.

In conclusion, this survey has provided some insights into the intricate relationship between global crises and the evolution of government strategic priorities, drawing on international experiences. The findings underscore the dynamic nature of governance in the face of diverse challenges, at a local level as well as at an international level.

The observed variations in the significance of different shocks and their association with bouncing back and bouncing forward strategies emphasize the nuanced nature of governmental responses. Migration and regulation, for instance, emerged as influential factors, each playing a distinct role in shaping strategic priorities during times of crisis. The somewhat modest impact of the global financial crisis in comparison highlights the specificity and contextual nature of such influences.

Financial vulnerability, as a key enabler of bouncing back responses, reinforces the importance of economic considerations in governmental decision-making. The survey results align with the hypothesis that higher perceived financial vulnerability prompts a reliance on bouncing back strategies, offering valuable insights into the economic dimensions of strategic adaptation.

Moreover, the positive associations between anticipatory capacities, particularly information exchange, and bouncing forward strategies underscore the significance of proactive measures in navigating crises. This aligns with the hypothesis that different dimensions of anticipatory capacities influence the adoption of forward-looking strategies, providing governments with tools to not only recover but also thrive in the aftermath of crises.

Regarding the specific examples of a crisis that influenced greatly the government's decision on a strategic level, Covid-19 had a huge impact worldwide, as it has been stated in the current survey. As a big response to the challenges that arose with this crisis, administrative representatives decided collectively to switch their focus on the public health issues and to invest greatly in the development of this huge and vital structure. As a result the strategic priorities for 2026 indicate a substantial growth in public investments for healthcare systems. The data, detailed in this research paper and criteria outlined in Appendix 1, highlights significant increases in health spending from 2019 to the projected figures for 2026.

Upper-middle-income countries exhibit the highest growth rates, with a 34% increase in health expenses per capita over seven years, and a 9% growth in the weight of health spending as a percentage of GDP. Currently, high-income countries are the leading spenders on public health, expected to increase from 12.4% to 13.4% of total health spending by 2026.

In lower-middle-income countries, health expenses per capita are projected to grow by 20%, reflecting a commitment to economic stability and poverty reduction. Despite the stable weight in GDP, this indicates a prioritization of economic growth over extensive health spending.

Overall, the 15% growth in health expenses per capita by 2026 signals a shift in priorities, acknowledging that strategies effective in 2019 may no longer suffice. The 5% growth in global GDP underscores the imperative for economic improvement, particularly in response to the challenges posed by the significant crisis in 2019.

Even though the analysis of the impact of the crisis over the changing of the strategic priorities has been oriented only on a specific dimension, which is public health, the complexity of the influence is clear, being it on a country level or on a global level. Each type of economy has an order of priorities that needs to be tackled individually, and the answer to the crisis is the most obvious factor that delimitates those group of countries.

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IMPLEMENTATION OF FINANCE 4.0 IN THE DIGITALIZATION OF THE FINANCIAL SYSTEM

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Victoria POSTOLACHE
PhD. associate professor
Alecu Russo Balti State University, Faculty for Exact, Economic and Natural Science,
Department of economic sciences, Balti, Republique of Moldova
ORCID: 0000-0003-4023-9705
E-mail: vic.postolache@yahoo.com

Abstract: *The accelerating development of modern digital technologies dictates the redefinition of the nature of money, dictating the modernization of the financial services industry in step with changes in information technologies. The definition of financial services was unambiguous in each century: financial firms were to serve as third-party intermediates in transactions, assuring the security of value exchange by acting as an implied trust.*
Financial services have historically leveraged existing technologies to save operating costs, but more recently, they have been used to introduce new digital services and put new digital strategies into place. Technology has advanced to the point where it has the power to radically alter both the function of financial intermediaries and the foundational ideas of trust in value exchange. But in contrast to earlier technology deployments, the current set of digital technologies can drastically cut down on the necessity for middlemen, which has historically been the main role of financial institutions.

Keywords: *finance 4.0, digitalization, Financial Technologies (FinTech), financial innovation, digital financial services, digital transformation.*

JEL Classification: *G20, O33, O38.*

INTRODUCTION

The development of the Internet and the emergence of new technological solutions using it have served as the starting point for the digital transformation of the financial industry. This process varies across countries and regions, as well as in the interaction models between financial service providers, attracting the attention of regulators, financial institutions and analytics firms.

Financial services are mechanisms for obtaining financial-type services, in particular transactions with financial assets, which are carried out in the interest of the consumer, regulated by law and aimed at generating profit or preserving the real value of assets. According to contemporary research, banks and investment companies offer not only cards and savings accounts, but a wide range of financial products such as mortgages, insurance, investments, car loans and others [6].

But it wasn't always like this. Until the 1970s, each sector of the financial services industry was more or less limited to its own specialisation. Banks offered checking and savings accounts. Credit unions offered mortgages and personal loans. Brokerage firms allowed consumers to invest in stocks, bonds and mutual funds. Meanwhile, credit card companies such as Visa and Mastercard offered only credit and debit cards.

The 1990s saw the boundaries between financial services sectors become even more blurred. Not only were companies offering products outside their original range, but they were also merging to form large financial conglomerates. It was believed that this would allow them to profit more and offer even more financial services [14].

MATERIAL AND METHOD

The financial services industry continues to grow and evolve, largely due to the rapid development of digital technologies. Some financial products are becoming increasingly accessible to a wider audience thanks to the internet. There are even banks and financial companies that operate entirely online. Technology has opened up new opportunities for both the financial services industry and its consumers. The financial industry is actively transforming itself [6; 12].

In the digital transformation of the financial industry, two components can be distinguished: the first is associated with the entry of technology companies into the financial services market, and the second with the digitization of traditional financial companies, their mastery of innovative digital technologies to increase the efficiency of their activities. Taken together, these two components have produced a synergetic effect that has made it possible to introduce innovative models of organizing finance in the current context (figure 1).

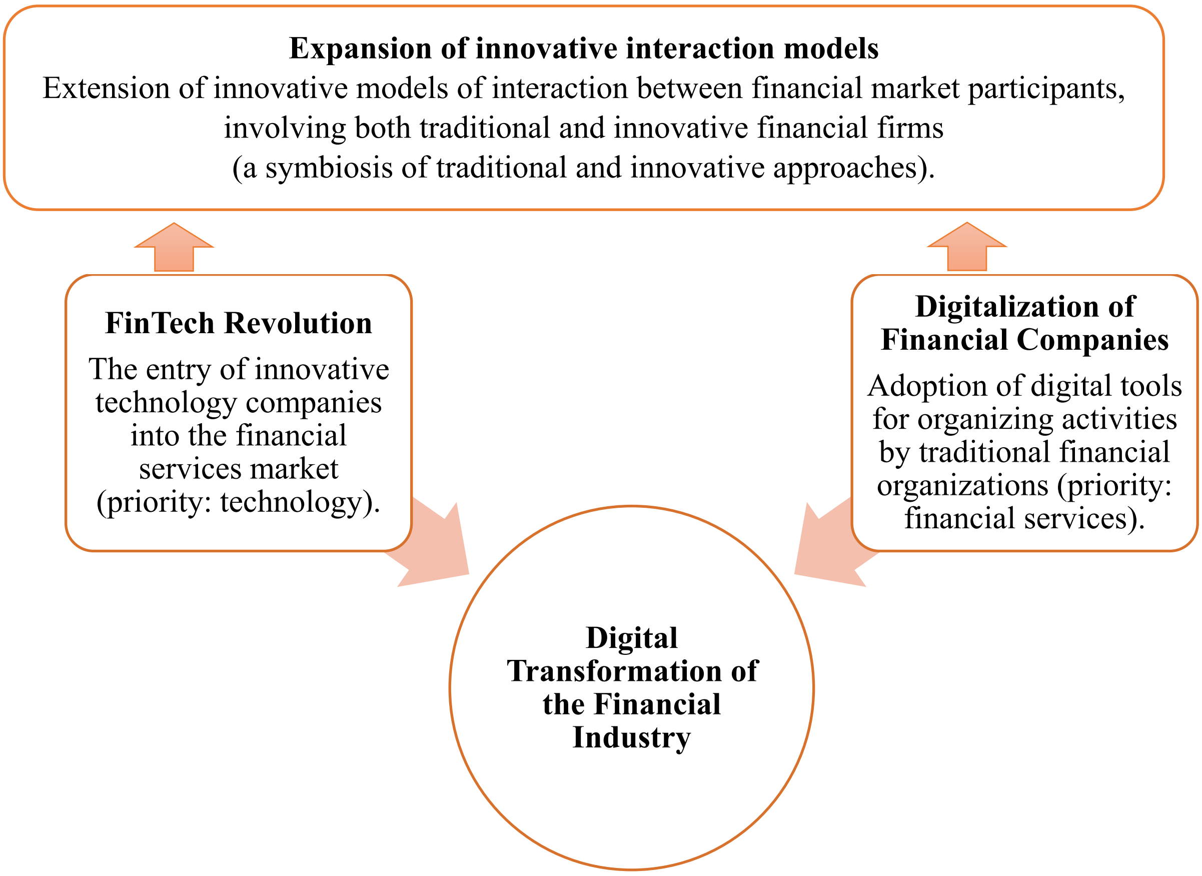

Figure 1. Framework for the Digital Transformation of the Financial Sector
Source: developed by the author

In recent years, the term "digital transformation" has become very popular, as evidenced by the number of publications in academic and practitioner journals, conferences, seminars, professional programs and university courses dedicated to this topic [1;3;9;15;16]. In addition, digital transformation has become an important topic for business practice, start-ups and political discussions. Digital transformation can be defined as an activity focused on the application of digital methods of system interaction, leading to changes in traditional value chains, the transformation of conventional products and services into digital ones, and the adoption of new business models.

A distinctive feature of digital transformation is the integration of different segments of the financial market and the need for alignment with business strategy, taking into account operational and functional specificities. It acts as a connecting element between different strategic levels within firms [1; 8; 13].

In the digital transformation process of the financial sector, existing business models are being rethought on the basis of new structures - digital ecosystems - that reflect the convergence of technologies used in practice and in the market, with the aim of increasing profitability and customer value. Digital transformation is emerging as a result of the impact of new digital technologies such as mobile, analytics, cloud and the Internet of Things [17]. The adoption and proliferation of these digital technologies, together with the expansion of the internet, have moved businesses from an analogue environment to a digital one.

A key aspect of digital transformation is therefore the integration of digital technologies into business processes. Digital transformation is not only a design process, it also plays a decisive role in building new business models and scenarios, even if transforming companies is not easy and requires further evaluation to determine compatibility with digital environment, As a result, the use of digital technologies enables the integration of goods and services across organizational, functional and geographical boundaries [17]. Consequently, these digital technologies accelerate change and drive major transformations in most economic sectors as well as technological changes in industry [4;10]. With the implementation of Industry 4.0, digital technologies have become a catalyst for a new industrial revolution. The development of digital platforms has provided companies with a new way of interacting - digital ecosystems.

A. Goldfarb, S.M. Greenstein and C. Tucker mentioned that the emerging research area of the economics of digitization improves our understanding of whether and how digital technology changes markets. Digitization enables outcomes that were not possible a few decades earlier. It not only reduces existing costs, but has also enabled the development of new services and processes that did not exist before because they were just too costly or merely technologically infeasible. The opportunities generated by digitization have also generated dramatic resource reallocation and restructuring of routines, market relationships, and patterns of the flow of goods and services. This in turn has led to a new set of policy questions and made several existing policy questions more vexing [5].

The Digital Ecosystem is a well-structured network of lasting connections between companies, suppliers, partners and customers, aiming at an efficient distribution of value among all participants in order to build trust.

The digital economy consists of elements such as structure, process, pattern, model, scenario and rules, and from the comparison with the biological world, where an ecosystem is defined as a community of organisms interacting with each other and with their physical environment, it follows that the digital economy is also part of an ecosystem. Today, digital technologies are transforming the economy and society, bringing about changes not only in the way modern society is understood, but also in the correct approach to the role of digital technologies. For example, in Japan, since the beginning of the 20th century, technology has been regarded as a means of achieving the most efficient production performance, stable economic development and solving numerous social problems. As a result, the next stage of societal development after the information age is emerging, with ideas for optimizing the use of resources by each individual and society as a whole, under the concept of Society 5.0.

As a result, digital technologies are influencing all aspects of the economy, organizing this system, setting a general direction of development and an ultimate goal, as shown in figure 2.

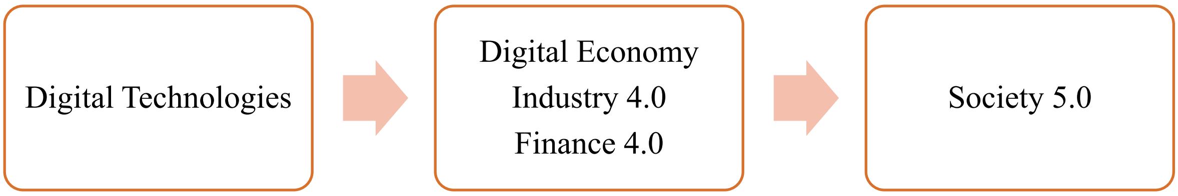

Figure 2. The Interdependence of Concepts within Digital Transformation
Source: developed by the author

Modern society, the economy and production are constantly evolving, developing and absorbing trends from the surrounding environment. One industry that is clearly and continuously changing is the industrial sector, whose development can be clearly and continuously observed in a historical context.

The concept of the Fourth Industrial Revolution in European countries is associated with the term 'Industry 4.0'. In September 2015, the European Parliament provided the following definition: "Industry 4.0 is a term applied to a series of rapid changes in the design, manufacture, operation and maintenance of industrial systems and products. The 4.0 designation signifies that this is the world's fourth industrial revolution, the successor to three earlier industrial revolutions that caused quantum leaps in productivity and changed the lives of people throughout the world." [2].

The transition from "centralized" to "decentralized" manufacturing, enabled by technological advancements, is known as Industry 4.0. It denotes the subsequent phase of organizing and managing the complete value chain throughout a product's life cycle. This cycle will become increasingly tailored and customer-focused.

RESULTS AND DISCUSSION

The development of the financial sphere has evolved alongside the industrial revolutions and is linked to the history of the development of trade and geopolitical processes resulting from the struggle for resources, which inevitably led to armed conflicts. The main stages of financial development can be outlined as follows

1. Finance 1.0 emerged in the 17th century, linked to the creation of the first central banks (in Sweden and England), which were responsible for financing trade activities and supporting wars.
2. Industrialisation and the emergence of new industrial technologies in the 18th and 19th centuries began to have a significant impact on the economy, leading to the development of Finance 2.0 and the expansion of credit and capital markets across Europe. At the same time, the process of colonisation contributed to the rise of global banks, global capital markets and foreign exchange and bond markets.
3. The next phase in the evolution of the financial sector was associated with the development of computers and the Internet in the 1980s, which accelerated the transmission of information and changed the way it was stored. As a result, finance and industry leapt into the information technology era, giving rise to Finance 3.0, which was also marked by the development of financial derivatives. Complex and highly leveraged derivatives became opaque, leading to a stagnation in the global economy in 2007, with Finance 3.0 being a driving factor in a series of global financial crises in many countries.

Former Bank of England Governor Mervyn King explained the essence of Finance 3.0 in his book The End of Alchemy, noting that "the causes of the current imbalance in the global economy are radical uncertainty and the trust dilemma. A lack of trust weakens the stability of the financial system and increases the risk of collapse. Investor and customer confidence in financial institutions is determined by their authority and professionalism. Ongoing changes have led to fundamental shifts in the way financial institutions operate [11].

First, the disruptive impact of financial technologies will put enormous pressure on transforming financial institutions. Second, the new economy (high-tech industries) will dominate for much longer than expected. Third, low interest rates and slow economic growth suggest a prolonged period of deflationary pressure. Fourth, capital investment in new technologies will increase in order to solve practical problems in the financial sector.

In other words, the near future will bring both institutional changes and shifts in people's trust in the financial environment. Since the late 2000s, digitalisation has had a significant impact on the economy and production, leading to a reassessment of business models and architecture. Information technology has evolved from a support area to a key factor, enabling companies to be more flexible and scalable. The general trends of digitisation, lack of customer trust and changes driven by the Industry 4.0 concept have catalysed changes in the financial sector, effectively creating a new phenomenon - Finance 4.0.

Finance 4.0 is a conceptual idea that focuses on applying innovative business models and digitally transforming existing ones to create more efficient value chains and increase customer trust. Finance 4.0 increases the pressure of digital transformation on financial institutions, delivering financial services and products through digital channels and digital business models.

Finance 4.0 defines the following five requirements for financial institutions, financial services and their underlying models:

1. Financial services must meet all financial needs across the life cycle;
2. Ensure a return on equity that is proportional to the growth rates of the real economy;
3. Clearly communicate the risks and benefits to the customer;
4. Continuously apply technologies for transformation, reform and innovation;
5. Trust becomes the glue that binds the financial ecosystem and customers [16].

Finance 4.0 envisions how firms should work towards creating customer-centric business models where the role of trust and contract integrity is critical throughout the life of the relationship. Thus, the main criteria for Finance 4.0 are the creation of ecosystems and FinTech companies, transforming the role of regulators from one of oversight to one of oversight-innovation, where the state and regulators can bring new trends to the financial sector. Digital channels will become the primary mode of communication, with a decline in physical channels for customer interaction; cyber-physical interactions through ATMs, terminals, etc. will also continue to develop. As a result, products and services will become increasingly digital and physical counterparts will be phased out.

The difference between Finance 4.0 and its predecessor lies in the integration of innovation into business models and financial services, driven by the unique relationships between people and their surrounding digital environment. Finance 4.0 aims to create a comfortable environment for individuals, offering them the best possible options and a wider range of products and tools digitally, within a contractual framework.

A notable phenomenon within Finance 4.0 is the rise of FinTech, interdisciplinary organisations that combine knowledge of finance, technology and application methods, with a focus on innovative management. Fintech describes the impact of new technologies on the financial services industry, encompassing various products, applications, processes and business models that have changed the traditional delivery of banking and financial services.

"Although technological innovation in finance is not new, investment in new technologies has increased significantly in recent years, with the pace of innovation accelerating exponentially. These technologies can benefit both consumers and businesses by providing broader access to financial services, a wider range of options and greater operational efficiency."

This activity aims to create a digital interaction environment between individuals and financial institutions, where digital financial services become the primary tool for communication and digital interaction. The role of FinTech can be defined as transforming, creating and implementing innovative approaches to transform business models and value chains into digital models.

Fintech is a relatively new phenomenon, with most of these companies acting as incubators or platforms for developing competitive innovations, sponsored by major financial market players or leading IT companies. With adequate funding, the quality and quantity of solutions created remains high.

According to experts, the influence of FinTech on the financial sector will continue to grow, and it is safe to say that the financial services market will increasingly shift towards these companies, gradually reducing the importance of traditional banks and finance companies. Thus, FinTech, developed with resources from non-digital companies, will occupy a significant share of the financial market [7].

CONCLUSION

In conclusion to what we have analyzed so far, we observe that the digital transformation of the financial sector represents a particular case of the digital transformation of the global economy in the context of changes dictated by technological innovations. The changes brought about by the digitization process in general are also identified also in the financial industry as a part of the national economy, as the reconceptualization of digital technologies invokes interaction among all decision-makers with major impacts. Specifically, the phenomenon of flexible finance reflects the need for more flexibility characteristic of the interaction of economic organizations. The phenomenon, known as Finance 4.0, has emerged as a result of ongoing developments in the financial industry, the global financial crisis at the beginning of the 21st century and the technological advances that have occurred due to the amplification of trade relations between countries and the emergence of new technologies generated in particular by Covid 19.

In Finance 4.0, the pressure of digital transformation on traditional financial institutions is intensifying, with new financial services and products being offered through digital channels and based on digital business models.

Beyond offering specific products and solutions, financial companies can now implement integrated financial services - ecosystems.

Moreover, it is important to understand that the processes of forming the digital infrastructure of finance are primarily aimed at increasing the efficiency of the business and should not be carried out only for the digitization process itself.

The level of digitization of the financial sector is the result of a complex development of macroeconomic, social and technological conditions on an international level under conditions of massive movement of knowledge, technologies and of course financial resources. The uncertain future, influenced by the weak regulation of digital technologies in the financial sector creates the opportunity for the activation of hackers and the heightening of the risks of cyber attacks.

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THE NEOBANKS: FINANCIAL INCLUSION AND DIGITAL INNOVATION

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Andrei PASLARI
PhD
Constanța, România
ORCID: 0000-0001-9426-4231
E-mail: andrei.paslari@gmail.com

Ludmila COBZARI
PhD habil., professor
Academy of Economic Studies of Moldova, Moldova
ORCID: 0000-0001-7108-2670
Email: cobzari.ludmila@ase.md

Abstract: *Neobanks, digital-only banking institutions, are revolutionizing the financial industry by improving access to banking, lowering costs, and advancing technology. They are particularly important for enhancing financial inclusion by providing easy-to-use banking services to unbanked and underbanked populations, especially in less-developed economies. Unlike traditional banks, neobanks utilize cutting-edge technologies like artificial intelligence, blockchain, and data analytics to offer affordable and accessible services. Their focus on digital platforms allows them to reduce operational costs and reach customers who have been excluded from traditional banking systems. This paper examines the impact of neobanks on financial inclusion through an econometric model, analyzing neobank penetration across 34 countries. The findings show that neobanks not only challenge traditional banking methods but also drive significant improvements in financial inclusion. The research highlights that neobanks have a greater positive impact in countries with supportive regulatory environments and high levels of innovation. Despite facing challenges such as regulatory hurdles, profitability concerns, and increased competition from established banks, neobanks are well-positioned to support the global push for more inclusive financial services. Their continued growth and technological advancements make them key players in reshaping financial access and contributing to the digital economy's evolution.*

Keywords: *neobanks, digital banking, financial inclusion.*

JEL Classification: *G21, O33, L86.*

INTRODUCTION

In recent years, the global financial landscape has undergone a profound transformation driven by the rapid evolution of digital technologies. Traditional banks, once considered the cornerstone of financial systems, are now facing unprecedented competition from new, agile players - neobanks. These financial institutions are entirely digital and operate without physical branches, relying on modern technological solutions such as artificial intelligence (AI), blockchain, and advanced data analytics to offer an unique, seamless banking experience.

The rise of neobanks represents not only an evolution in the banking industry but also a real paradigm shift in how financial services are designed, delivered, and consumed. Since neobanks can significantly reduce operational costs, they can offer a lot more competitive financial product. These institutions are inherently designed for a digitally connected world, offering seamless experiences via mobile apps and online platforms that prioritize user-friendly interfaces and real-time solutions. For example, customers can create an account within minutes, receive personalized financial recommendations, or send cross-border payments with just a click of a button, without much of the bureaucratic processes of traditional banks (Vives, 2019).

Aside from redefining customer expectations, neobanks are also playing a very important role in improving financial inclusion, one of the key global challenges. Financial inclusion refers to providing affordable and accessible financial services to underserved populations, particularly in developing regions where millions of people still lack access to formal banking. According to the World Bank, more than 1.4 billion adults are still unbanked globally, with most living in low-income economies (Demirgüç-Kunt, et al., 2021). In countries like Chile, Mexico and Brazil, neobanks are bridging the gap by offering digital accounts, microloans, and financial education to those traditionally excluded from the financial system (Abbott, et al., 2021)

Despite their rapid growth and the evident advantages they bring, neobanks face significant challenges. Regulatory barriers in different countries, concerns over data security, and the reliance on digital literacy are all issues that need to be addressed for neobanks to fully realize their potential (Zetsche, et al., 2019). Furthermore, traditional banks are not standing idly by; many are embracing digital transformation, partnering with fintech firms, or launching their own digital arms to compete with neobanks. While this is so, neo-banks have given way to an emerging trend towards digitizing financial services in general through consumer behavior changes and further integration with technology in everyday life.

LITERATURE REVIEW

Neo-banking, consequently, has been attracting widespread attention in both academic and industry circles because of their potentially transformative role in financial services. The literature is highly elaborative on the potential of neobanks to drive financial inclusion. Gomber et al. (2017) indicate that neobanks are instrumental for reaching underserved populations, especially in regions with poor traditional banking infrastructure. By eliminating the need for physical branches, neobanks can offer services to individuals who have traditionally been excluded because of geographic, economic, or social barriers.

A key driver of neobanks' success is their technological agility. As Sanayolu, et al. (2024) point out, neobanks' ability to rapidly adopt and integrate new technologies allows them to respond more swiftly and effectively to evolving consumer demands than traditional banks. Operating within a digitally native ecosystem, neobanks rely heavily on mobile banking apps and other advanced digital tools. In this regard, countries with higher levels of technological development are more likely to exhibit stronger financial innovation, thus supporting the creation and diffusion of advanced financial technologies that will support the growth of neobanks.

A country's level of economic freedom plays a significant role in determining the success of neobanks, as highlighted by the positive relationship found in our model. Studies have noted that regulatory efficiency, protection of property rights, and openness to markets are some of the factors that create an enabling environment where financial services can thrive. According to Gurrea-Martínez & Remolina (2020), neobanks are usually set up in less regulated environments, enabling them to innovate and expand more rapidly in countries with higher economic freedom. This finding is supported by Gordiienko, et al. (2024) who discuss how regulatory developments in regions such as the European Union, including policies promoting open banking and third-party access to customer data-have facilitated the rise of neobanks.

However, the literature also identifies risks that arise from an associated increase in regulatory. Panzarino & Hatami (2021) note that while regulatory frameworks like PSD2 have enabled neobanks to thrive in markets like the EU, various issues with compliance procedures entailing anti-money laundering (AML) and know-your-customer (KYC) regulations can be particularly resource-intensive for smaller, digital-only institutions. This is relevant in countries with high levels of economic freedom but where the regulatory environment is still evolving to accommodate digital banking.

Another critical area of focus in the literature is the socio-economic factors affecting financial inclusion. There is consistent evidence that unemployment negatively affects financial inclusion. According to Mehry & Marwa (2021), in regions with high unemployment, individuals often experience financial instability, which reduces their ability to access formal financial services. This creates barriers to utilization of banking products, credit, and savings opportunities. Although neobanks is a cheaper alternative and could potentially improve financial access, they face difficulties in overcoming the general economic instability associated with high unemployment rates. Neobanks may struggle to fully engage individuals in such environments, because financial insecurity often limits the demand for financial services, even when they are more affordable and accessible.

Demographic variables, such as age distribution, are also strong determinants of financial behavior. Evidence from research shows that older populations may be resistant to adopting new technologies, including digital banking channels, which may explain why there is generally lower financial inclusion among older populations. According to Mswelli and Mawella (2021) older individuals tend to rely more on traditional banking services and may show more resistance to the adoption of neobanks or other digital banking alternatives. Especially for countries with high median ages, this predisposition toward traditional banking services could become one of the barriers to adopting new, technology-based financial services.

Despite their rapid growth, neobanks also have many challenges that may bar their path to growing over the long term. Among them are data security and protection issues related to consumers. Indeed, George (2023) argues that due to the dependency on digital platforms, neobanks are more prone to cyberattacks, showing the need for strong data protection. Moreover, while there is a marked improvement in digital literacy, particularly among high-income countries, significant challenges still prevail across regions with limited internet connectivity or among groups of people that have lesser tech-savviness.

A review of existing literature shows that the future success of neobanks will depend not only on their mastery of innovation and cost cutting but also on their ability to navigate regulatory challenges and build customer trust. (Kadyan, et al., 2022) Further investment in the digital infrastructure is needed, especially in emerging economies, in which neobanks can possibly make a big contribution toward better financial inclusion.

CURRENT NEOBANKS WORLD SITUATION

The international neobank sector has undergone rapid expansion over the past decade, with digital-first banking organizations gaining considerable traction across multiple world markets. Neobanks like Revolut, N26, Chime, and Monzo are among the leading players in both European and North American markets, offering a wide range of financial services that includes payment solutions, savings accounts, investment platforms, and lending options.

Forecasts from market studies have shown that the neobank industry expanded from a mere USD 0.5 billion in 2019 to USD 37.71 billion by 2023 (see Figure 1). The growth trend of this incredible size is expected to continue, and by 2032, when the market is forecasted to reach USD 500 billion. The trend shows the strong penetration of the sector into traditional financial services. Its rapid development reflects the increasing adoption of digital banking solutions and a critical role that neobanks are playing in this transition.

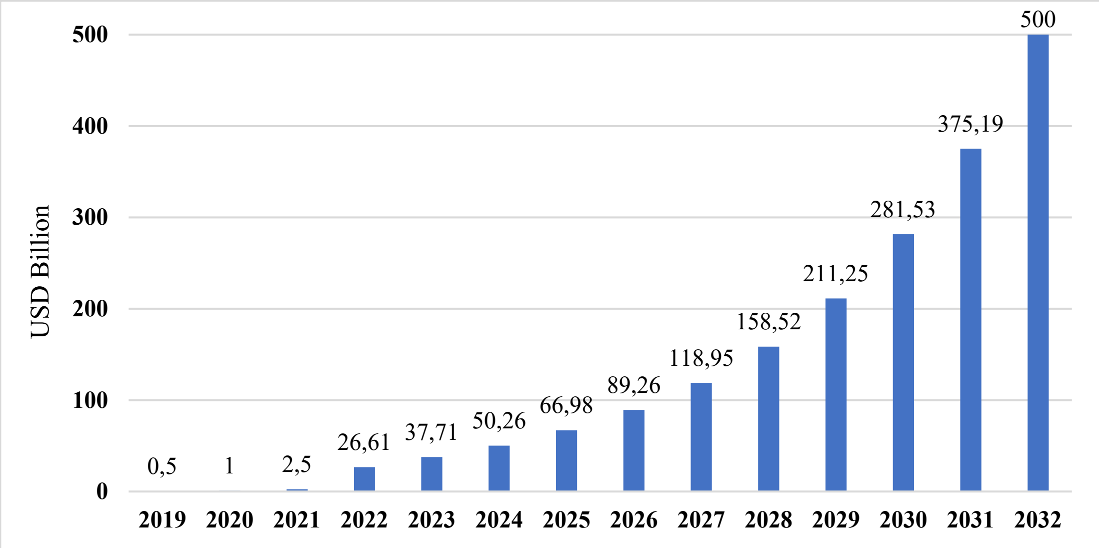

Figure 1. Neobank Market Size (USD Billion), 2019-2032

Source: (Fortune Business Insights, 2023)

In areas like Africa, large parts of the population remain unbanked or underbanked; thus, digital financial services are a very important tool for economic empowerment. For example, TymeBank in South Africa has fast expanded its customer base by offering cheap banking services that are mobile-enabled and have been able to reach out to previously unserved communities. (Jenik, et al., 2020) In Nigeria, Kuda pioneered a model to provide purely digital banking services for a young and highly technology-savvy population lacking access to traditional banks. With its fee-free banking structure, simple loan and savings account access, Kuda is a very good example of how neobanks can address the financial needs of emerging markets. Kuda has raised over $90 million in venture capital funding as of 2022, which underlines the huge interest from global investors in neobanks to accelerate financial inclusion (BPC, 2022).

Neobanks' success is driven by their ability to adopt innovative technologies such as artificial intelligence (AI), blockchain, and open banking:

- AI-driven chatbots and customer service tools have become part of the neobanks, offering 24/7 support and automating a lot of tasks performed by bank employees, thus allowing neobanks to scale rapidly without incurring significant costs related to traditional branch-based banking models (Gomber, et al., 2017);
- The implementation of blockchain technology, which provides secure and decentralized transaction processes, especially in cross-border payments, not only mitigates cybersecurity issues but also enhances operational efficiency, shifting the focus from conventional banking structures towards a more flexible, technology-focused model (Modak, et al., 2024);
- Open banking allows sharing financial information between customers and third-party service providers, enabling neobanks to offer a wide range of tailor-made services, from budgeting apps to investment platforms and peer-to-peer transaction capabilities, allowing them to attract a wider and more diverse customer base. (Brodsky & Oakes, 2017)

While they are rapidly growing and are at the forefront of the technological curve, neobanks do face significant challenges, especially when it comes to navigating the complex regulatory landscape. Being entirely digital, neobanks are subject to much tighter monitoring by regulatory bodies aimed at controlling risks in the security of data, fraud prevention, and general financial stability:

- The EU's GDPR and similar data privacy laws enforce stringent requirements on the handling of personal data, which present compliance challenges to neobanks trying to balance these obligations with their competitive need for agility and innovation;

- Regulators are implementing more stringent security measures to safeguard consumers and financial systems, as digital platforms are vulnerable to cyberattacks;
- Another area of concern to regulators is financial stability: neobanks often have much lower reserves than traditional banks, and this exposes financial systems during economic downturns. Policymakers across different countries are advocating for stricter capital adequacy requirements, stress testing, and liquidity management, ensuring the ability of neobanks to absorb any financial shocks. In this regard, a more substantial investment in risk management systems is a must for each neobank to be compliant with these dynamic regulations;
- In addition, neobanks have to operate under strict anti-money laundering (AML) and know-your-customer (KYC) rules to reduce financial crimes such as fraud and money laundering. Being digital, neobanks face unique challenges in verifying the identity of customers, particularly in regions where official identification documents are scarce. In order to meet compliance standards, governments are forcing neobanks to implement advanced digital verification systems and monitoring networks, increasing operational costs;
- Regulatory licensing: Neobanks, therefore, undergo difficult, fragmented processes while acquiring banking licenses in different countries. While some regions, such as the UK with its regulatory sandbox, have relatively favorable environments for fintech innovation, many governments are still fine-tuning their policies to balance both the need for oversight with the desire to promote innovation. Harmonization of regulations globally is also an issue, since neobanks operating across borders are required to comply with varying national regulations, adding more compliance burdens;

While neobanks have managed to amass large customer bases, profitability remains one of the major challenges for many neobanks. According to a report by Deloitte (Pearce, et al., 2021), due to their low-cost business models and competitive pricing for customers, most neobanks work on thin margins. Though venture capital investments have supported their expansion, the road to sustainable profitability is not clear for many of these organizations as they look to scale up their operations and enter new markets.

ECONOMETRIC MODEL ANALYSIS

The rapid growth of neobanks has garnered significant academic attention, particularly regarding their measurable impact on advancing financial inclusion. To evaluate this effect, we employ an econometric model using panel data for the period 2022 to 2023. This dataset covers 34 countries, selected to represent diverse economic contexts ranging from affluent developed nations to mid-income emerging markets, a wide array of geographical locations, including North and South America, Europe, Asia, Africa, and Oceania, thus reflecting diverse financial environments, degrees of technological integration, and socio-economic contexts.

Specifically, a Random Effects Model was utilized in our analysis. This modeling permits including time-variant and time-invariant predictors; hence, it covers a broad spectrum of determinants that influence financial inclusion. The Random Effects Model is particularly suited for our study as it accounts for unobserved heterogeneity across countries, assuming that individual-specific effects are uncorrelated with the independent variables.

In this model, the Financial Inclusion Index (***FII***), sourced from Financial Inclusion report (Principal Financial Services, Inc., 2024), serves as the dependent variable, providing a comprehensive measure of financial inclusion across three pillars—Government Support, Financial System Support, and Employer Support—each composed of a set of indicators that reflect the accessibility and quality of financial services.

The Economic Freedom Index (***Economic_Freedom***) (The Heritage Foundation, 2024), measures the level of economic freedom in a country, including regulatory efficiency, property rights, and market openness. Larger values mean more economic freedom, which is assumed to promote greater financial inclusion by offering a better environment for financial services to operate in.

Neobank Penetration (***Neobank_Penetration***), obtained from Statista's Digital Banking Reports (Statista GmbH, 2024), represents rate of adoption and use of neobanks by the population. A higher rate of neobank penetration could improve the degree of financial inclusion since neobanks offer easily accessible, user-friendly alternatives to traditional banking for all.

The Global Innovation Index (***GII***) (World Intellectual Property Organization, 2024), assesses the innovation potential of a country, including research and development, technological progress, and creative outputs. A high GII score reflects a stronger innovation ecosystem, which can support financial inclusion by enabling the development of innovative financial products and services.

Unemployment Rate (***Unemployment***) (International Labour Organization, 2024) reflects the level of unemployment in a country and acts as an indicator for economic stability and labor-market dynamics. Higher unemployment rates are expected to negatively impact financial inclusion since economic instability can reduce individuals' capacity to engage with formal financial services.

The Median Age (***Medianage***) (The World Factbook, 2024), represents the population's median age and is an indicator of demographic influence on financial behavior and the adoption of technology; with an older median age potentially indicating barriers to adopting new financial technologies like neobanks.

Building upon this methodological framework, we have estimated the following model:

$$\mathbf{FII}_{it} = -0.101 + 0.439 \times \text{Economic\_Freedom}_{it} + 0.013 \times \text{Neobank\_Penetration}_{it} + 0.731 \times \text{GII}_{it} - 0.112 \times \text{Unemployment}_{it} - 0.432 \times \text{Medianage}_{it} + u_{it} \quad (1)$$

Where, $u_{it}(composite\ error\ term) = \alpha_{it} + \epsilon_{it}$;

Here, α_{it} represents the country-specific random effect, capturing unobserved heterogeneity, and ϵ_{it} denotes the idiosyncratic error term.

The analysis conducted brings forth several important findings regarding the determinants of financial inclusion:

a. Economic Freedom ($p = 0.030976$):

Economic freedom shows a positive and statistically significant effect on financial inclusion at the 5% significance level. This implies that an increase in economic freedom is associated with a significant increase in financial inclusion. Policies aimed at reducing regulatory barriers, securing property rights, and promoting open markets can help considerably improve access to financial services

b. Neobank Penetration ($p = 0.012000$):

Neobank penetration shows a small yet statistically significant positive impact on financial inclusion at the 5% level. This may be an indication that increasing neobank adoption has a positive effect on financial inclusion. The digital and user-centric nature of neobanks likely attracts previously unbanked or underbanked population, thus increasing access to formal financial services.

c. Global Innovation Index (GII) ($p < 0.001$):

The Global Innovation Index has a strong positive and highly statistically significant effect on financial inclusion. Higher innovation levels greatly improve financial inclusion by enabling new financial products and services that are more accessible and efficient for a wider population

d. Unemployment ($p = 0.006404$):

Unemployment negatively and significantly impacts financial inclusion at the 1% level. Higher unemployment rates are associated with lower financial inclusion, as unemployment restricts the financial ability of individuals to engage with formal financial services, therefore reducing overall access and usage.

e. Median Age (p = 0.032880):

The median age has a statistically negative effect on financial inclusion at the 5% level of significance. An increase in the median age of the population decreases financial inclusion. Older population may be less adaptive to digital financial services and hence more resistant to the use of innovative financial technologies like neobanks.

Our model demonstrates a robust fit, with an R-Squared of 57.7% and an Adjusted R-Squared of 53.5%, indicating that the selected independent variables effectively explain a significant portion of the variability in financial inclusion. The highly significant Chi-squared statistic (83.2047 on 6 DF) further validates the model's overall significance. Additionally, the absence of multicollinearity among the predictors, as evidenced by acceptable VIF values (all factors are under 2.76), underscores the reliability of the model's estimates. Collectively, these results validate the model's ability to generate significant understandings regarding the factors influencing financial inclusion in various economic environments.

CONCLUSIONS

The rapid growth of neobanks has fundamentally changed the global financial ecosystem by bringing in an innovative, digital-first approach that challenges the status quo of traditional banking. As underlined in this article, with advanced technologies such as artificial intelligence, blockchain, and open banking, neobanks offer low-cost, customer-centric financial services that increasingly contribute to financial inclusion, mostly in emerging regions where traditional banking alternatives have been scarce.

The performed econometric evaluation highlights the positive impacts of neobank expansion on financial inclusion. Our results indicate that as neobanks grow, the availability of accessible and affordable banking options for marginalized groups increases, which effectively reduces the financial inclusion gap, particularly in emerging markets like Nigeria and South Africa. Neobanks have a strong and positive relation with financial inclusion in countries with a high rate of mobile internet adoption and innovation.

Our research has shown the importance of economic freedom and innovation. Economies characterized by higher levels of regulatory efficiency, well-defined property rights, and open markets would offer a more fertile environment for neobanks, as proved by the positive impact of the Economic Freedom Index in the model. Similarly, the Global Innovation Index supports the technology needed for digital financial services, helping to improve financial inclusion.

Neobanks still face several challenges: regulatory control, economic sustainability, and growth. While effective for younger, tech-savvy users, they must address the concerns of older, more traditional customers hesitant to switch to digital-only services. Additionally, low profit margins, rising compliance costs, and growing competition from both established banks and fintech companies threaten their long-term survival.

Despite these issues, neobanks have played a key role in expanding access to financial services. By improving digital infrastructure and supportive regulations, they are well-positioned to drive global financial inclusion. This highlights the need for policymakers to maintain digital financial ecosystems that foster innovation while balancing risk management and technological growth.

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FINANCIAL DEVELOPMENT AND INNOVATION IN THE CONTEXT OF A HUMAN-CENTERED GROWTH MODEL

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Katsiaryna RAZHKOUSKAYA
PhD in economics, Associate Professor,
Department of National Economy and Public Administration,
Belarusian State Economic University, Minsk, Republic of Belarus
ORCID: 0000-0002-0089-2331
Email: E.Rozhkovskaya@mail.ru

Abstract: *Currently, the world is witnessing the emergence of a human-centered model of economic development. The principles of human-oriented approach are applied in business management and in developing state development strategies, which makes it possible to use the growth potential of the economy to achieve the ultimate goals of society – improving the well-being and quality of life of the population. The central element of the human-centred development model is innovation and scientific and technical policy. It's the effective implementation depends on the financial conditions of development of the state and the effectiveness of mechanisms of financial stimulation of technological innovation. In this context, the purpose of the article is to study the impact of financial development on innovation and economic growth. The methods used in the study are analysis, synthesis, comparison, generalisation, econometric modelling.*

The paper discusses the essence of financial development and the functions that the financial sector performs in the economy. The main channels of influence of financial development on innovation and economic growth are described: channels of capital accumulation and investment, innovation and R&D, structural and technological changes and economic complexity. Based on international data for 2015 – 2021, the relationship between financial development, innovation and economic growth is investigated using econometric methods. A quantitative assessment of the impact of financial development on economic growth through the action of the main channels of the transmission mechanism is obtained. The existence of a close positive relationship between finance and innovation and growth is confirmed.

Keywords: *human-centered model, innovation, financial development, investment, structural and technological changes, economic complexity, economic growth.*

JEL Classification: *E44.*

INTRODUCTION

The increasing complexity of economic processes, the growing turbulence of economic dynamics, and global uncertainty pose new and complex challenges for economic policymakers. These include the need to reduce economic divergence between countries, solve environmental end social problems, reduce the risks of demographic development, and fully satisfy human needs and interests. These problems can be solved within the framework of a new paradigm of economic development, with humans at the center.

The concept of a human-centered economic model involves creating conditions for the full harmonious development of each person and solving the problems of specific people (issues of well-being, leisure, self-realization) (*Esposito, Roos, 2023*). The human-centered development paradigm focuses on creating conditions for the harmonious inclusive development of a person, saving and continuous reproduction of human capital, increasing well-being, maintaining the size and health of the population. It helps reduce the risks potentially associated with the fourth industrial revolution and the accelerated digital transformation of society and the economy.

The central element of the human-oriented development model is the innovation and scientific and technical policy. On the one hand, it creates conditions for the implementation of the creative and intellectual potential of people, the generation and dissemination of technological innovations in the economy, which are the key driver of productivity growth. On the other hand, through the introduction of labor-saving technologies, including artificial intelligence systems, robotics, automation, digitalization, it helps to free up labor resources and move them to fast-growing high-income industries and advanced manufacturing sectors, creates demand for human capital, new skills and competencies in the economy, promotes progressive structural and technological transformations and the achievement of the ultimate goals of society - improving the well-being and quality of life of the population.

The effectiveness of scientific, technical and innovation policy is determined by the action of a wide range of factors. However, the key factor determining the possibilities of innovative and technological development of the state is the sufficiency and availability of financial resources in the economy, as well as the effectiveness of mechanisms for financial stimulation of scientific, technical and innovation activities. In this context, the purpose of the article is to study the impact of conditions of financial development conditions on innovation and growth, which will allow developing macro-financial policy measures from the point of view of their influence on the potential for economic development in long term.

THE RELATIONSHIP BETWEEN FINANCIAL DEVELOPMENT AND INNOVATION: MAIN CHANNELS

The development of the financial sector is a powerful factor in the development of the economy and the increase of its investment opportunities, stimulation of scientific and innovative potential and technological changes in the economy. A wide layer of scientific foreign and domestic economic literature is devoted to this problem. Financial development in the scientific literature is considered from different angles – usually from the standpoint of structural and functional transformations of the financial sector and financial innovations (*Levine, 2004*) or institutional changes in the economy (*Rajan, Zingales, 2001*). In the most general terms, financial development is considered as a multidimensional process, which is defined as a combination of a depth (size and liquidity of markets), access (ability of individuals and companies to access financial services), and efficiency (ability of institutions to provide financial services at low sustainable revenues, and the level of activity of capital markets) (Figure 1) (*Svirydzenka, 2016*).

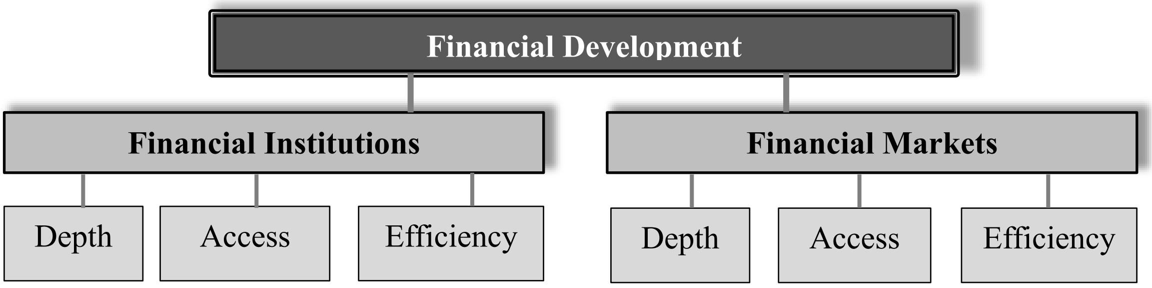

Figure 1. Components of financial development

Source: (Svirydzenka, 2016; IMF Database)

Modern economic research demonstrates the exceptional role of the financial sector in generating long-term investment resources and increasing aggregate productivity at the macro level, including as a result of the development of technological innovations.

Financial development, accompanied by an increase in the financial depth of the economy, an increase in its saturation with money and various financial instruments, contributes to (I) the accumulation of capital, which helps to soften financial constraints for innovation and investment; (II) allows for the accumulation of a significant volume of savings in economic sectors and, on this basis, increases the availability of capital for business entities; (III) helps to reduce information asymmetry and transaction costs, thereby stimulating innovative entrepreneurial activity; (IV) initiates the growth of investments, facilitates their distribution between industries and sectors of the economy, which allows for an increase in financing of knowledge-intensive and technological industries; (V) due to the selection of highly profitable and innovative projects by banks and monitoring the effectiveness of their implementation, it helps to reduce and diversify possible investment risks. In addition, (VI) financial innovations, driven by the intensive development of the financial intermediation sector, expand the variety of financial instruments and contribute to the activation of innovative and technological activities dependent on access to long-term financial resources (*Levine, 2004; Krinichansky, Annenskaya, 2022*).

The analysis of the relationships between financial development, innovations and growth allowed us to identify the following main channels that mediate the system of their interactions. The main channel describing the impact of financial development on economic growth is the ***channel of capital accumulation and investment***, which directly affects GDP as a component of aggregate demand, which leads to an increase in business activity due to a) a decrease in the cost and an increase in the volume of debt financing, b) an increase in the efficiency of inter-sectoral allocation of capital and investment and c) the creation of conditions for the formation of venture financing institutions.

The second important channel is ***the channel of innovation and technology development***, the action of which is widely presented in the literature (Atsu, Adams, 2023; Law, Lee, Singh, 2018). In general, it is described as follows: financial development directly affects the possibilities of innovative and technological development by easing budget constraints and increasing the scale of financing for R&D, which, in turn, directly determines the dynamics of total factor productivity and long-term growth rates of the economy.

At the same time, financial development stimulates ***the development of the high-tech export-oriented sector*** (production of capital-intensive investment equipment), the production of which requires significant amounts of external financing; as well as ***the development of the entrepreneurship sector***, the emergence of new fast-growing companies that depend on the financial conditions of development, the volume of lending to the economy, etc.

In addition, financial development, which is accompanied by an increase in investment and technological innovation, triggers ***structural and technological changes*** in the economy that cause an ***increase in economic complexity***. Economic complexity reflects the ability of the economy to accumulate knowledge, know-how and reproduce them in the production and export of diverse and technologically complex goods, which helps to enhance the synergistic effects of the spread of technology and innovation in the economy, stimulating long-term rates of economic growth. These relationships are described through the channels of influence of financial development on economic growth (Figure 2).

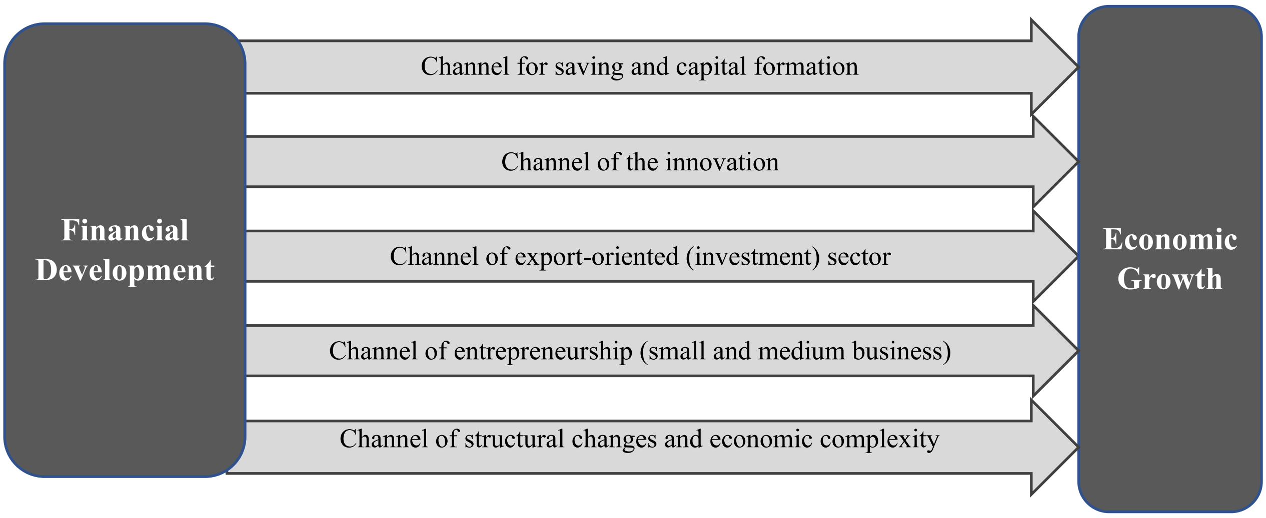

Figure 2. Channels of influence of financial development on economic growth
Source: own work

EVALUATION THE IMPACT OF FINANCIAL DEVELOPMENT ON INNOVATION AND ECONOMIC GROWTH

To identify the significance and reliability of the channels describing the impact of financial development on economic growth, we carried out a quantitative assessment of the relationships discussed above using econometric modeling methods. In particular, we tested the impact of financial development and parameters of the financial structure (markets and institutions) on the channel of capital accumulation and investment; the innovation channel, for which two variables were used – the Global Innovation Index and domestic expenditures R&D; the small and medium entrepreneurs channel, expressed through the number of new business registrations; the high-tech development channel, which is described through the share of high-tech exports in the total volume of manufacturing exports; the channel of structural and technological changes, represented by the Economic Complexity index; and the channel of total factor productivity, expressed through the impact of financial development on GDP.

The study used international data averaged for 2015 – 2021 for 115 developed and developing countries. The description and designation of the variables, as well as the source of information are given in Table 1.

Table 1. Variables used in modeling the relationship between financial development and economic growth

Variable	**Description**	Source
GDP	GDP per capita, constant 2015 dollars US	World Bank
FDI	Financial Development Index	IMF
KRED	Domestic credit to private sector, % of GDP	World Bank
KAP	Market capitalization of listed domestic companies, % of GDP	World Bank
GFCF	Gross capital formation per capita, constant 2015 dollars US	World Bank
GII	Global Innovation Index	World Intellectual Property Organization
RD	Research and development expenditure, % of GDP	World Bank
SME	New business density (new registrations per 1 000 peoples ages 15 – 64)	World Bank
EXP	High-technology export, % of manufactured export	World Bank
ECI	Economic Complexity Index	The Atlas of Economic Complexity of Harvard Growth Lab's

Source: own work

The two-step least squares method was used to estimate the models, which, as studies show, is relevant for assessing the dependencies between financial and economic development. The time series were pre-logarithmized, which allows us to interpret the results as elasticity coefficients. The estimation results are presented in Table 2.

Table 2. Results of estimation of models of the impact of financial development on economic growth

Variable	Characteristics and assessment of the models						
	ln GCFC	**ln GII**	**ln RD**	**ln EXP**	**ln SME**	**ln ECI**	**ln GDP**
ln FDI Std. Err R^2	1,689*** (0,128) 0,61	0,428*** (0,03) 0,65	1,436*** (0,136) 0,52	0,891*** (0,156) 0,23	1,337*** (0,166) 0,37	0,01*** (0,001) 0,52	1,756*** (0,104) 0,72
ln KRED Std. Err R^2	1,224*** (0,141) 0,41	0,329*** (0,03) 0,52	1,085*** (0,139) 0,38	0,71*** (0,142) 0,184	1,145*** (0,148) 0,36	0,008*** (0,001) 0,414	1,282*** (0,123) 0,49
ln KAP Std. Err R^2	0,388*** (0,101) 0,168	0,107*** (0,023) 0,23	0,301*** (0,078) 0,178	0,315** (0,101) 0,114	0,261** (0,108) 0,073	0,003*** (0,000) 0,159	0,39*** (0,092) 0,494

*Note: *** $p < 0,01$, ** $p < 0,05$, * $p < 0,1$*
Source: own work

The results of the assessment allow us to draw the following conclusions. The financial development index is an important and statistically significant variable that influences capital accumulation, innovation growth, SME and technology sector development, structural transformations and TFP. Financial development has the most significant impact on investment formation (elasticity coefficient is 1.689), domestic R&D expenditures (1.436), new enterprise "birth" processes (1.337) and economic growth (1.756). The impact of financial structure parameters, represented through the domestic private sector credit variable to describe the financial intermediary segment (banking system), as well as the securities market capitalization variable, which allows us to assess the degree of development of the market-oriented segment, was assessed separately. The study shows that the financial depth of the economy has a positive statistically significant impact on the operation of the main channels, primarily investments (1.224), innovations (1.085), entrepreneurship (1.145) and the export-oriented technology sector (0.71), but the degree of this impact is somewhat less than that of the financial development index.

The impact of the market-oriented segment on the parameters of innovation and economic development, despite the confirmed statistically positive relationship, is expectedly less significant compared to the influence of the banking sector. This is mainly due to the fact that stock markets are not a critically important condition for economic and innovative development: their role in the economy increases gradually, as the state develops economically and the quality of institutions improves.

CONCLUSIONS

Thus, financial development is an important factor in the formation and development of a human-centered growth model. Financial development affects economic growth through the savings and capital accumulation channel; the channel of innovations; the development channel of small and medium enterprises and the export-oriented sector producing investment equipment; the channel of structural transformations and economic complexity. To assess the significance and reliability of the channels, we built paired regressions on cross-country data for 2015–2021. The evaluation results showed that financial development has a statistically significant positive effect on innovation and economic growth. The most significant impact of financial development is noted on the channel of savings, research and development, and the small and medium entrepreneurship channel. These findings allow us to reasonably develop economic policy measures aimed at stimulating innovation and economic growth.

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ANALYSIS OF THE POTENTIAL FOR INNOVATION THROUGH DIGITIZATION OF MANAGERIAL PROCESSES AT ENTERPRISES IN THE FOOD INDUSTRY OF THE REPUBLIC OF MOLDOVA

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Irina ȘCHIOPU
PhD.
Cahul State University "Bogdan Petriceicu Hasdeu" , Moldova
ORCID: 0000-0002-8790-3469
E-mail: schiopu.irina@usch.md

Abstract: *The digitalization of management processes in food industry enterprises of the Republic of Moldova represents a significant opportunity for increasing competitiveness and efficiency in this sector. This in turn is the main sector in the economy of any country, since sustainable food production and supply chain management are always a global challenge that attracts increased interest. This increased interest is a result of the daily increase in demand for food as a result of population growth. As a result, in the food industry, there is a continuous increase in demand for natural resources used in production and throughout the supply system of this industry, as well as increased activity. In addition, in the food industry, concern is daily created regarding environmental sustainability in this sector, thanks to challenges such as food security, health and safety, food waste, fair trade, climate change, etc.*
Therefore, in this article, the author proposes a study conducted on determining the innovation potential of management processes in food industry enterprises of the Republic of Moldova. The goal is to determine the needs for digitizing managerial processes and to provide innovation opportunities through digitization that can lead to the automation of production and inventory management processes, improving product quality and traceability, modernizing and perfecting logistics and marketing, increasing their sustainability, etc.

Keywords: *digitization of managerial processes, innovation, food industry enterprises, innovation potential, etc.*

JEL Classification: *D22, L66, M11, M15, M31, O11, O31, O32, Q55.*

INTRODUCTION

The importance of the food industry can be deduced from the role it has on human life, on their health, the food they consume and have access to. The relationship with the food that is eaten is a personal one, being influenced by family eating habits, traditions and daily social interactions. But what is subject to daily consumption can have an impact on health, society and the environment, and this may not necessarily be positive. The great challenge of the 21st century in the field of the food industry is to provide enough healthy food to an ever-growing global population, but in a sustainable manner.

According to the data of the EAT-Lancet Report (Global nutrition report, 2022), in the context of the COVID-19 pandemic and the period that follows after it, enterprises in the food chain have begun a transformation process in order to continue to be relevant in the future. Which implies that the participants of the food chain, including those from the Republic of Moldova, must adapt to global changes in the food industry, because consumer preferences are increasingly oriented towards an increased demand for healthy products from sustainable sources. The COVID-19 pandemic has demonstrated the importance of health care and a strong immune system. It has also led to consumers' deeper understanding of the relationship between the food they eat, how it was produced, their health and the environment, and calls for food industry businesses to raise standards. These are therefore seen by businesses as opportunities to increase their profitability, research shows that products that are marketed as sustainable achieve sales increases 5.6 times higher than those that are not sustainable (Căprăriu Z., 2021).

So, these new opportunities to increase profitability, to further develop the activities of food industry enterprises also lead to training in innovation management processes, in order to achieve the predetermined objectives.

When talking about managerial or management processes, businesses use several types of managerial processes to ensure efficient operation and the achievement of entrepreneurial objectives. These processes can be classified as follows:

- *Planning processes* - aim at establishing the objectives, strategies and resources needed to achieve them.
- *Organizational processes* - refers to the creation of a clear and efficient organizational structure.
- *Coordination processes* - ensuring total harmony between subdivisions and/or departments of the enterprise.
- *Administration processes* - oriented towards motivating and convincing employees to carry out work that will lead to the achievement of the company's objectives.
- *Processes oriented to control/monitoring*- refer to the evaluation of the performance achieved by the enterprise and the determination and elimination of risks.
- *Decision-making processes* - oriented towards choosing the most optimal solutions with a positive effect on the company's activity.

Effective use of these managerial processes can lead businesses to increase operational efficiency, develop new and competitive strategies, have effective risk management, increased customer satisfaction, and financial performance.

APPLIED METHODS AND MATERIALS

To achieve the proposed objectives, the methodology applied by the author is oriented towards the application of several qualitative scientific methods, such as: the method of comparison, the method of analysis and synthesis, induction and deduction, etc.

Olso, data from the statistical data bank of the National Bureau of Statistics were also used, for the identification and practical analysis of innovation potential in enterprises in the food industry of the Republic of Moldova.

RESULTS AND DISCUSSION

The innovation of managerial processes plays an essential role in increasing the competitiveness and adaptability of enterprises to market changes. This involves improving or reinventing the methods, structures and technologies used to manage resources, make decisions and coordinate activities, and this also applies to food industry enterprises.

Therefore, innovation, according to the National Bureau of Statistics of the Republic of Moldova, represents the introduction of a new or significantly improved product, process, organizational method or marketing method into the enterprise. The innovation must have new characteristics or intended uses or provide a significant improvement over what was previously used or sold by the enterprise (BNS, 2024).

Innovation can be:

Product innovation

- represents the introduction to the market of a new or significantly improved good or service in terms of its capabilities, ease of use, components or sub-systems. For example, replacing some raw materials with others with improved characteristics; introducing new or improved components to existing product lines.

Process innovation

- corresponds to the implementation of a new or significantly improved production process, distribution method or support activity. For example, installing new or improved manufacturing technologies, such as automation equipment or sensors that can regulate processes; new equipment required for new or improved products.

Organizational innovation

- represents the implementation of a new organizational method in the company's business practices (including knowledge management), in the organization of the workplace and external relations, which was not used before by the company. For example the first introduction of incentives for individual or group performance; reduction or increase in the hierarchical decision-making structure.

Marketing innovation

- represents the implementation of a new marketing concept or a marketing strategy that differs significantly from the existing marketing methods in the enterprise and which has not been used before in the enterprise. For example, the use of the Internet for the marketing of one type of product is considered a marketing innovation, and the second use for another type of product is no longer an innovation.

Figure 1. Types of innovation
Source: (BNS, 2024)

So innovation has a very important role both for the enterprise itself and for the environment in which it operates and develops.

Analyzing the innovation trend of enterprises in the food industry of the Republic of Moldova, we determine the following:

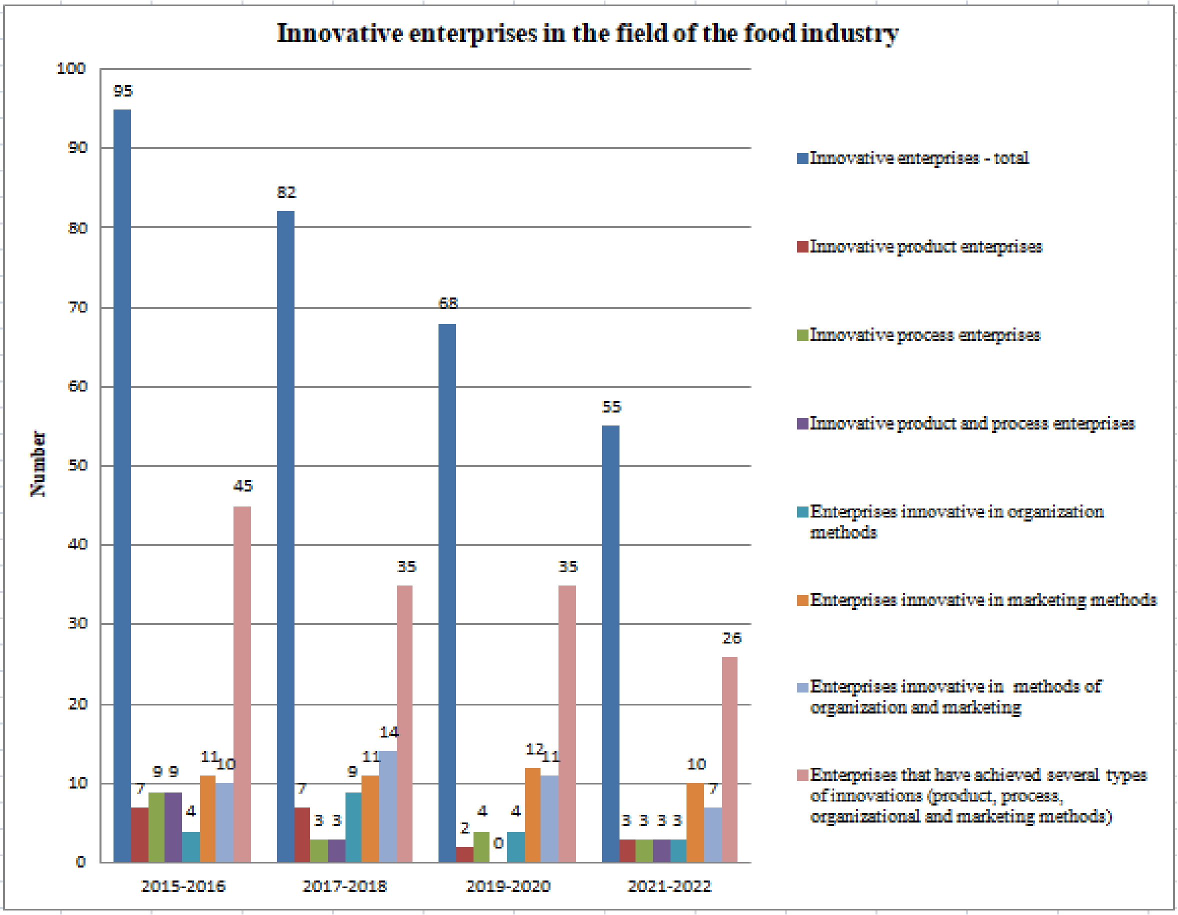

Figure 2. The evolution of innovative enterprises in the field of the food industry of the Republic of Moldova during the period 2015-2022
Source: Made on the basis of NBS data (BNS, 2024)

The data in figure 2 shows that the general innovation trend of food industry enterprises during the period 2015-2022 is a downward one, thus decreased from 95 enterprises in 2015 to 55 innovative enterprises in 2022. This actually represents a decrease of about 42%. However, among the innovative enterprises in the field of the food industry are the enterprises that carry out innovations of several types at the same time (of product, process, methods of organization and marketing), about 50% (between 45-26 enterprises in the analyzed period), but the trend of these enterprises is also decreasing. On the other hand, it can be mentioned that the innovations are mostly oriented towards the methods of organization and marketing (between 21-17 enterprises in each analysis interval), this is mainly due to the digitization trend which is gaining more and more scope and which attracts the attention of entrepreneurs to focus on these possibilities and perspectives in order to increase the turnover of the business, to facilitate the managerial processes and to make the activity more efficient.

A sharp downward trend is registered on innovative enterprises in the field of the food industry, on its products and processes, both individually and associated. If in the years 2015-2016 they deviated between 7-9 enterprises, in the years 2021-2022, they reached the threshold of 3 enterprises. This speaks of the decreasing interest of economic agents in the field of the food industry to apply innovations to new productions or processes due to the fact that this is becoming more and more difficult to achieve, either because of increased costs and difficult to recover, or because it is becoming more and more difficult to amaze the consumer, who mostly has access to a market that is already quite saturated. At the current stage, food industry entrepreneurs must be aware of all consumer trends and expectations of various nature: necessity, health, culture, traditions, snobbery, etc.

Next, the author proposes for analysis the general evolution of the number of innovative enterprises in the Republic of Moldova during the years 2015-2022, to serve as a comparison with the innovative enterprises in the food industry.

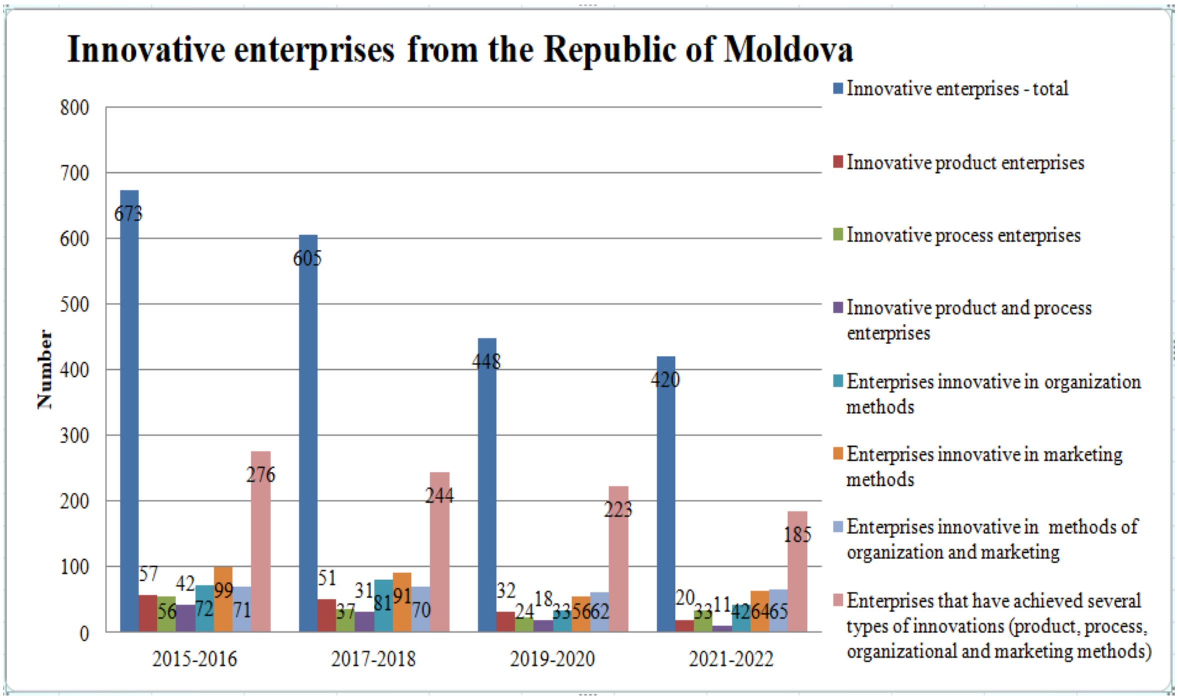

Figure 3. The evolution of innovative enterprises in the Republic of Moldova during the years 2015-2022

Source: Made on the basis of NBS data (BNS, 2024)

The analysis of the data in figure 3 shows that the trend of innovative enterprises in the Republic of Moldova is a decreasing one, as well as that of the food industry. This trend is registered both in general and for each type of innovation. At the same time, we point out that there is an increased preponderance of companies that carry out innovations of several types at the same time (product, process, organizational and marketing methods). These constitute approximately 41%-44% annually, or between 276-185 enterprises during the analyzed period. Another trend comparatively equivalent to the food industry is marketing innovation, this speaks of the trend of businesses in the Republic of Moldova that increasingly access digital tools to bring more efficiency and record performance to their businesses.

Next, the comparative analysis of the weight held by the food industry in the total number of innovative enterprises in the Republic of Moldova in the period 2015-2022 will be presented.

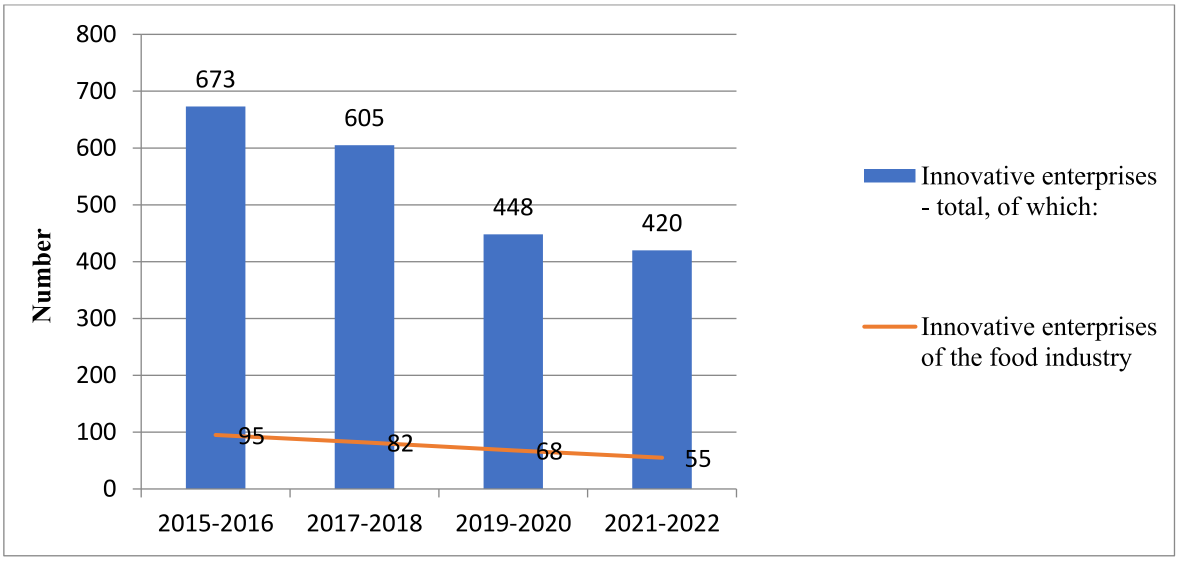

Figure 4. The comparative evolution between totally innovative enterprises and innovative enterprises in the field of the food industry in the Republic of Moldova during the years 2015-2022

Source: Made on the basis of NBS data (BNS, 2024)

The data in figure 4 indicate that the share held by innovative food industry enterprises in total innovative enterprises is about 13%-14% (about 95-55 food industry enterprises out of the total of 673-420 evolutionary enterprises during the years 2015-2022). This speaks of an equivalent trend of innovation in food industry enterprises vis-à-vis the other fields and vis-à-vis the phenomenon in general.

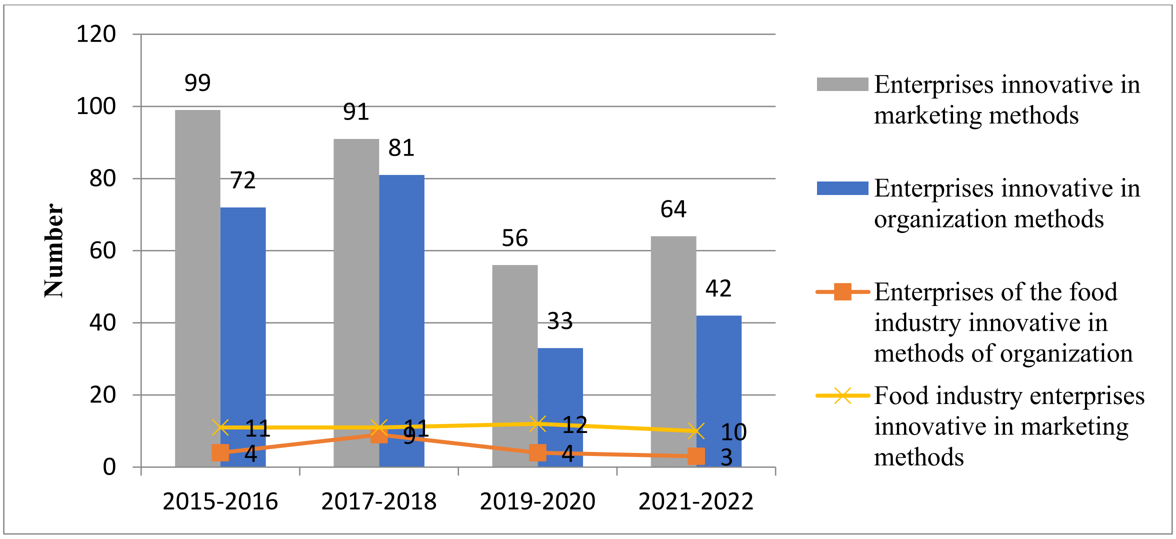

Figure 5. The comparative evolution of innovative enterprises in the field of the food industry and total innovative enterprises in the Republic of Moldova according to marketing methods and organizational methods, for the period of 2015-2022

Source: Made on the basis of NBS data (BNS, 2024)

Under the aspect of innovation of organizational methods, we can mention that from one management period to another, the preponderance varies. Thus, if in the period 2015-2016 only 6% (4 enterprises) of the total belonged to enterprises in the field of the food industry, in the period 2017-2020, they held a share of about 11-12% (9-4 enterprises) of the innovative enterprises oriented on organizational processes, and towards the years 2021-2022 this share drops again to 7% (3 enterprises).

At the same time, the innovation of marketing methods is more preferred by enterprises, including those of the food industry, so that in the years 2015-2018, approx. 11%-12% (11 enterprises) of innovative food industry enterprises were based on marketing innovation, in the years 2019-2020, approx. 21% (12 enterprises) and in the period of the years 2021-2022, approx. 16% (10 enterprises). Which means that during the pandemic years, when many enterprises were in stagnation and even reached bankruptcy and liquidation, food industry enterprises tried their best to develop their activity, focusing on innovation.

Systematizing the data presented above, we mention that the enterprises of the food industry in the Republic of Moldova practice innovation in their activity, but not enough. This could be made more efficient and easier by including digitization.

CONCLUSIONS

The innovation achieved through the digitization of managerial processes would constitute the indispensable, safe and essential tool for increasing the efficiency, competitiveness and adaptability of enterprises in the field of the food industry, in the current digital economy. This involves the use of digital technologies to automate and optimize planning, organizing, coordinating and controlling processes. Therefore, it could bring a number of advantages, such as:

- Increasing operational efficiency - by automating current operations, reducing time and effort for their registration and control.
- Increasing accessibility in real time - the existence of data analysis platforms (Big Data) lead to continuous monitoring of performance and rapid determination of risks.
- Streamlining internal and external communication - by using digital platforms facilitating real-time collaboration and sharing.
- Flexibility and adaptability- cloud solutions provide access to data and applications anywhere and anytime, ensuring flexibility in business management.
- Cost reduction - the automation of processes can lead to the minimization of the need for manual intervention, reducing personnel expenses to the maximum. Integrated software solutions also eliminate redundancies and optimize resource management.

Thus, the effect of digitization on managerial processes could take the form of: faster and better informed decisions through the use of advanced data analysis; continuous innovation by including state-of-the-art technological solutions; effective global competition in international markets and last but not least, increased employee satisfaction thanks to the automation of repetitive tasks, allowing focus on creative activities.

Innovation through digitization of managerial processes in food industry enterprises can constitute an essential strategic investment for modernization, contributing to increasing efficiency, flexibility and competitiveness. Through the implementation of advanced technological solutions, it tends to modernize and innovate the way of managing resources, making decisions and responding to the needs of the market

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LEGAL REGULATIONS ON GENDER QUOTAS IN GEORGIA: CURRENT SITUATION AND CHALLENGES

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Ekaterina ZAKARADZE
Associate Prof.
Grigol Robakidze University, Tbilisi, Georgia
ORCID: 0009-0003-8671-9998
E-mail: ekaterine.zakaradze02@gruni.edu.ge

Nana RUSADZE
Associate Prof.
Akaki Tsereteli University, Kutaisi, Georgia
ORCID: 0009-0009-3465-2887
Email:nana.rusadze@atsu.edu.ge

Abstract: *Gender inequality has specific causes in each country. In today's Georgia, this is primarily due to the low level of Georgian political culture, the extremely polarized political environment, and public distrust of political parties based largely on the "language of hate" and not on ideological competition. Achieving gender equality at all levels of government is a matter of democracy and human rights protection. Making the most of a country's talent and expertise has a beneficial impact on development, economic prosperity, and security. Expanding and refining the quota policy is important for the country to take further steps towards real gender equality and for the country's political agenda to acquire a diversity of perspectives. Key words: Gender Quota. Political Culture. Association Agreement.*

Key words: *Gender Quota. Political Culture. Association Agreement.*

JEL Classification: *H70, J70, N30, N40, O38, R50, Z10, Z18.*

INTRODUCTION

The rise of technological progress has ensured the maximum possible level of awareness for individuals, accurate formulation of personal and social rights and obligations, and has laid the foundation for an entirely new legal framework. Thus, the real protection of human rights and freedoms gradually began, which was reinforced through legislative acts.

The history of law over the centuries has primarily focused on the legal structure of the state and the development of civil and criminal law. In these legal acts, human rights and freedoms are strictly differentiated, and subjective inequality and bias in the law are evident (G. Lobjanidze, 2009).

In ancient civil relations, it was almost impossible for a woman to be positioned as the head of the family. However, Egyptian law allowed such a possibility, and as history shows, women even governed the empire. A similar situation existed in India, where, if sons did not have royal blood from their mother, a woman whose mother was a descendant of the king would ascend to the throne. In general, the ancient legal systems began discussing women's rights very late, and in sociology, ideologies like matriarchy and "mother's law" emerged. The first work on this subject was written by F. Engels, and the second by Johann Bachofen (G. Lobjanidze, 1992).

As for Georgia, there was certainly no equality among all members of society, but the attitude towards women was not as harsh as in Rome and other ancient countries. In Georgia, women were not completely powerless, and there are many historical and literary facts that attest to this. For instance, in 1027, when the newly crowned Bagrat IV faced problems in Tao-Klarjeti from the Byzantines, his mother, Queen Mariam, initiated negotiations with the Byzantines. This was Queen

Mariam's first diplomatic mission, which she handled excellently, and her visit to Constantinople became a symbol of a new political course for Georgia, culminating in the Byzantine Emperor marrying his daughter, Helena, to Bagrat IV, thus establishing peace between the two countries (V. Metreveli, 2005).

Thus, issues of social equality are rarely found in the legal acts of ancient and medieval times. Different civilizations had different attitudes toward these issues. Interest in these matters, especially gender equality in governance, was not fully realized until the 20th century.

In Georgia, women's status was mostly expressed with respect as wives and mothers. However, political involvement of women remains a major dilemma even today. Various reasons, similar to other countries, underpin this. It is noteworthy that in 1919, among the 130 deputies of the Constituent Assembly of the independent Georgian Republic, 5 were women.

Moreover, following the introduction of mandatory electoral gender quotas in Georgia (2020), women's political participation nearly doubled compared to the previous election. For example, in the 2017 elections, the number of female candidates in the proportional list was 20%, but after the introduction of quotas, this figure surpassed 30%.

However, despite the significant presence of women in the executive branch (53%) and the fact that Georgia ranks 18th among countries with female heads of state (EGI, 2021), the overall political participation of women remains low in local self-government and parliamentary bodies. The influence of women on decision-making and policy formation is limited (UNDP, 2022).

All of the above highlights the necessity for democratic-political development of political parties and the sustainability of this process. This is why gender quotas are so important for increasing women's political participation. It should also be noted that while gender quotas may not be the best mechanism, there is currently no more effective tool to rapidly increase female representation in politics.

In 2024, an initiative was presented to the Georgian Parliament, proposing amendments to the "Political Union of Citizens" and the "Georgian Electoral Code," including the elimination of the mandatory gender quota and the abolition of the 30% budget supplement for women's participation and empowerment in politics (Transparency International Georgia, 2024). This contradicts one of the 12 conditions set by the European Commission for the country's equality achievement.

LITERATURE REVIEW

The earliest advocate for gender equality was Christine de Pizan, a French writer of Italian origin in the Middle Ages. Pizan was the author of numerous philosophical treatises discussing the role and position of women in society and family. Most modern researchers consider Pizan's works to be the origin of the feminist movement (Riane Eisler, 2007).

After World War II, the United Nations adopted a series of legislative acts to promote gender equality and the full realization of women's rights in public life:

- "Declaration on the Elimination of Violence Against Women" (1993)
- "Convention on the Elimination of All Forms of Discrimination Against Women" (CEDAW) (1979), which is regarded as the international bill of rights for women. Georgia joined in 1994.
- "Convention Against Discrimination in Education" (1960), Georgia joined in 1993.

Following numerous studies, meetings with various groups, and international conferences, the strategy for gender equality was outlined as follows:

- Ensuring equal access to justice for women;
- Preventing and combating violence against women;
- Fighting gender stereotypes and sexism;
- Achieving balanced participation of men and women in political and public decision-making;
- Achieving gender mainstreaming in politics and all dimensions.

Gender quotas are crucial in realizing one of the most important constitutional principles: equality. To achieve this, the state must take thoughtful and consistent actions.

A 2021 study by the Georgian Young Lawyers' Association showed that merely having formal mechanisms is not enough. The state has international obligations and challenges to combat discrimination and achieve substantial equality.

INTERNATIONAL STANDARDS

An important legal document on gender equality is the UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), which emphasizes not only gender equality but also women's political equality. Participating states are obliged to ensure the principle of equality in their national constitutions or other appropriate legislation and periodically report on the measures taken to implement the convention.

A key international document on gender quotas is the UN International Covenant on Civil and Political Rights, which has been in force in Georgia since August 3, 1994. According to the Covenant, individuals, regardless of gender, have the right to enjoy all social and political rights.

The Beijing Declaration and Platform for Action requires member states, including Georgia, to:

- Take measures to ensure women's equal participation in public and political life;
- Increase opportunities and skills for women to participate in decision-making positions.

NATIONAL STANDARDS

In Georgia, gender equality and women's participation in politics are guaranteed by:

- The Constitution of Georgia;
- The Law on Gender Equality;
- The Georgian Electoral Code.

The 2017 constitutional reform, based on the involvement of women's rights organizations and political participation working groups, declared the idea of substantive equality in Georgia's Constitution. This means guaranteeing equal opportunities for men and women and committing to using all legal tools to eliminate inequality.

In addition to the Constitution, Georgia has a Gender Equality Law that guarantees equal electoral rights. However, despite legislative and legal guarantees, the introduction of the mandatory gender quota has become a significant mechanism to combat inequality in politics.

CONCLUSION

In today's global and competitive world, rapid political and economic development is crucial, and decisions should not be based on individual conformity but should be made according to the country's needs and political agenda. We should not rely on artificial tools like gender quotas to enforce gender equality and women's rights in politics.

KEY FINDINGS

- Mandatory gender quotas have not only changed attitudes toward them but have also led to increased political activity among women;
- Georgian political parties face weaknesses in identifying, engaging, and promoting women's participation and professional growth;
- Female politicians often encounter gender stereotypes, which may demotivate them.

RECOMMENDATIONS

- Rather than eliminating gender quotas, the legislative framework should be revised (Georgian Electoral Code);
- The Electoral Code should include provisions about the time limits for mandatory gender quotas;
- A large-scale campaign for the empowerment of women in politics should be developed.

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SUSTAINABILITY CRITERIA ASSESSED WITHIN EDUCATIONAL PROJECT PROPOSALS: CASE STUDY FROM THE REPUBLIC OF MOLDOVA

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Violeta BULAT
PhD student, Doctoral School "Educational Sciences"
of the "*Ion Creangă*" *State Pedagogical University*, Moldova
ORCID: 0000-0002-6261-445X
E-mail: violeta_bulat@yahoo.com

Abstract: *In many cases, public funding for education is quite tight, and projects can help by leveraging additional funds. Therefore, educational institutions need to write projects to meet their strategic needs and to contribute to the development of the education system as a whole. Writing and implementing projects offers multiple benefits for institutions, communities and direct beneficiaries (e.g. pupils, students, teachers). Article 134 of the Education Code of the Republic of Moldova stipulates that educational institutions are financed from several sources, either from the state and local budgets that provide the basic funding for pre-university and vocational education or from extra-budgetary sources [1]. Institutions are encouraged to raise additional funds through grants, token fees for educational services and other external sources. Writing and implementing educational projects is essential for the modernization and development of educational institutions. Projects provide access to additional resources, improve educational infrastructure and quality, promote inclusion and prepare students for the challenges of the labor market. In addition, projects contribute to an innovative, sustainable and competitive educational environment. By actively participating in projects, institutions strengthen their role as agents of change in the education community.*

An essential step in project cycle management is evaluation. The evaluation of a project is vital to determine its relevance, efficiency, effectiveness, impact and sustainability. Without proper evaluation, a project may risk not achieving its objectives, consuming resources inefficiently or failing to deliver long-term benefits. For example, in the field of education, a project initiated in the Republic of Moldova must be aligned with national strategies such as "Education-2030" [5], Sustainable Development Goals [3], Education Code (No. 152/2014), and international funding programs.

In this logic, sustainability criterion plays a decisive role in assessing educational projects' long-term viability and are applied in various ways around the world. In the Republic of Moldova and other countries, this criterion helps to ensure that projects contribute to education that fosters long-term development by being integrated into local policies and strategies. To demonstrate sustainability, institutions must carefully plan funding, integrate results into institutional structures and respond to the needs of beneficiaries and the community.

This research answers the question: How are educational project proposals evaluated? Do any changes occur at the level of the educational institution from one call for project proposals to another? What should educational institutions pay attention to in a project proposal submission process? In this context, the situation in the Republic of Moldova was analysed as a case study.

Keywords: *educational project, evaluation process, evaluation criteria.*

JEL Classification: *H100, H118, H121.*

INTRODUCTION

The sustainability criterion has been extensively analysed in academic and institutional literature, particularly concerning its application in projects related to education, development, and infrastructure. *A study by the World Bank found that approximately 40% of development projects fail to sustain results after funding ends, highlighting the critical need for sustainability planning* [7]. Failure to maintain project results can be attributed to a variety of causes, but they can be addressed through more rigorous planning, involving local stakeholders and ensuring a clear transition to beneficiaries. The World Bank study emphasizes the importance of creating a sustainable framework that allows benefits to be perpetuated over the sustainability period, regardless of changes in context or resources.

In the Republic of Moldova, sustainability is an emerging priority. Educational projects often face challenges like limited budgets, institutional rigidity, and reliance on external funding and educational studies on national projects. *Successful projects integrate sustainability into their design from the beginning, focusing on capacity building, stakeholder engagement, and resource management* [2].

DATA AND METHODS

This study examines the evaluation criteria applied for educational project proposals to be evaluated in the Republic of Moldova. Evaluation criteria are used to ensure a proper, objective and benchmarked assessment in the evaluation process and relevant at all stages of the evaluation process. Sustainability, as an evaluation criterion, aims to ensure the long-term impact, relevance and value for project resources. The research focuses on six Moldovan colleges participating in two calls for project proposals in the framework of national educational initiatives. The first call for project proposals was organized in January 2022 and the second call - in September 2023.

The study is based on the specific evaluation criteria similarly used in both calls for project proposals. These criteria align with international standards for project evaluation as presented by institutions such as the World Bank [7] and the European Commission [2], while also addressing local strategic priorities such as the Education-2030 agenda [5] and the Moldovan Education Code (No. 152/2014) [1].

The evaluation criteria for the two calls for proposals are presented in the table below together with the evaluation questions for each criterion:

Table 1. Evaluation criteria

Evaluation criteria	Evaluation questions
Beneficiary's capacities (maximum 10 points)	• Do applicants have sufficient project management experience and technical expertise? • Do applicants have sufficient management capacity? (including staff, equipment and capacity to manage the budget of the action)?
Relevance (maximum 35 points)	• How relevant is the proposal to the objectives and priorities of the funding program? • How relevant are the specific needs and constraints of the requesting institution described in the sub-grant proposal? • How clearly are the strategically chosen solution and activities defined? • Does the proposal demonstrate an increase in the results obtained from implementation? • How coherent is the overall design of the proposal? • How relevant is the proposal to gender issues? • How relevant is the proposal to climate change issues?
Effectiveness (maximum 30 points)	• Are the proposed activities appropriate, practical and in line with the objectives of the funding program and the expected results? • Is the action plan clear and feasible?

	• Does the application form contain objectively verifiable indicators for the outcome of the action? • Are stakeholders properly involved and participate in the action? • Do the results of the planned activities contribute to the achievement of the specific result and address the main problem of the funding program? • Do the proposed actions involve representatives of the labour market?
Efficiency (maximum 10 points)	• Are the activities properly reflected in the budget? • Is the relationship between estimated costs and expected results satisfactory?
Sustainability and impact (maximum 15 points)	• Is the action likely to have a concrete impact on the target groups? • Is the proposal likely to have multiplier effects? (Including replication, extension and information exchange) • Are the expected results of the proposed action sustainable: ✓ financially (How will the activities be financed after the end of the grant? Will the financial formula be applied?); ✓ institutionally (Will the structures allowing the continuation of the activities be in place after the closure of the proposal? Will the results of the action be locally "owned")?, ✓ at policy level (where relevant) (What will be the structural impact of the action - e.g. will it lead to improved legislation, codes of conduct, methods etc.?), ✓ environmental (where relevant) (Will the action have a negative/positive impact on the environment?)

Source: Own work

RESULTS

The beneficiary capacity evaluation criterion refers to assessment of the applicant institution's ability to implement and manage the proposed projects in accordance with the financial, administrative and technical requirements. This criterion ensures the success of the project and minimizes the risks related to inappropriate use of resources or inefficient implementation of activities. Below is the graph comparing the evaluation criteria on beneficiary capacity for two calls for proposals in which six colleges from the Republic of Moldova participated.

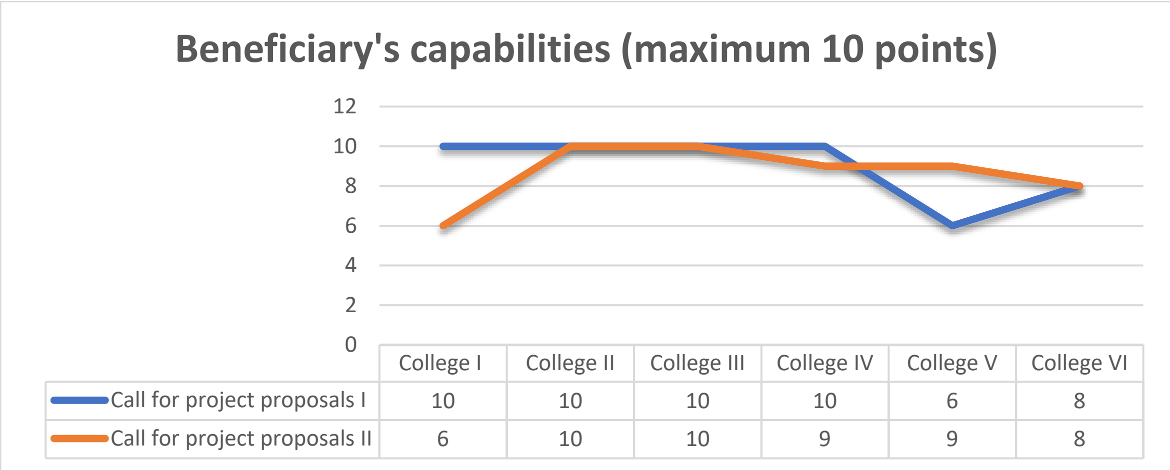


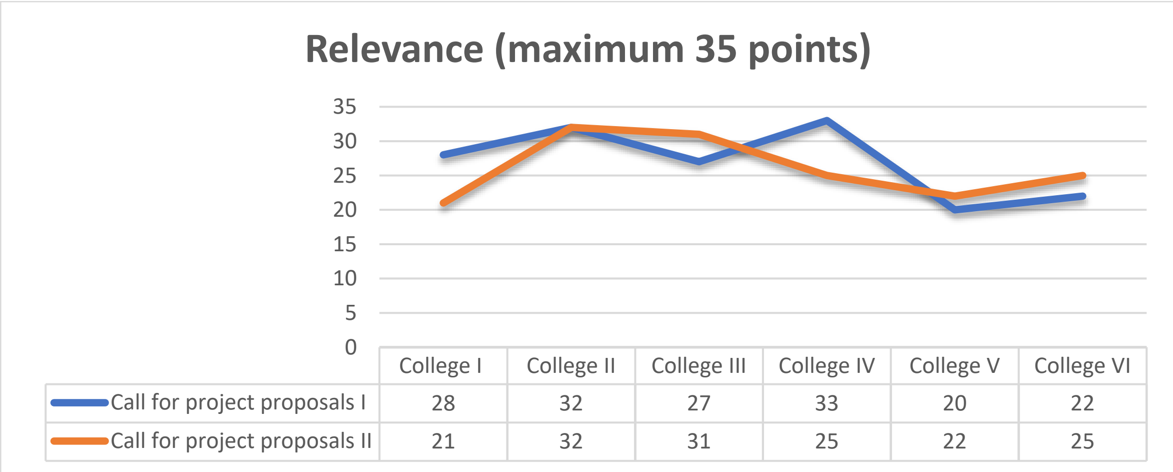
Figure 1. Beneficiary's capabilities
Source: Own work

The evaluation criterion on beneficiary capacity, which had the possibility to be scored with a maximum of 10 points, received a lower score in the case of College I in the call for proposals II than in the call for proposals I. This shows that the educational institution would have had difficulties in demonstrating administrative or financial capacity. This decrease may indicate:

- Lack of additional evidence required in the call for proposals II regarding project implementation history.
- Possible problems in the efficient use of the previously allocated budget.
- Lack of a clear strategy to improve or expand institutional capacity.

Constant performance of College II suggests a demonstrated capacity to manage funds and projects. College III shows a stable existence of the institutional framework capable of managing the resources needed for project implementation. A small decrease in College IV may reflect the lack of clarity in demonstrating administrative capacity in call for proposals II. The lack of a convincing track record of funds management or insufficient documentation in the case of College V in call for proposals I provided a lower score than that received in call for proposals II. The consistent score at 8 points received by College VI indicates a solid performance in demonstrating the ability to manage the available funds and signals a maintenance of this with no notable improvements.

In the Republic of Moldova, the relevance criterion is used to select the educational projects that contribute the best to national objectives. In the calls for project proposals, relevance is assessed with a maximum score of 35, being the most important criterion (see graph below). In this way, College I shows an increase in relevance and may signal that the proposal in call for proposals II was better aligned with the priorities of the call and the needs of the community. This indicates a strategic improvement. The consistency of College II's score indicates that projects were very well aligned with strategic requirements. The increase in the score for College III indicates an improvement matching the call priorities. The significant decrease in College IV may indicate a project less aligned with call for proposals II priorities. College V showed a slight increase which indicates better alignment with the call for proposals requirements. In the case of College VI, the increase in score in call for proposals II indicates an improvement in demonstrating the relevance of the project and alignment with the call requirements. However, there is still room for improvement, in particular by detailing the alignment of the project with national and regional education policies and maintaining its contributions to the strategic objectives. These adjustments could increase the score in future calls.

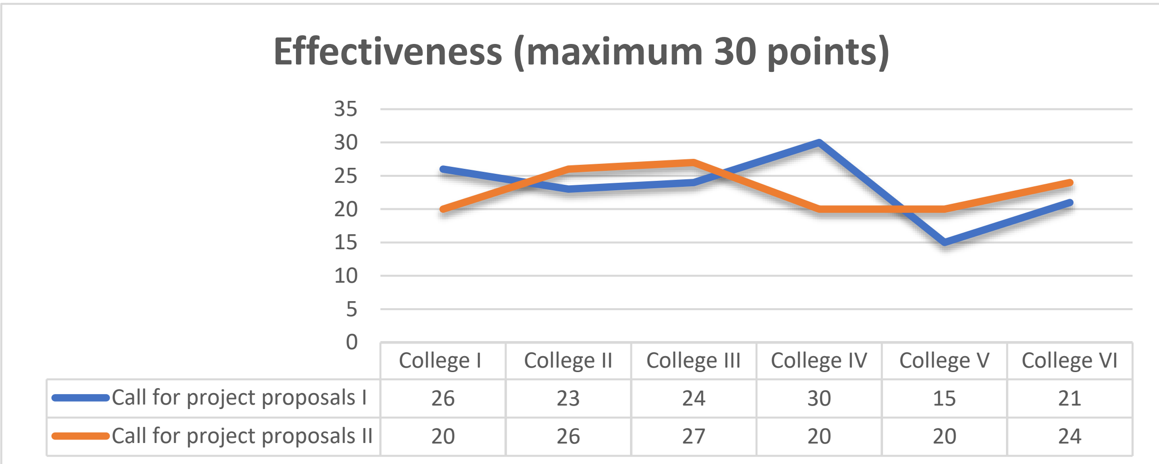


	College I	College II	College III	College IV	College V	College VI
Call for project proposals I	28	32	27	33	20	22
Call for project proposals II	21	32	31	25	22	25

Figure 2. Relevance
Source: Own work

The relevance criterion is essential to ensure that the educational projects proposed respond to the real needs of the beneficiaries and contribute to strategic priorities. In the Republic of Moldova, the use of this criterion reflects both the strengths and weaknesses of institutions in understanding the requirements of funding call for proposals. By adopting a more detailed and integrated approach, institutions can significantly improve their performance in this area.

Effectiveness criterion in the evaluation of educational projects refers to the degree to which the planned activities are relevant, feasible and directly contribute to the achievement of the proposed objectives. It ensures that projects are well designed and implemented to produce the expected results. Below is the chart showing how twelve project proposals submitted under two different calls for project proposals from six colleges in the Republic of Moldova were evaluated.



	College I	College II	College III	College IV	College V	College VI
Call for project proposals I	26	23	24	30	15	21
Call for project proposals II	20	26	27	20	20	24

Figure 3. Effectiveness
Source: Own work

Effectiveness could be rated at a maximum of 30 points, College I's implementation plan may be less feasible or insufficiently detailed in call for proposals II compared to call for proposals I. A slight decrease may signal minor problems in the coherence of the proposed activities. College II demonstrated an increase for the effectiveness criterion indicating better documented planning and better feasibility of activities. College III's implementation plan for the first call for proposals demonstrated some gaps in feasibility or coherence. The decrease in the case of College IV may be due to a lack of detail in the implementation plan or insufficiently described activities. College V in the first call for proposals scored 15 points, indicating an average performance with potential for improvement. In the second call for project proposals the score increases to 20 points, suggesting significant progress in planning and presenting the effectiveness of the proposed activities. However, there are still opportunities for improvement, in particular by detailing activities, setting clear indicators and explaining more precisely how resources will be used to achieve the objectives. The increase in the score for College VI indicates clear progress in demonstrating the effectiveness of the project through better planning and detailing of activities. The link between project goals and proposed activities was better articulated, leading to a more favourable perception of feasibility.

According to the report Investing in Education Systems: Challenges and Strategies (IBRD, 2020), efficiency evaluation is essential to ensure the financial sustainability, relevance and impact of education projects. The varying scores between the two calls for project proposals reflect differences in planning, budget justification and demonstration of cost-benefit ratios.

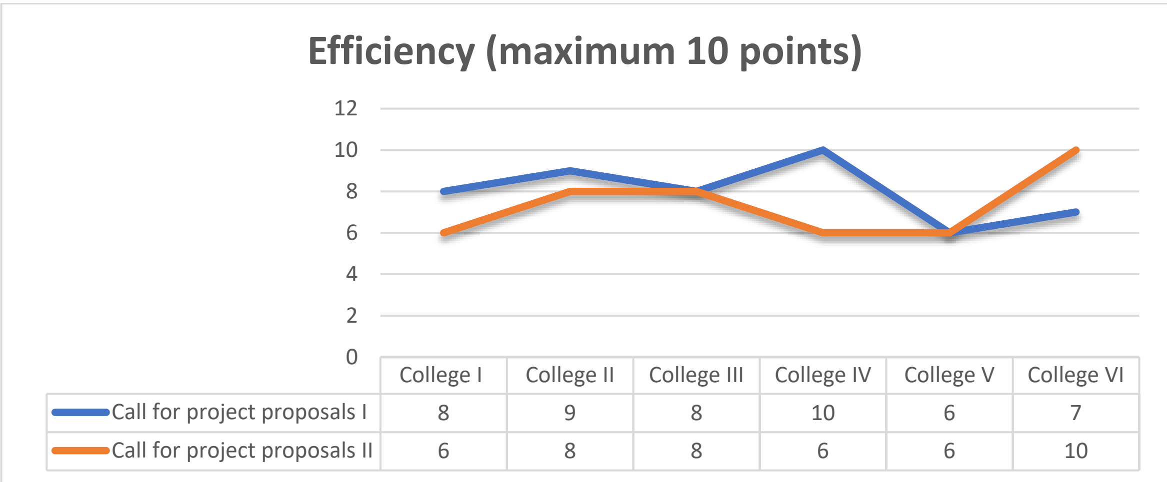


Figure 4. Efficiency
Source: Own work

In the case of College I, the coherence of the proposed activities and their link to the overall objectives were considered insufficient in call for proposals II, which led to a decrease in the score. The implementation plan submitted by College II was well documented in both calls, but without significant innovations or adjustments in call for proposals II. College III's steady performance reflects adequate planning but insufficient to increase the score. The significant drop in score for College IV indicates serious deficiencies in demonstrating the feasibility of activities. College V needs to improve its planning capacity and integrate a clear description of activities and objectives. Poor performance in both calls indicates persistent problems in planning and coherence. Regarding College VI, it demonstrated in call for proposals I an average implementation plan, but with potential for improvement. And in call for proposals II College VI reflected a clear improvement in the details and coherence of activities.

In the Education Code of the Republic of Moldova (No. 152/2014), the sustainability criterion is implicitly addressed through provisions that ensure continuity, relevance and efficiency of the education system [1]. Even if the term "sustainability" is not explicitly mentioned in all sections, the legal framework includes principles and measures contributing to the sustainable development of education. According to Article 5, fundamental principles that can be linked to sustainability include:

- Equity and social inclusion principle: Ensuring equitable and uninterrupted access to education for all pupils, regardless of socio-economic background.

- Efficiency principle: Rational use of resources in education to maximize outcomes.
- Partnership principle: Collaboration between institutions, public authorities and the private sector to support educational projects and institutional activities.

The Education Code of the Republic of Moldova provides for the establishment of clear mechanisms for quality assurance in education through implementation of quality standards; continuous monitoring of the educational process by internal and external structures; regular performance evaluation of educational institutions [1].

The "Education-2030" Strategy of the Republic of Moldova focuses on the sustainable development of the education system, ensuring equitable access, quality and efficiency [5]. From the perspective of this strategy, sustainability is seen as a central pillar for ensuring continuity, relevance and impact of education in the long term. Ensuring quality education, sustainable in the long term can be achieved by equipping institutions with modern resources and ongoing teacher training. Projects promoting sustainability must facilitate access for all categories of beneficiaries (rural pupils, pupils with disabilities, etc.) and make efficient use of financial and material resources. The "Education-2030" Strategy requires a clear framework for integrating sustainability into educational projects, emphasizing the balance between the financial, institutional, environmental, social and curricular dimensions [5]. Projects that include practical measures in these areas not only align with national priorities, but also maximize their long-term impact and sustainability.

Table 2. Relevant dimensions of the sustainability criterion in relation to the sustainability assessment indicators according to the Education-2030 Strategy [5]**:**

Criteria dimensions	Objectives	Relevance for projects	Financial indicator
Financial sustainability	It underlines the need to mobilize and diversify financial resources for education, ensuring investments in infrastructure, training and digital resources are efficient and sustainable in the long term.	• Projects must clearly demonstrate sources of post-implementation funding (additional grants, fees, sponsorship). • The education budget must be used optimally, avoiding inefficiency.	Percentage of educational expenditure supported from alternative sources.
Institutional sustainability	It proposes to strengthen the capacity of educational institutions to ensure project results are maintained and continue as an integrated part of everyday activities.	• Institutions must demonstrate the capacity to integrate the project resources into their structures (e.g. digital labs, new methodologies, modernized premises). • Continuous training of teachers and administrative staff is essential for the implementation and use of the results.	Number of implemented resources still in use after project implementation.
Environmental sustainability	It should contribute to raising environmental awareness and reducing	• Implement environmentally friendly solutions such as reducing energy	Energy savings per institution or percentage of green materials used.

	environmental impacts. Educational infrastructure must be built and maintained in accordance with environmental sustainability principles.	consumption, using recyclable materials or purchasing energy-efficient equipment.	
Social sustainability	It emphasizes equitable access to education, reducing disparities between regions and vulnerable groups, and social inclusion through education.	• Projects must demonstrate how they will contribute to reducing inequalities (e.g. access for pupils in rural areas or with special needs). • Work with local communities and education partners to multiply the benefits of projects.	Number of pupils from vulnerable groups benefiting from projects.
Curriculum and educational resources sustainability	It underlines the importance of a relevant and dynamic curriculum responding to the demands of a changing labour market and society.	• Development of digital educational resources and reusable teaching aids. • Provide access to resources through online platforms and digital libraries.	Percentage of digital and repetitively used educational materials.

Source: Own work

The sustainability criterion is considered the most vulnerable in the evaluation of educational projects as it involves complex and long-term challenges that are more difficult to demonstrate and implement compared to other criteria. Unlike other criteria (such as relevance or effectiveness), sustainability requires a clear vision of how the project will continue to have an impact after the initial funding ends. In the process of developing a project proposal most schools have limited resources to detail and subsequently implement post-implementation plans. Sustainability planning requires additional effort to identify alternative funding sources, institutional structures and partnerships. In many cases financial and institutional sustainability depend on factors that are not always under the project team's control. Thus, changes in public policy or government priorities may affect the resources available to continue the projects. And partners' financial or logistical commitments may become uncertain in the long term.

Educational projects often focus on immediate results, overlooking environmental measures that could contribute to sustainability. There are situations where lack of some environmental components (energy efficiency, recycling, sustainable use of resources) can lower the score on this criterion. Failure to integrate environmental sustainability limits long-term sustainability. Unfortunately, educational institutions in the Republic of Moldova consider only the context they are operating in, without focusing on a replication and dissemination mechanism. Projects should demonstrate how the results can be replicated in other institutions or contexts. If the project does not include scaling-up strategies, its impact will be perceived as limited. The lack of strong partnerships for transfer of good practices affects the perception of sustainability. Not all educational institutions are prepared to integrate sustainability as a fundamental principle in their activities. Some institutions perceive projects as one-off initiatives rather than catalysts for systemic change. A lack of dedicated teams or an organizational culture oriented towards maintaining results can undermine sustainability.

A project that is not properly planned or implemented (effectiveness criterion) will have difficulties in ensuring sustainability. Lack of relevance to community needs may affect long-term support. In this context, sustainability is influenced by other criteria. Addressing these vulnerabilities could be achieved through detailed sustainability planning, diversification of funding sources, creation of clear indicators to demonstrate the long-term impact of the project (e.g. number of beneficiaries, use of resources), embedding the results in institutional structures, training of teachers and administrative staff to capitalize on the project results and integrate them into practice, creation of strategic partnerships with other relevant institutions.
The graph below shows how the sustainability criterion was assessed in two calls for proposals.

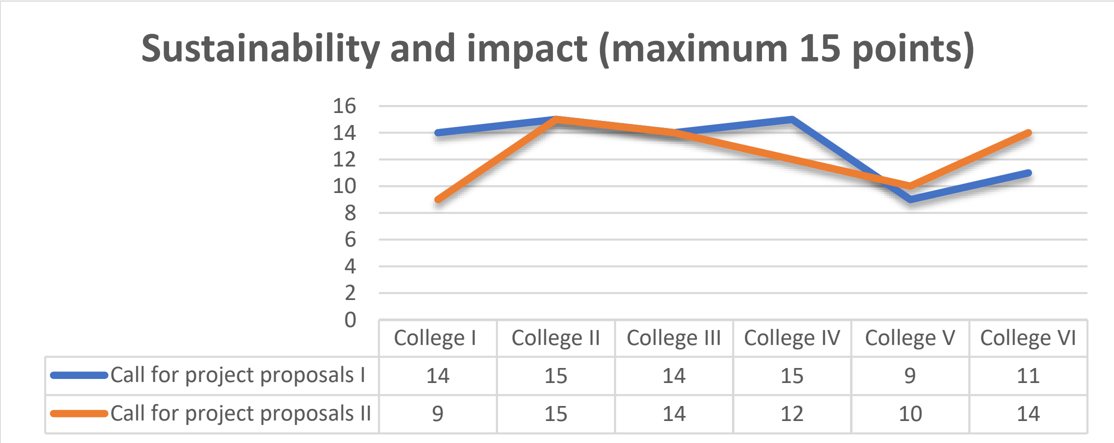


Figure 5. Sustainability and impact
Source: Own work

College I had a constant score for the sustainability and impact criterion that was able to score with maximum 15 points. This score indicates that the sustainability of the project was considered solid in both calls, with no notable improvements or weaknesses. Maintaining the maximum score in the case of College II reflects solid plans for sustaining the project's results in the long term. The constancy of College III indicates that sustainability was considered adequate with no significant improvements. The decrease for College IV reflects insufficient documentation of sustainability measures. College V showed a slight increase in score in relation to the detailing of measures for sustaining results. The score from 11 points to 14 points provided for college VI shows significant progress in planning and demonstrating project sustainability and impact.

The overall score of projects depends on a combination of objective factors, such as performance against the evaluation criteria, and the evaluators subjectivity in perceiving the overall quality of the project. Institutions providing well documented proposals, coherent and relevant to the strategic priorities are more likely to achieve maximum scores. The graph below shows the total score per project received from the six Moldovan colleges participating in two calls for project proposals within the framework of national education initiatives. The first call for project proposals was organized in January 2022 and the second call for project proposals – in September 2023.

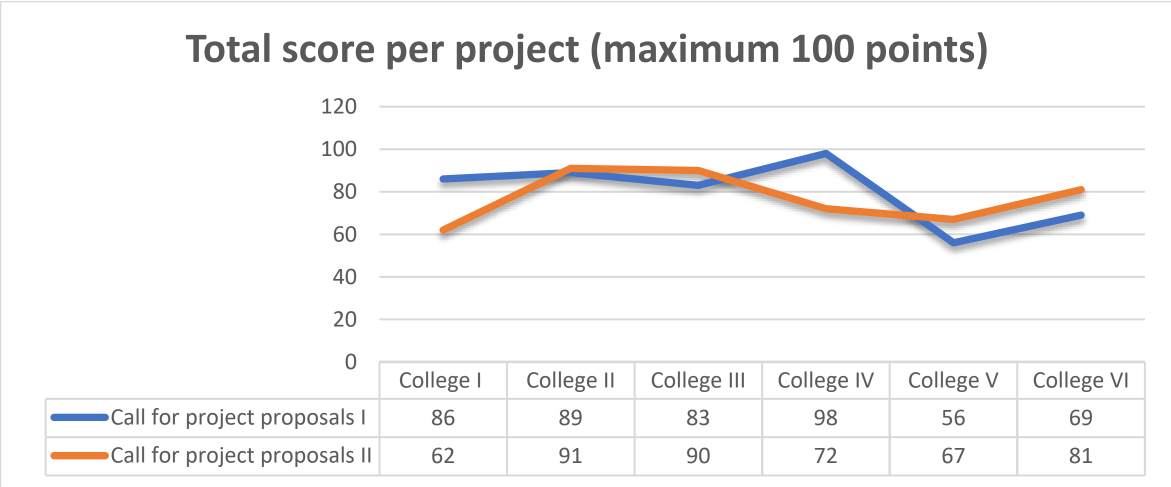


Figure 6. Total score per project
Source: Own work

The graph compares the scores obtained by six colleges in the Republic of Moldova in two calls for proposals. All project proposals were evaluated by the same evaluator. Each college was evaluated according to several criteria that collectively had to score a maximum of 100 points, and the values are shown for calls for proposals I (blue line) and calls for proposals II (orange line). Thus, Colleges I and IV showed a significant decrease in score between the two calls. They should review proposal documentation and identify weaknesses such as lack of sustainability plans and impact justification. College II increased slightly in score (from 89 to 91), while Colleges III and VI showed moderate improvements. These increases indicate an adaptation effort and learning from past experiences. College V remains the lowest rated, although it has seen an increase (from 56 to 67). Overall, there are wide variations between the two calls for proposals, with a general downward trend for some institutions and upward for others. This variation reflects an uneven competition between colleges, with differences in institutional capacities and the level of professionalism of project teams.

CONCLUSIONS

The cause of discrepancies between the scores obtained in the first and the second call for proposals is due to the fact that some educational institutions are unable to update their project proposals based on the feedback received in the previous call for proposals. Insufficiently updated documentation, lack of additional clarifications or budgetary details may lead to loss of scores. Lack of human or financial resources to develop adequate responses to additional criteria is also an impediment in accessing additional funds. In this context, educational institutions should analyse the evaluation criteria in detail and adapt the project proposals. In case they participate in one call for project proposals and subsequently the same donor launches another call for project proposals based on the same evaluation criteria, education institutions should integrate the feedback received in the first call and revise impact indicators and sustainability plans. Institutional capacity development through dedicated project writing and management teams is essential. To improve performance, institutions should strengthen their internal processes, pay more attention to sustainability and learn from past experiences.

Based on the evaluation criteria presented above - beneficiary capacity, relevance, effectiveness, efficiency, effectiveness and sustainability - some conclusions can be drawn regarding the evaluation process of educational projects, with particular reference to the Republic of Moldova:

Table 3. Importance of a clearly defined structure of criteria

Importance of a clearly defined structure of criteria	The evaluation criteria provide a standardised and objective framework for selecting projects with the highest potential for impact. They facilitate: • Prioritisation of well planned projects relevant to national strategic objectives. • Creating a transparent and comparable system for analysing proposals [2].
Institutional capacity is crucial	Projects submitted by institutions with demonstrated capacity to manage funds and projects receive higher scores, highlighting the importance of qualifications of staff involved and documentation of project implementation track record [4].
Relevance as a central indicator of success	The relevance criterion receives the highest score, emphasizing the importance of aligning projects with identified needs and strategic priorities, such as those described in the Education-2030 Strategy of the Republic of Moldova [5]. Projects not integrating community perspectives or not aligning with national objectives tend to receive low scores [4].
Efficiency reflects optimal use of resources	In the Republic of Moldova, efficiency criteria evaluation in educational projects reveals some important lessons, such as: • some projects do not provide sufficient information on how the funds will be used, which lowers the confidence of the evaluators. • Institutions collaborating with other organizations for co-financing or additional resources receive higher scores. • Projects with a solid track record in managing financial resources score better.
Effectiveness reflects practical planning	Effectiveness assessed through the feasibility of activities and stakeholder involvement shows that projects that are well documented and include a detailed action plan score better. Involvement of beneficiaries such as teachers, students and communities are a key factor for success [2].
Sustainability can be vulnerable	The criterion of sustainability is considered the most vulnerable because of the difficulty to demonstrate the continuation of the project's impact after the end of the funding. Also, in the case of educational institutions there is a lack of financial and institutional planning to maintain results. Educational institutions in the Republic of Moldova should pay more attention to integrating sustainability into their strategic plans, including by diversifying funding sources and working with local and international partners.

Source: Own work

Experiences from the Republic of Moldova and the findings of UNESCO UIS reports emphasize that institutions need to adopt a more strategic and integrated approach to ensure the relevance and continuity of educational initiatives [6]. Investments in planning, monitoring and collaboration can transform education projects from one-off initiatives into catalysts for systemic change.

RECOMMENDATIONS

The evaluation of education projects remains a fundamental process for identifying added value initiatives and maximizing impact in the education sector. Valuable lessons can be drawn from the analysis of evaluation criteria and performance in selection processes, which can guide improvements in the quality of future proposals.

The standardized evaluation criteria - beneficiary capacity, relevance, effectiveness, efficiency, effectiveness and sustainability - provide a transparent and comparable framework for project analysis. This allows fair selection and alignment of projects with national and international priorities. Standardization of criteria is essential to prevent subjectivity and encourage fair competition between institutions [2]. Mainstreaming cross-cutting issues such as gender equality and climate change increases the quality of proposals. Projects that demonstrate a clear link with strategic priorities and respond to local needs are most likely to succeed. A detailed analysis of beneficiaries' needs and their involvement in project development significantly increase scores [5]. Projects addressing real community problems, such as educational disparities or digitalization, receive higher scores [4]. Effectiveness is directly linked to the quality of planning and coherence of the proposed activities. Institutions with experience and detailed plans score better, reflecting the feasibility and relevance of their proposals. Establishing SMART (specific, measurable, achieved, relevant, time-bound) indicators is crucial for monitoring and evaluating results [7]. Stakeholder involvement at all stages of the project brings significant benefits in perceived effectiveness. Projects that are well budgeted and demonstrate a favourable cost-benefit ratio are scored higher. Detailed budgets, together with clear justifications, inspire confidence in evaluators [2]. Projects that attract alternative sources of funding or use existing resources increase the chances of success. Integrating project results into institutional structures and identifying sources of post-implementation funding are essential for a high score (Education-2030 Strategy). In the case of Moldova, projects that include environmental components and promote resource efficiency are more highly rated.

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PARTICIPATING WHOLE LIFE INSURANCE AS A TAX-SHELTERED INVESTMENT RISK-TRANSFER STRATEGY

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Sveatoslav COVALIOV
Senior Insurance Specialist,
Toronto, Canada
Email: stanley.covaliov@gmail.com

Abstract: *Since the turn of the century, the scale of household debt increased drastically for the vast majority of OECD countries (OECD, 2024a). Household debt refers to the financial liabilities of a household that require payments to creditors at a fixed date in the future (OECD, 2024a), which primarily consists of mortgages, car and education loans, and credit card debt.*

For as long as an individual is able to earn income and fulfill their financial obligations to creditors, their household debt can be managed. In the event of their death however, one of the very first responsibilities of the surviving beneficiary appointed by the decedent's will is the settlement of this household debt. The creditor almost never extends the debt to the surviving beneficiary, as in many cases they do not have the same level of income; instead, the beneficiary is forced to settle the debt immediately.

A prototypical scenario is the death of the primary income provider in a single-income family. In such scenario, the creditor does not extend the household debt to the surviving spouse as they are not working and do not have a stable income. As such, the surviving spouse, along with any other surviving dependents, are forced to sell the family home in order to settle the debt. Without an appropriate strategy, this catastrophic scenario could become the reality of the many families States that rely on a single provider for income.

Keywords: *insurance, tax-sheltered, investment, risk-transfer strategy.*

JEL Classification: *G32, G18, G22, H21.*

MOTIVATION

Life insurance as a risk-transfer strategy that trades the possibility of a financial catastrophe in the future, in exchange for the certainty of paying insurance premiums now. In the context of the above scenario, it would allow the family to retain the possession of the home, thereby providing the individual with the assurance that their spouse and dependents will not face a financial catastrophe in the case of their premature death.

Since the eventual death of an individual is certain, the importance of life insurance cannot be overlooked at the individual scale. However, the topic of life insurance, and personal insurance more generally, is becoming increasingly relevant at the government level as well, as climate change, technological advances and globalisation are creating novel challenges for governments around the world. In particular, digital security and privacy risks that have emerged with the growing use of digital technology suggests that the personal insurance market will triple in size in the coming years (OECD, 2024b).

In this article, we give an overview of modern life insurance products. In particular, we explain *participating life insurance policy* as a combination of life insurance coverage with an opportunity for tax-sheltered investment growth. We also further highlight its benefits for small business owners.

PARTICIPATING WHOLE LIFE INSURANCE

The simplest form of a life insurance product is a *term policy*. It provides coverage for a *term*, i.e. a specific period of time, usually 10 or 20 years. In the case that the individual passes away during the term, the beneficiaries receive a benefit payout from the insurer; conversely, if the individual outlives the term, there is no payout. Because of its simplicity and limited features, this form of insurance is typically more affordable than others. Individuals may choose this type of policy to provide financial coverage for *temporary* financial obligations, those that are certain to end at some fixed point in the future. For instance, a parent may choose to purchase this product for the duration of their mortgage or while their child is attending a post-secondary institution.

Whole life insurance on the other hand provides coverage over the entire lifetime of the individual, as long as they continue to pay the premiums. It does not expire, meaning beneficiaries will receive a death benefit regardless of when the individual passes away. An important feature of a whole life policy is that it builds up a *cash value* over time, that is part of the premium goes into a savings account. Most whole life policies allow the individual to access this cash value prior to their death, or even surrender the whole policy and receive the *cash surrender value*; some even allow to use the cash value to pay the premiums directly.

Participating whole life insurance is a special kind of whole life insurance, where a portion of premium is used to generate revenue through investment. Contributions paid by different policy owners are pooled together in a professionally managed investment account. As such the cash value grows inside the policy, free of annual taxation. Hence, while term life insurance is more affordable upfront, the cash value of a whole life insurance provides an additional benefit long term.

Importantly, age is the biggest factor in determining life insurance premiums. Since the *risk* of health problems is higher as the individual gets older, meaning the insurer must increase the life insurance policy's premium. Thus, in the long run, it is typically more expensive for an individual to renew a term policy than it is to continue to pay whole life insurance premiums. To account for this difference, insurers sometimes offer the option to convert a term policy to a whole life one.

Insurers typically offer the possibility to transfer the ownership of a policy to a business. If the individual owns a business entity, transferring the ownership of a participating life insurance policy offers unexpected benefits.

When passive income of a business exceeds a certain threshold, it loses its small business tax deduction, and all of its income is taxed at a higher corporate rate. Participating whole life insurance offers the business owner a strategy to keep the small business status of their corporation. since the growth inside an insurance policy's cash value is not subject to annual taxation, assuming the growth remains within the permitted limits, the business may accumulate funds without impacting the corporation's small business deduction limit, all while earning investment growth from a professionally managed portfolio. As such, purchasing a participating whole life insurance makes sense for business owners from the perspective of keeping the small business status of their growing enterprise, while providing them whole life insurance coverage.

UNEXPECTED CHALLENGES IN LIFE INSURANCE INNOVATION

Given the importance of life insurance, innovation in the life insurance industry is critical in the view of the everchanging global and technological landscapes. Innovation in life insurance however is impeded by a diverse range of challenges. On average it takes up to twelve months to launch a new life insurance product from idea to sale (RGA, 2014). In this section we give an overview of the most surprising of these challenges and explain practice ways to address them.

One main challenge is *low awareness* of life insurance products and cultural barriers to it, as many individuals do not fully understand the importance of it or perceive as unnecessary (Kamarlaila, 2024). The best currently feasible solution is tailored communication: life insurance specialists, on behalf of the insuring company, can use personalized outreach to explain how life insurance fits into an individual's personal circumstances. Moreover, as governments turn towards personal insurance as a way to improve their financial resilience to new risks and global shifts, it may become easier to provide individuals with appropriate financial literacy education, through either school or social media.

Regulatory compliance is another major issue in life insurance innovation. As the small business example shows, life insurance companies necessarily operate in a highly regulated environment with stringent requirements related to capital adequacy, solvency, capital adequacy, and anti-money laundering. Maintaining compliance with these ever-evolving regulatory standards is resource-intensive, while not maintaining this compliance is prohibited by law (Kamarlaila, 2024). While an established insurance company has the resources necessary to keep up, smaller insurers may choose to form a specialized team dedicated to regulatory compliance. The team's role would be to maintain the compliance with local and international regulations, which they can achieve through subscribing to industry publications, attending conferences, and maintaining relationships with regulatory authorities.

Cybersecurity threats are becoming a major challenge in life insurance innovation. While on one hand insurers are able to leverage data analytics and artificial intelligence to personalize their products, pricing, and risk assessment, they are also challenged with protecting against cyber threats, ensuring data privacy and maintaining customer trust (Kamarlaila, 2024). It is critical at conduct cybersecurity audits to identify any weaknesses in the insurer's cybersecurity infrastructure. The insurer must clearly communicate how personal data is collected, used, and protected, and they should only collect the data they need to perform specific tasks.

CONCLUSIONS

Participating whole life insurance offers an individual insurance coverage for their life, with an opportunity to earn tax-advantaged investment growth, which is optimal for protecting families, maintaining businesses, and facilitating the intergenerational transfer of wealth. Participant whole life insurance offers particular benefits to small business owners in particular as they may use it to maintain their small business tax-deductions while earning investment growth.

Participating whole life insurance is an illustrative example of innovation in the industry of life insurance. The process of innovation in life insurance however is impeded by novel, unexpected challenges such as low awareness, the need for regulatory compliance, and cybersecurity threats. Nevertheless, with appropriate strategies all of these challenges can be managed allowing for new innovative products.

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STUDIES ON EFFICIENT RISK MANAGEMENT STRATEGIES IN AGRIBUSINESS

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Roxana-Elena GHERASIM
PhD student, University of Life Sciences "Ion Ionescu de la Brad",
Faculty of Agriculture, Iasi, Romania
ORCID: 0009-0008-9167-7135
Email: roxana.gherasim@iuls.ro

Gabriela IGNAT
PhD, Prof., University of Life Sciences "Ion Ionescu de la Brad",
Faculty of Agriculture, Iasi, Romania
ORCID: 0000-0003-1184-4172
Email: gabriela.ignat@iuls.ro

Ștefana-Beatrice PĂDURARU
PhD student, University of Life Sciences "Ion Ionescu de la Brad",
Faculty of Agriculture, Iasi, Romania
Email: beatrice.paduraru@iuls.ro

Florin DIACONU
PhD student, University of Life Sciences "Ion Ionescu de la Brad",
Faculty of Agriculture, Iasi, Romania
Email: florin.diaconu@iuls.ro

Abstract: *Risk management is a process through which potential risks that could affect the achievement of objectives are identified, evaluated, and managed.*
The risk analysis is necessary because, in the current period, society is facing numerous challenges, especially due to changing climate conditions and legislative fluctuations within the business environment. Thus, this paper seeks the best options to reduce risks within the company and to find viable solutions so that the company remains profitable and sustainable in the medium and long term.
The main objective of this paper is to analyze the risks facing a business in the current context of climate change, specifically conducting a risk analysis aimed at improving conditions and determining success in businesses that focus on the commercialization of inputs. The proposed research methodology included several stages, such as reviewing specialized literature, identifying the market structure, understanding the importance of economic indicators, and quantifying the economic and social impact within the organization. The applications used and recommended to farmers help eliminate the risk of improper crop maintenance. Additionally, the partnership with an insurer provides increased financial security for the company.

Keywords: *risk, strategies, agribusiness, climate change, management.*

JEL Classification: *Q01, Q10, Q12, Q14, Q16.*

INTRODUCTION

In an era marked by rapid economic, technological, and climatic changes, risk management has become an essential element for the success and sustainability of any company in the agribusiness sector. The agricultural industry is particularly vulnerable to a variety of external factors, including market fluctuations, extreme weather conditions, risks related to plant and animal health, as well as legislative and political changes. Therefore, companies in agribusiness must adopt effective strategies to identify, assess, and manage these risks in order to protect not only their financial resources but also the long-term integrity of their operations. (Aven T., 2 016).

Risk management in agribusiness requires an integrated approach that involves not only protecting the company's current activities but also anticipating and adapting to environmental changes. Risks are inevitable in a sector where natural variability plays a significant role, but by using appropriate risk management tools, companies can maximize opportunities and minimize the impact of negative events. (Hubbard D. W., 2020).

AIM OF THE STUDY

The main objective of this paper is to analyze the risks associated with a business in the current context marked by climate change, as well as to conduct a detailed risk assessment aimed at improving operational conditions and identifying key factors for the success of businesses engaged in the commercialization of inputs.

Conducting this risk analysis is essential, considering that contemporary society faces multiple challenges, particularly those arising from climate change and the legislative instability characteristic of the business environment.

Thus, through this paper, the aim is to identify the most effective risk reduction measures within the company and propose sustainable solutions that contribute to ensuring profitability and long-term sustainability.

Additionally, it is necessary to choose the most appropriate risk management strategy, taking into account the nature of the risks and the need for preventive measures, including the use of insurance tools against threats stemming from climatic, economic, and political factors.

OBJECTIVES

For the development of this paper, a detailed analysis was conducted on the risk factors affecting the activity of a company operating in a complex economic sector that includes wholesale trade in cereals, the production and commercialization of seeds and animal feed, the manufacturing of malt for beer, and the commercialization of inputs for farmers. The main objective of this research is to identify and understand the risks faced by this company within the industry it operates in, as well as to analyze the impact of these risks on the company’s performance.

In this context, the main objectives of the study are as follows:

1. Examination of definitions and regulations related to risks is essential to have a clear understanding of the legislative frameworks and regulations governing risks at both the European and national levels, in order to provide a solid foundation for analyzing the sector-specific risks the company faces.
2. Presentation of risk typologies and risk mitigation strategies. The study details the various types of risks specific to the agro-food and agro-industrial industries, including climatic, economic, and legal risks. Furthermore, it analyzes methods of protection against these risks, with a focus on insurance tools and other risk management mechanisms.
3. Analysis of the evolution of service-providing companies and the regulations affecting them in the agro-industrial service market and how legislative and economic regulations influence these companies. The study will include an evaluation of their adaptability to emerging risks.
4. Another important objective is to create a systematic methodology for evaluating the performance of companies in this sector, with the aim of measuring their efficiency in various product categories. This methodology will help identify best practices and promote viable solutions for risk management.

By addressing these objectives, this paper contributes to a deeper understanding of the business environment in which S.C. Soufflet Agro România S.R.L. operates and facilitates the identification of the most effective risk management strategies. The ultimate goal of the research is to propose solutions that will lead to improved performance and long-term sustainability for the company by adapting to the specific risks of the industry and the ever-changing economic and climatic conditions.

RESEARCH METHODOLOGY

This paper focuses on the analysis of the business sector of S.C. Soufflet Agro România S.R.L., applying a methodology based on specific risk management techniques, including risk identification, risk analysis, risk evaluation, matrix monitoring, as well as communication and reporting processes. The main objective of the research is to quantify the results obtained in this sector and to highlight the benefits brought both to the analyzed company and to the business environment in general.

The methodology proposed for the study included several stages, such as: reviewing specialized literature, analyzing the market structure, assessing the importance of relevant economic indicators, and quantifying the economic and social impact within the organization.

The study was conducted based on the financial data of S.C. Soufflet Agro România S.R.L., used as a case study, sourced from the Ministry of Finance databases and the company's internal sources. This analysis of technical and economic indicators aimed to assess the operational efficiency of the business and manage future risks.

The research process involved collecting information, creating a database, and calculating relevant economic indicators. These steps are crucial for drawing valuable conclusions and identifying potential opportunities for improvement that S.C. Soufflet Agro România S.R.L. can leverage in the future.

The Soufflet Group is a French family-owned company operating internationally in the agricultural sector. It operates across several business lines, including malt production for beer, seed production, the manufacturing of technological fertilizers, grain trading, and the commercialization of inputs for farmers. It is also the largest family-owned company in Europe involved in grain procurement. The structure of the Soufflet Group's businesses is organized into two main lines (Agriculture & Markets and Industries & Services) and six secondary lines (Trading, Winemaking, Biotechnology, Rice & Dried Vegetables, Barley Sector, and Wheat Sector).

The Soufflet Group employs a total of 7,441 people across the 18 countries where it operates. In Romania, S.C. Soufflet Agro România S.R.L. owns three grain silos, located in Brăila, Țăndărei, and Biled, all of which have been operational since 2019.

The storage capacities play a crucial role in supporting the operations of the malt factory in Buzău. The Buzău malt factory, the most advanced in Southeast Europe, has an annual production capacity of 110,000 tons of malt and requires an annual supply of 155,000 tons of malting barley.

Technical consulting for farmers is one of the core activities of S.C. Soufflet Agro România S.R.L., alongside the sale of seeds, fertilizers, chemical plant protection products (CPP), and the marketing of cereals. The company provides a comprehensive service to farmers, offering input products, technical consultations, and facilitating the purchase of their production.

Through technical documents, known as *Regional AGRO FLASH*, farmers are kept informed about the growth stages of key crops, the status of their fields, and potential risks to agricultural operations. Additionally, the documents include recommendations for the optimal application of plant protection products and fertilizers to maximize their effectiveness.

ANALYSIS OF ECONOMIC AND FINANCIAL INDICATORS

The economic and financial analysis is a complex procedure used to assess the financial situation of a company or an economic entity. The purpose of this analysis is to provide an accurate diagnosis of the current financial situation by identifying the strengths and, respectively, the weaknesses of the business.

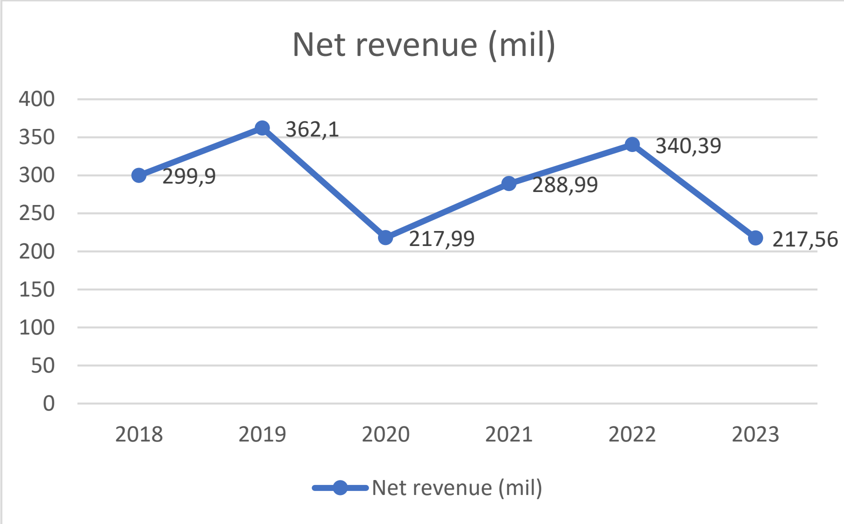

Figure 1. Net revenue for 2018-2023
Source: own work

The net revenue figures presented reflect fluctuations in the company's financial performance over the period from 2018 to 2023 (Tabel 1).
The company's revenue experienced volatility during this period, with significant declines in 2020 and 2023.

The period from 2019 to 2021 saw recovery, but the drop in 2023 suggests that there are ongoing or new challenges impacting performance.
The reasons for the drop in 2023 would need further investigation to understand the underlying causes (e.g., market conditions, changes in consumer demand, competition, or internal issues).

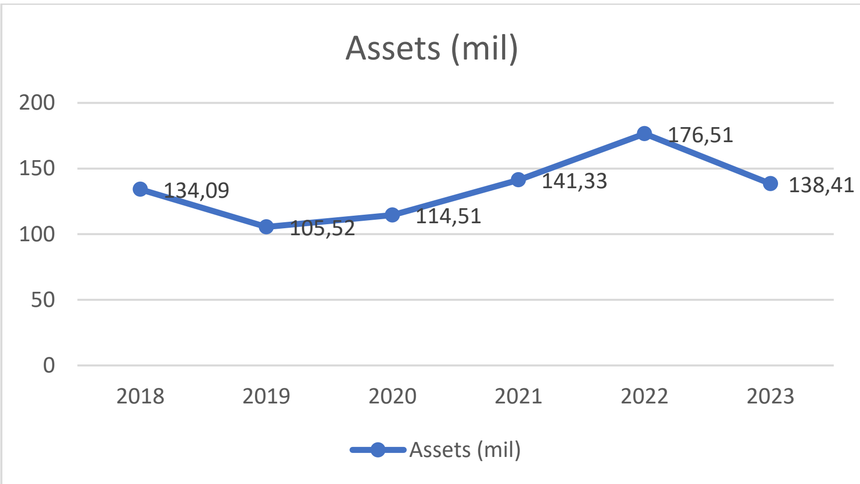

Figure 2. Assets for 2018-2023
Source: own work

The company experienced fluctuations in asset value throughout this period, with a notable decline in 2019 followed by recovery in 2021 and 2022. However, the drop in 2023 suggests some form of asset reduction or devaluation (Tabel 2).

The decrease in 2023 might indicate a strategic decision to sell or liquidate some assets, or it could reflect external factors such as market volatility or financial restructuring.

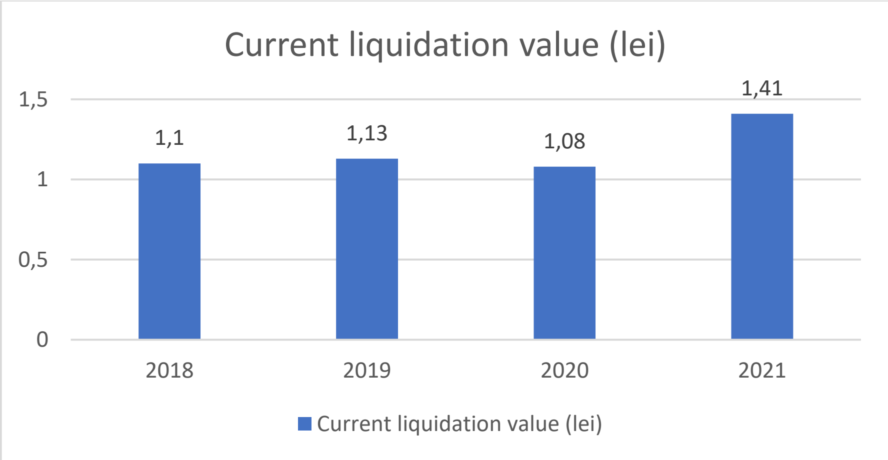

Figure 3. Current liquidation value for 2018-2021
Source: own work

The company's current liquidation value saw fluctuations from 2018 to 2021, with a notable dip in 2020 (likely due to external factors) but a strong recovery in 2021. The rise in 2021 indicates that the company was able to improve its liquidity, possibly making its assets more easily convertible into cash. This improvement is a positive indicator of the company's ability to weather financial stress and manage short-term obligations effectively (Tabel 3).

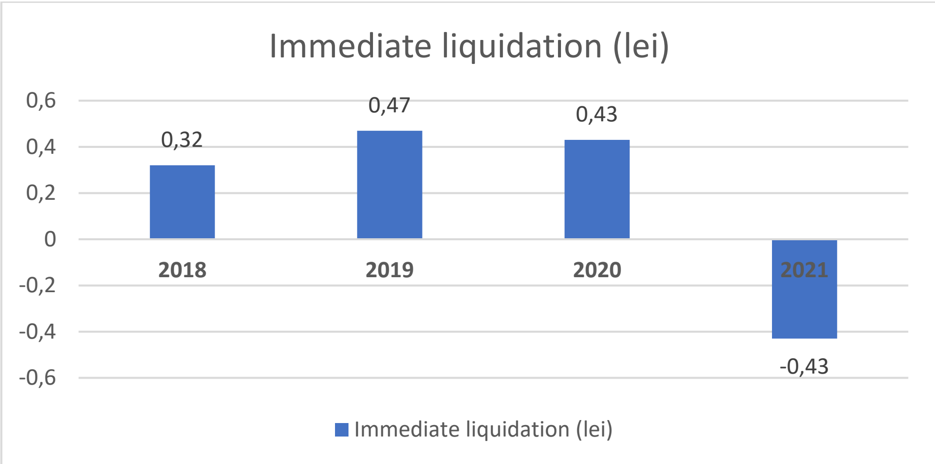

Figure 4. Immediate liquidation
Source: own work

The increase from 0.32 million lei to 0.47 million lei in 2019 indicates an improvement in the company's immediate liquidity, suggesting better management of cash and liquid assets (Tabel 4).

The sharp drop to -0.43 million lei in 2021 is alarming because it indicates that the company lacked sufficient liquid assets to meet its immediate liabilities. This could signal liquidity problems or a heavy reliance on credit or other financing options to cover short-term needs.

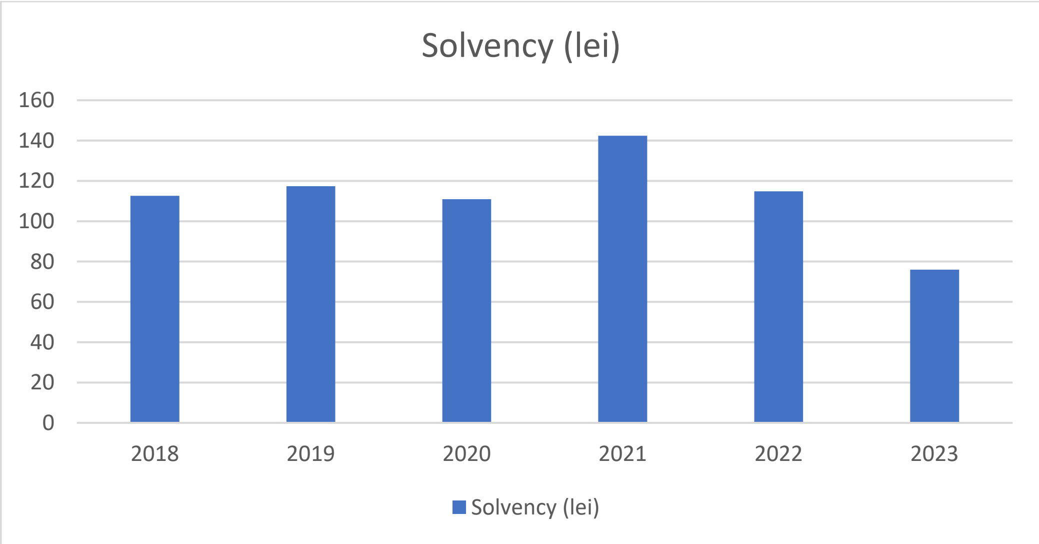

Figure 5. Solvency
Source: own work

The solvency values show that while the company had a relatively strong financial position in the earlier years (2018-2021), the sharp decline in 2023 raises serious concerns about its long-term financial health. The substantial decrease in solvency indicates that the company might be facing issues such as increased debt, declining asset values, or a combination of both (Tabel 5).

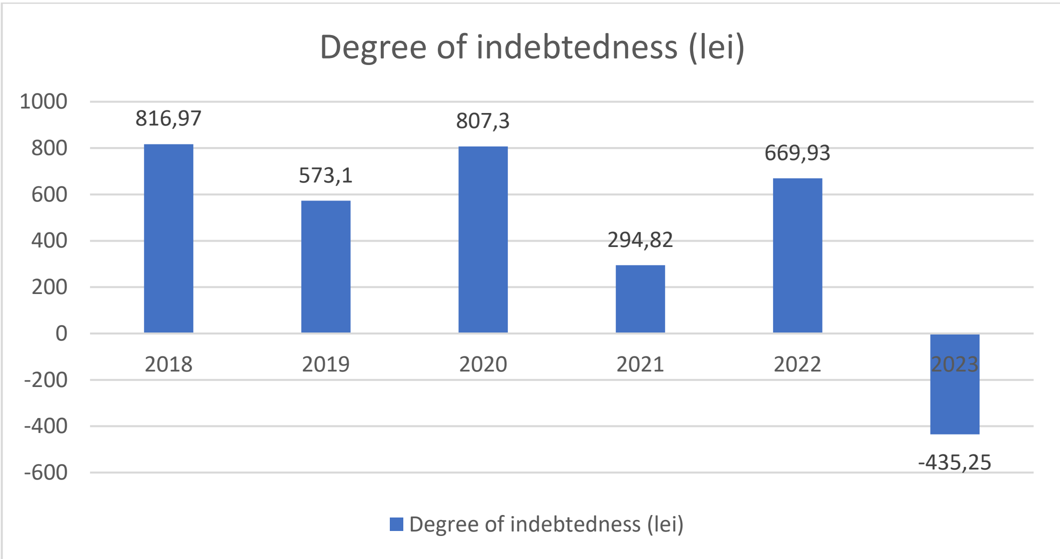

Figure 6. Degree of indebtedness
Source: own work

The company made significant strides in reducing its debt during these years, especially in 2021, where it achieved a major reduction in its degree of indebtedness. he negative value in 2023 is atypical for an indebtedness ratio, and it may reflect an accounting adjustment, debt forgiveness, or a significant increase in equity that outstrips the company's liabilities.

Given the company's direct collaboration with farmers in Romania, it is essential for it to consider the various risks that farmers face. To address these risks, Soufflet Agro Romania has implemented the **Golden Rapeseed Program**, a specialized initiative designed specifically for rapeseed growers. The program offers financial support to farmers who purchase technological packages for rapeseed cultivation (seeds, fertilizers, and pesticides) in the event of crop failure, particularly during the two critical stages: germination and winter survival.

To qualify for this program, farmers must adhere to the following conditions:
Compliance with the technology recommended by Soufflet Agro Romania specialists, which includes sowing the rapeseed crop by September 19, 2023. Purchase of rapeseed seeds from Soufflet Agro Romania's portfolio, including varieties such as Drone, Addition, Miami, Olimpico, or Estella, based on the specific requirements of the farmer. 100% purchase of plant protection products for rapeseed cultivation from Soufflet Agro Romania's portfolio. Field replanting is permitted only if the crop is diagnosed as unviable by a Soufflet Agro Romania expert.

Soufflet Agro Romania guarantees the following compensation:

- November 5, 2023: 60 euros per hectare if the field is deemed unviable due to insufficient vegetative development.
- March 10, 2024: 110 euros per hectare if the field continues to show insufficient vegetative growth.

Fertilizers represent another critical area for the company, as in addition to selling them, the Soufflet Group is also a producer of technologically advanced fertilizers aimed at increasing farm productivity. NitroFusion is one such innovative solution designed for sustainable agriculture by efficiently supplying nitrogen to crops. This technology enables the direct capture of atmospheric nitrogen at the leaf level, providing a constant supply of nitrogen without being limited by root absorption capabilities. Furthermore, its effectiveness in preventing nitrogen loss through leaching or volatilization can significantly contribute to crop growth and productivity.

In addition to NitroFusion, S.C. Soufflet Agro Romania S.R.L. includes two other beneficial substances in the fertilizers it markets to farmers:

SAP (Super Absorbent Polymer) is utilized for its ability to attract atmospheric moisture, thereby reducing dependency on water. It allows the product FertiSTART 47 NP to release nutrients into the soil using only one-third of the water required by traditional fertilizers.

The Buzău factory plays a pivotal role in the Soufflet Group's operations in Romania. Located in a region with soil ideal for cereal cultivation, especially barley for brewing, it benefits from a strategic position. The facility has access to high-quality seed varieties and specialized agronomic consultancy. Soufflet offers a selection of barley varieties tailored to Romania's growing conditions, in collaboration with the technical department of Soufflet Malteries, to produce high-quality barley for malt production.

Another crucial aspect of risk management within the organization involves its grain trading activities, which allow farmers to offer cereals as a means to cover the costs of the purchased inputs.

Grain trading refers to the buying and selling of cereals, such as wheat, corn, rice, and barley, on financial markets. This type of trading involves speculating on cereal prices to achieve a profit. Grain traders monitor market developments, analyze factors that can influence cereal prices (such as weather conditions, supply and demand, government policies, etc.), and make decisions on whether to buy or sell cereals based on these factors.

Grain trading can be carried out through both physical markets (where actual quantities of cereals are bought or sold) and financial markets (where futures contracts or options related to cereal prices are traded). This activity allows the company to manage price fluctuations and secure competitive input prices for farmers.

CONCLUSIONS

In conclusion, Soufflet Agro România’s strategic risk management initiatives, through the integration of advanced technologies, partnerships, and an innovative business approach, not only ensure the company’s financial resilience but also contribute to the development of the local agricultural economy. By continuing to streamline operations and enhance market presence, the company can effectively manage risks while driving growth and profitability.

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INVESTMENT AVENUES AND SUSTAINABILITY: AWARENESS AND FINANCIAL BEHAVIOUR

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Vedika GUPTA
Student, Bachelor of Arts,
Bhavan's Vivekananda College of Science, Humanities and Commerce
ORCID: 0009-0000-2881-8953
E-mail: vedikagupta2407@gmail.com

Seema GHOSH
Dr., Assistant Professor, Department of Economics,
Bhavan's Vivekananda College of Science, Humanities and Commerce
ORCID: 0000-0002-7401-112X
E-mail: seemaghosh7@gmail.com

Abstract: *Environmental components have taken the center stage in the form of sustainable investment on a global level since the 1960s. Sustainable investment encompasses three main areas of focus, also called ESG - Environment, Social and Governance. It has given birth to socially responsible sustainable investment avenues like stocks of environmentally friendly companies, green bonds, Exchange-Traded Funds (ETFs), sustainable mutual funds, green real estate and infrastructure projects, and impact investing in community development or social enterprises.*

The present study is an attempt to understand the awareness and preference of individuals on various investment avenues, to analyze their financial investment behavior based on demographic factors like age and gender and analyze the awareness and perception of individuals on sustainable investing and its avenues. The data required for the study was collected from primary sources using a structured questionnaire with 116 responses collected through convenience sampling techniques. ANOVA, Correlation and heatmap was used to test the association and degree of relation between age and gender with awareness and preference. Mean, Standard Deviation and Weighted average of means was used to analyze the perception on sustainable investments. The findings illustrate the complex interplay between age, gender, and investment behaviour. There is a positive perception on sustainable investments providing better financial returns than traditional investments and also a positive impact on society through sustainable investments.

Keywords: *Investment Avenues, Preference, Awareness, Environment, Social, Governance.*

JEL Classification: *G10, G11, G24, G38.*

INTRODUCTION TO INVESTMENT AVENUES AND SUSTAINABLE INVESTMENT

In an economy, all components constituting social, political, cultural, economic, and widely in contemporary focus, environmental, remain interconnected and interdependent on one another. Investment plays a central role in an economy for its growth and development by acting as a medium to interconnect and facilitate changes of many such components. It is an economic activity facilitated by governments, businesses, institutions, and consumers to acquire the benefit of additional returns in the form of income, capital, or profit in future. There are various investment avenues that have emerged over time, like mutual funds, stocks, bonds, real estate, gold, cash, etc.

An investment portfolio is a combination or collection of these investment avenues made by an individual or any interested party. It becomes important for the various investment avenues to be convenient, cost-effective, comprehensive, and tax-efficient to make investment a simple and attractive vehicle for even a common man. Investment, by extension, ensures capital formation, employment, sufficient wages/salaries, good living standards and conditions, economic stability, and smooth running of institutions in an economy. It is essential to promote investments in a nation to avoid ideal funds and a consequent adverse impact on all the other factors.

There are various factors that influence the investors choice of investment, and these factors tend to change overtime. As there is a shift in the determining factors, we notice changes in the investment portfolio of individuals. The current financial position, age, risk appetite, resources, surroundings and the dreams and goals (immediate, short term, medium term and long term in nature) of an individual investor impact their investment journey. In order to achieve one's immediate, short term, medium term or long-term goals like repair of an appliance, saving for vacation, buying a car, saving for retirement respectively, it is important to be 'SMART' in planning and investing. The micro level of investment decisions hence regulates macro level decisions and vice versa.

Sustainable Investment, in other words, is also known as 'socially responsible investment' or 'impact investment' or 'green investment'. All these terms mean to invest in a portfolio that contains environment, social, governance factors. It contributes in creating a positive impact by individual investors on improving their surroundings. This ensures enactment of measures required to work together towards sustainable development.

Sustainable investment consists of three main areas of focus, also called ESG - Environment, Social and Governance. It has given birth to socially responsible sustainable investment avenues like stocks of environmentally friendly companies, green bonds, Exchange-Traded Funds (ETFs), sustainable mutual funds, green real estate and infrastructure projects, and impact investing in community development or social enterprises. These SI(s) together act as an engine to drive the societies in the path of sustainable development. From the investor's perspective, they provide both financial returns and make people responsible in fulfilling their duties towards nature, along with benefits in terms of lower volatility, higher resilience, and better alignment with long-term trends. For instance, it has been reported that the Nifty 100 ESG index has been outperforming Nifty 100 for the last few years. In 2023, from March to April, Nifty 100 ESG gave a return of approximately 17.71% compared to 15.20% returns by the Nifty 100. From the company's perspective that follows SI, it helps them to overcome challenges and risks to enjoy long-term success, like climate change, changing policies, social and demographic changes, data protection, etc.

The ESG standards can be determined with the help of an ESG score allotted to companies by research organizations like MSCI, Sustainalytics, and Morningstar. The scores depict the level of ESG compliance for companies and are dynamic in nature. With the changes in regulations, standards/norms, and the company's own initiatives, the scores of the respective companies also keep changing. While having an ESG score is not mandatory, it can prove to be a good-to-have metric for any organization.

Like Corporate Social Responsibility, Sustainable Investing needs to be brought under practice by corporates as both the exercises truly make an organisation operate in a sustainable manner. And they share a common ground in comprising the same factors, i.e, ESG factors in their approach. It is essential for businesses to adopt this method, shifting their mainstream attitude of profit- making to making profits following sustainability in their core organizational practices, structure, workings, and contribute to the welfare of the society. On a long-term basis, organisations which will continue to follow the attitude of negligence towards the well-being of the society will find it difficult to survive with the growing awareness among people. In fact, a few studies have recently shown that sustainable investment avenues provide higher financial returns than traditional investment avenues due to the long-term factor. Apart from this, the practice of SI can also be adopted by individual investors or at household level in growing numbers. The overwhelming and unthinkable damage caused by humans on mankind and nature, requires an equivalent level of effort and contribution from them to sustain a future for themselves and their following generations.

REVIEW OF LITERATURE

The major elements of any investment are time and risk. It purely depends upon individual capacity to give importance to either of the two elements, on the basis of one's need. Today, there are plenty of avenues where money can be invested like- government bonds, equities, gold, real estate, stocks, fixed deposits, etc (Jain, P. (2012)). The Indian investors followed the mantra, "Prevention is better than cure" and expect more returns with less risk (Murithi, S. S., et al, (2012), while forming their investment strategy or portfolio. Nevertheless, investors are a heterogeneous group, they may be large or small, rich or poor, expert or lay man and not all investors need equal degree of protection (Mayya, 1996).

The global growth in sustainable investing reflects the increasing demand among investors—both institutional and retail—for greater disclosure and consideration of ESG issues, i.e, Environment, Social and Governance issues. Several GSIA members report that the consideration of fiduciary duty has been an important driver for sustainable investing, indicating that SRI is becoming more accepted by a wider audience than in the past (Alliance, G. S. I. (2017). The study reviews that sustainable investing has grown in both absolute and relative terms in the two years since the beginning of 2014. It has studied the status of the green market in Europe, United States, Latin America, Asia ex Japan, Canada, Africa, New Zealand and Australia. Most participants believe a greater focus on sustainability does not come at the expense of financial returns, or are at least uncertain about whether it does. But even among those who do expect a reduction in financial returns, the majority wants to put their pension money on the table to promote sustainability (Bauer, R., (2021))**.** The key reason behind this is participants' strong social preferences. Thus, it becomes important for fund managers to identify, be aware and specifically elicit the social preferences of their clients and act accordingly. It also suggests investors might be more motivated by a warm glow than a real social impact in terms of sustainable investing. It was found that energy conservation is the main criterion considered by the investors before investing in sustainable investment. Even though the majority of the respondents are aware of sustainable investment avenues, they are reluctant to invest due to the gestation period of such investments (Sumathy, M. (2023)), in Indian investors.

The findings contradict the popular belief (Hong and Kacperczyk 2009; Lee et al. 2010; Lopez et al. 2007; de Souza Cunha and Samanez 2013) that the sustainable investment options yield lower financial returns as against traditional investment options. The results indicate that there is no significant difference in the performance between sustainable indices and the traditional conventional indices, being a good substitute to the latter, and this is partially similar to the findings of other studies for instance, Charlo et al. (2017); Santis et al. (2016) and la Torre et al. (2016), according to (Jain, M., Sharma, et al (2019)).

India is following the lead of its international counterparts and utilising investment trusts and asset management firms to engage in the ESG trend of investing. In the coming years, investing in this sector is anticipated to yield favourable returns because it has not yet been fully explored. Additionally, the ESG schemes have an aggressive portfolio and a higher overall and systematic risk. (Singh, S., (2023)). Indian Nifty ESG Index outperformed Nifty 50 over one and five year periods ending October 30, 2020, according to (Goyal & Aggarwal, 2014). (Torre, Mango, Cafaro, & Leo, 2020) states that communicating ESG strategies and investing in ESG have a positive impact on firm returns. Since 2009, especially in the wake of the global financial crisis, companies have become more sensitive to CSR and other governance factors, and this has been reflected in their performance in the ESG index (Singh, 2013).

OBJECTIVES OF THE STUDY

- To study the awareness of individuals on various investment avenues.
- To analyze the financial investment behaviour of individuals based on various demographic factors.
- To analyze the awareness and perception of individuals on sustainable investing.

RESEARCH METHODOLOGY

The data required for the study was collected through a structured questionnaire from individuals who are investing in various avenues in Hyderabad. A total of 116 responses were collected through convenience sampling techniques. The secondary data required for the study was collected from trusted websites, published journals, research papers and research articles.

The respondents were asked to rate various investment avenues based on their awareness and preference on the scale of 1-5 (1 being the lowest and 5 highest) on a Likert scale. They were also asked to rate their awareness and willingness towards sustainable investing.

Data visualization tools were used to describe the data. ANOVA, correlation and heatmap was used to test the association and degree of relation between age and gender with awareness and preference of investment avenues. Mean, standard deviation and weighted average of means was used to analyze the perception on sustainable investments. This analysis was performed through Microsoft Excel.

DATA ANALYSIS AND INTERPRETATION

Demographic and Descriptive data

The survey revealed that the number of male respondents was significantly higher, making up 66% of the total, while female respondents constituted 34%. The sample survey collected for the study had 38% of the respondents in the age group of 20-30, 9% in 30-40 years, 22% in 40-50 years, 22% in 50-60 years, and 9% in 60 years and above age groups.

In response to the source of investment advice, 36% prefer to take advice from professional experts which is very closely followed by 35% preferring to reach out to family members. Apart from this 17% respondents took advice from friends and 12% from other sources. No respondents took advice from their colleagues.

From the survey conducted, 46% of the respondents have 1-5 years of experience in investing, which is followed by 14% having 10-15 years' experience, and 12% having 25 years and more of experience. A small proportion of respondents have 5-10 years of experience, accounting for 10%, while those with 15-20 years and 20-25 years of experience are evenly represented at 9% each.

Much research has shown that the ideal equation that is required to be adopted for financial management by an individual is 'Income - Investment and Savings = Expenses'. It was observed that most of the respondents, i.e., 50% have adopted the 'Income - Expenses = Savings' equation. 43% follow the 'Income - Investment and Savings = Expenses' equation. A very small proportion of 4% and 3% adopt 'Income= Investments' and 'Income= Expenses' respectively.

On being asked about the percentage of income earned that is kept aside for investments, 44% of the respondents are putting aside 5-10% of their income towards investments. 36% are seen to be investing 10-20% of their income. And an equal share of 18% are following 20-30% and 30% and more for the same.

AWARENESS OF INVESTMENT AVENUES

Age and Awareness of Investment Analysis

ANOVA analysis was performed to study whether the age of the respondents impacted their awareness on various investment avenues mentioned below in table 1.
Hypothesis 1:
Null Hypothesis(H_0): There is no significant association between age and awareness of investment avenues.
Null Hypothesis(H_1): There is a significant association between age and awareness of investment avenues.

Table 1. ANOVA between awareness of respondents on investment avenues and age of the respondents.

Investment Avenue	p-value - ANOVA	Inference
Fixed Deposits	0.000043180	There is significant association between age and awareness of fixed deposits
Bonds	0.7075445147	There is no significant association between age and awareness of bonds
PPF	0.003801179	There is significant association between age and awareness of PPF
Stocks	0.109004164	There is no significant association between age and awareness of stocks
Mutual Funds	0.02122701	There is significant association between age and awareness of mutual funds
ETF	0.323821658	There is no significant association between age and awareness of ETF
NPS	0.305384389	There is no significant association between age and awareness of NPS
Gold	0.000313619	There is significant association between age and awareness of gold
Real Estate	0.000334363	There is significant association between age and awareness of real estate

Source: Own work

It can be observed that Fixed deposits, Public Provident Fund, gold, mutual fund and real estate have a significant association between awareness on investment avenues and the age of respondents indicating that awareness of the above mentioned investment option tends to increase with age.

Correlation Between Age and Awareness of Investment Avenues

The heat map analysis was performed to understand the degree of correlation between awareness on various investment avenues and the age of the respondents.

Table 2. Correlation between age and awareness of investment avenues of the respondents with heatmap representation

	Age
Age	1
Awareness on Fixed deposits	0.15
Awareness on Bonds	-0.09
Awareness on Public Provident Fund (PPF)	0.07
Awareness on Stocks	-0.091
Awareness on Mutual funds	0.007
Awareness on Exchange-Traded Funds (ETF)	-0.04
Awareness on National Pension Scheme (NPS)	-0.04
Awareness on Gold	-0.15
Awareness on Real Estate	-0.15

Source: Own work

It can be observed that Fixed Deposit has a weak positive relation of 0.15 in terms of age of respondents and their awareness of the matter. Subsequently, a very weak and positive relation is seen in avenues Public Provident Fund and Mutual Funds. The rest of the factors have negative correlation. The lowest being gold and real estate at -0.15.

Gender and Awareness Analysis

ANOVA analysis was performed to study whether the gender of the respondents impacted their awareness on various investment avenues mentioned below in table 3.
Hypothesis 1:
Null Hypothesis(H_0): There is no significant association between gender and awareness of investment avenues.
Null Hypothesis(H_1): There is a significant association between gender and awareness of investment avenues.

Table 3. ANOVA between awareness of respondents on investment avenues and gender of the respondents

Investment Avenue	p-value - ANOVA	Inference
Fixed Deposits	2.89897330544738E-27	There is no significant association between gender and awareness of fixed deposits
Bonds	4.25549551496849E-11	There is no significant association between gender and awareness of bonds
PPF	1.28E-21	There is no significant association between gender and awareness of PPF
Stocks	7.48E-14	There is no significant association between gender and awareness of stocks
Mutual Funds	8.12E-18	There is no significant association between gender and awareness of mutual funds
ETF	4.07E-07	There is no significant association between gender and awareness of ETF
NPS	1.17E-13	There is no significant association between gender and awareness of NPS
Gold	6.78E-26	There is no significant association between gender and awareness of gold
Real Estate	1.47E-25	There is no significant association between gender and awareness of real estate

Source: Own work

It can be concluded from the above table that, there is no significant association between awareness on investment avenues with gender indicating that both genders are somewhat equally aware of the all the investment avenues.

Correlation Between Gender and Awareness of Investment Avenues

The heat map analysis was performed to understand the degree of correlation between awareness of various investment avenues and the gender of the respondents.

Table 4. Correlation between age and awareness of investment avenues of the respondents with heatmap representation

	Gender
Gender	1
Awareness on Fixed deposits	0.11
Awareness on Bonds	-0.14
Awareness on Public Provident Fund (PPF)	0.18
Awareness on Stocks	-0.22
Awareness on Mutual funds	-0.16
Awareness on Exchange-Traded Funds (ETF)	-0.16
Awareness on National Pension Scheme (NPS)	-0.06
Awareness on Gold	-0.07
Awareness on Real Estate	-0.02

Source: Own work

It can be observed that Fixed Deposit and PPF have the weak positive relation of 0.11 and 0.18 respectively in terms of gender of respondents and their awareness of the matter. Subsequently, the rest of the factors have a negative correlation. The lowest being mutual funds and ETF at -0.16.

Age and Preference Analysis

ANOVA analysis was performed to examine if the age of the respondents impacted their preference of various investment avenues mentioned below in table 5.
Hypothesis 1:
Null Hypothesis(H_0): There is no significant association between age and preference of investment avenues.
Null Hypothesis(H_1): There is a significant association between age and preference of investment avenues.

Table 5. ANOVA between preference of respondents for investment avenues and age of the respondents

Investment Avenue	p-value - ANOVA	Inference
Fixed Deposits	0.83265786	There is no significant association between age and preference of fixed deposits
Bonds	0.027899567	There is significant association between age and preference of bonds
PPF	0.570764836	There is no significant association between age and preference of PPF

Stocks	0.572492592	There is no significant association between age and preference of stocks
Mutual Funds	0.692254397	There is no significant association between age and preference of mutual funds
ETF	0.001403047	There is significant association between age and preference of ETF
NPS	0.243652351	There is no significant association between age and preference of NPS
Gold	0.005118838	There is significant association between age and preference of gold
Real Estate	0.001408446	There is significant association between age and preference of real estate

Source: Own work

It can be concluded from table 5, that bonds, ETF, gold, and real estate showed a significant association between preference of investment avenues and age of respondents indicating that older respondents have a slight preference for these investment options.

Correlation Between Age and Preference of Investment Avenues

The heat map analysis was performed to understand the degree of correlation between preference of various investment avenues and the age of the respondents.

Table 6. Correlation between age and preference of investment avenues of the respondents with heatmap representation

	Age
Age	1
Preference on Fixed deposits	-0.03
Preference on Bonds	0.12
Preference on Public Provident Fund (PPF)	-0.19
Preference on Stocks	0.01
Preference on Mutual funds	-0.05
Preference on Exchange-Traded Funds (ETF)	0.08
Preference on National Pension Scheme (NPS)	-0.05
Preference on Gold	-0.09
Preference on Real Estate	-0.28

Source: Own work

It can be observed that bonds and stocks have the weak positive relation of 0.12 and 0.01 respectively in terms of age of respondents and their preference over the matter. Subsequently, the rest of the factors have a negative correlation. The lowest being real estate and Public Provident Fund at -0.28 and -0.19.

Gender and Preference Analysis

ANOVA analysis was performed to examine if the gender of the respondents impacted their preference of various investment avenues mentioned below in table 7.
Hypothesis 1:
Null Hypothesis(H_0): There is no significant association between gender and preference of investment avenues.
Null Hypothesis(H_1): There is a significant association between gender and preference of investment avenues.

Table 7. ANOVA between preference of respondents on investment avenues and gender of the respondents

Investment Avenue	p-value - ANOVA	Inference
Fixed Deposits	2.63E-15	There is no significant association between gender and preference of fixed deposits
Bonds	6E-22	There is no significant association between gender and preference of bonds
PPF	1.88E-12	There is no significant association between gender and preference of PPF
Stocks	2.73E-12	There is no significant association between gender and preference of stocks
Mutual Funds	1.51E-13	There is no significant association between gender and preference of mutual funds
ETF	2.34E-23	There is no significant association between gender and preference of ETF
NPS	7.23E-16	There is no significant association between gender and preference of NPS
Gold	0.000106	There is significant association between gender and preference of gold
Real Estate	0.003864	There is significant association between gender and preference of real estate

Source: Own work

It can be observed from the above table that gold and real estate showed a significant association between preference on investment avenues and the gender of respondents.

Correlation Between Gender and Preference of Investment Avenues

The heat map analysis was performed to understand the degree of correlation between preference of various investment avenues and the gender of the respondents.

Table 8. Correlation between gender and preference of investment avenues of the respondents with heatmap representation

	Gender
Gender	1
Preference on Fixed deposits	-0.30
Preference on Bonds	0.01
Preference on Public Provident Fund (PPF)	-0.06
Preference on Stocks	-0.20
Preference on Mutual funds	-0.39
Preference on Exchange-Traded Funds (ETF)	-0.04
Preference on National Pension Scheme (NPS)	-0.23
Preference on Gold	0.19
Preference on Real Estate	-0.20

Source: Own work

It can be observed that gold and bonds have a weak positive relation of 0.19 and 0.01 respectively in terms of gender of respondents and their preference over the matter. Subsequently, the rest of the factors have a negative correlation. The lowest being mutual funds and fixed deposits at -0.39 and -0.30.

Awareness on Sustainable Investment

On awareness of sustainable investment, most of the respondents, i.e, 31% are very aware and 22% are aware about the concept of sustainable investment. 12% and 9% were very unaware and unaware, respectively. This is followed by 26% of the total are neither aware nor unaware about the same.

The survey showed that 31% of the respondents are making sustainable investments and 31% have shown positive willingness to begin in future. Relative proportion of respondents, i.e, 29% are not making any sustainable investments. 9% are not making any sustainable investments nor planning to commence it in future.

PERCEPTION ON SUSTAINABLE INVESTMENTS

Perception on Positive impact on society through Sustainable Investments

Table 9. Perception of respondents on positive impact on society through sustainable investments

Category	Value	Frequency	f × x	Std Deviation	Weighted Squared Deviation
Strongly Agree	5	34	170	2.77	94.18
Agree	4	24	96	0.44	10.56
Neutral	3	28	84	0.11	3.08
Disagree	2	8	16	1.80	14.40
Strongly Disagree	1	22	22	5.47	120.34
Total		**116**	**388**		**242.56**

Source: Own work

Summary Table

Statistical Measure	Value
Mean	3.34
Variance	2.09
Standard Deviation	1.44

Source: Own work

The mean value of 3.34 indicates that the average opinion of the respondents is between "Neutral" and "Agree". This suggests that on average, respondents have a positive view on the impact of sustainable investments. A standard deviation of 1.44 reflects a moderate level of variability in the responses. This means there is some diversity in opinions, with respondents' views ranging from strong disagreement to strong agreement, but most responses are clustered around the average of slightly above "Neutral". The results show that while respondents generally have a somewhat positive perception of the impact of sustainable investments, there is a notable spread in their opinions, indicating varying levels of belief in the positive impact.

Perception on Sustainable Investments providing better returns than Traditional Investments

Table 10. Perception of respondents on Sustainable Investments providing better returns than Traditional Investments

Category	Value	Frequency	f × x	Std Deviation	Weighted Squared Deviation
Strongly Agree	5	14	70	3.64	50.96
Agree	4	18	72	0.83	14.94
Neutral	3	56	168	0.01	0.56
Disagree	2	20	40	1.21	24.20

Strongly Disagree	1	8	8	4.36	34.88
Total		**116**	**358**		**125.54**

Source: Own work

Summary Table

Statistical Measure	Value
Mean	3.09
Variance	1.08
Standard Deviation	1.04

Source: Own work

The mean of 3.09 indicates that, on average, respondents are slightly above "Neutral" on the scale, suggesting a mild positive perception of the financial returns from sustainable investments compared to traditional ones. A standard deviation of 1.04 reflects moderate variability in the responses. This suggests that while there is a central tendency towards being slightly positive or neutral, there is a reasonable amount of spread in how strongly respondents feel about the returns from sustainable investments. The analysis indicates that respondents generally have a positive view of sustainable investments providing better financial returns, but then there is a noticeable range of opinions.

FINDINGS

ANOVA analysis on awareness on investment avenues with age indicates that Fixed deposits, Public Provident Fund, gold, mutual fund, and real estate showed a significant association between awareness on investment avenues and age of respondents. It is observed that Fixed Deposit has the highest weak positive relation of 0.15 in terms of age of respondents and their awareness of the matter. Subsequently, a very weak and positive relation is seen in avenues Public Provident Fund and Mutual Funds. The rest of the factors have a negative correlation. The lowest being gold and real estate at -0.15.

ANOVA analysis on awareness on investment avenues with gender shows that there is no significant association between awareness on investment avenues with gender. It is observed that Fixed Deposit and PPF have the highest weak positive relation of 0.11 and 0.18 respectively in terms of gender of respondents and their awareness of the matter. Subsequently, the rest of the factors have a negative correlation. The lowest being mutual funds and ETF at -0.16.

ANOVA analysis on preference on investment avenues with age suggest that Bonds, ETF, gold, and real estate showed a significant association between preference on investment avenues and age of respondents. It is observed that bonds and stocks have the highest weak positive relation of 0.12 and 0.01 respectively in terms of age of respondents and their preference over the matter. Subsequently, the rest of the factors have a negative correlation. The lowest being real estate and Public Provident Fund at -0.28 and -0.19.

ANOVA analysis on preference on investment avenues with gender indicated that Gold and real estate showed a significant association between preference on investment avenues and gender of respondents. It is observed that gold and bonds have the highest weak positive relation of 0.19 and 0.01 respectively in terms of gender of respondents and their preference over the matter.

Subsequently, the rest of the factors have a negative correlation. The lowest being mutual funds and fixed deposits at -0.39 and -0.30.

Awareness on sustainable investing shows that most of the respondents, i.e, 31% are very aware and 22% are aware about the concept of sustainable investment. This is followed by 26% of the total are either aware or unaware about the same. 31% of the respondents are making sustainable investments and 31% have shown positive willingness to begin in the future.

The analysis suggests that while respondents generally have a somewhat positive perception of the impact of sustainable investments, there is a notable spread in their opinions, indicating varying levels of belief in the positive impact.The analysis indicates that respondents generally have a positive view of sustainable investments providing better financial returns, but then there is a noticeable range of opinions.

DISCUSSION

The analysis indicates that awareness of different investment options, such as fixed deposits, public provident funds, gold, mutual funds, and real estate, varies significantly with age. Older respondents tend to have slightly higher awareness of traditional, low-risk investment avenues like fixed deposits and public provident funds. In contrast, awareness of investments like gold and real estate shows a negative correlation with age, suggesting that younger individuals may be less informed or less interested in these options. This trend might reflect generational differences in financial education, investment preferences, or access to financial products. Interestingly, gender does not seem to play a significant role in determining awareness levels, although a weak positive correlation exists for some investment options, like fixed deposits and public provident funds. This finding suggests that awareness campaigns and educational efforts may need to consider factors beyond gender, such as financial literacy, access to information, or cultural influences. Educational efforts to educate the fundamentals of investing, such as risk and return, diversity, and compounding, in communities, colleges, and schools should be initiated. Seminars and workshops led by financial specialists about various investment options, including stocks, bonds, mutual funds, real estate, and retirement accounts should be arranged. To raise public awareness of the value of financial literacy and investing for the future, start campaigns in print, radio, television, and social media.

When considering preferences for different investment avenues, age emerges again as an important factor. The analysis suggests that older respondents show a slight preference for bonds and stocks, which are often viewed as safer or more traditional investments. Conversely, younger respondents may prefer other types of investments, such as real estate or ETFs, despite these having lower correlation scores. The significant negative correlations for real estate and public provident funds indicate that younger investors may prioritize flexibility and liquidity over long-term, less liquid investments. Gender differences in investment preferences are evident for certain avenues, such as gold and real estate, which show a significant association with gender. However, negative correlations for mutual funds and fixed deposits suggest that these are less favoured by certain gender groups. These findings underline the importance of understanding demographic-specific preferences when developing financial products and marketing strategies.

The study also highlights a considerable level of awareness and a generally positive perception of sustainable investing. A substantial proportion of respondents are either aware or very aware of sustainable investment concepts, and many are already engaging in such investments or express willingness to do so in the future. This trend reflects a growing interest in aligning financial decisions with ethical and environmental considerations. However, the range of opinions about the impact and financial returns of sustainable investments suggests that there is still some uncertainty among potential investors. This may be due to a lack of clear information on the benefits, performance, and risks associated with sustainable investments. To further promote sustainable investing, it is essential to address these concerns by providing transparent data and evidence of its long-term benefits, both financially and socially. It is important to create awareness and promoting ESG investing among investors through incentivization and sensitization.

Few more suggestions include working together with financial institutions: to provide workshops and instructional materials to their clientele and the broader community. Government Support in the form of laws that encourage financial literacy and offer tax breaks or other financial aid to encourage investing in ESG. To address particular investment problems and offer customized advice, interact with local communities through forums, events, and outreach initiatives. Establishment of investment clubs or peer learning groups can help people to interact with one another and exchange experiences, knowledge, and investing techniques in a friendly setting.

Overall, the findings illustrate the complex interplay between age, gender, and investment behaviour, emphasizing the need for tailored approaches in financial education and investment strategies. Improving awareness on investment avenues is crucial for helping people make informed decisions about their financial future. The goal setting can be practiced using the SMART technique suggested by many experts in the field. It incorporates S - Smart goals, M - Measurable goals, A - Achievable goals, R - Relevant goals, and T - Time-bound goals. The study also underscores the increasing importance of sustainable investing, indicating both a market opportunity and a need for greater clarity and communication around its benefits. Moving forward, financial institutions, policymakers, and educators should consider these demographic dynamics to foster more informed and inclusive investment practices.

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EUROPEAN FUNDS – THE ENGINE OF ROMANIAN ECONOMIC DEVELOPMENT

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Iulia Alexandra OPREA
Phd., Doctoral School Economics II
Bucharest University of Economic Studies, Bucharest, Romania
ORCID: 0009-0009-2000-4045
*E-mail:*iulia.oprea18@yahoo.com

Alexandra NEDELCU
Phd., Doctoral School Economics II
Bucharest University of Economic Studies, Bucharest, Romania
ORCID: 0009-0003-5241-802X
*E-mail:*alexandranedelcu0@yahoo.com

Ioan Andrei BULGARU
Phd., Doctoral School International Economic Relations
Bucharest University of Economic Studies, Bucharest, Romania
ORCID: 0000-0003-3025-8726
E-mail: andrei.bulgaru@gmail.com

Abstract: *The paper aims to analyze the role of European funds in the economic development process of Romania, following its accession to the European Union in 2007. Access to these funds was an essential factor in supporting the modernization of infrastructure, improving living conditions and stimulating economic growth. The study explores how Romania has capitalized on European financial resources to implement infrastructure, education, health and innovation projects, and how these have contributed to the consolidation of the national economy. In addition, the positive impact of structural funds on job creation and the reduction of regional disparities is analyzed. The paper demonstrates that European funds have played a determining role in Romania's economic development, contributing significantly to its evolution internationally. Once again, the paper highlights the challenges encountered in the process of absorbing European funds, as well as the lessons learned, which can serve as a basis for creating future strategies for the efficient use of available resources.*

Keywords: *Economic development, Structural funds, rural, agriculture.*

JEL Classification: *Q5.*

INTRODUCTION

With the advent of the 20th century, when physical labor began to be replaced by machines and intellectual labor, there was an increased interest of people to migrate from rural to urban areas, but technology brought multiple benefits to the rural environment through the development of machinery that led to a significant increase in the production capacity of the land, as well as for the development of the natural habitat.

Over time, the labor force in the years when socialism was in power, an increasing share of the number of employees in the total employed population is noted, so in 1950 employees had 25.3% of the employed population, and in 1970 their share had doubled, reaching 52.6%. Romania's labor force was made up of engineers and specialized technicians.

The expansion brought by technological equipment created a wave of development of both spaces, both urban and rural, by improving the quality of life, developing access routes between villages and cities, modernizing villages by connecting them to electricity and drinking water networks, in return in the rural area non-agricultural activities were developed, introducing techniques and technologies beneficial to both types of environments, developing new relationships that generated a qualitative and quantitative increase in the environment. In Romania after the 1989 revolution, the rural area experienced a new stage of change, defined by economic difficulties of the environment. The economic restructuring in this stage determined at least for a period of 10 years a last refuge for part of the population affected by the precarious economy of the period in the rural area focusing on semi-subsistence agricultural activities. The changes brought about after 1989, such as deindustrialization, migration from urban to rural areas, and the practice of subsistence activities on a large scale, have led to major changes in the activities of the population.

During the period 1990-2000, Romania experienced an intense phenomenon of external migration, mainly determined by the difficult transition from a planned to a market economy. This transition led to the closure of many state-owned enterprises, generating a significant increase in unemployment and an acute shortage of jobs. In search of better living conditions, many Romanians emigrated, heading mainly to Western European countries, such as Italy, Spain and Germany. Economic migration had a considerable impact on the demographic structure, affecting in particular rural areas and small towns, from where the departures were most numerous.

Romania's accession to the European Union, on 1 January 2007, marked a crucial moment in the country's economic and social evolution. European integration opened access to structural and cohesion funds, which were used for the modernization of infrastructure, the regional development of agriculture, support for small and medium-sized enterprises, as well as for investments in education and health. Regional development is a concept that aims to boost and diversify economic activities, stimulate private sector investment, contribute to reducing unemployment and, last but not least, improve living standards and welfare. (Ancuța Simona ROTARU, 2024)

At the same time, accession has favored the growth of exports and the attraction of foreign direct investment, which has contributed to the creation of jobs and the diversification of the economy. On the social level, free movement within the European space has allowed Romanians to travel, work and study in other member states, thus contributing to the improvement of living standards and the increase of professional skills. In the long term, accession to the EU has strengthened the democratic framework and accelerated the reforms necessary to align with European standards, laying the foundations for sustainable development.

Rural development can be described as a process that has the role of bringing about changes in a community. ((Marin), 2022)

THE STAGE OF KNOWING THE PROBLEM

Romania's accession to the European Union in 2007 had a profound impact on the country's social dynamics, influencing both living conditions and social structures. The post-accession period was characterized by significant transformations in various areas, such as the labor market, education, migration and social inclusion. Access to European funds contributed to reducing regional disparities and improving social infrastructure, but the challenges related to social inequalities and the inclusion of vulnerable groups remained central themes of analysis.

This period provides a complex framework for understanding how European and national policies influenced social cohesion, migration and the integration into society of different categories of the population. Over the years, many empirical studies have been conducted on this field of activity, but the perspectives are contradictory. An eloquent example is Barro and Sala-i-Martin, who argue that the migration phenomenon in the United States and Japan has "positive effects, especially on the long-term growth rate" (European Commission, European Agenda on Migration: continued efforts to support progress, Brussels, 14 March 2018). (Ioana Manuela MÎNDRICAN, 2023)

RESEARCH METHODOLOGY

To develop the methodology of this case study, classical observation and analysis tools were used. Factual analysis-based procedures were applied and extensive documentation of the available literature in this emerging field was carried out. The methodology of the work includes direct collection of information from specialized sources and from the practice of relevant public institutions in Romania, such as MARD and INSSE, along with data from reference platforms.

ANALYSIS AND RESULTS

The social analysis determined that following Romania's accession to the EU, for the purpose of the country's economic and social development through regional development policy, the 42 counties were divided into eight development regions.

Romania in 2024 is made up of 320 cities, 2858 communes and 13,288 villages. At the territorial level, we find 42 counties, including the municipality of Bucharest.

Romania's population in 2007 was 21.5 million inhabitants, currently being over 19.06 million inhabitants, although a drastic decrease is observed compared to the first reference year, the country is in a slight increase compared to previous years.

Since accessing European funds during the 2007-2013 programming period led to Romania's economic and social development, absorption procedures continued during the 2014-2020 period, but in the analysis to be presented over a 3-year period (2021-2023), we will highlight aspects related to both the social and economic aspects.

UM: people

Tabel 1. Resident population by development regions

Resident population by development regions			
Region	**2021**	**2022**	**2023**
NORTHWEST	2,552,470	2,547,429	2,537,017
CENTER	2,318,459	2,314,826	2,302,833
NORTHEAST	3,202,800	3,184,215	3,163,465
SOUTHEAST	2,398,402	2,377,101	2,351,636
SOUTHWEST MUNTANIA	2,930,686	2,901,376	2,868,994
BUCHAREST-ILFOV	2,318,109	2,322,002	2,327,057
SOUTHWEST OLTENIA	1,927,215	1,910,409	1,892,078
WEST	1,777,732	1,771,480	1,758,582

Source: Own take after ins.ro

Regarding the resident population of Romania, divided by development regions, it was determined that the country's population, with the exception of the Bucharest-Ilfov region, is in continuous decline, the main causative factors being continuous migration, the mortality rate which is much higher than the live birth rate, but also the lack of jobs, especially in precarious times, when the COVID-19 pandemic has caused a global disruption of all existing activities, but the Bucharest-Ilfov region continues in this delicate period to experience a slight annual increase, the main causes being the wider opening market, as well as numerous employment opportunities, but let's not forget about much more advantageous salary possibilities. Unfortunately, at the opposite pole is Southeast Oltenia, where the population is decreasing annually, the rate of internal or external population migration is experiencing continuous increases due to the desire for a better life, as well as the aging population.

UM: people

Tabel 2. Permanent emigrations

Permanent emigrations			
Region	**2021**	**2022**	**2023**
NORTHWEST	2.996	2.895	1.906
CENTER	3.043	2.810	2.087
NORTHEAST	5.486	5.945	4.976
SOUTHEAST	3.639	3.564	2.713
SOUTHWEST MUNTANIA	2.816	2.664	2.080
BUCHAREST-ILFOV	4.549	4.411	3.538
SOUTHWEST OLTENIA	1.470	1.497	1.114
WEST	3.330	3.189	2.617

Source: Own take after ins.ro

From the indicators presented in the previous table, it can be deduced that over the three years, emigration at the total country level has been continuously decreasing, but reaching an analysis by development regions, we determined that massive emigration comes from the Center, Southeast and West regions.

The increasingly low emigration at the country level is primarily due to the reduction of territorial gaps and disparities in recent years, as well as the patriotism of citizens. It should be remembered, however, that in the period 2020-2021, the pandemic caused by Covid19 broke out, which made it more difficult for the population to emigrate globally due to the sanctions imposed to reduce the spread of the virus. However, it can be noted that in 2023, at the level of all regions, emigration is increasingly lower, thus leading us to think that due to national economic development, emigration has decreased.

UM: people

Tabel 3. Permanent emigrations

Permanent emigrations			
Region	**2021**	**2022**	**2023**
NORTHWEST	5.094.288	5.209.493	5.364.938
CENTER	700.660	716.923	736.594
NORTHEAST	645.250	663.288	679.909
SOUTHEAST	577.197	591.148	615.034
SOUTHWEST MUNTANIA	546.376	557.912	570.290
BUCHAREST-ILFOV	581.037	591.515	603.647
SOUTHWEST OLTENIA	1.128.127	1.155.190	1.205.583
WEST	402.506	409.183	418.842

Source: Own take after ins.ro

In the last three years, the Romanian labor market has experienced a remarkable positive evolution, reflected in the considerable increase in the number of employees. This upward trend is largely due to economic development and strategic investments financed by European structural funds.

Projects implemented in the fields of infrastructure, education, health and regional development have created new employment opportunities, contributing to the revitalization of key economic sectors. For example, programs dedicated to supporting entrepreneurship and developing professional skills have allowed the integration of a significant number of people into the labor market, reducing the unemployment rate and stimulating labor mobility.

At the same time, the efficient use of structural funds in supporting SMEs and the modernization of industry has led to the creation of well-paid jobs, contributing to the stabilization and increase of the purchasing power of the population. These investments have had a lasting impact on the Romanian economy, consolidating the foundations of a dynamic and competitive labor market.

The increase in the number of employees in Romania is not just a positive statistic, but an indicator of the efficiency of using European funds to create a sustainable and prosperous economic environment.

Thus, from the data presented in the table, an annual increase in the number of employees was determined in all eight development regions.

UM: ha

Tabel 4. Area cultivated with main crops

Area cultivated with main crops			
Region	**2021**	**2022**	**2023**
NORTHWEST	5.094.288	5.209.493	5.364.938
CENTER	700.660	716.923	736.594
NORTHEAST	645.250	663.288	679.909
SOUTHEAST	577.197	591.148	615.034
SOUTHWEST MUNTANIA	546.376	557.912	570.290
BUCHAREST-ILFOV	581.037	591.515	603.647
SOUTHWEST OLTENIA	1.128.127	1.155.190	1.205.583
WEST	402.506	409.183	418.842
TOTAL	513.135	524.334	535.039

Source: Own take after ins.ro

Romanian agriculture has made significant progress in recent years, marked by a steady increase in the areas cultivated with the main agricultural crops in all development regions. This trend reflects not only the country's high agricultural potential, but also the sustained efforts to modernize and optimize the sector.

The increase in cultivated areas is determined by several factors, including the adoption of modern agricultural technologies, the financial support provided through European and national subsidies, as well as improved access to agricultural resources. Basic crops, such as wheat, corn, sunflower and rapeseed, have benefited from favorable conditions for the expansion of areas due to high demand on domestic and international markets.

Recent agricultural policies have also encouraged farmer associations, more efficient resource management and the implementation of sustainable practices, which has led to a more intensive and efficient use of available land. In parallel, better access to high-performance agricultural equipment and modern irrigation has allowed the expansion of cultivated areas in areas previously considered less productive.

The highest productivity in agriculture is found in the North-West region with 5,364,938 ha worked, but at the opposite pole is the BUCURESTI-ILFOV region with only 603,647 ha. The discrepancy between the two regions is given by the fact that in the Bucharest-Ilfov region, activities related more to office work are carried out, compared to the North-West region where the activity is given by agricultural work.

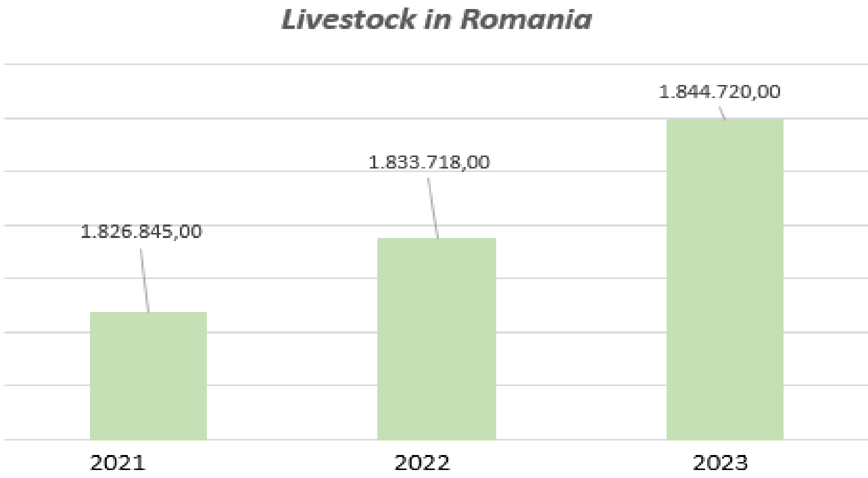

Figure 1. Livestock in Romania
Source: Own take after ins.ro

In recent years, the livestock population in Romania has registered a steady increase, reflecting the sustainable development of the livestock sector. This positive trend is the result of strategic measures and sustained investments in the modernization of farms and the improvement of animal husbandry conditions.

This evolution is supported by European subsidy and funding programs, which encourage the expansion of farms and the adoption of modern animal husbandry practices.
In addition, farmers have started to use advanced nutrition and management technologies, which contribute to animal health and welfare.

This continuous increase in livestock populations not only supports the rural economy, but also contributes to consolidating Romania's position as a major producer in the European agro-zootechnical field. Romania is thus becoming a success story in capitalizing on its agricultural and zootechnical potential, while also guaranteeing the long-term sustainability of the sector.

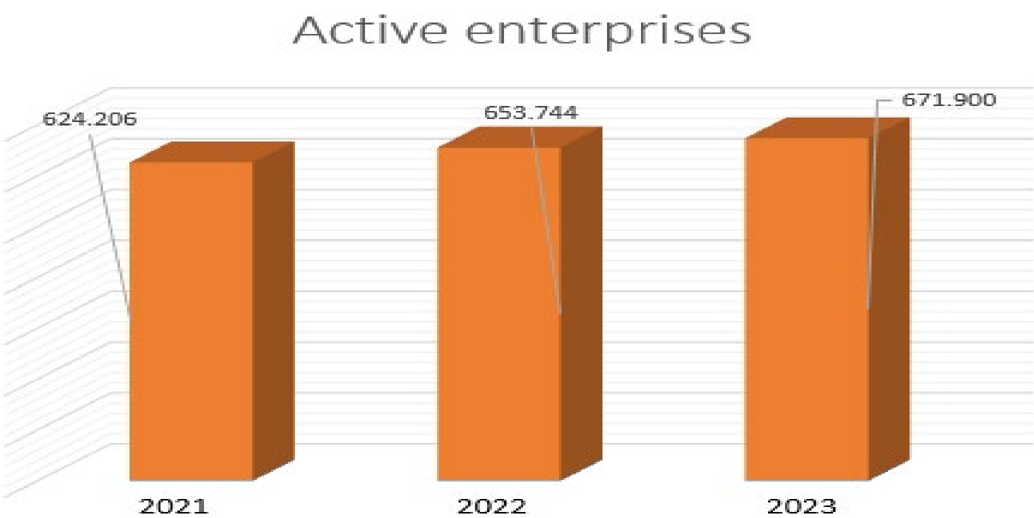

Figure 1. Active enterprises
Source: Own take after ins.ro

The number of active enterprises in Romania is on an upward trend, reflecting a revitalization of the business environment and increased confidence in the economic opportunities offered by the local market. This growth highlights not only the increased interest of Romanian entrepreneurs, but also the attraction that Romania exerts for foreign investors. Also, the support of entrepreneurship through government and European programs, such as Start-Up Nation and other non-reimbursable financing schemes, have encouraged the launch of new businesses, especially in emerging and technological sectors.This growth not only supports economic development, but also contributes to the creation of new jobs, the reduction of unemployment and economic diversification. Romania is thus becoming an increasingly competitive environment for business initiatives, strengthening its economic base and encouraging a more sustainable economy.

CONCLUSIONS

Since 2007, when Romania became a member state of the European Union, the country has entered a period of continuous development, marked by economic growth and the implementation of significant reforms. Access to structural funds has played an essential role in this process, supporting the modernization of infrastructure in rural and urban areas, the development of the private sector and the improvement of public services. In addition, integration into the European Union has brought a series of opportunities, from access to European markets to the consolidation of institutions and the rule of law. Thus, both accession to the European Union and the use of European funds have had a positive impact on Romania's economy and social development, consolidating its position as a state on the rise internationally.

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FINANCIAL RISK MANAGEMENT MECHANISMS IN THE FIELD OF BUDGETARY AND FISCAL RELATIONS IN THE CONTEXT OF DIGITAL TRANSFORMATIONS OF THE BUDGETARY PROCESS

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Mariana PRUTEANU
PhD student,
Academy of Economic Studies of Moldova, Moldova
ORCID: 0009-0003-6039-7329
E-mail: mariana.pruteanu.md@gmail.com

Summary: *The digital transformation of all spheres of the contemporary social-economic reproduction process, accentuated by the COVID-19 pandemic, has gained unprecedented scope in the last period of time. Remote work, e-commerce and online banking have become quite common in people's daily lives. Contemporary systemic transformations have amplified the penetration of digital tools in the private sector of the world's states, but in the public sector of national economies. The purpose of the article is to analyze the impact of digital transformations on the national budgetary and fiscal field in order to highlight the financial risks in the field and determine effective mechanisms to mitigate them. The study is based on the hypothesis that determining the impact of digital transformation in the field of budgetary and fiscal relations can contribute to the adjustment of state and municipal program documents in the field of the digital economy, which will allow highlighting the mechanisms for mitigating the financial risks of not achieving key indicators performance of the budget process. The methodological basis of the research includes general scientific methods of analysis and synthesis, induction, deduction, comparison, methods of scientific abstraction, grouping, generalization, formalization, systematization.*

Key words: *digitization, financial risk, budgetary-fiscal administration, big data, e-government, digital transformation, budgetary and fiscal relations, cyber security.*

JEL Classification: *O38, H20, H71.*

INTRODUCTION

In the current context, the use of modern digital technologies profoundly influences all areas of human activity, causing essential transformations in the way data is collected, processed, analyzed and used. This significant change offers unprecedented qualitative opportunities, helping to optimize decision-making processes and increase efficiency in various sectors.

Regardless of the specifics of the field, a central objective of the actors involved in economic, social or institutional relations is to speed up the processes of information collection and processing. In this sense, the ability to manage data and transform it into "digital intelligence" becomes a fundamental strategic resource capable of supporting competitiveness and innovation in a dynamic global environment.

Contemporary digital transformations highlight the crucial importance of investing in advanced technologies and robust digital infrastructures to enable the full potential of data and meet the complex demands of today's society. In a global environment characterized by dynamism and competitiveness, the adoption of innovative technologies becomes a strategic factor for increasing economic efficiency and adapting to the challenges of a digital ecosystem.

In this context, a series of innovative technologies with a major impact on the digital transformation of the economy can be distinguished. Among them, *the Internet of Things (IoT)* plays a key role in interconnecting devices and generating large volumes of data relevant to economic processes. *Virtualization technologies*, which facilitate remote access to information and services, help increase organizational flexibility and optimize resources. At the same time, *mobile technologies and multi-channel communications* enable faster and more efficient interactions between economic actors and consumers.

Digitalization is transforming the way economic actors and consumers interact, making these exchanges faster and more efficient. A key driver of this transformation is *Big Data analytics*, which enables businesses and institutions to extract valuable insights from vast and diverse data sets. These insights enhance decision-making and help shape predictive strategies that drive progress.

Artificial intelligence (AI) also plays a crucial role by automating processes and developing smart solutions across various fields, from healthcare and education to commerce and public administration. Meanwhile, *cloud computing* ensures seamless data storage and processing, reducing operational costs and making information more accessible.

In addition, *digital platforms* provide the necessary infrastructure for global economic and social interactions, fostering connectivity and innovation. Integrating these advanced technologies into economic and social systems is no longer just an advantage—it is essential for ensuring long-term sustainability and competitiveness. Organizations and national economies must adapt swiftly to the rapid changes brought by the digital era to remain resilient and forward-thinking.

In the Republic of Moldova, this accelerated shift toward digitalization presents both significant opportunities and complex challenges, particularly in budgetary and fiscal management. As the digital economy evolves, there is a growing need to develop and implement effective financial risk management strategies that will strengthen economic stability in this new digital landscape. This is especially important as modern technologies, while improving tax administration efficiency, also introduce concerns related to data security, regulatory compliance, and institutional adaptation.

The purpose *of the research* consists in the analysis and development of financial risk management mechanisms within the budgetary and fiscal relations, considering the influence of digital transformations on the budgetary process. The study aims to identify methods and tools that can be used to minimize risks and increase the efficiency of fiscal planning, administration and monitoring processes.

The research methodology is based on a comparative approach to international practices in the field of fiscal digitization, on the analysis of statistical data on the performance of the IT sector in the Republic of Moldova and on the use of modeling tools to identify the most effective financial risk management solutions. The study also adopts an interdisciplinary perspective, integrating economic, technological and legal aspects to provide a comprehensive understanding of the challenges and opportunities in this field.

In conclusion, the research contributes to the deepening of the understanding of the mechanisms necessary for an efficient management of financial risks in budgetary and fiscal relations, at the same time strengthening the theoretical and applied framework for the development of policies adapted to the requirements of the digital economy.

ANALYSIS OF INTERNATIONAL PRACTICES AND NATIONAL PERFORMANCES IN THE DIGITIZATION OF THE FIELD OF BUDGETARY AND FISCAL RELATIONS

In recent years, the Republic of Moldova has registered a rapid development in the information and digital technologies sector, a fact that is reflected in several significant indicators, emphasizing the importance of this sector in the consolidation of the national economy and in the integration of the country into the global digital ecosystem.

One of the most relevant indicators is *the increase in the number of IT companies* and their impact on the national economy. In 2022, the turnover of Moldova IT Park residents reached 10.18 billion lei, registering an increase of 48% compared to 2021. This performance reflects the competitiveness and attractiveness of the IT sector, which plays an increasingly important role in the country's economy.

Exports of IT services have also seen significant growth. According to data from the National Bureau of Statistics, these exports underline the competitiveness of local expertise on the international market and contribute to strengthening the position of the Republic of Moldova in global value chains.

Another essential aspect ***is the increase in the number of IT professionals***, which exceeded 18,700 in 2022 (*Moldova IT Park, 2022*). In 2023, approximately 4.5% of all people employed in the Republic of Moldova, i.e. over 26,300 specialists, worked in the IT sector, directly contributing 6.7% to the GDP. This result is supported by educational initiatives and training programs carried out at the national level, having a direct impact on the development of qualified human capital in the field of digital technologies.

Regarding ***the development of the digital infrastructure***, the adoption of advanced technologies, such as 5G, and the improvement of the quality of Internet services are strategic priorities. These initiatives contribute to creating a favorable environment for innovation and digital connectivity (*Ministry of Education and Research*).

The contribution of the IT sector to the state budget is remarkable, with ***tax revenues generated by IT*** companies exceeding 1 billion lei in 2022, which reflects the strategic importance of this field for the financial stability of the country. At the same time, ***public expenditures for digitization***, which represent approximately 2% of the national budget, demonstrate the commitment of the Republic of Moldova to invest in the modernization of public services and the integration of electronic solutions (State Fiscal Service of the Republic of Moldova, 2022).

These indicators underline the significant potential of the IT sector in the digital transformation process of the Republic of Moldova, strengthening the country's position as an emerging actor on the stage of the global digital economy.

These data underline the strategic importance of the IT sector both for stimulating economic growth and for ensuring the fiscal sustainability of the Republic of Moldova. However, maintaining and accelerating this progress requires the adoption of essential measures, such as supporting IT enterprises through favorable fiscal and financial policies, increasing the level of digital literacy among the population to support the transition to a digital economy, and strengthening a stable and predictable legal framework to stimulate innovation and investment in the sector. These initiatives are indispensable to maximize the potential of the IT sector in the digital transformation process and to strengthen the country's long-term economic and fiscal resilience.

According to the United Nations e-Government Survey, 58 countries recorded "very high" EGDI scores in the 0.75–1.00 range in 2022, highlighting steady progress in the development of e-government globally. In comparison, the number of these countries was 57 in 2020, 40 in 2018 and 29 in 2016 (United Nations, 2024). According to the UN e-Government Survey 2024, the Republic of Moldova ranked 42nd in the e-Government Development Index (EGDI), obtaining a score of 0.8162, which places it in the "very high" EGDI category. Comparatively, in 2020 Moldova was in 47th place, with a score of 0.8042, and in 2018, in 49th place, with a score of 0.7920. These data underline the country's significant progress towards the implementation and development of e-government services.

Table 1. Electronic Government Ranking in European Countries – 2022

Country	Ranking Position	Score	Remarks
Estonia	1	0.9751	World leader in e-government, fully digital system
Denmark	2	0.954	Advanced electronic public service system, trust in digital government

Finland	3	0.9487	Advanced digital governance infrastructure, wide adoption of e-services
Sweden	4	0.9443	Well-developed digital government system, easy access to public services
Lithuania	8	0.911	A growing digital governance system with notable results

Source: developed by the author in the United Nations E-Government Survey 2024 bazaar

These data reflect a significant increase in the IT potential of states globally in the field of central and local public administration. In this context, the International I-DESI Index, developed by the European Commission, represents an important tool for analyzing the development of the digital economy in the Republic of Moldova. This index evaluates the level of efficiency of the development of the digital economy both within each European Union member country and the European Union as a whole, compared to 19 other states, including the Republic of Moldova.

The Republic of Moldova, although it is not a member of the European Union, is included in the evaluations made by the International I-DESI Index. This digital tool, developed by the European Commission, analyzes the performances in the development of the digital economy of the member states of the European Union, as well as of other countries in the region, including the Republic of Moldova. I-DESI serves as a mechanism for monitoring progress in the implementation of digital programs, providing a comparative perspective on the level of digital integration and economic efficiency of the analyzed states.

Between 2022 and 2023, the Republic of Moldova registers a significant improvement in its score compared to the member states of the European Union, reflecting the notable progress made in the digitization process. Thus, it is important to emphasize that, compared to previous years, significant advances have been made in the digitization of public administration and in the provision of online public services, strengthening the country's ability to align itself with European standards in the field of electronic government.

At the same time, according to the Global Innovation Index 2023 published by the World Intellectual Property Organization (WIPO), the Republic of Moldova ranks 64 out of 132 countries, which indicates the need to further develop innovation capacity and digital infrastructure. The leading positions are occupied by Switzerland (1st place), which demonstrates a high level of innovative development due to significant investments in research, education and the creation of an advanced research infrastructure; Sweden (2nd place), which is distinguished by sustainable state support for innovation and a developed scientific ecosystem; and the USA (3rd place), a leader in advanced technologies, venture capital and the commercialization of scientific developments. Moldova lags behind the European Union, North America and East Asia. The digital transformation of the economy is one of the main priorities and is included in the national socio-economic development priorities of all developed countries of the world, and the Republic of Moldova is no exception, as can be seen from the results of the international rankings above (World Intellectual Property Organization (WIPO), 2023).

Based on the results of the research analysis, it can be concluded that the Republic of Moldova has a significant potential for the development of digital technologies, but insufficiently developed public and private institutions and the financial market, as well as gaps in the regulatory framework are factors that reduce the country's competitiveness on the global digital market and contribute to the increase of risks and threats in all sectors of the national economy, including in the field of budgetary and financial relations.

NATIONAL PROGRAMS FOR THE DIGITIZATION OF THE ECONOMY IN THE CONTEXT OF FINANCIAL RISK MANAGEMENT IN THE FIELD OF BUDGETARY AND FISCAL RELATIONS

The development of the digital economy and the digitization of public administration constitute significant challenges for the state in managing the new economic and institutional reality. The current trends in the digitalization field reflect an emerging stage in the evolution of the digital economy, marked by the phenomenon of "uberization" of the economy, characterized by digital platforms that redefine traditional business models and economic interactions.

Considering the above, the improvement and dissemination of information technologies require the adaptation of the transformation of the public administration system by strengthening the normative and legal framework, optimizing the regulatory and control sector of economic relations, in the context of the digitalization of the economy and the new challenges imposed by it.

In the current context, the state is faced with a significant challenge, considering that, in addition to the need to maintain an adequate level of competition in the market, it also needs to have complete and accurate information about economic processes, transactions carried out and other essential aspects in order to be able to make informed decisions. At the same time, a significant gap between the level of development of the digital technologies of the economic actors and that of the digitization of the state can lead to its inability to effectively control and coordinate socio-economic processes. This discrepancy can also affect the state's ability to adapt fiscal policy and the tax system to rapid developments in the economy, thereby compromising governance efficiency and economic stability.

The **"***Digital Europe***"** program is designed to drive the development of key digital technologies and strengthen the digital ecosystem across participating countries, including the Republic of Moldova. Its primary goal is to support initiatives that promote the adoption of cutting-edge technologies, such as supercomputing, artificial intelligence, cybersecurity systems, and the advancement of modern digital skills. A key focus of the program is the establishment of digital innovation hubs, along with the development of smart solutions in sectors like healthcare, education, and public administration. Additionally, it plays a crucial role in digitizing traditional industries and the agricultural sector, helping them adapt to the demands of the digital age. For the Republic of Moldova, participation in this program unlocks valuable funding opportunities, accelerating the country's *digital transformation* and facilitating its integration into the European digital ecosystem.

The implementation of digital transformation programs comes with significant financial risks for the budgetary and fiscal system. Insufficient funding can lead to budget deficits, especially if digitalization costs exceed the country's current financial capacity. Moreover, a heavy reliance on external funding for projects that require co-financing can put additional strain on the national budget, making long-term sustainability a challenge. Another major concern is the inefficient allocation of funds, often caused by poor project management or corruption, which can seriously impact the effectiveness and success of digital initiatives.

One of the main threats to the implementation of digital transformation is non-compliance with European Union standards in key areas such as data protection, cyber security and digital regulation, which can restrict access to external subsidies and investment. Technological risks are also significant; choosing outdated technologies or inappropriate platforms can compromise the competitiveness of projects and limit their effectiveness. In addition, the low availability of qualified human resources and the phenomenon of brain drain to other countries can prevent the achievement of the set objectives. Increasing budget spending on digitization can generate inflationary pressures, and assessing the long-term profitability of projects often remains problematic, thus complicating the estimation of their overall economic impact.

In this context, it is necessary to adopt a series of measures to minimize the risks associated with digital transformation: independent audits, development of clear co-financing plans, investment in continuous professional training and strengthening of cost control mechanisms. The implementation of these measures will contribute to the more efficient use of resources and will facilitate the successful implementation of digital technologies, which will represent the foundation of sustainable economic growth and increased competitiveness of the Republic of Moldova in the digital era. In this context, taxation not only represents an essential component of economic processes, but also constitutes a vital source of financing for government programs, being at the same time a crucial tool for creating an environment conducive to financial and economic activities.

Currently, in the Republic of Moldova, the normative legal regulation of the budgetary and fiscal field largely aims at the development of two key fields related to the digitization of the economy.

First of all, the development of "e-government" through the creation and promotion of electronic services aimed at simplifying the interaction of citizens and businesses with government authorities is an essential priority. A significant example in this regard is the implementation of electronic tax return filing services, the adoption of simplified tax accounting systems and the integration of digital platforms that guarantee transparency and accessibility of information for taxpayers. These initiatives are fundamental for streamlining administrative processes and for stimulating a favorable governance climate.

Secondly, creating a favorable framework for IT companies is essential for accelerating the development and implementation of innovations, which are a key factor in the digitization process. Special tax regimes, such as the flat rate of 7% applied to IT parks, support the operation and expansion of enterprises in the field of information technologies. These measures contribute to attracting investments, creating highly specialized jobs and promoting export-oriented digital services, thus strengthening the national digital ecosystem.

Thus, both areas confirm the strategic orientation of the budget and fiscal regulations in support of the digital transformation of the national economy. However, in order to ensure their sustainability and efficiency, it is essential to continue improving the budgetary and fiscal legislation, constantly adapting it to the challenges of the ever-changing digital economy and to international standards. In this context, there is an obvious need to reform and improve the existing regulatory mechanisms, to support the development of a new relational framework specific to the digital economy. This implies, among other things, the strengthening of fiscal administration mechanisms, considering the changes imposed by the digitization of the economy. At the same time, the level of development of the taxation system must exceed the progress made in the development of the digital economic environment, in order to maximize the efficiency of the tax function and ensure high-quality tax collection.

This represents the development direction of the Fiscal Service of the Republic of Moldova, started with the decision to fundamentally transform the approach to its activity. The main objective is to create a customer-oriented, modern and technologically advanced service capable of meeting the demands of the digital economy.

The operational changes of the Fiscal Service of the Republic of Moldova focus on the following aspects:

1. **Introduction of electronic services:** Creation of digital platforms such as Electronic Declaration, eInvoice (electronic invoices) and e-Request, which facilitate the interaction of taxpayers with the tax authorities and reduce the administrative burden.

2. **Automation of tax processes:** Implementation of advanced data analysis and artificial intelligence systems to monitor tax compliance and prevent tax evasion.

3. **Training and support for taxpayers:** Development of information campaigns and support centers to help citizens and businesses adopt electronic services and understand new legislative changes in the tax field.

4. **Creating a favorable environment for enterprises and IT companies:** Providing tax incentives and simplified administrative procedures for residents of IT parks and start-ups, thus supporting the development of high-tech industries and stimulating the growth of digital exports.

These reforms, supported by digital tools and changes in regulations, have transformed the Fiscal Service of the Republic of Moldova into a more open, transparent and taxpayer-oriented institution. However, for continuous improvement, constant adaptation to current challenges and integration with international standards in the field of tax administration is necessary.

MODERN RISK MANAGEMENT TOOLS IN THE FIELD OF BUDGETARY AND FISCAL RELATIONS

The development of the modern concept of risk management in the field of budgetary and fiscal relations is closely related to the use of Big Data technologies in the field of information technology. These technologies offer the budgetary - fiscal authorities new opportunities to analyze and process large volumes of data, becoming a key factor in improving the efficiency and transparency of the tax administration. In the Republic of Moldova, Big Data approaches are actively integrated in order to optimize budgetary-fiscal control and improve interaction with taxpayers.

Big Data technologies open up a wide range of opportunities. First, predictive analytics allows identifying tax evasion risks and predicting taxpayer behavior based on historical data analysis. This allows the tax authorities to take measures in advance to minimize budget losses. Second, the personalization of tax services facilitates the adaptation of interaction with taxpayers, taking into account the specifics of their activities, for example, offering individual recommendations for small businesses and self-employed workers.

The use of Big Data technologies contributes, on the one hand, to increasing transparency and strengthening the fight against tax fraud. Comparing data from various sources, such as government registries, financial institutions and customs authorities, enables the automatic detection of discrepancies in tax reporting. On the other hand, Big Data technologies optimize tax administration by reducing the administrative burden on taxpayers by automating routine operations such as processing tax returns or VAT refunds.

In the Republic of Moldova, the implementation of Big Data technologies is already producing significant practical results. For example, risk management systems are used to automatically analyze tax returns, thereby allowing resources to be focused on verifying entities with a high risk of irregularities. Integration with national and international databases facilitates the exchange of information and helps improve the accuracy of audit processes.

However, the use of Big Data technologies involves a number of significant challenges, including the need to protect confidential information, ensure cyber security and create an appropriate legal framework for regulating data processing. For the effective implementation of these technologies, it is essential to continue investing in the development of digital infrastructure, staff training and strengthening collaboration with international organizations.

The integration of Big Data technologies in the budget-fiscal administration significantly contributes to strengthening the trust of taxpayers, increasing the transparency of processes and more efficient use of resources. These changes represent an essential element of the digital transformation of the system of budgetary and fiscal relations, having a direct impact on sustainable economic development and strengthening the country's competitiveness. The modernization of the budget-fiscal system brings public authorities closer to real-time administration, thus facilitating the correct fulfillment of fiscal obligations by bona fide taxpayers and allowing a quick reaction to violations of fiscal legislation. These transformations contribute to a fairer and more efficient budget-fiscal administration, at the same time consolidating the financial stability of the Republic of Moldova.

The institutional development of digitization processes in the Republic of Moldova has determined a considerable expansion of the capabilities of the digital platform intended for the provision of public and municipal services. A remarkable example of success is the field of taxation, where, thanks to the implementation of digital technologies, the level and efficiency of public services offered by the Fiscal Service of the Republic of Moldova have registered significant progress.

Currently, the official website of the State Fiscal Service of the Republic of Moldova offers access to over 20 electronic services, including: (State Fiscal Service, n.d.).

• **Taxpayer's personal cabinet:** Allows managing tax obligations, viewing payment history and filing online returns.

• **Electronic declaration:** Facilitates the submission of tax returns in electronic format, simplifying the reporting process and reducing the risk of errors.

• **Electronic invoice (e-Invoice):** Allows the generation, transmission and receipt of electronic invoices, speeding up the document flow and increasing its transparency.

• **Online payment of taxes and fees:** Provides individuals with the opportunity to make online payments of taxes and fees through the MPay platform, significantly simplifying the payment process.

• **Tax check verification:** A service that allows checking the authenticity of issued tax checks, helping to combat tax evasion and increasing confidence in the system.

• **Real-time notifications:** Enables receiving notifications from the State Tax Service through the Notify service, informing taxpayers of important events and deadlines related to tax obligations.

In the Republic of Moldova, measures are being implemented to improve the mechanisms for providing public services for taxpayers, as well as to modernize the fiscal control methodology and tools. Special emphasis is placed on the reengineering of technological processes within the implementation and optimization of automated information systems, such as the Automated Electronic Sales Monitoring Information System. These transformations aim at increasing the efficiency of the tax system, improving the interaction between tax authorities and taxpayers, as well as increasing transparency in tax administration.

The use of modern digital solutions facilitates the automation of routine operations, thus reducing the administrative burden on taxpayers and improving the efficiency and accuracy of monitoring tax obligations. In this context, the re-engineering of fiscal processes represents an essential element in the development of the budgetary-fiscal administration system, supporting the digital transformation and strengthening trust in public institutions.

To date, the Republic of Moldova has made significant progress in creating a virtual transaction environment – a digital ecosystem where all economic entities can conduct transactions, which can lead to the elimination of the need for tax reporting by taxpayers. In this context, the interaction between tax authorities and taxpayers will become more transparent and accessible. The operation of such an environment allows tax administration to become invisible and convenient for bona fide taxpayers, while ensuring economic transparency and compliance with the requirements of tax legislation. Public authorities are already working on the creation of the main components of this platform. Mobile applications and other digital tools play a critical role in the creation and operation of this virtual transaction environment.

Establishing a special tax regime for self-employed citizens (professional income tax payers) is a relevant example of simplifying tax administration. Thus, starting from January 1, 2023, the Republic of Moldova has a simplified tax regime for natural persons who carry out independent activities in the retail trade, thus contributing to the reduction of the bureaucratic burden and the facilitation of the tax payment process.

Under this regime, self-employed persons are exempted from the need to keep accounting records, as a new type of cash register has been introduced, which automatically and in real time transmits sales data to the State Fiscal Service. This allows tax authorities to independently calculate the amount of taxes and send relevant notifications to entrepreneurs. In addition, the maximum annual sales volume for self-employed workers has been increased to 1.2 million lei, while the minimum tax amount remains at 3,000 lei per year. Thus, the establishment of a special tax regime for citizens carrying out independent activities in Moldova is an effective tool for simplifying tax administration and stimulating the development of small businesses.

In the current context, in order to effectively manage the changes, tax authorities must develop their own adaptive digital platform, which is the basis of an ecosystem for taxpayers and participants in external economic activity, thus ensuring a significant part of budget revenues at all levels of government. In parallel, the relevant infrastructure must be aligned with a global strategy to modernize the system of tax authorities, taking into account the need to guarantee the security, confidentiality and rapid processing of essential data for the implementation of efficient and high-quality tax administration.

CONCLUSIONS

The digital transformation of the system of budgetary and fiscal relations, based on the principles of customer centricity, significantly expanded the responsibilities of public authorities, highlighting two priority directions in the digitalization of fiscal administration. The first direction focuses on creating a favorable fiscal environment for bona fide taxpayers, by strengthening control, adapting IT platforms and developing human resources. The second direction aims to simplify the interaction between taxpayers and tax authorities by modernizing digital services and promoting partnerships.

In the context of the digital transformation of the budget process, the management of financial risks becomes the main challenge, appearing both at the level of tax administration and as a result of the implementation of new technologies. Mechanisms for managing these risks should include:

1. Development and implementation of integrated data monitoring and analysis systems (Big Data) for assessing financial risks, identifying tax loopholes and anticipating taxpayers' behavior.
2. Modernization of IT systems through adaptive digital platforms that ensure high data integration and automation of essential processes.
3. Creating a system for assessing the quality of the tax administration, aimed at reducing administrative obstacles and increasing taxpayers' confidence.
4. Ensuring cyber security and data protection, critical aspects in a digitized environment, where the risks of information leakage and cyber attacks are increasing.
5. Development of a regulatory framework adapted to the introduction of digital technologies, which minimizes regulatory risks for taxpayers.

These mechanisms create the necessary conditions for the efficient management of fiscal relations, minimizing risks and increasing the sustainability of the financial system. In this way, not only the transparency and fairness of the tax system is ensured, but also the basis is laid for the long-term sustainability of the economy in the context of digital transformation.

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HARMONIZING INNOVATION AND TECHNOLOGY IN MODERN BUSINESS PRACTICES

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Tatiana IVANOV
Academy of Economic Studies of Moldova, Moldova
ORCID: https://orcid.org/0000-0002-6988-580X
E-mail: tatiana_ivanov@ase.md

Abstract: *This paper investigates the influence of financial strategies and innovation on the evolution of contemporary business models, with an emphasis on the role of modern web development technologies. In an increasingly digital world, companies are adopting innovative web technologies - HTML, CSS, JavaScript and frameworks like React.js or Angular - to create dynamic and responsive platforms. These advances not only improve the customer experience, but also streamline operations and introduce new revenue streams. Financially, integrating these technologies requires careful budgeting and resource allocation. Financial strategies must balance innovation with cost efficiency to ensure long-term profitability. Analyzing real-world examples, this paper demonstrates how companies can use web technologies to optimize operations and drive financial growth. The findings underscore the critical need for a coherent approach that blends financial expertise with cutting-edge technology adoption to maintain competitiveness in the digital age.*

Keywords: *financial strategies, innovation, business models, web technologies, digital transformation, cost efficiency.*

JEL Classification: *M13, G30, O32.*

INTRODUCTION

The evolving landscape of modern business models businesses are undergoing rapid evolution, driven by the convergence of technological advances and changing consumer expectations. Traditional linear models, characterized by a static approach to production and distribution, are increasingly being replaced by agile and data-driven models that prioritize customer experience and adaptability. The rise of e-commerce, the Internet of Things (IoT) and artificial intelligence (AI) has created new ways for businesses to connect with customers, optimize operations and generate revenue. This transformation requires a strategic approach that embraces innovation and technology as key drivers of growth.

The role of modern web development technologies plays a pivotal role in shaping the modern business landscape. They enable companies to create dynamic, interactive and responsive platforms that respond to the evolving needs of consumers. From front-end technologies like HTML, CSS, and JavaScript to back-end frameworks like Node.js and Ruby on Rails, these tools enable businesses to create complex and easy-to-use apps, websites, and mobile apps.

CONTENT

Using HTML, CSS, and JavaScript for Dynamic PlatformsHTML, CSS, and JavaScript form the foundation of modern web development, enabling businesses to create visually appealing and interactive user experiences. HTML provides the structure of web pages, while CSS defines the visual presentation, including colors, fonts, and layouts. JavaScript adds dynamic functionality and interactivity, allowing users to interact with content, submit forms, and receive real-time updates. These technologies work in tandem to create engaging platforms that meet the expectations of today's digitally savvy consumers.

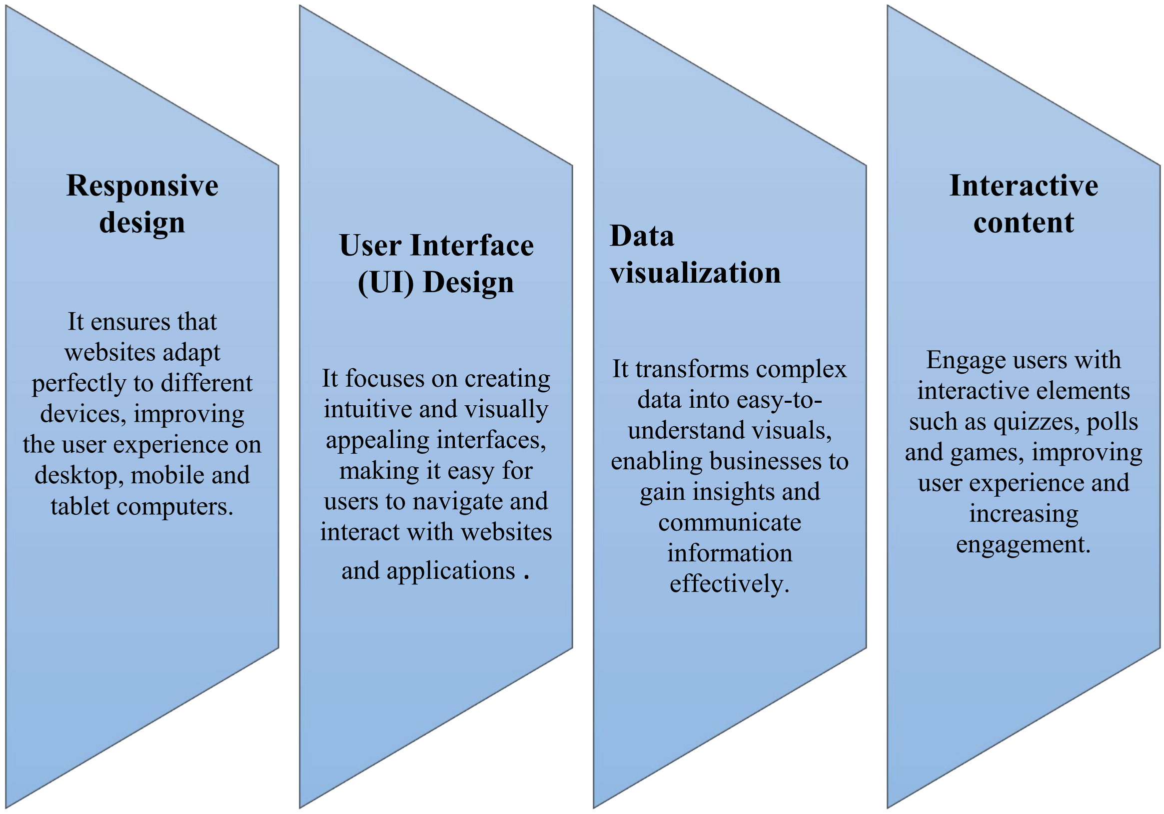

Figure 1. Digitally savvy consumers
Source: Own work

Frameworks like React.js and Angular streamline web development by providing pre-built components, libraries, and tools that speed up the development process. These frameworks provide a structured approach to building complex web applications, ensuring code reusability, maintainability, and scalability. React.js, known for its component-based architecture, is popular for building dynamic and responsive user interfaces, while Angular, a comprehensive framework, provides a complete solution for building entity -level applications. These frameworks enable developers to create efficient and robust platforms, reducing development time and costs.

Table 1. Features and benefits of frameworks

Framework	FEATURES	BENEFITS
React.js	Component-based architecture, virtual DOM, JSX syntax	Fast rendering, code reuse, easy maintenance
Angular	Model-View-Controller (MVC) architecture, dependency injection, TypeScript support	Scalability, robust development, enterprise level solutions

Source: Own work

The digital landscape is constantly evolving, and companies must adapt to remain competitive. This requires adopting new technologies and approaches to stay ahead of the curve. Integrating data-driven insights into business decision-making, leveraging cloud computing for scalability, and optimizing customer journeys for digital engagement are critical to success in the digital age. Companies must also be aware of emerging trends such as artificial intelligence, blockchain and the Internet of Things, as these technologies will continue to shape the future of business.

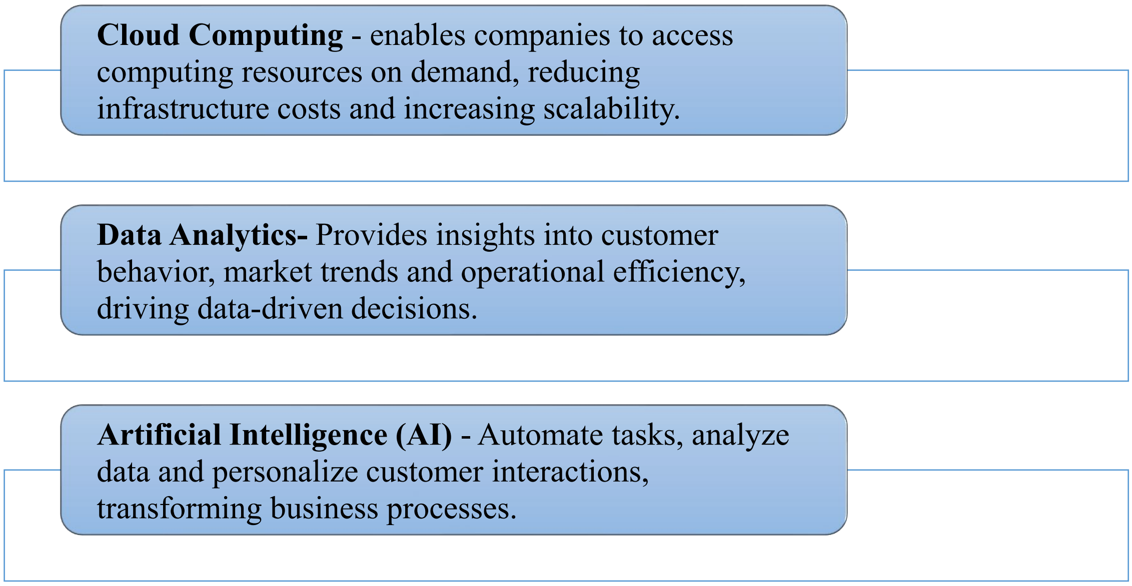

Figure 2. Future of business

Source: Own work

Aligning financial strategies with technological innovation. Businesses must align their financial strategies with technological innovation to ensure sustainable growth. This requires a clear understanding of the costs and benefits associated with technology adoption, as well as a strategic approach to resource allocation. Financial models must incorporate the potential impact of technology on revenue generation, operational efficiency and customer acquisition. Enterprises must also explore innovative financing options, such as venture capital, crowdfunding and strategic partnerships, to support their technology investments. Integrating technology into core business processes will be critical to long-term financial success.

Investment planning. Strategically allocate resources to technology adoption, balancing short-term costs with long-term benefits.

Financial modeling. Develop comprehensive financial models that incorporate the impact of technology on revenue streams, operational efficiency and customer acquisition.

Performance measurement. Establish key performance indicators (KPIs) to track the financial impact of technology investments and ensure a return on investment (ROI).

CONCLUSIONS

The evolution of contemporary business models is deeply influenced by the convergence of technological innovation and financial strategy. Using modern web technologies like HTML, CSS, JavaScript, and frameworks like React.js and Angular allows companies to improve user experience, streamline processes, and reduce development time. These technologies are not just technical tools, but strategic levers to create value, either by generating additional revenue or optimizing internal operations.

However, adopting these innovations requires companies to carefully manage financial resources and develop models that balance upfront costs with long-term benefits. Technology investments must be supported by coherent financial strategies that include planning, financial modeling and performance measurement through relevant KPIs.

Furthermore, the integration of technology into business models must be complemented by organizational adaptability and an innovation-oriented culture. The adoption of artificial intelligence, blockchain or IoT is vital to staying ahead of the competition.

Success in the digital age depends not only on the implementation of technology, but also on how companies manage to turn it into a competitive advantage. Thus, the future of business belongs to those who manage to combine technological innovation with a robust financial strategy, while creating valuable experiences for customers and partners.

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